

IBM® Analytical Decision Management
7 Application Designer's Guide



Note: Before using this information and the product it supports, read the general information under Notices on p. 785.

This edition applies to IBM Analytical Decision Management 7 and to all subsequent releases and modifications until otherwise indicated in new editions.

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Preface

About IBM Business Analytics

IBM Business Analytics software delivers complete, consistent and accurate information that decision-makers trust to improve business performance. A comprehensive portfolio of [business intelligence](#), [predictive analytics](#), [financial performance and strategy management](#), and [analytic applications](#) provides clear, immediate and actionable insights into current performance and the ability to predict future outcomes. Combined with rich industry solutions, proven practices and professional services, organizations of every size can drive the highest productivity, confidently automate decisions and deliver better results.

As part of this portfolio, IBM SPSS Predictive Analytics software helps organizations predict future events and proactively act upon that insight to drive better business outcomes. Commercial, government and academic customers worldwide rely on IBM SPSS technology as a competitive advantage in attracting, retaining and growing customers, while reducing fraud and mitigating risk. By incorporating IBM SPSS software into their daily operations, organizations become predictive enterprises – able to direct and automate decisions to meet business goals and achieve measurable competitive advantage. For further information or to reach a representative visit <http://www.ibm.com/spss>.

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Designing and configuring applications

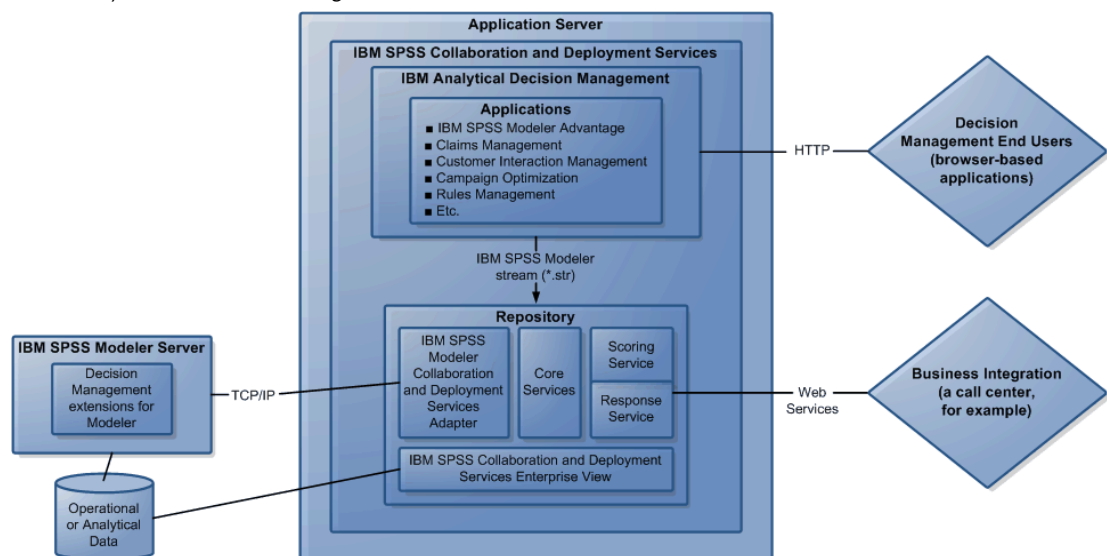
IBM® Analytical Decision Management provides a framework for building configurable, content-driven applications that automate and prioritize decisions using models and rules, and integrate with existing IT infrastructures to deploy results in real time.

The capabilities available in each application, and the basic look and feel, are determined by the application designer who configures the application template XML file and other associated files.

This guide describes the steps for configuring and customizing an application template to meet specific requirements as defined by the business user. A basic understanding of IBM Analytical Decision Management applications is assumed before configuring your own. For more information, click the Help link in each application, or see the application guides which can be found in the IBM® SPSS® Collaboration and Deployment Services installation directory after installation (for example, *C:\Program Files\IBM\SPSS\Deployment\5.0\help\en\DecisionManagement*).

The following graphic illustrates the general IBM Analytical Decision Management infrastructure, including IBM SPSS Collaboration and Deployment Services and IBM® SPSS® Modeler components.

Figure 1-1
IBM Analytical Decision Management infrastructure



The Application Designer:

- Determines which capabilities are available to solve the business problem, such as the ability to build and score predictive models, the ability to define business rules, and the ability to combine rules and models in an end-to-end predictive application. These capabilities are configured in the application template XML.
- Defines and customizes the user interface text, style sheets, and graphics that determine the look and feel of the application.
- Specifies the dimensions that define the business problem. These dimensions provide the context in which rules and models are applied. Dimensions are configured in the application template XML. Some applications, such as a IBM® SPSS® Rules Management or IBM® SPSS® Modeler Advantage, may not use dimensions.

The Application Administrator:

- Configures data and other settings for the application. For details, see the *Administering Applications* chapter of each application guide.

The Business User or Analyst:

- Builds predictive models to gain insight into your company's business problems by discovering patterns in your data.
- Defines the range of possible solutions to the business problem (such as campaigns and offers available) and specifies how records are selected and allocated for each using business rules.
- Experiments with different combinations (performs "what if" analysis) to identify the best solution.
- Deploys the application and monitors the results.

About IBM Analytical Decision Management

IBM® Analytical Decision Management brings the benefit of predictive analytics to real business problems, allowing you to build custom applications tailored to your customers or industry. While applications are typically configured to solve very specific problems, all are based on a common set of capabilities:

- Automate decisions using business rules.
- Add insight using predictive models.
- Use prioritization, optimization, or simulation to reach the best decision based on the above.

A number of packaged applications are available, tailored to solving specific business problems. Contact your sales representative for more information.

Available documentation

Documentation is included on the installation disc for each product or application, or provided in electronic download files. Documentation is installed into the IBM® SPSS® Collaboration and Deployment Services installation directory (for example, *C:\Program Files\IBM\SPSS\Deployment\5.0\help\en\DecisionManagement*).

PDF documentation is also available on the Web at <http://www-01.ibm.com/support/docview.wss?uid=swg27024118>, and release notes are available at <http://www-01.ibm.com/support/docview.wss?uid=swg27024117>

For an online, centralized collection of all documentation, see the [IBM Analytical Decision Management 7 Information Center](#). The following table provides links to each deliverable in the Information Center.

Table 1-1
IBM Analytical Decision Management documentation

Documentation	Description
Installation Guide for Windows Installation Guide for UNIX	Instructions for installing and launching the product.
Application Designer's Guide	Instructions for designing and configuring applications, including a complete XML schema reference, as well as details on customizing the user interface.
Application User's Guide	Includes general information about the user interface, intended for business users.
IBM SPSS Modeler Advantage	IBM® SPSS® Modeler Advantage puts the power of predictive modeling in the hands of business users. Using predictive models, you can identify patterns based on what has happened in the past, and use them to predict what is likely to happen in the future.
IBM Analytical Decision Management for Customer Interactions	IBM® Analytical Decision Management for Customer Interactions decides which promotions to offer customers when they contact your organization, and delivers recommendations to a call center, web site, or store location in real time. By combining the logic of business rules with the insight gained through predictive modeling, the application identifies the most profitable decision for each customer.
IBM Analytical Decision Management for Campaign Optimization	IBM® Analytical Decision Management for Campaign Optimization is similar to IBM Analytical Decision Management for Customer Interactions . But IBM Analytical Decision Management for Campaign Optimization uses optimization and has the added value of maximizing the return on your campaign investment by determining the best offers for individual customers within constraints such as your budget, channel capacity, and contact policies.

Documentation	Description
IBM Analytical Decision Management for Claims	IBM® Analytical Decision Management for Claims combines the logic of business rules with the insight gained through predictive models, allowing organizations to process incoming claims in real time and determine the best action for each. For example, claims can be set on a “fast track” for immediate payment, processed in the normal manner, or referred to the special investigations unit.
IBM SPSS Rules Management	IBM® SPSS® Rules Management provides a central tool for creating and editing shared rules, which can be used throughout applications to select and process records, and to automate decisions accordingly.

Configuring application templates

Configuring applications

All IBM® Analytical Decision Management applications are formed from a combination of seven possible basic steps, as shown in the following figure. Think of each step as a screen or tab in the user interface. Some simple applications might only include two or three steps, while others might include all seven.

Figure 2-1



Each application is defined by an XML template that defines the capabilities and dimensions available to the business user. Each template defines a different application, as presented to business users on the *Applications launch page*. Users can then launch these applications to create their own projects. For more information, see the application guides.

XML templates

An application template includes a single `PredictiveApplication` element, which specifies the name and version of the application template used, the name of the application to use in the user interface, and other attributes. Following are some of the main child elements of `PredictiveApplication`:

- **InterfaceControl element.** Specifies the items displayed in the user interface. This element is key to any application. For example, it includes the `InterfacePages` element that controls which tabs are included in an application's user interface.
- **EntityDimension element.** Specifies the entity dimension for the application (the dimension that defines the entity of interest). Typically this is the thing being managed or allocated, such as customers, products, shipments, or claims.
- **Dimension element.** Specifies the dimensions or factors that can be used in solving the business problem, such as campaigns, channels, and offers. The dimensions define the possible decisions, recommendations, or actions that can be taken on each record or entity processed by the application.
- **Optimization element.** Specifies how optimization is performed, including the algorithm used and the objective function that determines what value is being optimized.
- **Deployment element.** Specifies options for deploying the application, such as the label used.

A number of additional elements are available, as defined in the XML schema. Many of these other elements are typically handled by the application user interface, and are not included in the application template in most cases. For more information, see the topic [Element reference](#) in Appendix A on p. 83.

Sample application template

```

<?xml version="1.0" encoding="UTF-8"?>
<PredictiveApplication xmlns="http://com.spss.pasw.dms/workspace" templateName="ClaimsManagement"
templateVersion="1" appsVersion="7.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <InterfaceControl>
    <InterfacePages>
      <ApplicationHome stepIncluded="true" showGallery="true"/>
      <DataStep stepIncluded="true"/>
      <GlobalSelectionStep stepIncluded="true"/>
      <DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="typeDecisionHierarchyDefineStep">
        <DimensionSetting name="Claim Area">
          <SelectionSection enabled="true" enableModels="true"/>
          <AggregateRuleSection enabled="true"/>
          <PredictiveModelSection enabled="true"/>
          <AllocationRuleSection enabled="false"/>
          <PlanningSection enableInteractionPoints="true" enableStartEndDates="true"/>
        </DimensionSetting>
      </DefineStep>
      <CombineStep stepIncluded="true" enableWhatif="true" enableTest="true">
      </CombineStep>
      <DeployScoreStep stepIncluded="true">
        <RealTimeScoring enableInteractiveQuestions="true"/>
      </DeployScoreStep>
      <ReportStep stepIncluded="true"/>
    </InterfacePages>
    <InterfaceFeature id="Collaboration"/>
    <InterfaceFeature id="UploadDownload"/>
    <InterfaceFeature id="MetadataDownload"/>
  </InterfaceControl>
  <EntityDimension name="Claim"/>
  <Dimension name="Claim Area">
    <Property>Name</Property>
    <Property>Category</Property>
    <Property>Organization</Property>
    <Property>Group</Property>
    <Property>Description</Property>
  </Dimension>
  <Dimension name="Action" parentDimension="Claim Area">
    <Property>Name</Property>
    <Property>Category</Property>
    <Property>Organization</Property>
    <Property>Group</Property>
    <Property>Description</Property>
  </Dimension>
  <Optimization algorithm="None">
    <ObjectiveFunction/>
  </Optimization>
  <Deployment>
    <OutputAttribute referenceType="DimensionMember" name="Claim Area"
returnValue="Claim Area.Allocation-Value">Claim Area</OutputAttribute>
    <OutputAttribute referenceType="DimensionMember" name="Action"

```

```

returnValue="Action.Allocation-Value">Action</OutputAttribute>
</Deployment>
</PredictiveApplication>

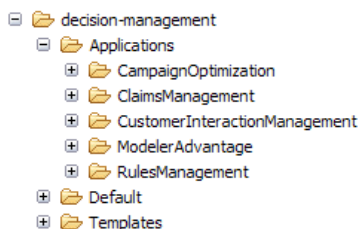
```

Creating an application

The process for creating your own application includes the following general steps:

- ▶ Create an application template (XML file) in the *Templates* directory.
- ▶ Create an application directory inside the *Applications* directory. Modify certain files in the directory to define the application shortcut displayed on the launchpad and to customize the look and feel of the application, if desired, by overriding the default settings.

All files are stored and edited on the machine where IBM® SPSS® Collaboration and Deployment Services is installed (for example, *C:\Program Files\IBM\SPSS\Deployment\5.0\components\decision-management*).



Important: Before starting, it is recommend that a backup copy of the entire *decision-management* directory be created.

To create an application

You can install prebuilt applications with IBM® Analytical Decision Management. Rather than creating an application from scratch, it's easiest to copy an existing prebuilt application that best matches your desired application and then modify it to fit your needs.

1. Copy an existing application template XML file and give it a new file name. This example uses the file name *YourApp.xml*. XML templates are stored in the *Templates* directory shown in the [previous figure](#).
2. Open the XML template you renamed. Change the value for `templateName` to the file name you gave the new XML template in step 1 (you don't need to include the file extension):

```
templateName="YourApp"
```

Tip: Although XML files can be edited using any text editor, a number of XML editing tools are available that have options to display annotations and/or validate the XML markup.

3. Configure the rest of the XML application template to meet your needs, and save the file. See the rest of this chapter for more information.

4. Each application has a corresponding folder in the *Applications* directory. Create a new folder for your application. You may want to give it a name that matches your application template file name. In this example, the folder name is *YourApp*.
5. In the folder for an existing application that best matches your new application, copy over any files you plan to customize (for example, copy files from the *ClaimsManagement* folder into the new *YourApp* folder). You do not need to stop any servers while doing this.

Rather than copying over only the pieces you plan to customize, you could also copy an entire folder's contents. But this is not recommended because it can make upgrading to new versions of the software more complicated.

6. Each application directory contains a file called *appGroup.xml*. The file defines the location of various resources specific to an application. Edit your application's *appGroup.xml* file. Following is an example for a fully customized application:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ApplicationGroups xmlns:ns2="http://com.spss.pasw.dms/dataset" xmlns="http://com.spss.pasw.dms/appGroups">
<Group mustDisplay="true" template="YourApp">
  <CssFileSpec>/Applications/YourApp/CSS/branded.css</CssFileSpec>
  <MessageFileSpec>/Applications/YourApp/Message/</MessageFileSpec>
  <ScreenTextFileSpec>/Applications/YourApp/ScreenText/</ScreenTextFileSpec>
  <CoachTextFileSpec>/Applications/YourApp/CoachText/</CoachTextFileSpec>
  <TermFileSpec>/Applications/YourApp/Terminology/</TermFileSpec>
  <HelpFileSpec>/Applications/ClaimsManagement/HelpLinks/HelpLinks.properties</HelpFileSpec>
</Group>
</ApplicationGroups>
```

Where:

- `mustDisplay="true"` determines whether a shortcut to the new application appears on the launch page for all users. If set to `true`, all users will see the application shortcut and will not be able to remove it. If set to `false`, users can add and remove the shortcut as they wish.
- `CssFileSpec`, `MessageFileSpec`, `ScreenTextFileSpec`, `CoachTextFileSpec`, `TermFileSpec`, and `HelpFileSpec` can point to the location of customized user interface files, if applicable. The customized files will override the default files. These sections are only required if you customize one or more of these files. In this example, almost all files are being customized. A typical application might only customize some CSS, coach text, and screen text, in which case *appGroup.xml* would only contain those lines and the default settings would be applied for everything else. For complete details and instructions, see [Chapter 3](#) after completing the steps in this chapter.

A separate help system is provided for each packaged application, along with a generic help system that describes all features supported by IBM Analytical Decision Management. The `HelpFileSpec` can be used to specify which of these help systems is used. To provide custom help for a specific application, coach text is recommended. Coach text is distinct from help, and is more easily customized. For more information, see the topic [Coach text](#) in Chapter 3 on p. 50.

7. Each application directory contains a file called *description.xml*. The file defines the text displayed in the *Applications launch page* shortcut box.

The file contains sections for all languages provided with the product. You can add a different language section of your choice, using a language code according to W3C standards (see the table under [Language support on p. 49](#) for examples). Edit your application's *description.xml* file. For example:

```
<en>
  <TitleEntry>App for Handling Claims</TitleEntry>
  <ShortDescription>Intelligent risk management in real time</ShortDescription>
  <LongDescription>Assess the overall risk level for incoming claims and recommend
  the specific action to take.</LongDescription>
</en>
```

Tip: While configuring your application(s), you may find it convenient to share the entire *decision-management* directory so you can edit the files from any other machine on your network. See your operating system documentation for details about sharing directories.

- When you finish configuring your application, enter the following URL in a supported web browser to launch IBM Analytical Decision Management and verify your work. You should see the IBM Analytical Decision Management login screen.

http://hostname:port/DM

Where *hostname* is the name or IP address of the machine where IBM SPSS Collaboration and Deployment Services is installed and *port* is your application server port number.

Configuring the user-interface

The user interface for an application is defined by the `InterfaceControl` element in the XML template.

```
<InterfaceControl>
  <InterfacePages>
    <ApplicationHome stepIncluded="true" showGallery="true"/>
    <DataStep stepIncluded="true"/>
    <GlobalSelectionStep stepIncluded="true"/>
    <DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:type="typeDecisionHierarchyDefineStep">
      <DimensionSetting name="Claim Area">
        <SelectionSection enabled="true" enableModels="true"/>
        <AggregateRuleSection enabled="true"/>
        <PredictiveModelSection enabled="true"/>
        <AllocationRuleSection enabled="false"/>
        <PlanningSection enableInteractionPoints="true" enableStartEndDates="true"/>
      </DimensionSetting>
    </DefineStep>
    <CombineStep stepIncluded="true" enableWhatif="true" enableTest="true">
    </CombineStep>
    <DeployScoreStep stepIncluded="true">
      <RealTimeScoring enableInteractiveQuestions="true"/>
    </DeployScoreStep>
    <ReportStep stepIncluded="true"/>
  </InterfacePages>
</InterfaceControl>
```

```

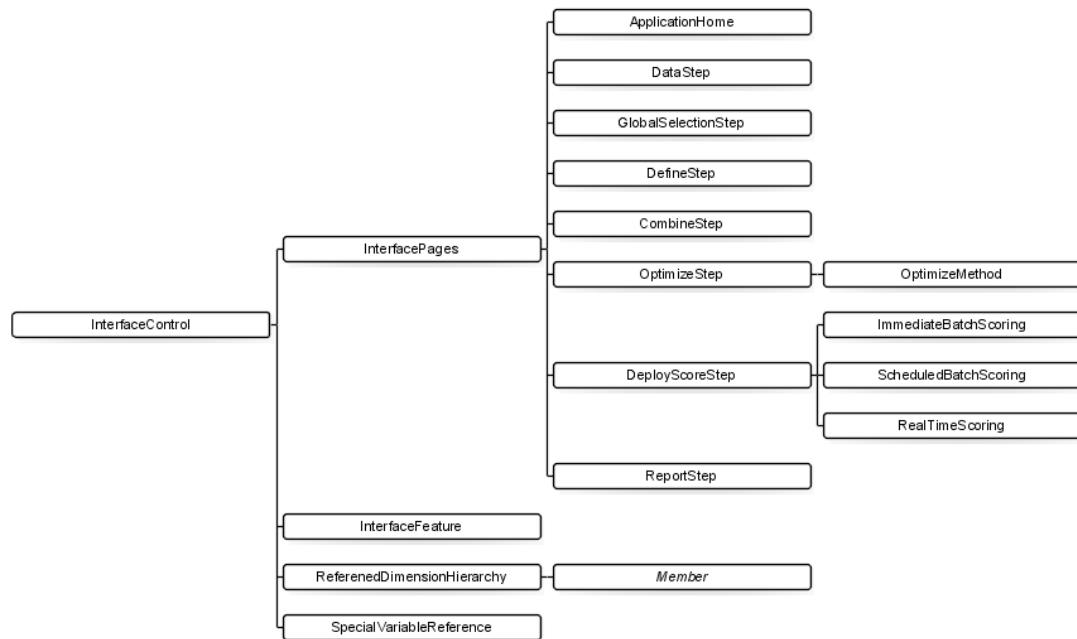
</InterfacePages>
<InterfaceFeature id="Collaboration"/>
<InterfaceFeature id="UploadDownload"/>
<InterfaceFeature id="MetadataDownload"/>
</InterfaceControl>

```

The first-level children of `InterfacePages` represent the main tabs in the user interface. You can set them to `true` or `false` to control which tabs make up your application. For more information, see the topic [XML templates](#) on p. 5.

The `InterfaceFeature` element defines capabilities that are available to the application, such as building and reusing models and rules, the ability to access the IBM® SPSS® Collaboration and Deployment Services Repository, and the ability to upload and download files.

Figure 2-2
InterfaceControl element



When configuring applications, keep the following guidelines in mind:

- You can only have one of each tab type in an application.
- You can only have one of each “widget” within an application (for example, if your application has a Score tab it can only include one `RealTimeScoring` section).
- If more than one allocation method is enabled on the Define tab, the Combine/Prioritize/Optimize step can be used to determine how final decisions or recommendations are determined. For example if both `AggregateRuleSection` and `PredictiveModelSection` are enabled, a combine matrix can be used to reconcile cases where rules and models may return different decisions. If only one allocation method is enabled on the Define tab, the Combine/Prioritize/Optimize step is not needed.

The following table describes some of the general items that can be configured on each tab of an application.

Table 2-1
General configuration items

Tab/Screen	Main configurable items
Home	<ul style="list-style-type: none"> ■ Whether screen is included in the application ■ Whether Gallery is included
Data	<ul style="list-style-type: none"> ■ Whether tab is included in the application ■ Whether user can derive new attributes ■ Whether the Add/Edit additional fields and tables section is included in the application. See the <i>User's Guide</i> for more information about this functionality.
Global Selections	<ul style="list-style-type: none"> ■ Whether tab is included in the application ■ Whether models are on or off (if on, can also indicate whether global selections will apply to model build operations or not)
Define/Modeling/Rules	<ul style="list-style-type: none"> ■ Whether tab is included in the application ■ Whether tab includes a decision hierarchy (for customer interaction management, campaign optimization, or claims management applications), model-only (for modeling applications), or rules-only (for rules management applications) ■ Whether interaction points are included on the tab ■ Whether the Test or Simulation features are included on the tab ■ Other options are also available depending which tab-type you use. <p>Note that <code>AggregationRuleSection</code> and <code>PredictiveModelSection</code> may not both be enabled when using more than two dimensions.</p>
Combine/Prioritize	<ul style="list-style-type: none"> ■ Whether tab is included in the application ■ Whether prioritization or a combine (decision) matrix is used ■ Whether the Test or WhatIf? features are included <p>Note that the <code>MatrixCombine</code> method may not be used with more than two dimensions.</p>
Optimize	<ul style="list-style-type: none"> ■ Whether tab is included in the application ■ Whether the Test or WhatIf? features are included ■ Which optimization method is used
Score/Deploy	<ul style="list-style-type: none"> ■ Whether tab is included in the application ■ Whether immediate batch scoring (including scoring options) or real-time deployment (including ability to specify interactive questions) is used
Reporting	<ul style="list-style-type: none"> ■ Whether tab is included in the application ■ Whether results summary report is included on the Home screen

Defining dimensions

Application dimensions define the factors or outcomes that can be used in solving the business problem, such as campaigns, channels, and offers. These are configured using the `EntityDimension` and `Dimension` elements in the XML template.

```

    <EntityDimension name="Claim"/>
  <Dimension name="Claim Area"></Dimension>
    <Dimension name="Action" parentDimension="Claim Area"></Dimension>

```

- The `EntityDimension` element defines the thing being processed by the application, such as customers, claims, or packages. In practical terms, this is what each row in the Project Data Model represents.
- The `Dimension` elements define the factors or outcomes that can be used in solving the business problem, such as campaigns, channels, and offers. In practical terms, these are the possible recommendations or decisions that can be returned for each entity, and are displayed in the dimension tree on the Define tab in the application user interface.
- Dimensions can be nested using the `parentDimension` attribute.
- If no dimensions are specified, there will not be a dimension tree on the Define tab, and the application will only be able to produce rules or models. No specific outputs or recommendations will be returned, as none have been defined.

Optionally, you can specify properties for each dimension, such as name, description, or category. Any properties will be displayed in a dialog box that can be accessed by right-clicking the dimension member and selecting Information on the Define tab.

```

<Dimension name="Claim Area">
  <Property>Name</Property>
  <Property>Category</Property>
  <Property>Organization</Property>
  <Property>Group</Property>
  <Property>Description</Property>
</Dimension>

```

Note that the `DefineStep` section of the XML template contains a `DimensionSetting` element as seen in the example below. This element controls which user interface sections are included on the Define tab of the application.

```

<DimensionSetting name="Claim Area">
  <SelectionSection enabled="true" enableModels="true"/>
  <AggregateRuleSection enabled="true"/>
  <PredictiveModelSection enabled="true"/>
  <AllocationRuleSection enabled="false"/>
  <PlanningSection enableInteractionPoints="true" enableStartEndDates="true"/>
</DimensionSetting>

```

Configuring the optimization/prioritization equation

The optimization or prioritization equation is defined in the `Optimization` element, and is displayed on the Optimize or Prioritize tab in applications that use it. For applications that don't use optimization or prioritization, such as IBM® Analytical Decision Management for Claims, `Optimization algorithm` is set to `None`.

In the current release, the Heuristic and CPLEX algorithms are supported. An application will have a *Prioritize* tab if it's configured to use the Heuristic algorithm, an *Optimize* tab if it's configured to use the CPLEX algorithm, and a *Combine* tab if it's configured to have multiple allocation results which can be combined to provide a single outcome using a matrix.

Example: IBM Analytical Decision Management for Customer Interactions

```

<Optimization algorithm="Heuristic">
  <ObjectiveFunction Domain="double" Functor="-" Name="Expected Profit">
    <Expression xmlns="http://com.spss.pasw.dms/rules" Domain="double" Functor="*">
      <Expression Domain="double" Functor="variableReference">
        <Expression>
          <Value>value</Value>
        </Expression>
        <Expression>
          <Value>Variable</Value>
        </Expression>
        <Expression>
          <Value>Prob.to Respond</Value>
        </Expression>
        <Expression>
          <Value>Value</Value>
        </Expression>
      </Expression>
      <Expression Domain="double" Functor="variableReference">
        <Expression>
          <Value>value</Value>
        </Expression>
        <Expression>
          <Value>Variable</Value>
        </Expression>
        <Expression>
          <Value>Revenue</Value>
        </Expression>
        <Expression>
          <Value>Value</Value>
        </Expression>
      </Expression>
    </Expression>
    <Expression xmlns="http://com.spss.pasw.dms/rules" Domain="double" Functor="variableReference">
      <Expression>
        <Value>value</Value>
      </Expression>
      <Expression>
        <Value>Variable</Value>
      </Expression>
      <Expression>
        <Value>Cost</Value>
      </Expression>
      <Expression>
        <Value>Value</Value>
      </Expression>
    </Expression>
  </ObjectiveFunction>
</Optimization algorithm="Heuristic">

```

```

    </Expression>
  </Expression>
</ObjectiveFunction>
</Optimization>

```

The resulting equation is displayed on the Prioritize tab in the IBM® Analytical Decision Management for Customer Interactions user interface.

Example: IBM Analytical Decision Management for Campaign Optimization

```

<Optimization algorithm="CPLEX" objectiveValueName="ObjectiveValue" path="/Applications/CampaignOptimization/
Optimization/CampaignOptimization.mod">
  <ObjectiveFunction Domain="double" Name="Expected Profit" description="Expected_profit_using_probability_to_respond">
    <ExpressionFormat format="( ${Prob.to Respond} * ${Revenue} ) - ( ${OfferCost} + ${ChannelCost} )"/>
    <ExternalUsage controlVariable="use_expected_profit_function" variableType="int" enabledValue="1" disabledValue="0"/>
  </ObjectiveFunction>
  <ObjectiveFunction Domain="double" Name="ROI" description="Return_On_Investment">
    <ExpressionFormat format="${FN_sum} ( ( ${Prob.to Respond} * ${Revenue} ) - ( ${OfferCost} + ${ChannelCost} ) ) / ${FN_sum}
    ( ( ${OfferCost} + ${ChannelCost} ) )"/>
    <ExternalUsage controlVariable="use_roi_function" variableType="int" enabledValue="1" disabledValue="0"/>
  </ObjectiveFunction>

```

In this CPLEX algorithm example, a path is defined pointing to an optimization model file (*CampaignOptimization.mod*) that ships with IBM® Analytical Decision Management. Do not modify this file. If you need to modify the file, contact an IBM SPSS representative.

The resulting equation is displayed on the Optimize tab in the IBM® Analytical Decision Management for Campaign Optimization user interface.

Understanding prefix notation

Expressions in IBM® Analytical Decision Management are defined in *Prefix* notation (also known as *Polish* notation). *Infix* and *Prefix* notations are two different but equivalent ways of writing expressions. The *Infix* column displays formulas people are used to, and the *Prefix* column displays the equivalent notation that would be used in IBM Analytical Decision Management expressions. All parentheses are implied in the *Prefix* column; they've been included to make the table easier to read by showing the order of evaluation.

Table 2-2
Infix vs. Prefix expression notation

Infix notation	Prefix (Polish) notation
((A * B) + (C / D))	(+ (* A B) (/ C D))
((A * (B + C)) / D)	(/ (* A (+ B C)) D)
(A * (B + (C / D)))	(* A (+ B (/ C D)))

An example would be coded as follows:

```

"_"
**"
ProbabilityToRespond

```

Revenue
Cost

The actual expression starts with the `ObjectiveFunction` element that specifies the storage data type of the result, its name, and the initial `Functor`—which is our *Prefix* notation for subtraction.

```
<ObjectiveFunction Domain="double" Functor="-" Name="Predicted Profit">
```

Unless otherwise specified, the subtraction functor will be applied to all expressions with this objective function.

The next operation specifies multiplication as the functor, overriding the default. Within this expression, two variable references are defined, inserting the values of the `Prob.to Respond` and `Revenue` variables and multiplying them together.

```
<Expression xmlns="http://com.spss.pasw.dms/rules" Domain="double" Functor="*">
  <Expression Domain="double" Functor="variableReference">
    <Expression>
      <Value>value</Value>
    </Expression>
    <Expression>
      <Value>Variable</Value>
    </Expression>
    <Expression>
      <Value>Prob.to Respond</Value>
    </Expression>
    <Expression>
      <Value>Value</Value>
    </Expression>
  </Expression>
  <Expression Domain="double" Functor="variableReference">
    <Expression>
      <Value>value</Value>
    </Expression>
    <Expression>
      <Value>Variable</Value>
    </Expression>
    <Expression>
      <Value>Revenue</Value>
    </Expression>
    <Expression>
      <Value>Value</Value>
    </Expression>
  </Expression>
</Expression>
```

In other words, the example expression is referencing a simple value of a `Variable` named `ProbabilityToRespond` in order to use its output field named `Value` in this spot of the equation.

A third variable reference inserts the value of the Cost variable. Because it is a child of the top-level ObjectiveFunction element (and not the multiplication expression) its value is subtracted.

```
<Expression xmlns="http://com.spss.pasw.dms/rules" Domain="double" Functor="variableReference">
  <Expression>
    <Value>value</Value>
  </Expression>
  <Expression>
    <Value>Variable</Value>
  </Expression>
  <Expression>
    <Value>Cost</Value>
  </Expression>
  <Expression>
    <Value>Value</Value>
  </Expression>
</Expression>
```

Defining equations using the expression editor

You can use the Expression Editor as a shortcut to building expressions. While the prefix notion takes a bit of time to learn, you can build expressions using the Expression Editor, and then copy the resulting code.

For example, suppose you want to define the following equation:

```
profit = quantity * (price - unit cost - promotion cost)
```

- ▶ Create a project using any valid application template. (This can be a custom template, or a sample application such as IBM® Analytical Decision Management for Customer Interactions or IBM® Analytical Decision Management for Claims.)
- ▶ On the Data tab, choose a data source that includes the fields you want to use in your equation, and choose this for the Project Data Model. (For this example you would need fields named *quantity*, *price*, *unit cost*, and *promotion cost*. You don't need any real data—you just need these fields to exist in the data model so you can choose them in the Expression Editor.)
- ▶ From the Data tab, click Add/Edit additional fields and tables and then click Add an expression.
- ▶ Specify the desired expression.
- ▶ Save the project and download to a local drive, for example *profitexpression.str*.
- ▶ Change the filename extension to *.zip* (for example, *profitexpression.zip*) and extract it. (Stream files are compressed *.zip* files and can be extracted to access the component parts, which include a primary file named *ClementineStream.xml* along with a number of *.dat* files.)
- ▶ Open the extracted file *\data\0001.dat* in an XML or text editor, and search for an expression element such as the following:

```
<Expression Functor="*" Domain="double">
```

```

<Expression Domain="long"><Attribute>quantity</Attribute></Expression>
<Expression Functor="-" Domain="double">
  <Expression Functor="-" Domain="double">
    <Expression Domain="long"><Attribute>price</Attribute></Expression>
    <Expression Domain="double"><Attribute>unit cost</Attribute></Expression>
  </Expression>
  <Expression Domain="double"><Attribute>promotion cost</Attribute></Expression>
</Expression>
</Expression>

```

- Copy the expression code into your XML template, replace the attributes with variable references, and add variable definitions and output attributes as needed (see [Defining variables](#)).

Defining variables

Define any variables that will be used as inputs to the optimization. Any variable referenced in the optimization function must be defined in a `Variable` element which can be a child of either `EntityDimension` or `Dimension`. In practical terms, the location of the variable definition determines the level at which the input is specified (though the user can change this in the application user interface).

For example, suppose you are prioritizing campaigns and offers based on expected profit, computed as follows:

expected profit = probability to respond * revenue - cost

To do this, the required inputs (`probability`, `revenue`, and `cost`) must be specified for each campaign or offer, as appropriate. In the user interface, you specify these inputs on the Prioritize tab.

If you want the same value to be used for all offers within a campaign, you can specify that input at the campaign level. To do this, click `Customize table` on the Prioritize tab. (Offer is the child of campaign, so specifying at the campaign level applies the value to all offers within that campaign.) Alternatively, you can specify different inputs for each offer.

In the XML template, the same inputs are defined as variables on the relevant dimension.

```

<Dimension name="Offer">
  <Variable name="Prob.to Respond" dataType="double" simulateName="Offers Accepted" simulateAction="sum"
    optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>
  <Variable name="Revenue" dataType="double" optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>
  <Variable name="Cost" dataType="double" simulateAction="sum" simulateName="Total Cost" optimizationInputItem="true"
    prompt="">

```

```

    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>
</Dimension>

```

Alternatively, if you want to specify one or more inputs at the Campaign level, you can add these as variables on the Campaign dimension instead. Moving the variable definition from Offer to Campaign is the same as selecting Campaign in the application user interface.

```

<Dimension name="Campaign">
  <Variable name="Prob.to Respond" dataType="double" simulateName="Offers Accepted" simulateAction="sum"
    optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>
</Dimension>

```

Defining constraints

Variables can also be referenced in constraints. The same general rule applies—you have to define the variable before you can use it. But in this case the variable definition and constraint may both be children of the dimension to which they apply.

Following is an example of the predefined constraints in the IBM® Analytical Decision Management for Campaign Optimization application template. End users in the application do not create constraints themselves. They can choose to disable constraints they don't want to use. This is done on the Optimize tab of the user interface.

```

<!--Constraint type="min" name="ctMinProfitConstraint">
  <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="Min.Profit"/>
  <ExpressionFormat format="{ObjectiveValue}"/>
  <ExternalUsage controlVariable="use_min_profit_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
</Constraint-->
<Constraint type="max" name="ctCampaignBudgetConstraint" entityScoped="false" enabled="false" description="
CampaignBudgetConstraint">
  <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="
CampaignBudget"/>
  <ExpressionFormat format="{FN_sum} ( {OfferCost} + {ChannelCost} )"/>
  <ExternalUsage controlVariable="use_campaign_budget_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
</Constraint>
<Constraint type="min" name="ctMinCampaignSizeConstraint" entityScoped="false" enabled="false" description="
MinCampaignOffers">
  <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="
MinCampaignOfferCount"/>
  <ExpressionFormat format="{FN_count} ( {Offer} )"/>
  <ExternalUsage controlVariable="use_min_campaign_offers_constraint" variableType="int" enabledValue="1"
  disabledValue="0"/>
</Constraint>
<!--Constraint type="max" name="ctCampaignSizeConstraint" entityScoped="false" description="MaxOffersPerCampaign">

```



```

    <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value=
    "CampaignSize"/>
    <ExpressionFormat format="{FN_count} ( {Offer} )"/>
    <ExternalUsage controlVariable="use_campaign_size_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
  </Constraint>
  <Constraint type="max" name="ctOffersAvailableConstraint" entityScoped="false" description="MaxOffersAvailable">
    <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value=
    "OffersAvailable"/>
    <ExpressionFormat format="{FN_count} ( {Offer} )"/>
    <ExternalUsage controlVariable="use_offers_available_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
  </Constraint>
  <Constraint type="max" name="ctTotalBudgetConstraint" entityScoped="false" description="TotalBudgetForAllCampaigns">
    <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value=
    "TotalBudget"/>
    <ExpressionFormat format="{FN_sum} ( {OfferCost} + {ChannelCost} )"/>
    <ExternalUsage controlVariable="use_total_budget_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
  </Constraint>
  <Constraint type="max" name="ctMaxOffersConstraint" description="MaxOffersPerCustomer">
    <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value=
    "MaxOffersNum"/>
    <ExpressionFormat format="{FN_count} ( {Offer} / {Customer} ) + ( {RecentOffersNum} )"/>
    <ExternalUsage controlVariable="use_max_offers_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
  </Constraint>
  <Constraint type="max" name="ctChannelCapacityConstraint" entityScoped="false" description="MaxOffersPerChannel">
    <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="Capacity"/>
    <ExpressionFormat format="{FN_count} ( {Channel} )"/>
    <ExternalUsage controlVariable="use_channel_capacity_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
  </Constraint>

```

Configuring scoring output for deployment

For applications that will be deployed for batch or real-time scoring, the `Deployment` element in the XML template specifies which model outputs are available to the scoring service. These can include:

- The final allocations or decisions for each dimension, whether determined via rules, prioritization, or combine matrix.
- Outputs from the models and rules within the stream, which typically serve as inputs to those decisions.
- Any prioritization variables defined.
- Input fields, Annotations, and “Return with” fields specified for each dimension.

Each output is defined using a separate `OutputAttribute` element within the `Deployment` element of the XML template. Outputs defined in this manner can be selected for inclusion in the result set when creating the scoring configuration. For more information, see the topic [IBM Analytical Decision Management and the Scoring Service](#) in Chapter 4 on p. 60.

Figure 2-3
Sample `OutputAttribute` specification

```
<Deployment>
  <OutputAttribute referenceType="DimensionMember" name="Claim Area"
    returnValue="Claim Area.Allocation-Value">Claim Area</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation-Value">Action</OutputAttribute>
</Deployment>
```

Comments

- When scoring within the application (using the Score Now functionality which is enabled by specifying `ImmediateBatchScoring enableScoringOptions="true"` under the `DeployScoreStep` element in the template), any `OutputAttribute` elements specified in the template are ignored. All fields in the stream will be available for scoring, including model outputs as well as inputs.
- To view the available fields in any stream, you can open the stream file in IBM® SPSS® Modeler, open the terminal node at the end of the stream, and go to the Format tab. Any of the fields listed can be included in scoring output. (When you save an application, a IBM® SPSS® Modeler stream file (*.str) is automatically created in the IBM® SPSS® Collaboration and Deployment Services Repository.)
- If any of the outputs defined in the `Deployment` element are not recognized by the score provider, null values will be returned for that output. (This can happen, for example, if the specified output does not exist in the stream.)
- Some streams may contain an additional field named *entity*. This is for internal use only and should not be referenced or included in output.

Returning the allocations for each dimension

The allocations for each dimension typically represent the “final answer” returned by the application, such as the offer to be presented to a customer, or the action to take on a claim. A separate allocation field is returned for each dimension. These fields can be configured for scoring in the `Deployment` element as follows:

```
<Deployment>
  <OutputAttribute referenceType="DimensionMember" name="Claim Area"
    returnValue="Claim Area.Allocation-Value">Claim Area</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation-Value">Action</OutputAttribute>
</Deployment>
```

Where:

- `referenceType` is `DimensionMember`.
- `name` is the name of the dimension being allocated.
- `returnValue` is the name of the field being returned. By convention this matches the name of the dimension, with `.Allocation-Value` appended.

Outputs from models and rules

Each model or rule used in an allocation returns one or more output fields. When combined with the final allocation for each dimension, these outputs may be useful in understanding how a particular result was determined. For example, if a claim is referred for investigation based on the total number of risk points, you might want to know which rules contributed to the total. The available fields depend on the dimensions being allocated, and the types of rules and models used, as detailed below.

Allocation using segment rules

When used in an allocation (`<AllocationRuleSection enabled="true" />`), segment rules return the following fields:

- `<<Dimension>>.Allocation-Segment`. The list of index values for all segments returning a value of *true*.
- `<<Dimension>>.Allocation-Segment Name`. The list of names for all segments returning a value of *true*, in the same order as the `Allocation-Segment` field.

These fields can be configured for scoring in the `Deployment` element, as follows:

```
<Deployment>
  <OutputAttribute referenceType="DimensionMember" name="Offer"
    returnValue="Offer.Allocation-Segment">Segment</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Offer"
    returnValue="Offer.Allocation-Segment Name">Segment Name</OutputAttribute>
</Deployment>
```

Where:

- `referenceType` is `DimensionMember`.
- `name` matches the name of the dimension being allocated.
- `returnValue` matches the name of the field being returned.

Allocation using random percentages

When used in an allocation, random percentage rules (`<AllocationRuleSection enabled="true" />`) return the following field:

- `<<Dimension>>.Allocation-Segment Name`. The list of names for all segments returning a value of *true*.

This field can be configured for scoring as follows:

```
<Deployment>
  <OutputAttribute referenceType="DimensionMember" name="Offer"
    returnValue="Offer.Allocation-Segment Name">Offer Segment Name</OutputAttribute>
</Deployment>
```

Allocation using aggregated point totals

Rules that allocate decisions based on aggregated point totals (`<AggregateRuleSection enabled="true" />`) return the following fields:

- `<<Dimension>>.Allocation.Rule-Value`. The final allocation returned by the rule.
- `<<Dimension>>.Allocation.Rule.Aggregate-Value`. The aggregated point total across all segments that returned a value of *true*. This is the sum of the values listed for `Aggregate-Segment Points`.
- `<<Dimension>>.Allocation.Rule.Aggregate-Segment`. The list of index values for all segments returning a value of *true*.
- `<<Dimension>>.Allocation.Rule.Aggregate-Segment Name`. The names of all segments returning *true*, in the same order as the `Aggregate-Segment` field.
- `<<Dimension>>.Allocation.Rule.Aggregate-Segment Points`. The “points” list for all segments returning *true*, in the same order as the `Aggregate-Segment` field.
- `<<Dimension>>.Allocation.Rule-Threshold`. The index of the segment to which the record was allocated based on the sum of points.
- `<<Dimension>>.Allocation.Rule-Threshold Segment`. The minimum number of points needed to be included in that segment.
- `<<Dimension>>.Allocation.Rule-Threshold Test Value`. The aggregate value tested. This should match the total points returned for `Aggregate-Value`.

These fields can be configured for scoring as follows:

```
<Deployment>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Rule-Value">Rule Action</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Rule-Aggregate-Value">Total Risk Points</OutputAttribute>
</Deployment>
```

Allocation based on model scores

When used in an allocation, predictive models (`<PredictiveModelSection enabled="true" />`) return the following fields:

- `<<Dimension>>.Allocation.Model-Value`. The probability, propensity, or confidence value returned by the model.
- `<<Dimension>>.Allocation.Model-Threshold`. The index of the segment to which the record was allocated based on model value.
- `<<Dimension>>.Allocation.Model-Threshold Segment`. The minimum value needed to be included in that segment.
- `<<Dimension>>.Allocation.Model-Threshold Test Value`. The model value tested. This should match the value returned for `Model-Value`.

These fields can be configured for scoring as follows:

```
<Deployment>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Model-Value">Model Action</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Model-Threshold">Model Threshold</OutputAttribute>
</Deployment>
```

Outputs from prioritization

Outputs from prioritization include the result of the prioritization equation, such as profit, as well as any prioritization variables or constraints.

Prioritization equation

The result of the prioritization equation is output to a field named `<<objective function>>-Value`. This field can be configured for scoring as follows:

```
<Deployment>
  <OutputAttribute referenceType="Objective" name="Expected Profit"
    returnValue="Expected Profit-Value">Expected Profit</OutputAttribute>
</Deployment>
```

Where:

- `referenceType` is `Objective`.
- `name` matches the value of the `Name` attribute specified for the `ObjectiveFunction` element.
- `returnValue` matches the name of the field being returned. By convention this is the name of the `ObjectiveFunction` element, with `-Value` appended.

Prioritization variables

Variables can be configured for scoring as follows:

```
<Deployment>
  <OutputAttribute referenceType="Variable" name="MaxOffersNum"
    returnValue="MaxOffersNum.Variable-Value">Max Offer</OutputAttribute>
  <OutputAttribute referenceType="Variable" name="Min.Profit"
    returnValue="Min.Profit.Variable-Value">Min Profit</OutputAttribute>
</Deployment>
```

Where:

- `referenceType` is `Variable`.
- `name` matches the name of the variable.
- `returnValue` is the name of the variable with `.Variable-Value` appended.

Input fields, annotations, and “Return with” fields

Fields read in from the data source (model inputs) are always available for scoring, and do not need to be defined in the XML template. No `OutputAttribute` specification is required to use these fields in scoring.

The same is true for annotations and “Return with” fields specified on the Define tab in the application, and associated with a specific dimension or rule segment. Once defined, these are automatically available for scoring and do not need to be specified in the XML template.

Example: IBM Analytical Decision Management for Customer Interactions output configuration

When scoring IBM® Analytical Decision Management for Customer Interactions, available output fields include the campaigns and offers returned for each customer, along with allocation and prioritization outputs that may be useful in determining why a particular recommendation was made.

Outputs for this application can be configured in the `Deployment` element as follows:

```
<Deployment>
  <OutputAttribute referenceType="DimensionMember" name="Campaign"
    returnValue="Campaign.Allocation-Value">Campaign</OutputAttribute>

  <OutputAttribute referenceType="DimensionMember" name="Offer"
    returnValue="Offer.Allocation-Value">Offer</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Offer"
    returnValue="Offer.Allocation-Segment">Segment</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Offer"
    returnValue="Offer.Allocation-Segment Name">Segment Name</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Offer"
    returnValue="Offer.Allocation-Annotation">Annotation</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Offer"
    returnValue="Offer.$ReturnWithVariable">Age Youngest Child</OutputAttribute>

  <OutputAttribute referenceType="Objective" name="Expected Profit"
    returnValue="Expected Profit-Value">Expected Profit</OutputAttribute>
  <OutputAttribute referenceType="Variable" name="MaxOffersNum"
    returnValue="MaxOffersNum.Variable-Value">Max Offer</OutputAttribute>
  <OutputAttribute referenceType="Variable" name="Min.Profit"
    returnValue="Min.Profit.Variable-Value">Min Profit</OutputAttribute>
  <OutputAttribute referenceType="Variable" name="Prob.to Respond"
    returnValue="Prob.to Respond.Variable-Value">Prob to Respond</OutputAttribute>
  <OutputAttribute referenceType="Variable" name="Revenue"
    returnValue="Revenue.Variable-Value">Revenue</OutputAttribute>
  <OutputAttribute referenceType="Variable" name="Cost"
    returnValue="Cost.Variable-Value">Cost</OutputAttribute>
</Deployment>
```

This configuration might return the following scores:

Table 2-3
Example returned scores

Field	Customer 1	Customer 2
Campaign	Cross Sell	Cross Sell
Offer	Personal Loan	Home Equity Loan
Segment	2	1
Segment Name	Low Debt Ratio	Homeowner
Annotation	Congratulations, you have qualified for a low interest loan	Congratulations, you have qualified for a home equity loan
Age Youngest Child		
Expected Profit	200	400
Max Offer	2	2
Min Profit	10	10
Prob to Respond	0.19	0.09
Revenue	200	400
Cost	3	3

Reviewing this output, the following can be determined:

- Customer 1 received the *Personal Loan* offer; customer 2 received the *Home Equity Loan* offer. These outcomes were determined by the *Low Debt Ratio* and *Homeowner* rules, which were the second and first segments in the allocation set, respectively.
- The annotations are returned with each offer, and are specific to that offer.
- The *Expected Profit* field lists the value returned by the prioritization equation, and is used to determine whether the offer is made. The other fields include the variables and constraints used in this calculation.

Example: IBM Analytical Decision Management for Campaign Optimization output configuration

Like IBM® Analytical Decision Management for Customer Interactions, when scoring IBM® Analytical Decision Management for Campaign Optimization, available output fields include the campaigns and offers returned for each customer, along with allocation and optimization outputs that may be useful in determining why a particular recommendation was made.

Outputs for this application can be configured in the `Deployment` element as follows:

```
<Deployment>
  <OutputAttribute referenceType="DimensionMember" name="Campaign"
    returnValue="Campaign.Allocation-Value">Campaign</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Offer"
    returnValue="Offer.Allocation-Value">Offer</OutputAttribute>
  <OutputAttribute referenceType="Objective" name="ObjectiveValue"
    returnValue="ObjectiveValue-Value">Output-ObjectiveValue</OutputAttribute>
  <OutputAttribute referenceType="Variable" name="MaxOffersNum"
    returnValue="MaxOffersNum.Variable-Value">Output-MaxOffersNum</OutputAttribute>
```

```

<OutputAttribute referenceType="Variable" name="RecentOffersNum"
returnValue="RecentOffersNum.Variable-Value">Output-RecentOffersNum</OutputAttribute>
<OutputAttribute referenceType="Variable" name="TotalBudget"
returnValue="TotalBudget.Variable-Value">Output-TotalBudget</OutputAttribute>
<!--OutputAttribute referenceType="Variable" name="CampaignSize"
returnValue="CampaignSize.Variable-Value">Output-CampaignSize</OutputAttribute-->
<!--OutputAttribute referenceType="Variable" name="Min.Profit"
returnValue="Min.Profit.Variable-Value">Output-MinProfit</OutputAttribute-->
<OutputAttribute referenceType="Variable" name="Prob.to Respond"
returnValue="Prob.to Respond.Variable-Value">Output-ProbToRespond</OutputAttribute>
<OutputAttribute referenceType="Variable" name="Revenue"
returnValue="Revenue.Variable-Value">Output-Revenue</OutputAttribute>
<OutputAttribute referenceType="Variable" name="OfferCost"
returnValue="OfferCost.Variable-Value">Output-OfferCost</OutputAttribute>
<OutputAttribute referenceType="Variable" name="ChannelCost"
returnValue="ChannelCost.Variable-Value">Output-ChannelCost</OutputAttribute>
</Deployment>

```

Example: IBM Analytical Decision Management for Claims output configuration

When scoring IBM® Analytical Decision Management for Claims, available output fields include the final claim area and action returned for each claim, along with rule and model outputs that may be useful in determining why a particular recommendation was made.

Outputs for this application can be configured in the `Deployment` element as follows:

```

<Deployment>
  <OutputAttribute referenceType="DimensionMember" name="Claim Area"
    returnValue="Claim Area.Allocation-Value">Claim Area</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation-Value">Action</OutputAttribute>

  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Rule-Value">Rule Action</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Rule.Aggregate-Value">Aggregate Value</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Rule.Aggregate-Segment">Rule Segment</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Rule.Aggregate-Segment Name">Rule Segment Name</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Rule.Aggregate-Segment Points">Rule Segment Points</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Rule-Threshold">Rule Threshold</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Rule-Threshold Segment">Rule Threshold Segment</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Rule-Threshold Test Value">Rule Threshold Test Value</OutputAttribute>

  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation.Model-Value">Model Action</OutputAttribute>

```



```

<OutputAttribute referenceType="DimensionMember" name="Action"
  returnValue="Action.Allocation.Model-Threshold">Model Threshold</OutputAttribute>
<OutputAttribute referenceType="DimensionMember" name="Action"
  returnValue="Action.Allocation.Model-Threshold Segment">Model Threshold Segment</OutputAttribute>
<OutputAttribute referenceType="DimensionMember" name="Action"
  returnValue="Action.Allocation.Model-Threshold Test Value">Model Threshold Test Value</OutputAttribute>
</Deployment>

```

This configuration might return the following scores:

Table 2-4
Example returned scores

Field	Claim 1	Claim 2
Claim Area	Automotive	Automotive
Action	Standard	Standard
Rule Action	Standard	Standard
Aggregate Value	3.0	3.0
Rule Segment	2	1 4 5
Rule Segment Name	Multiple Claims	Police Intervention Cost Over 3K Claim Type
Rule Segment Points	3	1 1 1
Rule Threshold	2	2
Rule Threshold Segment	2	2
Rule Threshold Test Value	3.0	3.0
Model Action	Fast Track	Standard
Model Threshold		0.3
Model Threshold Segment	0	2
Model Threshold Test Value	0.06	0.51

Reviewing this output, the following can be determined:

- The final action recommended by the application for both claims is to use standard processing.
- For both claims, the recommended action based on rules was also to use standard processing. Each claim had a total of three risks points assigned, though different rules fired in order to reach this total.
- For Claim 1, the rule segment named *Multiple Claims* fired *true*. Three risk points were assigned for this segment, as specified on the Define tab in the application.
- For Claim 2, three different segments fired *true* (*Police Intervention*, *Cost Over 3K*, *Claim Type*). These were the first, fourth, and fifth segments in the set, respectively. A single risk point was assigned for each of these segments, again as specified on the Define tab.
- The Rule Threshold value of 2 indicates the claim needed at least two risk points to be assigned this action. (Claims with fewer than two risk points are allocated to *Fast Track*.)
- The allocation based on models was *Fast Track* for Claim 1, and *Standard* for Claim 2. Claim 1 failed to cross the Model Threshold value of 0.3 for standard processing, thus it is allocated to Segment 0 and no threshold value is shown.

Prompting the user for scoring parameters

In cases where certain parameters may be provided at score time, the scoring configuration will prompt the user as needed. Such parameters can be defined in the XML template as follows:

```
<Variable name="MaxOffersNum" dataType="integer" optimizationInputItem="true" prompt="Max Offers">
  <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:type="ConstantValueSource">
    <Value>1</Value>
  </ValueSource>
</Variable>
```

In this example the scoring configuration will prompt the user to specify *Max Offers*.

Optionally, this variable can be defined as a translatable string, as follows:

```
<Variable name="MaxOffersNum" dataType="integer" optimizationInputItem="true" prompt="$Scim/Max Offers">
```

For this to work, the value `$Scim/Max Offers` would need to be defined as a translatable key in IBM® SPSS® Collaboration and Deployment Services, and values provided for the relevant languages.

Application template examples

This section provides sample XML for five different application template examples.

IBM SPSS Modeler Advantage template

IBM® SPSS® Modeler Advantage is an easy-to-use application that puts the power of predictive modeling in the hands of business users. Using predictive models, you can identify patterns based on what has happened in the past, and use them to predict what is likely to happen in the future. For more information, see the *IBM SPSS Modeler Advantage User's Guide* or help.

The template for IBM SPSS Modeler Advantage is shown below.

```
<?xml version="1.0" encoding="UTF-8"?>
<PredictiveApplication xmlns="http://com.spss.pasw.dms/workspace" templateName="ModelerAdvantage"
templateVersion="1" appsVersion="7.0">
  <InterfaceControl>
    <InterfacePages>
      <ApplicationHome stepIncluded="true" showGallery="true"/>
      <DataStep stepIncluded="true"/>
      <GlobalSelectionStep stepIncluded="false"/>
      <DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="typeModelingDefineStep"/>
      <DeployScoreStep stepIncluded="true">
        <ImmediateBatchScoring enableScoringOptions="true"/>
      </DeployScoreStep>
      <ReportStep stepIncluded="false"/>
    </InterfacePages>
  </InterfaceControl>
  <InterfaceFeature id="Collaboration"/>
```

```

    <InterfaceFeature id="UploadDownload"/>
    <InterfaceFeature id="MetadataDownload"/>
  </InterfaceControl>
</PredictiveApplication>

```

A detailed description of the XML template that makes up a typical modeling application follows. Descriptions for all available elements are included in the [Element reference appendix](#) on p. 83.

Refer back to the preceding XML example while reading the following information.

- ▶ The `templateName` element specifies the file name of the application template. You don't need to include the file extension. This attribute is required.

```
templateName="ModelerAdvantage"
```

- ▶ The `templateVersion` and `appsVersion` elements are for use when upgrading a custom application template. The prebuilt application templates included with IBM® Analytical Decision Management are upgraded automatically each time a new product version is released. For more information, see the topic [Updating custom application templates and projects](#) in Chapter 6 on p. 73.

```
templateVersion="1" appsVersion="7.0"
```

- ▶ The `ApplicationHome` element indicates whether the Home page and the model Gallery section will be included in the application. These attributes are optional. The default is `true`.

```
ApplicationHome stepIncluded="true" showGallery="true"
```

- ▶ The following elements indicate which tabs will appear in the user interface. In this modeling application, only the Data, Modeling, and Score tabs will be included. Other tabs such as Global Selections, Prioritize/Optimize, and Reports will not. These attributes are all optional. The default is `true`. For a detailed description of the various tabs in the user interface, see the user's guides.

```

    <DataStep stepIncluded="true"/>
    <GlobalSelectionStep stepIncluded="false"/>
    <DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:type="typeModelingDefineStep"/>
    <DeployScoreStep stepIncluded="true">
      <ImmediateBatchScoring enableScoringOptions="true"/>
    </DeployScoreStep>
    <ReportStep stepIncluded="false"/>

```

- ▶ As part of the `DefineStep` element, `type="typeModelingDefineStep"` indicates that the Define tab will be of the modeling type. For other application types, you might use `typeRulesManagementDefineStep` or `typeDecisionHierarchyDefineStep`.

By default, all modeling types are available in the user interface. But if you want to turn off any modeling types, you can add attributes to `typeModelingDefineStep`. For example, to exclude the Association modeling type from the user interface, include the attribute `enableAssociationModeling=false`.

- ▶ As part of the `DeployScoreStep` element, the `ImmediateBatchScoring` element indicates whether scoring options will be included in the interface. This attribute is optional.

ImmediateBatchScoring enableScoringOptions="true"

- The `InterfaceFeature` element identifies major features to include in the user interface. This flexibility is valuable if you want to block users from certain functionality. At least one value is required. Possible values are described in the following table. See the user's guides for details about user interface features.

Note that inclusion of `Collaboration` and `UploadDownload` enables all other features, as is the case with this modeling application example.

Table 2-5
Possible values for InterfaceFeature element

Possible values	Features enabled
<code><InterfaceFeature id="ModelExport"></code>	Ability to save models to the IBM® SPSS® Collaboration and Deployment Services Repository
<code><InterfaceFeature id="ModelBuild"></code>	Ability to build models in IBM Analytical Decision Management applications other than IBM SPSS Modeler Advantage
<code><InterfaceFeature id="RuleExport"></code>	Ability to save rules to the IBM SPSS Collaboration and Deployment Services Repository
<code><InterfaceFeature id="RuleReference"></code>	Ability to reference rules stored in the IBM SPSS Collaboration and Deployment Services Repository
<code><InterfaceFeature id="ModelReference"></code>	Ability to reference models stored in the IBM SPSS Collaboration and Deployment Services Repository
<code><InterfaceFeature id="UploadDownload"></code>	Ability to open files from or save files to the user's local file system
<code><InterfaceFeature id="Collaboration"></code>	The ability to reference or save objects to the IBM SPSS Collaboration and Deployment Services Repository
<code><InterfaceFeature id="MetadataDownload"></code>	The ability to download a .ZIP file with metadata for the current project

IBM SPSS Rules Management template

IBM® SPSS® Rules Management provides a central tool for creating and editing shared rules. These rules can be used throughout applications to select and process records, and to automate decisions accordingly.

The template for IBM SPSS Rules Management is shown below.

```
<?xml version="1.0" encoding="UTF-8"?>
<PredictiveApplication xmlns="http://com.spss.pasw.dms/workspace" templateName="RulesManagement"
templateVersion="1" appsVersion="6.1">
  <InterfaceControl>
    <InterfacePages>
      <ApplicationHome stepIncluded="true" showGallery="true"/>
      <DataStep stepIncluded="true"/>
      <GlobalSelectionStep stepIncluded="false"/>
      <DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="typeRulesManagementDefineStep"/>
      <CombineOptimizeStep stepIncluded="false">
        <CombineOptimizeMethod/>
      </CombineOptimizeStep>
    </InterfacePages>
  </InterfaceControl>
</PredictiveApplication>
```

```

    <DeployScoreStep stepIncluded="false"/>
    <ReportStep stepIncluded="false"/>
  </InterfacePages>
  <InterfaceFeature id="Collaboration"/>
  <InterfaceFeature id="MetadataDownload"/>
</InterfaceControl>
</PredictiveApplication>

```

- In this example, the application template XML file name is *RulesManagement.xml*:

```
templateName="RulesManagement"
```

- This application has a Home page and two tabs: Data and Rules. The only functionality included in this application is the `DefineStep` of the rules management type:

```

<DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="typeRulesManagementDefineStep"/>

```

IBM Analytical Decision Management for Customer Interactions template

IBM® Analytical Decision Management for Customer Interactions decides which promotions to offer customers when they contact your organization, and delivers recommendations to a call center, web site, or store location in real time. By combining the logic of business rules with the insight gained through predictive modeling, the application identifies the most profitable decision for each customer. For more information, see the *IBM Analytical Decision Management for Customer Interactions User's Guide* or help.

The template for IBM Analytical Decision Management for Customer Interactions is shown below.

```

<?xml version="1.0" encoding="UTF-8"?>
<PredictiveApplication xmlns="http://com.spss.pasw.dms/workspace" templateName="CustomerInteractionManagement"
templateVersion="1" appsVersion="7.0" priorityDimension="Offer">
  <InterfaceControl>
    <InterfacePages>
      <ApplicationHome stepIncluded="true" showGallery="true"/>
      <DataStep stepIncluded="true"/>
      <GlobalSelectionStep stepIncluded="true"/>
      <DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
typeDecisionHierarchyDefineStep">
        <DimensionSetting name="Campaign">
          <PlanningSection enableInteractionPoints="true" enableStartEndDates="true"/>
          <SelectionSection enabled="true" enableModels="true"/>
          <AllocationRuleSection enabled="true"/>
          <AggregateRuleSection enabled="false"/>
          <PredictiveModelSection enabled="false"/>
        </DimensionSetting>
      </DefineStep>
      <OptimizeStep stepIncluded="true">
        <OptimizeMethod enableNumReturnsByIP="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
PrioritizationOptimization"/>
      </OptimizeStep>
      <DeployScoreStep stepIncluded="true">

```

```

        <RealTimeScoring enableInteractiveQuestions="true"/>
    </DeployScoreStep>
    <ReportStep stepIncluded="true"/>
</InterfacePages>
<InterfaceFeature id="Collaboration"/>
<InterfaceFeature id="UploadDownload"/>
<InterfaceFeature id="MetadataDownload"/>
</InterfaceControl>
<EntityDimension name="Customer">
<Variable name="MaxOffersNum" dataType="integer" optimizationInputItem="true" prompt="Max Offer">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
        <Value>1</Value>
    </ValueSource>
</Variable>
<Constraint type="max">
    <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="MaxOffersNum"/>
    <Function Domain="double" Functor="variableReference">
        <Expression xmlns="http://com.spss.pasw.dms/rules" Domain="string">
            <Value>count</Value>
        </Expression>
    </Function>
</Constraint>
</EntityDimension>
<Dimension name="Campaign">
    <Property>Name</Property>
    <Property>Category</Property>
    <Property>Organization</Property>
    <Property>Group</Property>
    <Property>Description</Property>
<Variable name="Prob.to Respond" dataType="double" simulateName="Offers Accepted" simulateAction="sum"
optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
        <Value>0</Value>
    </ValueSource>
</Variable>
<Variable name="Min.Profit" dataType="double" optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
        <Value>0</Value>
    </ValueSource>
</Variable>
<Variable name="Revenue" dataType="double" optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
        <Value>0</Value>
    </ValueSource>
</Variable>
<Variable name="Cost" dataType="double" simulateAction="sum" simulateName="Total Cost"
optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
        <Value>0</Value>
    </ValueSource>
</Variable>

```

```

<Constraint type="min">
  <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary"
  value="Min.Profit"/>
  <Function Domain="double" Functor="variableReference">
    <Expression xmlns="http://com.spss.pasw.dms/rules" Domain="string">
      <Value>value</Value>
    </Expression>
    <Expression xmlns="http://com.spss.pasw.dms/rules" Domain="string">
      <Value>Objective</Value>
    </Expression>
    <Expression xmlns="http://com.spss.pasw.dms/rules" Domain="string">
      <Value>Expected Profit</Value>
    </Expression>
    <Expression xmlns="http://com.spss.pasw.dms/rules" Domain="string">
      <Value>Value</Value>
    </Expression>
  </Function>
</Constraint>
</Dimension>
<Dimension name="Offer" parentDimension="Campaign">
  <Property>Name</Property>
  <Property>Category</Property>
  <Property>Organization</Property>
  <Property>Group</Property>
  <Property>Description</Property>
</Dimension>
<Optimization algorithm="Heuristic">
  <ObjectiveFunction Domain="double" Functor="-" Name="Expected Profit">
    <Expression xmlns="http://com.spss.pasw.dms/rules" Domain="double" Functor="*">
      <Expression Domain="double" Functor="variableReference">
        <Expression>
          <Value>value</Value>
        </Expression>
        <Expression>
          <Value>Variable</Value>
        </Expression>
        <Expression>
          <Value>Prob.to Respond</Value>
        </Expression>
        <Expression>
          <Value>Value</Value>
        </Expression>
      </Expression>
    <Expression Domain="double" Functor="variableReference">
      <Expression>
        <Value>value</Value>
      </Expression>
      <Expression>
        <Value>Variable</Value>
      </Expression>
      <Expression>
        <Value>Revenue</Value>
      </Expression>
    </Expression>
  </ObjectiveFunction>

```

```

        </Expression>
        <Expression>
            <Value>Value</Value>
        </Expression>
    </Expression>
</Expression>
<Expression xmlns="http://com.spss.pasw.dms/rules" Domain="double" Functor="variableReference">
    <Expression>
        <Value>value</Value>
    </Expression>
    <Expression>
        <Value>Variable</Value>
    </Expression>
    <Expression>
        <Value>Cost</Value>
    </Expression>
    <Expression>
        <Value>Value</Value>
    </Expression>
</Expression>
</ObjectiveFunction>
</Optimization>
<Deployment>
    <OutputAttribute referenceType="DimensionMember" name="Campaign" returnValue=
    "Campaign.Allocation-Value">Campaign</OutputAttribute>
    <OutputAttribute referenceType="DimensionMember" name="Offer" returnValue=
    "Offer.Allocation-Value">Offer</OutputAttribute>
    <OutputAttribute referenceType="Objective" name="Expected Profit" returnValue=
    "Expected Profit-Value">Output-PredictedProfit</OutputAttribute>
    <OutputAttribute referenceType="Variable" name="MaxOffersNum" returnValue=
    "MaxOffersNum.Variable-Value">Output-MaxOffersNum</OutputAttribute>
    <OutputAttribute referenceType="Variable" name="Min.Profit" returnValue=
    "Min.Profit.Variable-Value">Output-MinProfit</OutputAttribute>
    <OutputAttribute referenceType="Variable" name="Prob.to Respond" returnValue=
    "Prob.to Respond.Variable-Value">Output-ProbToRespond</OutputAttribute>
    <OutputAttribute referenceType="Variable" name="Revenue" returnValue=
    "Revenue.Variable-Value">Output-Revenue</OutputAttribute>
    <OutputAttribute referenceType="Variable" name="Cost" returnValue=
    "Cost.Variable-Value">Output-Cost</OutputAttribute>
</Deployment>
</PredictiveApplication>

```

- In this example, the application template XML file name is *CustomerInteractionManagement.xml*:

```
templateName="CustomerInteractionManagement"
```

- This application has six tabs: Data, Global Selections, Define, Prioritize (OptimizeStep), Deploy, and Reports:

```

<DataStep stepIncluded="true"/>
    <GlobalSelectionStep stepIncluded="true"/>
    <DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type=

```



```

"typeDecisionHierarchyDefineStep">
  <DimensionSetting name="Campaign">
    <PlanningSection enableInteractionPoints="true" enableStartEndDates="true"/>
    <SelectionSection enabled="true" enableModels="true"/>
    <AllocationRuleSection enabled="true"/>
    <AggregateRuleSection enabled="false"/>
    <PredictiveModelSection enabled="false"/>
  </DimensionSetting>
</DefineStep>
<OptimizeStep stepIncluded="true">
  <OptimizeMethod enableNumReturnsByIP="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
  "PrioritizationOptimization"/>
</OptimizeStep>
<DeployScoreStep stepIncluded="true">
  <RealTimeScoring enableInteractiveQuestions="true"/>
</DeployScoreStep>
<ReportStep stepIncluded="true"/>

```

- ▶ This application's XML also defines a top-level entity dimension (`Customer`), and two main dimension members (`Campaign` and `Offer`). Note that variable names are defined for the dimensions. These are hard-coded in the XML application template rather than defined in the screen text properties files.

Applications can only have one level of children per dimension (on the Define tab, the user interface cannot display more than one level under each dimension).

```

<EntityDimension name="Customer">
.
.
.
<Dimension name="Campaign">
.
.
.
<Dimension name="Offer" parentDimension="Campaign">

```

- ▶ The `Optimization` element defines the equation used to “value” each potential result by the optimization algorithm as it strives to find the solution with the minimum or maximum value. Supported algorithms include `Heuristic`, which indicates that the “greedy” prioritization form of optimization will be used, or `Cplex`, which indicates that the advanced IBM ILOG CPLEX form of optimization will be used. You can also specify `None` to disable the use of the optimization.

```

<Optimization algorithm="Heuristic">

```

The `Optimization` element contains the `ObjectiveFunction`. If you want to customize the objective function (the prioritization equation or optimization equation) used in an application, contact your SPSS representative if you have questions.

The prioritization equation used in the sample IBM Analytical Decision Management for Customer Interactions application is displayed on the Prioritize tab in the user interface.

IBM Analytical Decision Management for Campaign Optimization template

IBM® Analytical Decision Management for Campaign Optimization is similar to the IBM® Analytical Decision Management for Customer Interactions application in that it decides which promotions to offer customers when they contact your organization, and delivers recommendations to a channel such as a call center, retail web site, or store location. By combining the logic of business rules with the insight gained through predictive modeling, the application identifies the most profitable decision for each customer. IBM Analytical Decision Management for Campaign Optimization introduces IBM CPLEX optimization and has the added value of maximizing the return on your campaign investment by determining the best offers for individual customers within constraints such as your budget, channel capacity, and contact policies.

For more information, see the *IBM Analytical Decision Management for Campaign Optimization User's Guide* or help.

The template for IBM Analytical Decision Management for Campaign Optimization is shown below.

```
<?xml version="1.0" encoding="UTF-8"?>
<PredictiveApplication xmlns="http://com.spss.pasw.dms/workspace" templateName="CampaignOptimization" templateVersion="1"
appsVersion="7.0" priorityDimension="Offer">
  <InterfaceControl>
    <InterfacePages>
      <ApplicationHome stepIncluded="true" showGallery="true"/>
      <DataStep stepIncluded="true"/>
      <GlobalSelectionStep stepIncluded="true"/>
      <DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type=
"typeDecisionHierarchyDefineStep">
        <DimensionSetting name="Campaign">
          <PlanningSection enableInteractionPoints="true" enableStartEndDates="true"/>
          <SelectionSection enabled="true" enableModels="true"/>
          <AllocationRuleSection enabled="true"/>
          <AggregateRuleSection enabled="false"/>
          <PredictiveModelSection enabled="false"/>
        </DimensionSetting>
        <DimensionSetting name="Channel">
          <PlanningSection enableInteractionPoints="true" enableStartEndDates="true"/>
          <SelectionSection enabled="true" enableModels="true"/>
          <AllocationRuleSection enabled="false"/>
          <AggregateRuleSection enabled="false"/>
          <PredictiveModelSection enabled="false"/>
        </DimensionSetting>
      </DefineStep>
      <OptimizeStep stepIncluded="true" enableTest="false">
        <OptimizeMethod enableNumReturnsByIP="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type=
"PrioritizationOptimization"/>
      </OptimizeStep>
      <DeployScoreStep stepIncluded="true">
        <RealTimeScoring enableInteractiveQuestions="false"/>
        <ImmediateBatchScoring enableScoringOptions="true"/>
      </DeployScoreStep>
    </InterfacePages>
  </InterfaceControl>
</PredictiveApplication>
```

```

    <ReportStep stepIncluded="true"/>
  </InterfacePages>
  <InterfaceFeature id="Collaboration"/>
  <InterfaceFeature id="UploadDownload"/>
  <InterfaceFeature id="MetadataDownload"/>
</InterfaceControl>
<EntityDimension name="Customer">
  <Variable name="MaxOffersNum" dataType="integer" description="MaxOffersNumDescription" optimizationInputItem="true"
  prompt="Max Offers">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>1</Value>
    </ValueSource>
  </Variable>

  <Variable name="TotalBudget" dataType="double" description="TotalBudgetDescription" optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>10000</Value>
    </ValueSource>
  </Variable>

  <Variable name="RecentOffersNum" dataType="integer" description="RecentOffersNumDescription" optimizationInputItem="true"
  prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>

  <DerivedVariable name="TotalCost" dataType="double" description="TotalCostDescription" simulateName="BudgetSpent"
  simulateAction="sum" >
    <VariableExpression expression="{OfferCost}' + '{ChannelCost}'"/>
  </DerivedVariable>
</EntityDimension>
<Dimension name="Campaign" description="CampaignDescriptionText">
  <Property>Name</Property>
  <Property>Category</Property>
  <Property>Organization</Property>
  <Property>Group</Property>
  <Property>Description</Property>

  <Variable name="CampaignBudget" dataType="double" description="CampaignBudgetDescription" optimizationInputItem="true"
  prompt="" inherited="false">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>

  <Variable name="MinCampaignOfferCount" dataType="integer" description="MinCampaignOfferCountDescription"
  optimizationInputItem="true" prompt="" inherited="false">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>

```

```

</Variable>

<!--Variable name="CampaignSize" dataType="integer" optimizationInputItem="true" prompt="" inherited="false">
  <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
    <Value>0</Value>
  </ValueSource>
</Variable-->
</Dimension>
<Dimension name="Offer" parentDimension="Campaign" description="OfferDescriptionText">
  <Property>Name</Property>
  <Property>Category</Property>
  <Property>Organization</Property>
  <Property>Group</Property>
  <Property>Description</Property>

  <Variable name="Prob.to Respond" dataType="double" description="Prob.to RespondDescription" simulateName="Offers Accepted"
  simulateAction="sum" optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>
  <!--Variable name="Min.Profit" dataType="double" optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable-->
  <Variable name="Revenue" dataType="double" description="RevenueDescription" optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>
  <Variable name="OfferCost" dataType="double" description="OfferCostDescription" simulateAction="sum" simulateName="Total
  Offer Cost" optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>
  <Variable name="OffersAvailable" dataType="integer" description="OffersAvailableDescription" optimizationInputItem="true"
  prompt="" inherited="false">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>
</Dimension>

<Dimension name="Channel" description="ChannelDescriptionText">
  <Variable name="Capacity" dataType="integer" description="CapacityDescription" optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>
  <Variable name="ChannelCost" dataType="double" description="ChannelCostDescription" simulateAction="sum" simulateName="Total
  Channel Cost" optimizationInputItem="true" prompt="">
    <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
      <Value>0</Value>
    </ValueSource>
  </Variable>
</Dimension>

```

```

Channel Cost" optimizationInputItem="true" prompt="">
  <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ConstantValueSource">
    <Value>0</Value>
  </ValueSource>
</Variable>
</Dimension>

<Optimization algorithm="CPLEX" objectiveValueName="ObjectiveValue" path="/Applications/CampaignOptimization/Optimization/
CampaignOptimization.mod">
  <ObjectiveFunction Domain="double" Name="Expected Profit" description="Expected_profit_using_probability_to_respond">
    <ExpressionFormat format="( ${Prob.to Respond} * ${Revenue} ) - ( ${OfferCost} + ${ChannelCost} )"/>
    <ExternalUsage controlVariable="use_expected_profit_function" variableType="int" enabledValue="1" disabledValue="0"/>
  </ObjectiveFunction>
  <ObjectiveFunction Domain="double" Name="ROI" description="Return_On_Investment">
    <ExpressionFormat format="${FN_sum} ( ( ${Prob.to Respond} * ${Revenue} ) - ( ${OfferCost} + ${ChannelCost} ) ) / ${FN_sum}
    ( ( ${OfferCost} + ${ChannelCost} ) )"/>
    <ExternalUsage controlVariable="use_roi_function" variableType="int" enabledValue="1" disabledValue="0"/>
  </ObjectiveFunction>

  <!--Constraint type="min" name="ctMinProfitConstraint">
    <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="Min.Profit"/>
    <ExpressionFormat format="${ObjectiveValue}"/>
    <ExternalUsage controlVariable="use_min_profit_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
  </Constraint-->
  <Constraint type="max" name="ctCampaignBudgetConstraint" entityScoped="false" enabled="false" description="
  CampaignBudgetConstraint">
    <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="
    CampaignBudget"/>
    <ExpressionFormat format="${FN_sum} ( ${OfferCost} + ${ChannelCost} )"/>
    <ExternalUsage controlVariable="use_campaign_budget_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
  </Constraint>
  <Constraint type="min" name="ctMinCampaignSizeConstraint" entityScoped="false" enabled="false" description="
  MinCampaignOffers">
    <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="
    MinCampaignOfferCount"/>
    <ExpressionFormat format="${FN_count} ( ${Offer} )"/>
    <ExternalUsage controlVariable="use_min_campaign_offers_constraint" variableType="int" enabledValue="1"
    disabledValue="0"/>
  </Constraint>
  <!--Constraint type="max" name="ctCampaignSizeConstraint" entityScoped="false" description="MaxOffersPerCampaign">
    <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="
    CampaignSize"/>
    <ExpressionFormat format="${FN_count} ( ${Offer} )"/>
    <ExternalUsage controlVariable="use_campaign_size_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
  </Constraint-->
  <Constraint type="max" name="ctOffersAvailableConstraint" entityScoped="false" description="MaxOffersAvailable">
    <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="
    OffersAvailable"/>
    <ExpressionFormat format="${FN_count} ( ${Offer} )"/>
    <ExternalUsage controlVariable="use_offers_available_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
  </Constraint>

```

```

<Constraint type="max" name="ctTotalBudgetConstraint" entityScoped="false" description="TotalBudgetForAllCampaigns">
  <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="
    TotalBudget"/>
  <ExpressionFormat format="{FN_sum} ( {OfferCost} + {ChannelCost} )"/>
  <ExternalUsage controlVariable="use_total_budget_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
</Constraint>
<Constraint type="max" name="ctMaxOffersConstraint" description="MaxOffersPerCustomer">
  <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="
    MaxOffersNum"/>
  <ExpressionFormat format="{FN_count} ( {Offer} / {Customer} ) + ( {RecentOffersNum} )"/>
  <ExternalUsage controlVariable="use_max_offers_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
</Constraint>
<Constraint type="max" name="ctChannelCapacityConstraint" entityScoped="false" description="MaxOffersPerChannel">
  <Boundary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="VariableReferenceBoundary" value="Capacity"/>
  <ExpressionFormat format="{FN_count} ( {Channel} )"/>
  <ExternalUsage controlVariable="use_channel_capacity_constraint" variableType="int" enabledValue="1" disabledValue="0"/>
</Constraint>
<OPLMapping tupleSetVariable="EntityAllocations" contributionVariable="Contribution" outputDecisionVariable=
  "ObjectiveFunction">
  <EntityField referenceType="Variable" name="MaxOffersNum" dataReturn="Value" tupleField="MaxOffersNum_Variable_Value"
    tupleFieldType="int"/>
  <EntityField referenceType="Variable" name="RecentOffersNum" dataReturn="Value" tupleField=
    "RecentOffersNum_Variable_Value" tupleFieldType="int"/>
  <EntityField referenceType="Variable" name="TotalBudget" dataReturn="Value" tupleField="TotalBudget_Variable_Value"
    tupleFieldType="float"/>
  <EntityField referenceType="System" name="entity" tupleField="entity" tupleFieldType="int"/>
  <EntityField referenceType="DimensionMember" name="Campaign" dataReturn="Value" tupleField="Campaign_Allocation_Value"
    tupleFieldType="string"/>
  <EntityField referenceType="Variable" name="CampaignBudget" dataReturn="Value" tupleField="Budget_Variable_Value"
    tupleFieldType="float"/>
  <EntityField referenceType="Variable" name="MinCampaignOfferCount" dataReturn="Value" tupleField=
    "MinCampaignOfferCount_Variable_Value" tupleFieldType="int"/>
  <!--EntityField referenceType="Variable" name="CampaignSize" dataReturn="Value" tupleField="CampaignSize_Variable_Value"
    tupleFieldType="int"/-->
  <EntityField referenceType="DimensionMember" name="Offer" dataReturn="Value" tupleField="Offer_Allocation_Value"
    tupleFieldType="string"/>
  <EntityField referenceType="DimensionMember" name="Offer" dataReturn="Segment" tupleField="Offer_Allocation_Segment"
    tupleFieldType="string"/>
  <!--EntityField referenceType="DimensionMember" name="Offer" dataReturn="Segment Name" tupleField=
    "Offer_Allocation_Segment_Name" tupleFieldType="string"/-->
  <EntityField referenceType="DimensionMember" name="Channel" dataReturn="Value" tupleField="Channel_Allocation_Value"
    tupleFieldType="string"/>
  <EntityField referenceType="Variable" name="Prob.to Respond" dataReturn="Value" tupleField=
    "Prob_to_Respond_Variable_Value"
    tupleFieldType="float"/>
  <!--EntityField referenceType="Variable" name="Min.Profit" dataReturn="Value" tupleField="Min_Profit_Variable_Value"
    tupleFieldType="float"/-->
  <EntityField referenceType="Variable" name="Revenue" dataReturn="Value" tupleField="Revenue_Variable_Value"
    tupleFieldType="float"/>
  <EntityField referenceType="Variable" name="OfferCost" dataReturn="Value" tupleField="OfferCost_Variable_Value"
    tupleFieldType="float"/>
  <EntityField referenceType="Variable" name="OffersAvailable" dataReturn="Value" tupleField=

```

```

"OffersAvailable_Variable_Value" tupleFieldType="int"/>
<EntityField referenceType="Variable" name="Capacity" dataReturn="Value" tupleField="Capacity_Variable_Value"
tupleFieldType="int"/>
<EntityField referenceType="Variable" name="ChannelCost" dataReturn="Value" tupleField="ChannelCost_Variable_Value"
tupleFieldType="float"/>
<EntityField referenceType="System" name="priority" tupleField="priority" tupleFieldType="int"/>
<!--EntityField referenceType="Objective" name="ObjectiveValue" dataReturn="Value" tupleField="Expected_Profit_Value"
tupleFieldType="float"/-->

<OptimizationOutput name="IsOptimal-Value" valueVariable="OptimalAllocations" variableType="int" thresholdType="equal"
thresholdValue="1"/>
</OPLMapping>
</Optimization>
<Deployment>
<OutputAttribute referenceType="DimensionMember" name="Campaign" returnValue="Campaign.Allocation-Value">Campaign
</OutputAttribute>
<OutputAttribute referenceType="DimensionMember" name="Offer" returnValue="Offer.Allocation-Value">Offer</OutputAttribute>
<OutputAttribute referenceType="Objective" name="ObjectiveValue" returnValue="ObjectiveValue-Value">Output-ObjectiveValue
</OutputAttribute>
<OutputAttribute referenceType="Variable" name="MaxOffersNum" returnValue="MaxOffersNum.Variable-Value">Output-MaxOffers
</OutputAttribute>
<OutputAttribute referenceType="Variable" name="RecentOffersNum" returnValue="RecentOffersNum.Variable-Value">
Output-RecentOffersNum</OutputAttribute>
<OutputAttribute referenceType="Variable" name="TotalBudget" returnValue="TotalBudget.Variable-Value">Output-TotalBudget
</OutputAttribute>
<!--OutputAttribute referenceType="Variable" name="CampaignSize" returnValue="CampaignSize.Variable-Value">
Output-CampaignSize</OutputAttribute-->
<!--OutputAttribute referenceType="Variable" name="Min.Profit" returnValue="Min.Profit.Variable-Value">Output-MinProfit
</OutputAttribute-->
<OutputAttribute referenceType="Variable" name="Prob.to Respond" returnValue="Prob.to Respond.Variable-Value">
Output-ProbToRespond</OutputAttribute>
<OutputAttribute referenceType="Variable" name="Revenue" returnValue="Revenue.Variable-Value">Output-Revenue
</OutputAttribute>
<OutputAttribute referenceType="Variable" name="OfferCost" returnValue="OfferCost.Variable-Value">Output-OfferCost
</OutputAttribute>
<OutputAttribute referenceType="Variable" name="ChannelCost" returnValue="ChannelCost.Variable-Value">Output-ChannelCost
</OutputAttribute>
</Deployment>
</PredictiveApplication>

```

- In this example, the application template XML file name is *CampaignOptimization.xml*:

```
templateName="CampaignOptimization"
```

- This application has six tabs: Data, Global Selections, Define, Optimize, Deploy, and Reports:

```

<DataStep stepIncluded="true"/>
<GlobalSelectionStep stepIncluded="true"/>
<DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
typeDecisionHierarchyDefineStep">
<DimensionSetting name="Campaign">
<PlanningSection enableInteractionPoints="true" enableStartEndDates="true"/>

```

```

    <SelectionSection enabled="true" enableModels="true"/>
    <AllocationRuleSection enabled="true"/>
    <AggregateRuleSection enabled="false"/>
    <PredictiveModelSection enabled="false"/>
  </DimensionSetting>
  <DimensionSetting name="Channel">
    <PlanningSection enableInteractionPoints="true" enableStartEndDates="true"/>
    <SelectionSection enabled="true" enableModels="true"/>
    <AllocationRuleSection enabled="false"/>
    <AggregateRuleSection enabled="false"/>
    <PredictiveModelSection enabled="false"/>
  </DimensionSetting>
</DefineStep>
<OptimizeStep stepIncluded="true" enableTest="false">
  <OptimizeMethod enableNumReturnsByIP="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
  "PrioritizationOptimization"/>
</OptimizeStep>
<DeployScoreStep stepIncluded="true">
  <RealTimeScoring enableInteractiveQuestions="false"/>
  <ImmediateBatchScoring enableScoringOptions="true"/>
</DeployScoreStep>
<ReportStep stepIncluded="true"/>

```

- ▶ As with the IBM Analytical Decision Management for Customer Interactions application, this application's XML also defines a `Customer` entity dimension and a top-level `Campaign` dimension with an `Offer` child. However, a second top-level dimension called `Channel` is also defined. The two top-level dimensions (`Campaign` and `Channel`) appear as tabs on the Define tab of the application user interface. When users create new IBM Analytical Decision Management for Campaign Optimization projects, they will be prompted to select whether to display one or both dimensions and in which order to display the tabs. Both tabs are displayed by default, with the Campaign tab appearing first.

Note that variable names are defined for the dimensions. These are hard-coded in the XML application template rather than defined in the screen text properties files.

Applications can only have one level of children per dimension (on the Define tab, the user interface cannot display more than one level under each dimension).

```

<EntityDimension name="Customer">
.
.
.
<Dimension name="Campaign">
.
.
.
<Dimension name="Offer" parentDimension="Campaign">
.
.
.
<Dimension name="Channel">

```


- The `Optimization` element defines the equation used to “value” each potential result by the optimization algorithm as it strives to find the solution with the minimum or maximum value. Supported algorithms include `CPLEX`, which indicates that the advanced IBM ILOG CPLEX form of optimization will be used, or `Heuristic`, which indicates that the “greedy” prioritization form of optimization will be used. You can also specify `None` to disable the use of the optimization.

The IBM Analytical Decision Management for Campaign Optimization application uses `CPLEX` optimization, and points to the optimization model *CampaignOptimization.mod* that ships with IBM® Analytical Decision Management. Do not modify this file. If you need to modify the file, contact an IBM SPSS representative.

```
<Optimization algorithm="CPLEX" objectiveValueName="ObjectiveValue" path="/Applications/CampaignOptimization/
Optimization/CampaignOptimization.mod">
```

The `Optimization` element contains the `ObjectiveFunction`. If you want to customize the objective function (the optimization equation or prioritization equation) used in an application, contact your SPSS representative if you have questions.

The two optimization equations used in the sample IBM Analytical Decision Management for Campaign Optimization application are displayed on the `Optimize` tab in the user interface. You can choose between an *Expected profit using probability to respond* equation or a *Return on Investment equation*. For more information, see the *IBM Analytical Decision Management for Campaign Optimization User's Guide* or help.

The `Optimization` element also contains several constraints (`CampaignBudgetConstraint`, `MinCampaignOffers`, `MaxOffersPerCampaign`, `MaxOffersAvailable`, `TotalBudgetForAllCampaigns`, `MaxOffersPerCustomer`, and `MaxOffersPerChannel`). These constraints are displayed on the `Optimize` tab of the application, allowing users to select which constraints apply to their current project.

IBM Analytical Decision Management for Claims template

Using IBM® Analytical Decision Management for Claims, organizations can harness the power of predictive analytics to process incoming claims in real time. For example, claims can be set on a “fast track” for immediate payment, processed in the normal manner, or referred to the special investigations unit. For more information, see the *IBM Analytical Decision Management for Claims User's Guide* or help.

The template for IBM Analytical Decision Management for Claims is shown below.

```
<?xml version="1.0" encoding="UTF-8"?>
<PredictiveApplication xmlns="http://com.spss.pasw.dms/workspace" templateName="ClaimsManagement"
templateVersion="1" appsVersion="7.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <InterfaceControl>
    <InterfacePages>
      <ApplicationHome stepIncluded="true" showGallery="true"/>
      <DataStep stepIncluded="true"/>
      <GlobalSelectionStep stepIncluded="true"/>
      <DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
```

```

xsi:type="typeDecisionHierarchyDefineStep">
  <DimensionSetting name="Claim Area">
    <SelectionSection enabled="true" enableModels="true"/>
    <AggregateRuleSection enabled="true"/>
    <PredictiveModelSection enabled="true"/>
    <AllocationRuleSection enabled="false"/>
    <PlanningSection enableInteractionPoints="true" enableStartEndDates="true"/>
  </DimensionSetting>
</DefineStep>
<CombineStep stepIncluded="true" enableWhatif="true" enableTest="true">
</CombineStep>
<DeployScoreStep stepIncluded="true">
  <RealTimeScoring enableInteractiveQuestions="true"/>
</DeployScoreStep>
<ReportStep stepIncluded="true"/>
</InterfacePages>
<InterfaceFeature id="Collaboration"/>
<InterfaceFeature id="UploadDownload"/>
<InterfaceFeature id="MetadataDownload"/>
</InterfaceControl>
<EntityDimension name="Claim"/>
<Dimension name="Claim Area">
  <Property>Name</Property>
  <Property>Category</Property>
  <Property>Organization</Property>
  <Property>Group</Property>
  <Property>Description</Property>
</Dimension>
<Dimension name="Action" parentDimension="Claim Area">
  <Property>Name</Property>
  <Property>Category</Property>
  <Property>Organization</Property>
  <Property>Group</Property>
  <Property>Description</Property>
</Dimension>
<Optimization algorithm="None">
  <ObjectiveFunction/>
</Optimization>
<Deployment>
  <OutputAttribute referenceType="DimensionMember" name="Claim Area"
    returnValue="Claim Area.Allocation-Value">Claim Area</OutputAttribute>
  <OutputAttribute referenceType="DimensionMember" name="Action"
    returnValue="Action.Allocation-Value">Action</OutputAttribute>
</Deployment>
</PredictiveApplication>

```

- In this example, the application template XML file name is *ClaimsManagement.xml*:
 templateName="ClaimsManagement"

- ▶ This application has six tabs: Data, Global Selections, Define, Combine, Deploy, and Reports:

```

<DataStep stepIncluded="true"/>
<GlobalSelectionStep stepIncluded="true"/>
<DefineStep stepIncluded="true" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="typeDecisionHierarchyDefineStep">
  <DimensionSetting name="Claim Area">
    <SelectionSection enabled="true" enableModels="true"/>
    <AggregateRuleSection enabled="true"/>
    <PredictiveModelSection enabled="true"/>
    <AllocationRuleSection enabled="false"/>
    <PlanningSection enableInteractionPoints="true" enableStartEndDates="true"/>
  </DimensionSetting>
</DefineStep>
<CombineStep stepIncluded="true" enableWhatif="true" enableTest="true">
</CombineStep>
<DeployScoreStep stepIncluded="true">
  <RealTimeScoring enableInteractiveQuestions="true"/>
</DeployScoreStep>
<ReportStep stepIncluded="true"/>

```

- ▶ This application's XML also defines a top-level entity dimension (`Claim`) and two main dimension members (`Claim Area` and `Action`) and their dimension members. These dimensions will be displayed on the Define tab in the user interface.

Applications can only have one level of children per dimension (on the Define tab, the user interface cannot display more than one level under each dimension).

```

<EntityDimension name="Claim"/>
<Dimension name="Claim Area">
.
.
.
<Dimension name="Action" parentDimension="Claim Area">

```

Customizing the user interface

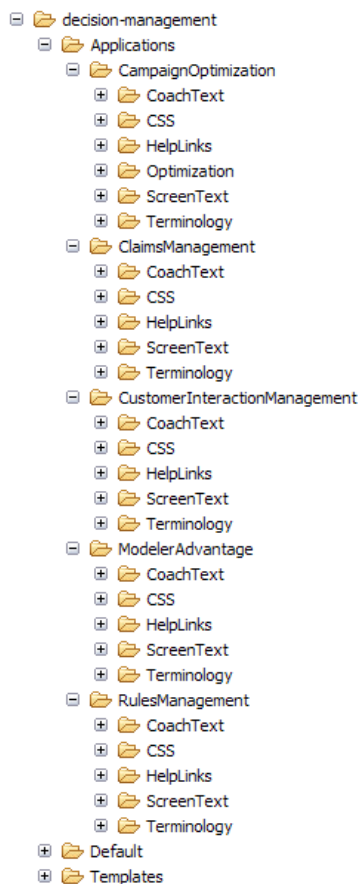
File locations

IBM® Analytical Decision Management provides a framework for customizing the appearance of your applications. You can modify various files to customize the look and feel and the text displayed in the user interface. The process for modifying these files is described in this chapter. We recommend using a simple text editor such as Microsoft Notepad to edit all *.css* and *.properties* files.

The default user interface files for IBM Analytical Decision Management are installed in the IBM® SPSS® Collaboration and Deployment Services installation directory, for example *C:\Program Files\IBM\SPSS\Deployment\5.0\components\decision-management\Default*. To customize all applications, modify files in the *Default* directory. To customize one application and leave all others with the default settings, copy **only** the required directories and files from *Default* to a new application directory. For example, if you only want to customize CSS and coach text for a certain application, you only need to copy those folders – and you only need to copy the specific files and settings you want to customize. Settings in your application directory override those in *Default*.

For example, if you have four different applications, all with a unique look and feel, the directory structure might look like this:

Figure 3-1
Example directory structure



Important: Before you begin, we recommend making a backup copy of the entire *decision-management* directory.

General steps for customizing an application

After creating an application template as described in the previous chapter, follow these general steps to customize the look and feel of your application. The remaining sections in this chapter provide complete details for these general steps.

1. In the *Applications* directory, create a new folder for your application (for example, *YourApp*) as discussed in the previous chapter.
2. Copy folders and only the files you plan to customize from an existing application and paste into your new application's directory. Choose an existing application that most closely resembles the application you want to create. For example, if you installed the prebuilt IBM® Analytical Decision Management for Claims application, you can copy files from the *ClaimsManagement* directory into your new *YourApp* directory.

3. Open the *Default* directory and copy any other elements you want to customize, and paste them into your application's directory. For example, if you want to create custom terminology, copy the *Terminology* directory.

Your application folder only needs to contain the files you want to customize. All other files will be read from *Default*. Even within each file, you only need to include the portions you want to customize. For example, if customizing screen text, *ScreenText_en.properties* only needs to contain the text you are customizing. All other text will be read from *Default*. In other words, any item or file not explicitly defined or contained within your application directory will be handled by the *Default* directory.

4. Copy the *appGroup.xml* file and *description.xml* file from an existing application and paste it into your new application's folder (for example, into *YourApp*).

Edit the *appGroup.xml* file to reference the folders containing any files you plan to customize in your application's folder (see [Chapter 2](#) for details). Edit the *description.xml* file to specify the text used in your application's shortcut box on the *Applications launch page* (see [Chapter 2](#) for details).

5. Use the instructions in this chapter to customize your application's user interface.

Tip: When customizing files on the machine where IBM SPSS Collaboration and Deployment Services is installed, you may be able to share the *decision-management* directory to edit the files from any other machine on your network. Refer to your operating system documentation or see your network administrator for details about sharing directories and files.

Note that you cannot customize the Login screen.

User interface text

You can customize all text displayed in your application to tailor the product for your company's needs. Such text includes:

Coach text: Coach text is brief, helpful, easily customizable text that appears throughout the user interface when you click the small coach text icon:



Coach text is separate from the full, browsable help system. The full help system is available by clicking the help icon on any screen or dialog:



The help system contains general information about the user interface and is not customizable, whereas the coach text can be personalized to be very specific to your application, industry, or company. Coach text is stored in *CoachText_en.properties* files, where *en* is the language.

Messages: Message text consists of all messages in the application, including errors, warnings, and information messages. Messages are stored in *Messages_en.properties* files, where *en* is the language.

Screen text: Screen text is text used on user interface elements such as tabs, buttons, dialog titles, and field labels. Screen text is stored in *ScreenText_en.properties* files, where *en* is the language. Note that the text used in shortcut boxes on the *Applications launch page* is handled in a special way with a *description.xml* file (see [Chapter 2](#) for details).

Terminology: Terminology refers to a custom list of terms used in your application. You can use terminology to replace certain terms such as *model* or *score* with terms more familiar to your users. Each term has a unique ID that can be referenced from other areas of the application such as coach text, message text, and screen text. Terminology definitions are stored in *Terminology_en.properties* files, where *en* is the language.

Language support

User interface text is stored in *.properties* files in the IBM® SPSS® Collaboration and Deployment Services installation directory (for example, *C:\Program Files\IBM\SPSS\Deployment\5.0\components\decision-management\Default\ScreenText*).

The *.properties* files shipped with IBM® Analytical Decision Management are provided in multiple languages. Each file name includes the language code according to W3C definition standards. If you need another language, you can create your own *.properties* files with the proper language code and translate the content from the shipped files. Make sure you save the files in ASCII format. The following table provides some example language codes. You can perform a simple Internet search to find other W3C standard language codes.

Each user can easily change the language of his or her application without having to restart any servers. For example, German-speaking users, English-speaking users, and Japanese-speaking users can all be using the same application in their own language. From the Tools menu in your browser, go to Internet Options or Options, switch to the desired language, and then refresh the screen.

Table 3-1
Example language codes

Language	Language code	Example file name
German	de	<i>CoachText_de.properties</i>
English	en	<i>CoachText_en.properties</i>
Spanish	es	<i>CoachText_es.properties</i>
French	fr	<i>CoachText_fr.properties</i>
Italian	it	<i>CoachText_it.properties</i>
Japanese	ja	<i>CoachText_ja.properties</i>
Korean	ko	<i>CoachText_ko.properties</i>
Brazilian Portuguese	pt_BR	<i>CoachText_pt_BR.properties</i>
Chinese Simplified	zh_CN	<i>CoachText_zh_CN.properties</i>
Chinese Traditional	zh_TW	<i>CoachText_zh_TW.properties</i>
Dutch	nl	<i>CoachText_nl.properties</i>

The following sections include the syntax of each *.properties* file you can customize, including examples. As a precaution, save a copy of all original files before proceeding (we recommend saving a copy of the entire *decision-management* directory). This allows you to revert to the original files in the future, if necessary.

Note that each application directory includes a *description.xml* file that defines the text used in shortcut boxes on the *Applications launch page*. This file works differently than properties files, in that content for all languages is included within the file. For example, the English section for the IBM® Analytical Decision Management for Claims is defined as follows:

```
<en>
  <TitleEntry>IBM® Analytical Decision Management for Claims</TitleEntry>
  <ShortDescription>Intelligent risk management in real time</ShortDescription>
  <LongDescription>Assess the overall risk level for incoming claims and recommend the specific action
  to take.</LongDescription>
</en>
```

Sections are included for several different languages. To add another language, simply create a new section (for example, `<n1>` for Dutch) and customize the text to meet your needs.

Coach text

Certain areas of the user interface provide coach text. Each area has a unique name identifying it in the coach text properties file. In general, entries in the coach text properties file are listed in the order they appear in the user interface. Follow the instructions in this section to customize the coach text in all applications or in one specific application. See [File locations on p. 46](#) for details about file locations.

Important: Do not modify any IDs in the coach text properties files. Only modify text after the equals sign (=). For example, in `HOME_DATASTEP_TITLE=Data`, `HOME_DATASTEP_TITLE` is the ID and should never be modified.

To customize coach text across all applications

1. Open the file `Default\CoachText\CoachText_en.properties`, where *en* is the desired language.
2. Make the desired changes, save, and close. Note that any customizations made to coach text in an application override the default coach text.

To customize coach text in one application

1. Open the file `Applications\YourApp\CoachText\CoachText_en.properties`, where *YourApp* is the name of your custom application's folder and *en* is the desired language. If this file does not yet exist, copy it from `Default/CoachText` and remove all sections from it except for those you plan to customize.
2. Make the desired changes, save, and close. The file should only contain the sections you customize.

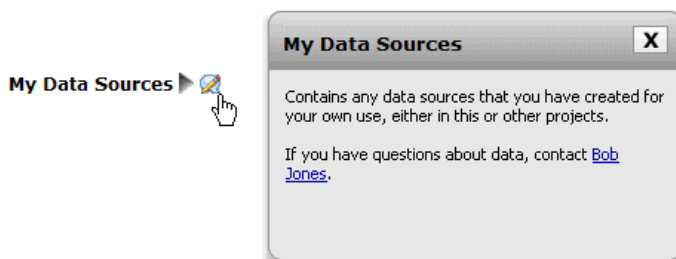
Examples

- ▶ To change the special “hover” style coach text used for the Data step icon on the Home page, modify the following lines in the coach text properties file. Modify the text after HOME_DATASTEP_TITLE= to change the title of the coach text window, or modify the text after HOME_DATASTEP_CONTENT= to change the main text displayed in the coach text window.

```
HOME_DATASTEP_TITLE=Data
HOME_DATASTEP_CONTENT=Select data for modeling, simulation, or operational
use.<br/><br/>This may include information about current customers and results
from previous claims.
```

- ▶ You can include simple HTML elements in coach text such as links, bold and italic text, etc. For example, to include an e-mail link so users can easily contact someone in your organization, include something like the following in the coach text properties file. The link in this example opens a new, blank e-mail message when the user clicks it from coach text on the Data tab.

```
DATA_SOURCE_MY_TITLE=My Data Source
DATA_SOURCE_MY_CONTENT=Contains any data sources that you have created for your
own use, either in this or other projects.<br/><br/>If you have questions about
data, contact <a href="mailto:bobjones@yourcompany.com">Bob Jones</a>.
```



Message text

You can customize the text used in warning, error, and informational messages. Follow the instructions in this section to customize the message text in all applications or in one specific application. See [File locations on p. 46](#) for details about file locations.

Important: Do not modify any IDs in the message properties files. Only modify text after the equals sign (=). For example, in LOGIN_FAILED=Login unsuccessful, LOGIN_FAILED is the ID and should never be modified.

To customize messages across all applications

1. Open the file *Default\Message\Message_en.properties*, where *en* is the desired language.
2. Make the desired changes, save, and close. Note that any customizations made to messages in an application override the default messages.

To customize messages in one application

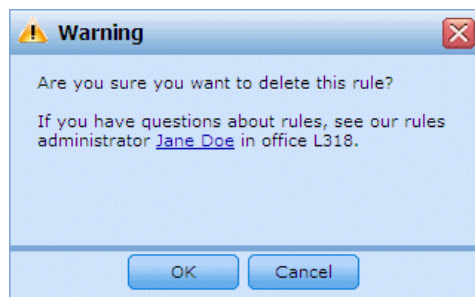
1. Open the file `Applications\YourApp\Message\Message_en.properties`, where *YourApp* is the name of your custom application's directory and *en* is the desired language. If this file does not yet exist, copy it from `Default/Message` and remove all sections from it except for those you plan to customize.
2. Make the desired changes, save, and close.

Example

To change the error message displayed when a user fails to log in to IBM® Analytical Decision Management, modify the following line in the appropriate message properties file. Only modify the text after `LOGIN_FAILED=`.

For example, you may want to include the name of an administrator users should contact at your company for certain issues.

```
DELETE_RULE=Are you sure you want to delete this rule?<br/><br/>If  
you have questions about rules, see our rules administrator <a  
href="mailto:janedoe@yourcompany.com">Jane Doe</a> in office L318.
```



Screen text

Text such as dialog headings, field labels, tab labels, and button labels can be customized. Follow the instructions in this section to customize screen text in all applications or in one specific application. See [File locations on p. 46](#) for details about file locations.

Important: Do not modify any IDs in the screen text properties files. Only modify text after the equals sign (=). For example, in `TOOLTIP_NEW_MODEL=New model`, `TOOLTIP_NEW_MODEL` is the ID and should never be modified.

To customize screen text across all applications

1. Open the file `Default/ScreenText/ScreenText_en.properties`, where *en* is the desired language.
2. Make the desired changes, save, and close. Note that any customizations made to screen text in an application override the default screen text.

To customize screen text in one application

1. Open the file *Applications\YourApp\ScreenText\ScreenText_en.properties*, where *YourApp* is the name of your custom application's directory and *en* is the desired language. If this file does not yet exist, copy it from *Default/ScreenText* and remove all sections from it except for those you plan to customize.
2. Make the desired changes, save, and close.

Example

To change the name of the main section headings on the Data tab, modify the following two values in the appropriate screen text properties file.

```
#####
# Screen text used on Data tab
#####
Project_Data_Model=Project Data Model
Data_Sources=Data Sources
```

Terminology

You can customize terminology used in your applications to fit your business needs. You can also add new terms. Each term has a unique ID that can be referenced in other areas of the application such as coach text windows, messages, and screen text. Follow the instructions in this section to create custom terms in all applications or one specific application. See [File locations on p. 46](#) for details about file locations.

To add custom terminology across all applications

1. Open the file *Default/Terminology/Terminology_en.properties*, where *en* is the desired language.
2. Modify or add one or more terminology definitions. Each term must have a unique ID.
3. Insert the appropriate terminology tag into the desired coach text, screen text, or messages *.properties* files. Use the syntax `<#:DataStep>`, where *DataStep* is the ID from the terminology properties file.

To add custom terminology to one application

1. Open the file *Applications\YourApp\Terminology\Terminology_en.properties*, where *YourApp* is the name of your custom application's directory and *en* is the desired language. If this file does not yet exist, copy it from *Default/Terminology* and remove all sections from it except for those you plan to customize.
2. Modify or add one or more terminology definitions.
3. Insert the appropriate terminology tag into the desired coach text, screen text, or messages *.properties* files located in your application's directory (for example, *Applications\YourApp*).

Example

The prebuilt applications included with the product use terminology variables for all tab names in the user interface. For example, the IBM® Analytical Decision Management for Claims application defines the following terminology variables in its *Terminology_en.properties* file:

```
#####
# Variables for names of tabs in UI
#####
ApplicationHome=Home
DataStep=Data
GlobalSelectionStep=Global Selections
DefineStep=Define
CombineStep=Combine
DeployScoreStep=Deploy
ReportStep=Reports
```

And then the IBM Analytical Decision Management for Claims application uses those terminology variables in its *ScreenText_en.properties* file:

```
#####
# Name of each step/tab in the UI. These may differ per application type
#####
ApplicationHome=<#:ApplicationHome>
DataStep=<#:DataStep>
GlobalSelectionStep=<#:GlobalSelectionStep>
DefineStep=<#:DefineStep>
CombineOptimizeStep=<#:CombineOptimizeStep>
DeployScoreStep=<#:DeployScoreStep>
ReportStep=<#:ReportStep>
```

To change the name of the *Combine* tab to something like *Prioritize*, for example, simply change `CombineStep=Combine` to `CombineStep=Prioritize` in the *Terminology_en.properties* file. The new tab name will then be used in every spot where the terminology variable is inserted (for example, it is also used in the coach text for the IBM Analytical Decision Management for Claims application, as shown below).

```
#####
# Following entries are for hover-style coach text on Home screen
#####

HOME_DATASTEP_TITLE=<#:DataStep>
HOME_DATASTEP_CONTENT=Select data for modeling, simulation, or operational
use.<br/><br/>This may include information about current customers and
records from previous claims.

HOME_GLOBALELECTIONSTEP_TITLE=<#:GlobalSelectionStep>
HOME_GLOBALELECTIONSTEP_CONTENT=Choose claims you want to include or exclude
from the application.<br/><br/>For example, all claims relating to floods or
windshield damage may be excluded due to special handling requirements.

HOME_DEFINESTEP_TITLE=<#:DefineStep>
HOME_DEFINESTEP_CONTENT=Define the types of claims and possible actions along
with the rules and models for determining the likelihood of fraud.

HOME_COMBINEOPTIMIZESTEP_TITLE=<#:CombineStep>
HOME_COMBINEOPTIMIZESTEP_CONTENT=Specify how rules and models are combined to
determine the recommended action for each claim.

HOME_DEPLOYSCORESTEP_TITLE=<#:DeployScoreStep>
HOME_DEPLOYSCORESTEP_CONTENT=Validate your current configuration and mark it
ready to be deployed.
```

Look and feel

You can change the appearance of your applications by modifying graphics files and cascading style sheets (.css). Experience with graphics and style sheets is recommended for modifying elements such as:

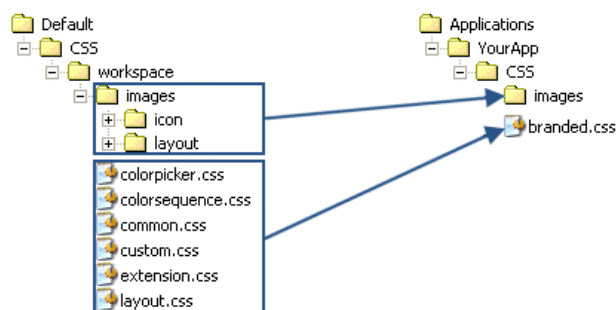
- Colors
- Borders
- Background properties
- Size and position of elements
- Margins and padding
- Fonts and text properties

Note that styles cascade. The default styles and images are applied unless any are customized in your application, in which case they override the default. For example, if the only portion of your application you want to customize is the font, you can either change the values in the following section of the default CSS (*layout.css*) to change the font for all applications, or copy the section from *layout.css* to the custom CSS for your application (*branded.css*) to only change the font there. In the latter scenario, the *branded.css* file for your application would only need to contain the following section, and all other styles and settings will be applied from the default styles.

```
body,table td,select,pre,.gwt-Button {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    font-size: 12px;
}
```

The following figure illustrates the process of customizing a single application, while leaving the default alone. This is the recommended method. To customize graphics, copy the graphics you want to customize from the default images folders to the images folder in your application directory, then modify them (or create new images files in your application directory of the correct file name, size, and folder location). To customize .css settings, open any or all of the default .css files and copy the sections you want to customize into your application's *branded.css* file.

Figure 3-2
Copying graphics and CSS settings from default



The same general process should be used for [customizing user interface text](#).

Customizing style sheets and graphics

Graphics and style sheets are stored in the IBM® SPSS® Collaboration and Deployment Services directory (for example, *C:\Program Files\IBM\SPSS\Deployment\5.0\components\decision-management\Default\CSS*). Use the following steps to modify the style sheets and/or graphics for your custom application.

To customize CSS and graphics across all applications

1. In the *Default\CSS* folder, modify settings in one or more CSS files.
2. In the *Default\CSS\images* folder, edit any graphics files (*.gif*) in graphics software of your choice to make any desired changes, or replace the graphics with your own. Note that if you change the dimensions of a graphic, you also need to search the CSS for the graphic file name and update the defined pixel dimensions in order for the graphic to be displayed properly in the application user interface.

To customize CSS and graphics in one application

1. In the *CSS* folder of the application you want to customize (for example, *Applications\YourApp\CSS*), open the file *branded.css*.
2. Copy any sections you want to change from the default CSS files (*common.css*, *custom.css*, *extension.css*, *layout.css*) into *branded.css*.

Note that you can only customize *colorpicker.css* across all applications (you cannot have unique settings per application). The file defines which colors are available for labels in the user interface.

3. Modify sections in *branded.css* as desired, save, and close.
4. Open your application's *appGroup.xml* file and set the `<CssFileSpec>` value to your application's *branded.css* stylesheet. Without this setting, your application would apply all default styles. For example:

```
<CssFileSpec>/Applications/YourApp/CSS/branded.css</CssFileSpec>
```

Note: Changes aren't always reflected in the user interface immediately. You may need to wait a few minutes and refresh your web browser.

Examples

To change the graphics used on the applications launch page

On the *Applications launch page*, small graphics are used in the shortcut box for each application and beside each application name in list view.



The process for customizing these graphics is a bit different than for other graphics. You must modify settings in the default *custom.css* file (*Default\CSS\workspace\custom.css*). The shortcut graphics for each prebuilt application are defined in the CSS as follows:

```
.launcher_customerinteractionmanagement_icon {
    width: 57px;
    height: 51px;
    background: url("images/icon/LAUNCHER_customer_interactions.gif")
        no-repeat scroll 0 0;
}

.launcher_claimsmanagement_icon {
    width: 58px;
    height: 58px;
    background: url("images/icon/LAUNCHER_claims_processing.gif") no-repeat
        scroll 0 0;
}

.launcher_rulesmanagement_icon {
    width: 43px;
    height: 44px;
    background: url("images/icon/LAUNCHER_rules_management.gif") no-repeat
        scroll 0 0;
}

.launcher_modeleradvantage_icon {
    width: 41px;
    height: 41px;
    background: url("images/icon/LAUNCHER_modeler_advantage.gif") no-repeat
        scroll 0 0;
}

.launcher_campaignoptimization_icon {
    width: 50px;
    height: 42px;
    background: url("images/icon/LAUNCHER_campaign_optimization.gif")
        no-repeat scroll 0 0;
}

.launcher_YourApp_icon {
    width: 58px;
    height: 58px;
    background: url("images/icon/LAUNCHER_YourApp.gif") no-repeat
        scroll 0 0;
}
```

And the small graphics for the list view are defined as follows:

```
.launcher_list_customerinteractionmanagement_list_icon {
    width: 18px;
    height: 15px;
    background: transparent
        url("images/icon/LAUNCHER_list_customer_interactions.gif") no-repeat;
}
```

```

.launcher_list_claimsmanagement_icon {
    width: 18px;
    height: 18px;
    background: transparent
    url("images/icon/LAUNCHER_list_claims_processing.gif") no-repeat;
}

.launcher_list_rulesmanagement_icon {
    width: 15px;
    height: 16px;
    background: transparent
    url("images/icon/LAUNCHER_list_rules_management.gif") no-repeat;
}

.launcher_list_modeleradvantage_icon {
    width: 16px;
    height: 16px;
    background: transparent
    url("images/icon/LAUNCHER_list_modeler_advantage.gif") no-repeat;
}

.launcher_list_campaignoptimization_icon {
    width: 18px;
    height: 15px;
    background: transparent
    url("images/icon/LAUNCHER_list_campaign_optimization.gif") no-repeat;
}

.launcher_list_YourApp_icon {
    width: 18px;
    height: 18px;
    background: transparent
    url("images/icon/LAUNCHER_list_YourApp.gif") no-repeat;
}

```

- ▶ If you want to customize the graphic for an existing prebuilt application, simply modify the graphics defined in the CSS (for example, to customize the IBM® SPSS® Modeler Advantage graphics, edit *LAUNCHER_modeler_advantage.gif* and *LAUNCHER_list_modeler_advantage.gif*).
- ▶ If you want to create new graphics for a new application, add your graphics to the default icon folder and then add new CSS settings. For example, if your XML application template file name is *YourApp.xml*, you would add the appropriate CSS settings to *custom.css* as shown above. Be sure the `width` and `height` definitions are correct for your new graphics.

To change the colors available in the color picker

- ▶ To customize the colors available in the color picker, modify the file *Default\CSS\workspace\colorpicker.css*. The color picker is used for label colors on the Deploy tab and the matrix on the Combine tab of certain applications. You can change existing color values or add new colors as you like. Note that you can only customize these colors in the default CSS for all applications — you cannot customize them per application.

You can use the name of a color or the hex value (for example, red is #FF0000).

Figure 3-3
Color picker



```
.colorpicker0
{
  background-color: White;
}
.colorpicker1
{
  background-color: red;
}
.colorpicker2
{
  background-color: Pink;
}
.colorpicker3
{
  background-color: Silver;
}
.colorpicker4
{
  background-color: Orange;
}
.colorpicker5
{
  background-color: Yellow;
}
.
.
.
```

Scoring Service configuration

Scoring includes the process of generating real-time values by supplying predictive models with input data. In general, to use a model for generating scores:

- ▶ Select a model from the IBM® SPSS® Collaboration and Deployment Services Repository to use for scoring.
- ▶ In IBM® SPSS® Collaboration and Deployment Services Deployment Manager, define a scoring configuration for the model.
- ▶ Supply the configured model with data and generate scores.

Scoring is a component of IBM® SPSS® Collaboration and Deployment Services. This chapter provides brief information specific to IBM® Analytical Decision Management regarding the IBM SPSS Collaboration and Deployment Services Scoring Service.

For complete information about scoring, see the *Scoring* chapter of the *IBM® SPSS® Collaboration and Deployment Services Deployment Manager User's Guide*. The guide is included on the IBM SPSS Collaboration and Deployment Services installation disc and installed with IBM SPSS Collaboration and Deployment Services.

IBM Analytical Decision Management and the Scoring Service

The general process for scoring IBM® Analytical Decision Management applications is as follows:

- ▶ An IBM® SPSS® Modeler stream (.str file) is automatically created in the repository when a user saves a IBM Analytical Decision Management project.
- ▶ The SPSS Modeler stream can then be used with the Scoring Service. In IBM® SPSS® Collaboration and Deployment Services Deployment Manager, create a scoring configuration. When creating the scoring configuration, some IBM Analytical Decision Management-specific dialogs must be completed to enable interactive scoring, select interaction points (if configured), and set global variables (such as *Max Offers*, for example).

Creating a Scoring Service Configuration

You must use Deployment Manager to create a scoring configuration. For complete instructions, see the help in Deployment Manager. Keep the following IBM Analytical Decision Management-specific points in mind when creating scoring configurations using the Deployment Manager *Configure Scoring Model* dialog box. Each section corresponds to a section in the dialog box.

Model Specific Settings

Enable Interactive Scoring. If your application (stream) supports interactive scoring, you can select this option to choose whether interactive scoring is enabled for the scoring configuration. If enabled, and if the Scoring Service does not have all the inputs needed, a *MissingDataException* will be returned that identifies the missing data (fields), and the interactive question that can be used to prompt for the needed values. The caller can then prompt for the missing data and call the Scoring Service again (passing all data). Interactive scoring is configured on the Deploy tab in IBM Analytical Decision Management applications.

- While *MissingDataException* can identify multiple pieces of missing data, it does not necessarily identify all missing data. *MissingDataException* will communicate which data is missing at the current stage of processing.
- If Enable Interactive Scoring is not enabled, you get a *MissingDataException* without any interactive questions.

Select Interaction Point. If your application uses multiple interaction points, you can select which interaction point the configuration should use in the *Model Specific Settings* dialog box. Interaction points specify where an item such as a campaign or offer applies. Options might include a call center, web site, ATM, or in-store location. Administrators can predefine the interaction points available for selection by business users. The interaction points defined are displayed to business users in the IBM Analytical Decision Management applications. You can create multiple scoring configurations in Deployment Manager—one for each interaction point.

Max Offer. Note that *Max Offer* is an example of a field that might be displayed in the Deployment Manager dialog. It's actually a variable defined for the entity dimension in your application's XML template file.

Configuring Model Specific Settings in IBM Analytical Decision Management

The model specific settings displayed in the scoring configuration are defined in IBM Analytical Decision Management. Interactive scoring is performed on a per-field basis, and is configured on the Deploy tab in the IBM Analytical Decision Management application.

The available interaction points, if any, are configured for each application by an administrator.

Choosing Model Outputs

In the scoring configuration, you can choose which model outputs to include with the results. The available outputs are defined in the `Deployment` element in the application's XML template file. For more information, see the topic [Configuring scoring output for deployment](#) in Chapter 2 on p. 19.

Advanced Settings

Under Advanced Settings, you can specify options for batch scoring, caching, and logging.

- **Usable with Batch Scoring.** If enabled, the user will have the option to select a text data file (in .csv format) when scoring the stream using IBM® SPSS® Collaboration and Deployment Services Deployment Portal or a similar tool.
- **Model Cache.** Specifies the number of images of a stream that are prepared and pre-loaded into the cache. This determines the number of concurrent scores that can be done without blocking any request, and may improve performance by avoiding the overhead of loading and preparing models.
- **Log Destination.** Specifies the name of the queue where scores are logged.

Response Service

The Response Service supplements the Scoring Service. It's a web service allowing client applications such as call center interfaces to send responses to the service to be logged. For example, a bank might have a call center interface that presents specific offers to the call center agent. The agent can then make the appropriate offer to the bank customer, and the customer's answer (response) is sent to the Response Service and logged. The following figure presents the flow of a complete example.

Figure 4-1
Example use of Scoring Service and Response Service

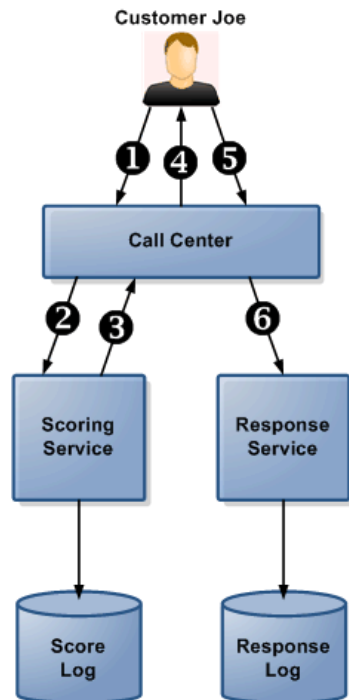


Table 4-1
Scoring Service and Response Service example

Figure label	Description
1	Customer Joe calls.

Figure label	Description
2	The call center sends Joe's customer ID to the Scoring Service. If logging is turned on in the scoring configuration (optional), this information is sent to the score log. Note that score logging is distinct from response logging.
3	The Scoring Service determines the best offer for customer Joe (<i>Gold Card</i> , for example) and sends the offer back to the call center. This information is also written to the score log (if enabled); Views and Queries can be written against the score log.
4	The call center operator presents the <i>Gold Card</i> offer to customer Joe.
5	Joe says yes to the offer.
6	The call center sends Joe's "yes" response to the Response Service and this response is logged. Queries can be written against the response log, or against both logs.

For more information about the Response Service and hooking it up to your front-office application, contact your SPSS representative.

Using rules from ILOG Business Rule Management System

Rules created in a Business Rules Management System such as ILOG can be referenced and used in IBM® Analytical Decision Management applications as follows:

- ▶ In IBM Analytical Decision Management, the administrator downloads a *.ZIP* file containing the metadata for a particular project, including an XML schema that describes the project data model as well as a WSDL template.
- ▶ An expert user reads the XML schema into an external tool such as ILOG Rules Studio, uses it to create rules for use with the IBM Analytical Decision Management project, and deploys each rule as a Web service.
- ▶ In IBM® SPSS® Collaboration and Deployment Services Deployment Manager, the administrator creates an external rule reference for each rule to be used in IBM Analytical Decision Management. Each rule reference is saved as an object in IBM® SPSS® Collaboration and Deployment Services Repository.
- ▶ Referenced rules are accessible in the IBM Analytical Decision Management application, where they can be browsed and used in the same manner as other models and rules. For more information, see the *User's Guide* for the IBM Analytical Decision Management application.

Downloading project metadata

Rules created in a Business Rules Management System such as ILOG can be referenced and used in IBM® Analytical Decision Management applications, provided they have been developed to support the same data model used in the current IBM Analytical Decision Management project, and can be deployed as a Web service for use by the application. To accomplish this, the IBM Analytical Decision Management administrator can download a *.ZIP* file with metadata for the current project. The downloaded file is saved locally on the system used by the administrator to trigger the download.

Figure 5-1
Download metadata icon



The following files are included in the *.ZIP* file:

- **XML schema definition (*.XSD)**. Contains definitions of the field types in the data model for the current IBM Analytical Decision Management project. This file can be imported into an external development tool such as ILOG Rules Studio in order to develop rules for use with the current project.

- **Web Service Description Language template (*.WSDL).** Included to assist in development of Web services that use the data model. The *.WSDL* file is provided as a template that can be used to build Web services responsible for mediating messages between the IBM Analytical Decision Management application and an external rule service. Details on the mediating Web service can be manually supplied by the integrator.
- **Include dimension metadata.** If a dimension tree has been defined for the project on the Define tab, dimension tree metadata can optionally be included.

Note that it is possible to create and utilize ILOG rules that return a variety of types to IBM Analytical Decision Management (*boolean* for use in Selections, *numeric* for use in aggregate rules for example, and *string*). However, to create anything other than a *string* dataresponse rule, the XML schema definition (*.XSD*) must be manually edited.

Also, a rule project can contain multiple rules, each returning different types. It is necessary to maintain multiple versions of the *.XSD* to support this (for example, a version where the dataresponse variable has been set to numeric, another for string, another for boolean, etc.).

The *.XSD* file downloaded from IBM Analytical Decision Management contains two complex data types: one representing the IBM Analytical Decision Management project data model which should be used for the input parameter of ILOG rules projects, and one representing a rules return type which should be used for the output parameter of ILOG rules projects. The return type (whose name will always have a “response” suffix) defines a `value` element which defaults to a *string*. If you want to create a rules project with a different kind of return value, you must manually edit the downloaded *.XSD* before importing the ILOG rules project so that the return type’s `value` element is defined as desired. Following are a few examples:

```
<xsd:complexType name="claim_dataresponse">
  <xsd:annotation>
    <xsd:appinfo>
      <dmname>claim_dataresponse</dmname>
    </xsd:appinfo>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="value" type="xsd:string"/>
  </xsd:sequence>
</xsd:complexType>
```

```
I <xsd:complexType name="claim_dataresponse">
  <xsd:annotation>
    <xsd:appinfo>
      <dmname>claim_dataresponse</dmname>
    </xsd:appinfo>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="value" type="xsd:boolean"/>
  </xsd:sequence>
</xsd:complexType>
```

```
<xsd:complexType name="claim_dataresponse">
  <xsd:annotation>
    <xsd:appinfo>
      <dmname>claim_dataresponse</dmname>
    </xsd:appinfo>
  </xsd:annotation>
```

```
<xsd:sequence>
  <xsd:element name="value" type="xsd:long" />
</xsd:sequence>
</xsd:complexType>
```

Creating external rule references

In IBM® SPSS® Collaboration and Deployment Services Deployment Manager, the Add New External Rule dialog box defines a reference to an external rule accessed through a web service, or a reference to a local rule. These rules can then be used in IBM® Analytical Decision Management applications. For example, this makes it possible to support ILOG rules in IBM Analytical Decision Management.

- ▶ To create a rule reference, in Deployment Manager, select a folder in the repository and from the menus choose:
File > New > External Rule...

The Add New External Rule dialog will be displayed.

- ▶ Specify a name for the external rule reference.
- ▶ In the Execution Mode drop-down, select Web Service or Local (ILOG rules only) and click Next.

For the Web Service option, the rule is executed via an external web service. For the Local option, the rule is executed via the IBM® SPSS® Modeler Server (the same server defined in Deployment Manager for use by IBM Analytical Decision Management). Local ILOG rules are deployed to a Rule Execution Server embedded in the same Java Virtual Machine as the SPSS Modeler Server JVM or the application server JVM.

Important: Before using the Local (ILOG rules only) option, note that some installation and configuration steps are required. See the following [Setting up the local Rule Execution Server](#) section.

- ▶ If you selected Web Service in the previous step, enter the URL of the web service where the rule is deployed (for example, *http://myRuleServer:8080/theRestOfTheURL*). The URL will be validated automatically to ensure it meets the appropriate naming conventions. If you selected Local (ILOG rules only) in the previous step, enter the path to the rule in the local ILOG Rule Execution Server repository. You can use the *reslist* script to obtain this path, as described later in this document.

Once defined in Deployment Manager, external rules can be browsed and used in IBM Analytical Decision Management applications in much the same manner as other models and rules. For more information, see the *User's Guide* for the IBM Analytical Decision Management application.

Setting up the local Rule Execution Server

If you plan to reference local rules from an ILOG system, some configuration steps are required for setting up and deploying your local rules.

Step 1: Copy required files from IBM WebSphere Operational Decision Management V7.5.0.2

- ▶ Copy the file *rescopy.xml* from the following folder on the IBM® SPSS® Collaboration and Deployment Services server machine onto the machine where IBM WebSphere Operational Decision Management V7.5.0.2 is installed.

```
C:\Program Files\IBM\SPSS\Deployment\5.0\Server\components\decision-management
\Utilities\RESCopy\
```

The *rescopy.xml* script will aid in copying certain required files from the IBM WebSphere Operational Decision Management system into the IBM® Analytical Decision Management installation. The script requires two parameters:

-Dwodm identifies the IBM WebSphere Operational Decision Management *executionserver* directory.

-Dtarget identifies the target directory where files will be copied and a *.zip* file will be built.

- ▶ Run the *rescopy.xml* script to copy the required files. For example, type the following in the Windows command prompt and press Enter:

```
CALL "%ANT_HOME%\bin\ant" -buildfile rescopy.xml -Dwodm="C:\Program Files\IBM\WODM75\
WODM\executionserver" -Dtarget=C:\CopiedFiles
```

This will run the script to produce the following folders and then combine everything into a *DM-rescopy.zip* file:

```
C:\CopiedFiles\rescopy\lib\
asm-3.1.jar
asm-analysis3.1.jar
asm-commons-3.1.jar
asm-tree-3.1.jar
asm-util.3.1.jar
j2ee_connector-1_5-fr.jar
jrules-engine.jar
jrules-res-execution.jar
sam.jar
ra.xml
```

```
C:\CopiedFiles\rescopy\tools\
jrules-res-tools.jar
```

```
C:\CopiedFiles\rescopy\
DM-rescopy.zip
```

Step 2: Install the required files onto all machines with the *pasw.externalrule* component

The files copied in the previous section must be installed on the IBM® SPSS® Collaboration and Deployment Services server, and also onto all IBM® SPSS® Modeler products that will be used with IBM® Analytical Decision Management or with IBM® SPSS® Modeler Advantage to execute local ILOG rules. The *pasw.externalrule* folder described in this section is installed

with the extensions for SPSS Modeler, which is part of the IBM Analytical Decision Management installation process.

- ▶ Extract the *DM-rescopy.zip* file created in the previous section into each */ext/bin/pasw.externalrule* folder. Example locations are provided below. After extraction, several *.jar* files and the *ra.xml* file will be installed to the *lib* folder, and a *tools* folder will be created containing a single *.jar* file.

IBM SPSS Collaboration and Deployment Services:

```
C:\Program Files\IBM\SPSS\Deployment\5.0\Server\components\modeler\ext\bin
\pasw.externalrule\
```

IBM® SPSS® Modeler Server:

```
C:\Program Files\IBM\SPSS\ModelerServer\15\ext\bin\pasw.externalrule\
```

IBM® SPSS® Modeler (clients):

```
C:\Program Files\IBM\SPSS\Modeler\15\ext\bin\pasw.externalrule\
```

Step 3: Modify the *resdeploy*, *reslist*, and *resundeploy* scripts

The following three scripts are provided with IBM® Analytical Decision Management:

- The **resdeploy** script deploys ILOG rules for local execution.
- The **reslist** script lists the ILOG rules deployed for local execution.
- The **resundeploy** script undeploys ILOG rules for local execution.

Windows (*.bat*) and UNIX (*.sh*) versions of these scripts are installed to the *pasw.externalrule/scripts* folder in the IBM® SPSS® Collaboration and Deployment Services installation directory (for example, *C:\Program Files\IBM\SPSS\Deployment\5.0\Server\components\modeler\ext\bin\pasw.externalrule/scripts*). Complete the following steps to prepare the scripts for use.

- ▶ Using a simple text editor, edit the value for *CADS_HOME* in the three scripts so it points to your IBM SPSS Collaboration and Deployment Services installation directory. If on Windows, edit the *.bat* versions. If on UNIX, edit the *.sh* versions. For example:

```
set CADS_HOME=C:\Program Files\IBM\SPSS\Deployment\5.0\Server
```

- ▶ If the machine's operating system is Solaris, also change the first line of the scripts from *#!/bin/sh* to *#!/bin/ksh*.

Step 4: Modify the local Rules Execution Server configuration file

Before using the local Rule Execution Server, you must edit the *ra.xml* file with any required changes.

Using a simple text editor, edit all copies of the *ra.xml* file as follows. The file is located in the *pasw.externalrule/lib* folder of the IBM® SPSS® Collaboration and Deployment Services installation directory, IBM® SPSS® Modeler Server installation directory, and IBM® SPSS® Modeler client installation directory, as described previously.

Note that after modifying the *ra.xml* file, for the changes to take effect you must restart the product the *ra.xml* file was installed to.

- ▶ By default, the `persistenceType` setting has a value of `file`, which signifies that the Rules Execution Server will use *file* system persistence. For example:

```
<config-property-name>persistenceType</config-property-name>
<config-property-type>java.lang.String</config-property-type>
<config-property-value>file</config-property-value>
</config-property>
```

If *database* system persistence is desired instead, skip this step.

Change the value of the `persistenceProperties` setting to `DIRECTORY=<RES path>`, where `<RES path>` is the full path to the Rules Execution Server data folder that will be used to store the deployed ILOG rules. Note that according to Java standards, forward slashes should be used in paths (regardless of the operating system used). For example:

```
<config-property-name>persistenceProperties</config-property-name>
<config-property-type>java.lang.String</config-property-type>
<config-property-value>DIRECTORY=C:/RES</config-property-value>
```

Notes:

- By default, the `persistenceProperties` setting may contain the `XOM_PERSISTENCE_TYPE`, `XOM_PERSISTENCE_DIRECTORY`, and `DIRECTORY` options. For example:

```
<config-property-name>persistenceProperties</config-property-name>
<config-property-type>java.lang.String</config-property-type>
<config-property-value>
  DIRECTORY=res_data,XOM_PERSISTENCE_TYPE=file,XOM_PERSISTENCE_DIRECTORY=res_xom
</config-property-value>
```

In IBM® Analytical Decision Management, only the `DIRECTORY` option is supported, so the `XOM_PERSISTENCE_TYPE` and `XOM_PERSISTENCE_DIRECTORY` options should be removed, leaving only the `DIRECTORY` option.

- If file persistence is used and IBM SPSS Collaboration and Deployment Services and SPSS Modeler Server (or client) are installed on different machines, the directory specified here must be accessible from all the machines (perhaps shared over the network). The same can be said if using database persistence. The database needs to be accessible from all machines. The *ra.xml* file installed on each SPSS product machine should point to the same local Rules Execution Server repository to avoid problems with keeping repositories in sync.
- ▶ If you want to use *database* persistence instead of *file* persistence, change the `persistenceType` setting from `file` to `jdbc` as follows.

```
<config-property-name>persistenceType</config-property-name>
<config-property-type>java.lang.String</config-property-type>
<config-property-value>jdbc</config-property-value>
```

Then change the `persistenceProperties` setting as follows. You must define all information necessary for the Rules Execution Server JVM to successfully access the configured database server. This includes the database URL, the fully qualified name of the JDBC driver class, and any optional security credentials. The JDBC persistence example below is

for a case where the remote database is of the type DB2 and resides on the fictitious server `mydb2server.mycompany.ibm.com`.

```
<config-property-name>persistenceProperties</config-property-name>
<config-property-type>java.lang.String</config-property-type>
<config-property-value>
  DRIVER_CLASS_NAME=com.ibm.db2.jcc.DB2Driver,
  URL=jdbc:db2://mydb2server.mycompany.com:50000/ILOGRESDB,
  USER=dbuser1,
  PASSWORD=dbpass
</config-property-value>
```

Notes:

- As mentioned previously, the `XOM_PERSISTENCE_TYPE` and `XOM_PERSISTENCE_DIRECTORY` options are not supported with IBM Analytical Decision Management and should not be included in the `persistenceProperties` section.
- If a Java class name is supplied in the `DRIVER_CLASS_NAME` of the `persistenceProperties` setting, it is also necessary to add the appropriate Java client *jar* file(s) to the classpath of the Rules Execution Server JVM. To do this, simply copy the required *jar* file(s) into all the `pasw.externalrule\lib` folders (the same folders where *ra.xml* exists, as described previously). For example, if the remote database is DB2 9.5 for Windows, the client *jar* file *db2jcc.jar* should be copied from `<DB2_HOME>/java` to the `pasw.externalrule\lib` folder of the IBM SPSS Collaboration and Deployment Services installation directory, SPSS Modeler Server installation directory, and SPSS Modeler client installation directory.

Step 5: Using scripts to deploy, list, and undeploy local ILOG rules

The three scripts described below are provided with IBM® Analytical Decision Management to list, deploy, and undeploy local ILOG rules. Before using the scripts, follow the steps in [Step 3: Modify the resdeploy, reslist, and resundeploy scripts](#). Scripts are provided for Windows (*.bat*) and UNIX (*.sh*) platforms.

Note that the `persistenceType` defined previously has no impact on the behavior of these scripts. However, if *database* persistence is used instead of *file* persistence, it may be necessary to use the optional `-cp` argument when running the scripts to add the necessary database driver *jar* file(s) to the runtime classpath. However, if the *jar* file(s) were already copied as described in [Step 4: Modify the local Rules Execution Server configuration file](#), the `-cp` argument should not be needed.

To list the contents of a local Rules Execution Server

- ▶ At a command prompt, change to the directory containing the *reslist* script. Then run the *reslist* script as follows. The script requires a `-config` argument followed by the full path to the *ra.xml* file on the IBM® SPSS® Collaboration and Deployment Services server. On Windows, for example:

```
reslist.bat -config "C:\Program Files\IBM\SPSS\Deployment\5.0\Server\components\
modeler\ext\bin\pasw.externalrule\lib\ra.xml"
```

To deploy ILOG ruleapps to a local Rule Execution Server

- ▶ Download the ILOG ruleapp archive (*jar* file) to a folder accessible from your IBM SPSS Collaboration and Deployment Services server machine. You can download the archive from the Rule Execution Server hosting the web service, or export it from Rules Studio. This is a temporary copy, so you can place it anywhere.
- ▶ At a command prompt, change to the directory containing the *resdeploy* script. Then run the *resdeploy* script as follows. The script requires a `-config` argument followed by the full path to the *ra.xml* file on the IBM SPSS Collaboration and Deployment Services server, and it requires an `-archive` argument followed by the full path to the ILOG ruleapp *jar* file to be deployed. On Windows, for example:

```
resdeploy.bat -config "C:\Program Files\IBM\SPSS\Deployment\5.0\Server\components\
modeler\ext\bin\pasw.externalrule\lib\ra.xml" -archive "C:\RES\My_ILOG_Ruleapp_Name.jar"
```

The *resdeploy* script also provides optional arguments for controlling versions of deployed rulesets. If the Rules Execution Server contains an earlier version of the ruleapp (or one of the rulesets it contains) that you want to deploy, you may want to use some of the following optional arguments when running the script to avoid naming conflicts, for example.

Table 5-1
resdeploy script optional arguments

Optional argument	Possible values
-merging	<ul style="list-style-type: none"> ■ <code>add.ruleapp</code> keeps the existing ruleapp in the Rules Execution Server and deploys the new ruleapp with a version number that increments the original (default behavior) ■ <code>replace.ruleapp</code> replaces the original ruleapp with the new ruleapp so there is no ruleapp version number change ■ <code>add.ruleset</code> keeps the existing ruleset in the Rules Execution Server and deploys the new ruleset with a version number that increments the original ■ <code>replace.ruleset</code> replaces the original ruleset with the new ruleset so there is no ruleset version number change
-versioning	<ul style="list-style-type: none"> ■ <code>major</code> applies any increments to the major parts of version numbers (default behavior) ■ <code>minor</code> applies any increments to the minor parts of the version numbers

To view usage information for any of the scripts, run them without any command line arguments.

To remove ILOG ruleapps (and their rulesets) from a local Rules Execution Server

- ▶ At a command prompt, change to the directory containing the *resundeploy* script. Then run the *resundeploy* script as follows. The script requires a `-config` argument followed by the full path to the *ra.xml* file on the IBM SPSS Collaboration and Deployment Services server, and it requires a `-ruleapp` argument followed by the name of the ILOG ruleapp to be removed. On Windows, for example:

```
resundeploy.bat -config "C:\Program Files\IBM\SPSS\Deployment\5.0\Server\components\modeler\
ext\bin\pasw.externalrule\lib\ra.xml" -ruleapp "My_ILOG_Ruleapp_Name"
```

By default, the *resundeploy* script will try to remove version 1.0 of the ruleapp. When necessary, different versions can be removed by using an optional `-version` argument followed by the version number to be removed.

Before running the *resundeploy* script, you can use the *reslist* script to verify the name of the ruleapp to remove and also to verify the ruleapp's removal after running the *resundeploy* script.

Updating custom application templates and projects

You may choose to update your IBM® Analytical Decision Management applications for various reasons:

- Updating of custom application templates following installation of a new version of the software, or migration to a new server environment running the same or a newer version. Note that when you upgrade to a new version of the software, you only need to update custom application templates and projects based on those templates if you want to take advantage of new features in the new version of the software. Otherwise, projects based on custom application templates will continue to function as they did before after installing the new software version.
- Updating of existing projects to apply changes to the XML application template on which the project was based. This can happen in combination with migration to a new release, or any time changes have been made to an XML application template for any reason.

Updating custom application templates

The basic steps for updating a custom application template XML file are detailed below. It is important to note that when you install a new version of IBM® Analytical Decision Management, the previous installation of the product will automatically be upgraded. No manual uninstallation or migration is required. Any custom application templates you have will be preserved, and projects based on them will work as they did previously. However, if you want to take advantage of any new features added to the new version of the product, you must update your XML application template and then use the *Template Utility* to update projects that are based on that template.

If you want to add support for new features added to the software, the custom application template XML files, any stylesheet customizations, and any other customized application files must be updated:

- ▶ Make any desired changes or additions to the application template. For example, a new type of user interface control may require additional attributes under the `InterfaceControl` element.
- ▶ Customized CSS styles, images, and *.properties* files may need to be updated, though these depend on the extent of customizations you have made, and should be minimal if care was taken to minimize changes to application stylesheets and leverage defaults when appropriate. (The default stylesheets under `\Server\components\decision-management\Default` are automatically updated when the new software version is installed, along with subfolders for packaged applications such as `\Server\components\decision-management\Applications\ClaimsManagement\`. All applications that leverage these default folders will automatically pick up changes, however custom stylesheets and other files for custom applications that are not part of the default files must be manually updated.)

- ▶ Because default stylesheets are automatically updated with the software, some changes may be immediately visible in the user interface. But in some cases, additional application template changes may be required for all features to work as expected.
- ▶ In cases where template changes are required, existing projects based on those templates will also need to be updated using the *Template Utility* as described in the section IBM Analytical Decision Management Template Utility on p. 74.

Note: Migrating to an earlier version of IBM Analytical Decision Management than the one used to create the application is not supported.

Updating projects

Projects are the application workspaces (IBM® SPSS® Modeler streams) used by end users in the interface, and are based on application templates. Projects saved in an earlier version of the software will continue to work in the new version. No change to the project is required for this to work.

- However, to add support for changes made to the custom application template, existing projects will need to be updated using the *Template Utility*. Such changes made to a custom application template may be to pick up new features added to the new release of the software, or simply to fine-tune the functionality in that application. In either case, the projects created using the original application template will need to be updated using the *Template Utility* before they will reflect the changes made to the underlying template.
- Prior to being updated, projects will continue to function as they did previously.
- If no changes to application templates are needed, use of the *Template Utility* is not required.

IBM Analytical Decision Management Template Utility

The *Template Utility* can be used to update existing projects following changes to the XML application template on which the projects are based.

A typical use case is as follows:

- A custom XML application template has been created and saved in the standard location under the IBM® SPSS® Collaboration and Deployment Services installation folder (for example, *C:\Program Files\IBM\SPSS\Deployment\5.0\Server\components\decision-management\Templates\MyCustomClaimsTemplate.xml*).
- End users have created and saved one or more projects in IBM® Analytical Decision Management based on that template.
- Subsequent changes to the XML application template have been introduced.
- To pick up these changes, existing projects now need to be updated to work with the new version of the application template.

Note: It is strongly recommended that the updated application template be reviewed and tested thoroughly to ensure that required changes are complete and functioning as expected before existing projects are updated.

Before using the Template Utility

- ▶ In your custom application template XML file, increment the `templateVersion` attribute. For example, if the previous value was 1, change it to 2. This attribute is used in combination with the `templateName` attribute to identify projects to update. Projects based on template versions earlier than the specified value will be updated.

```
<PredictiveApplication xmlns="http://com.spss.pasw.dms/workspace" templateName="MyCustomClaimsTemplate"
templateVersion="2" appsVersion="7.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
```

- ▶ Create an XML “patch” file containing the updated sections of the application template you want to push out to end users’ projects.

The XML file requires the following elements.

- A `patch` element identifying the `templateName`, `templateVersion`, and `appliesToVersions`. For example:

```
<patch templateName="MyCustomClaimsTemplate" templateVersion="8" appliesToVersions="4,5,6,7">
```

- Optionally, you can also include an `instructions` element for informational purposes. The `instructions` text you include will be displayed in the Patch Instructions section of the *Template Utility*. For example:

```
<instructions>
  This patch deletes the Offer dimension from the projects. After applying the patch, the projects based on the
  template will be updated the next time they are opened and resaved in Decision Management.
</instructions>
```

- An `actions` element.
- Inside the `actions` element, one or more `action` elements. The `action` elements define the type of patch action to perform (`addElement`, `replaceElement`, `deleteElement`, or `setAttribute`) and the `path` to the section of the application template you want to push out to end users’ projects. For example:

```
<actions>
  <action type="deleteElement" path="/PredictiveApplication/Dimension[@name='Offer']">
  </action>
</actions>
```

- Inside each `action` element, one `NewValue` element is included if you are adding or replacing sections of the template. Each `NewValue` element defines the new values to use. For example:

```
<actions>
  <action type="addElement" path="/PredictiveApplication">
    <NewValue>
      <Dimension name="Channel" description="ChannelDescriptionText">
        <Variable name="Capacity" dataType="integer"
          optimizationInputItem="true" prompt="">
          <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
            xsi:type="ConstantValueSource">
            <Value>0</Value>
          </ValueSource>
        </Variable>
      </Dimension>
    </NewValue>
  </action>
</actions>
```

```

        </Dimension>
      </NewValue>
    </action>
  </actions>

```

You can add, replace, delete, or modify many parts of projects via the `path` (xpath) in XML patch files. Following are common examples complete XML patch files.

addElement examples

The `addElement` patch action type is used for adding sections to projects. The `path` must point to the parent location in the XML under which you want to add the item. `addElement` is one of the most common updates made to projects. The following three patch file examples are shipped with the *Template Utility* inside a *samples* folder for your reference.

patch_add_new_dim_hierarchy.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<patch templateName="MyClaimsManagement" templateVersion="2"
  appliesToVersions="1">
  <instructions>This patch adds a new dimension hierarchy with two dimensions (Agent and Agent Type)</instructions>
  <actions>
    <action type="addElement"
      path="/PredictiveApplication/InterfaceControl/InterfacePages/DefineStep">
      <NewValue>
        <DimensionSetting name="Agent Type">
          <SelectionSection enabled="true" enableModels="false" />
          <AggregateRuleSection enabled="false" />
          <PredictiveModelSection enabled="false" />
          <AllocationRuleSection enabled="true" />
          <PlanningSection enableInteractionPoints="true"
            enableStartEndDates="true" />
        </DimensionSetting>
      </NewValue>
    </action>
    <action type="addElement" path="/PredictiveApplication">
      <NewValue>
        <Dimension name="Agent Type">
          <Property>Name</Property>
          <Property>Category</Property>
          <Property>Organization</Property>
          <Property>Group</Property>
          <Property>Description</Property>
        </Dimension>
      </NewValue>
    </action>
    <action type="addElement" path="/PredictiveApplication">
      <NewValue>
        <Dimension name="Agent" parentDimension="Agent Type">
          <Property>Name</Property>
          <Property>Category</Property>

```

```

        <Property>Organization</Property>
        <Property>Group</Property>
        <Property>Description</Property>
    </Dimension>
</NewValue>
</action>
<action type="addElement" path="/PredictiveApplication/Deployment">
    <NewValue>
        <OutputAttribute referenceType="DimensionMember"
            name="AgentType" returnValue="AgentType.Allocation-Value">Agent Type</OutputAttribute>
    </NewValue>
</action>
<action type="addElement" path="/PredictiveApplication/Deployment">
    <NewValue>
        <OutputAttribute referenceType="DimensionMember"
            name="Agent" returnValue="Agent.Allocation-Value">Agent</OutputAttribute>
    </NewValue>
</action>
</actions>
</patch>

```

patch_add_output_attribute.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<patch templateName="MyCampaignOptimization" templateVersion="2"
    appliesToVersions="1">
    <instructions>This patch adds 'Capacity' as an output attribute</instructions>
    <actions>
        <action type="addElement" path="/PredictiveApplication/Deployment">
            <NewValue>
                <OutputAttribute referenceType="Variable"
                    name="Capacity" returnValue="Variable.Variable-Value">Capacity</OutputAttribute>
            </NewValue>
        </action>
    </actions>
</patch>

```

patch_enable_batch_scoring.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<patch templateName="MyCustomerInteractionManagement"
    templateVersion="2" appliesToVersions="1">
    <instructions>This patch enables batch scoring on the Deploy tab</instructions>
    <actions>
        <action type="addElement"
            path="/PredictiveApplication/InterfaceControl/InterfacePages/DeployScoreStep">
            <NewValue>
                <ImmediateBatchScoring enableScoringOptions="true" />
            </NewValue>
        </action>
    </actions>
</patch>

```

replaceElement example

The `replaceElement` patch action type is used for replacing sections of projects. The `path` must point to the specific XML item you want to replace.

```
<patch templateName="MyCustomCampaignApp" templateVersion="8" appliesToVersions="5,6,7">
  <instructions>This patch replaces the Offer dimension with a Channel dimension in projects based on the
  MyCustomCampaignApp.xml template. After applying the patch, projects based on the template will be updated the
  next time they are opened and resaved in Decision Management.</instructions>
  <actions>
    <action type="replaceElement" path="/PredictiveApplication/Dimension[@name='Offer']">
      <NewValue>
        <Dimension name="Channel" description="ChannelDescriptionText">
          <Variable name="Capacity" dataType="integer"
            optimizationInputItem="true" prompt="">
            <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
              xsi:type="ConstantValueSource">
              <Value>0</Value>
            </ValueSource>
          </Variable>
          <Variable name="ChannelCost" dataType="double"
            simulateAction="sum" simulateName="Total Channel Cost"
            optimizationInputItem="true" prompt="">
            <ValueSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
              xsi:type="ConstantValueSource">
              <Value>0</Value>
            </ValueSource>
          </Variable>
        </Dimension>
      </NewValue>
    </action>
  </actions>
</patch>
```

deleteElement example

The `deleteElement` patch action type is used for deleting sections of projects. The `path` must point to the specific XML item you want to delete.

```
<patch templateName="MyCustomCampaignApp" templateVersion="8" appliesToVersions="4,5,6,7">
  <instructions>This patch deletes the Offer dimension from projects based on the MyCustomCampaignApp.xml template.
  After applying the patch, projects based on the template will be updated the next time they are opened and resaved
  in Decision Management>
  <actions>
    <action type="deleteElement" path="/PredictiveApplication/Dimension[@name='Offer']">
    </action>
  </actions>
</patch>
```

setAttribute example

The `setAttribute` patch action type is used for modifying projects. The `path` must point to the specific XML item you want to modify.

```
<patch templateName="MyCustomCampaignApp" templateVersion="8" appliesToVersions="6,7">
  <instructions>This patch changes the data type of CampaignSize to double in projects based on the
  MyCustomCampaignApp.xml template. After applying the patch, projects based on the  template will be updated the
  next time they are opened and resaved in Decision Management.</instructions>
  <actions>
    <action type="setAttribute" path="/PredictiveApplication/Dimension[@name='Campaign']/Variable[@name=
    'CampaignSize']" attributeName = "dataType" attributeValue="double">
    </action>
  </actions>
</patch>
```

Important notes

- Use caution when creating XML patch files and applying them. The patch files are extremely flexible and allow you to change virtually anything. You should be very familiar with your XML application template before creating a patch file for it. For example, if you add a new step/tab, make sure you also add the associated user interface elements. Or if you add a dimension, make sure you also add the user interface element for it.
- Disabling a section of the user interface is not supported. It does not remove the objects created using the disabled user interface previously. For example, disabling a section of the user interface may leave behind objects such as rules, which may not be visible anywhere in the user interface, but are still executed at run time.
- If your patch file includes a `replaceElement` action type, be sure the path points to the XML item you want to replace. For example, the incorrect syntax below points to the parent `DimensionSetting` item instead of the `AllocationRuleSection` item to replace:

Incorrect:

```
<action type="ReplaceElement" path="/PredictiveApplication/InterfaceControl/InterfacePages/DefineStep/
DimensionSetting[@name='Channel']">
  <NewValue>
    <AllocationRuleSection enabled="true"/>
  </NewValue>
</action>
```

To replace the `AggregateRuleSection` item properly in this example (to change it from `false` to `true`), you must include the full path to the specific item as seen below:

Correct:

```
<action type="ReplaceElement" path="/PredictiveApplication/InterfaceControl/InterfacePages/DefineStep/
DimensionSetting[@name='Channel']/AllocationRuleSection">
  <NewValue>
    <AllocationRuleSection enabled="true"/>
  </NewValue>
</action>
```

Using the Template Utility

After updating the custom application template XML file and creating an XML patch file as described in the previous section [Before using the Template Utility on p. 75](#), perform the following steps to run the *Template Utility* and update projects.

- ▶ On the machine where IBM® SPSS® Collaboration and Deployment Services Repository and IBM® Analytical Decision Management is installed, copy the following *.zip* file onto the Windows machine you want to run the utility from.

C:\Program Files\IBM\SPSS\Deployment\5.0\Server\components\decision-management\Utilities\TemplateUtility\SPSS_Decision_Mgmt_70_TemplateUtility.zip

- ▶ Extract the *.zip* file you copied in the previous step. This will result in a folder called *SPSS_Decision_Mgmt_70_TemplateUtility*.
- ▶ To run the *Template Utility*, double-click the file *TemplateUtility.bat* in the folder you extracted in the previous step.

If you have problems running the utility, verify you have Java 1.6 installed and have a JAVA_HOME system environment variable pointing to your Java bin directory, or that your Path system environment variable points to your Java bin directory. The utility is only supported on Windows. In some cases, you may also need to log on to the Windows machine with administrator authority before running the utility.

- ▶ When prompted, provide your IBM SPSS Collaboration and Deployment Services Repository connection details. This is the repository containing the projects you want to update. You must have Decision Management Administrator authority to use the *Template Utility*. The following options are available, if desired.
 - **Set Credentials.** Leave this box unchecked if you want to enable the single sign-on feature, which attempts to log you in using your local computer username and password details. If single sign-on is not possible, or if you check this box to disable single sign-on, a further screen is displayed for you to enter your credentials.
 - **Ensure secure connection.** Specifies whether a Secure Sockets Layer (SSL) connection should be used. SSL is a commonly used protocol for securing data sent over a network. To use this feature, SSL must be enabled on the server hosting the repository. If necessary, contact your local administrator for details.
- ▶ Click Browse and select the XML patch file you created in the previous section [Before using the Template Utility on p. 75](#). The Application Name, Versions to Upgrade, Upgrade to Version, and Patch Instructions sections of the *Template Utility* will display the values defined in your selected XML patch file.
- ▶ Select which end user projects (stream files) to update by moving them from the Available Projects section to the Selected Projects section.
- ▶ Click Apply to apply the updates to all selected projects based on the specified application template. The updates will not be applied until the next time the projects are opened and resaved in IBM Analytical Decision Management.

Note that the *Template Utility* does not apply changes to any projects in the Gallery.

If you ever need to revert to a previous version of a project, you can use IBM® SPSS® Collaboration and Deployment Services Deployment Manager to do so. Deployment Manager provides full control over versions and labels of files in the repository.

Example scenarios

Example 1: Standard IBM Analytical Decision Management for Claims application

Jane creates a project in release 6.2 based on the standard, prebuilt IBM® Analytical Decision Management for Claims application template packaged with the software, and deploys the project for scoring in her production environment. She does not make any changes to the *ClaimsManagement.xml* application template or stylesheets. After upgrading her environment to the new version 7 of IBM® Analytical Decision Management, the following observations can be made:

- The deployed project scores exactly as it did before.
- Jane can open the project in the new version of IBM Analytical Decision Management and run the Test, Simulation, and WhatIf? features as she did in the previous version, and close the project without saving.
- If the new release did not include any changes to the *ClaimsManagement.xml* application template, she can also modify and save changes to her project.
- If the new release includes changes to the *ClaimsManagement.xml* application template to add support for new features, Jane may choose to update her project using the *Template Utility* to start using those new features in her project.

Example 2: Custom application

Bill creates a project in release 6.2 based on a custom application template he has created, and deploys the project for scoring in a production environment. He creates his application by copying the standard *ClaimsManagement.xml* application template under a different filename, and modifying the copy. After installing the new version 7 of IBM Analytical Decision Management, his custom application template is preserved and the following observations can be made:

- The deployed project scores exactly as it did before.
- Bill can open the project in the new version of IBM Analytical Decision Management and run the Test, Simulation, and WhatIf? features as he did in the previous version.
- Because his project uses a custom application template, it was not automatically updated when the new version of IBM Analytical Decision Management was installed. As a result, he can continue to modify and save changes to his project exactly as before.
- If the new software version includes new features Bill wants to use, he will need to manually update his custom template to make use of these features. After doing this, he will then need to update his project using the *Template Utility*. This will also allow him to make use of the new features.

Example 3: Updated application template

Ted creates and deploys a project based on a custom application template he created, and then has subsequently made changes to that custom application template.

After updating the custom template, the deployed project scores exactly as it did before.

Ted can also open the existing project in IBM Analytical Decision Management and run the Test, Simulation, and WhatIf? features as he did previously. However, if he wants his existing project to pick up the new changes he made to his template, he will need to update his existing project using the *Template Utility*. Note that this is only required for the existing project. Any new projects Ted creates based on the updated template will pick up the changes.

XML schema

Element reference

This section provides a reference for all the elements in the XML schema used to configure and customize applications.

Each topic lists the valid attributes for an element and its parent and child elements. These elements are listed in the table of contents as a child of this topic (Element reference) rather than as a child of the parent topic.

Attribute Element

A reference to an attribute that will provide the value

Table A-1
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"/></xs:attribute>
```

```

<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Table A-2
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[Expression Element](#), [Function Element](#), [Function Element](#), [ObjectiveFunction Element](#), [Function Element](#), [Function Element](#), [Function Element](#), [Function Element](#), [Expression Element](#), [Expression Element](#), [typeObjectiveFunction Type](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

child Element

Cognos object mirror in DM

Table A-3
Attributes for child

Attribute	Use	Description	Valid Values
fullName	optional		<i>string</i>

Attribute	Use	Description	Valid Values
isSupport	optional		<i>boolean</i>
name	optional		<i>string</i>
path	optional		<i>string</i>
selected	optional		<i>boolean</i>
typeName	optional		<i>string</i>

XML Representation

```
<xs:element name="child" type="typeCognosObject" abstract="false">
  <xs:sequence maxOccurs="unbounded" minOccurs="0">
    <xs:element ref="child"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="selected" type="xs:boolean"></xs:attribute>
  <xs:attribute name="fullName" type="xs:string"></xs:attribute>
  <xs:attribute name="typeName" type="xs:string"></xs:attribute>
  <xs:attribute name="path" type="xs:string"></xs:attribute>
  <xs:attribute name="isSupport" type="xs:boolean"></xs:attribute>
</xs:element>
```

Parent Elements

[SelectedCognosObject Element](#), [SelectedCognosObject Element](#)

Child Elements

[child Element](#)

DataSet Element

A set of input data defined for use by the application

Table A-4
Attributes for DataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>

Attribute	Use	Description	Valid Values
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="DataSet">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>

```

```

    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-5
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Table A-6
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[DataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```

<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-7
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Table A-8
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[DataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-9
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>

Attribute	Use	Description	Valid Values
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
  <xs:attribute name="ExpressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

DataSet Element

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-11
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-12
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

Expression Element

An expression

Table A-13
Attributes for Expression

Attribute	Use	Description	Valid Values
Domain	optional	Resulting data type domain for this expression	<i>string</i>
Functor	optional	Optional functor involved in this expression	<i>string</i>
Name	optional	Alias name of this expression	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeExpression">
  <xs:choice>
    <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element ref="Attribute"></xs:element>
    <xs:element ref="Value"></xs:element>
    <xs:element name="DimensionReference" type="typeDimensionReference"></xs:element>
    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
      <xs:sequence>
        <xs:element name="ObjectReference" type="typeRepositoryObject"></xs:element>
        <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
          <xs:sequence>
            <xs:element name="KeyAttribute" type="typeKeyAttribute"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
</xs:element>
```

```

        </xs:sequence>
      </xs:element>
      <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:choice>
<xs:attribute name="Name" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="Domain" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="Functor" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Table A-14
Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements

[Function Element](#), [Function Element](#), [ObjectiveFunction Element](#), [Function Element](#), [Function Element](#), [Function Element](#), [Function Element](#), [Expression Element](#), [Expression Element](#), [typeObjectiveFunction Type](#)

Child Elements

[Attribute Element](#), [DimensionReference Element](#), [Expression Element](#), [ObjectOutput Element](#), [Value Element](#)

DimensionReference Element

A reference to a dimension that will provide the value

Table A-15
Attributes for DimensionReference

Attribute	Use	Description	Valid Values
Name	optional	Dimension name	<i>string</i>

XML Representation

```

<xs:element name="DimensionReference" type="typeDimensionReference">
  <xs:attribute name="Name" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[Expression Element](#)

ObjectOutput Element

The output of a repository object (rule or model)

Table A-16
Attributes for *ObjectOutput*

Attribute	Use	Description	Valid Values
output	required	The output attribute of the object	<i>string</i>

XML Representation

```
<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
  <xs:sequence>
    <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
    <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="output" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Child Elements

[InputMapping Element](#), [Key Element](#), [ObjectReference Element](#), [OutputMapping Element](#), [Parameter Element](#)

ObjectReference Element

The repository object

Table A-17
Attributes for *ObjectReference*

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
contentType	optional	File MIME type of the repository object	<i>string</i>

Attribute	Use	Description	Valid Values
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[ObjectOutput Element](#)

InputMapping Element

A mapping from the rule attributes to the input attributes of the model.

XML Representation

```
<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-18
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[ObjectOutput Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-19
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[InputMapping Element](#)

OutputMapping Element

A renaming of the output attributes of the model.

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-20
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[ObjectOutput Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-21
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[OutputMapping Element](#)

Key Element

Key field(s) on which to group input rows to the model.

Table A-22
Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[ObjectOutput Element](#)

Child Elements[KeyAttribute Element](#)**KeyAttribute Element**

The list of attributes which make up the key

Table A-23
Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements[Key Element](#)**Parameter Element**

Parameters passed to the model.

Table A-24
Attributes for Parameter

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="value" type="xs:string"/></xs:attribute>
</xs:element>
```

Table A-25
Extended Types

Type	Description
typeParameter	The details of a stream parameter

Parent Elements[ObjectOutput Element](#)

Member Element

Dimension members held in this association

Table A-26
Attributes for Member

Attribute	Use	Description	Valid Values
dynamicAllocation	optional	indicator of if this member can have dynamic allocation or not	<i>boolean</i>
dynamicAllocationlock	optional	indicator of if this member dynamic allocation is lock or not.	<i>boolean</i>
name	required	Dimension member referenced	<i>string</i>
returnWith	optional	indicator of if this member has a 'return with' additional measure or not	<i>boolean</i>
reused	optional	indicator of if this member is used in more than one reference hierarchy or not	<i>boolean</i>

XML Representation

```
<xs:element name="Member" type="typeReferencedMember">
  <xs:sequence>
    <xs:element name="Child" type="typeReferencedDimension" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element ref="Member" maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="reused" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="returnWith" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="dynamicAllocation" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="dynamicAllocationlock" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[Child Element, ReferencedDimensionHierarchy Element](#)

Child Elements

[Child Element](#)

Child Element

Referenced set of child dimensions and members

Table A-27
Attributes for Child

Attribute	Use	Description	Valid Values
name	required	Dimension referenced	<i>string</i>

XML Representation

```
<xs:element name="Child" type="typeReferencedDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element ref="Member" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Member Element](#)

Child Elements

[Member Element](#)

PredictiveApplication Element

Definition of an IBM SPSS Decision Management predictive application

Table A-28
Attributes for PredictiveApplication

Attribute	Use	Description	Valid Values
appsVersion	optional	Version of DM that last modified this Application Workspace. Format is expected to be (major).(minor).	<i>string</i>
cacheHandle	optional	Runtime tracking of the associated cache handle for this object	<i>string</i>
groupTemplate	optional	Deprecated as of DM 6.1. The Application Group definition file spec to use for controlling common presentation aspects of an object from this group	<i>string</i>
modifiedByOtherApplication	optional	Indicates whether this application has been modified by another application framework or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
name	optional	Deprecated as of DM 6.1. Application name to display in the application	<i>string</i>
objectOrigin	optional	Runtime information on the origin of this workspace Stream	<i>string</i>
previousVersion	optional	Previous version of the Application Template used to create this Application Workspace	<i>string</i>
priorityDimension	optional	(Deprecated) Dimension considered to be the Priority Dimension - use "hasPriority" attribute in individual Dimension elements	<i>string</i>
templateName	required	File name of the XML template that defines this Application Workspace, set by the application designer	<i>string</i>
templateVersion	required	Version of the Application Template used to create this Application Workspace	<i>string</i>
testMode	optional	For internal use only. Indicates application should be executed in test mode.	<i>boolean</i>
testModeInteractionPoint	optional	For internal use only. Indicates the interaction point when running in test mode.	<i>string</i>

XML Representation

```

<xs:element name="PredictiveApplication" abstract="false">
  <xs:sequence>
    <xs:element name="InterfaceControl" type="typeInterfaceControl">
      <xs:sequence>
        <xs:element name="InterfacePages">
          <xs:sequence>
            <xs:element name="ApplicationHome" type="typeApplicationHomeStep"
              minOccurs="0"/></xs:element>
            <xs:element name="DataStep" type="typeDataStep" minOccurs="0"/></xs:element>
            <xs:element name="GlobalSelectionStep" type="typeGlobalSelectionStep"
              minOccurs="0"/></xs:element>
            <xs:element name="DefineStep" type="typeDefineStep" minOccurs="0"/></xs:element>
            <xs:element name="CombineStep" type="typeCombineStep" minOccurs="0"/></xs:element>
            <xs:element name="OptimizeStep" type="typeOptimizeStep" minOccurs="0">
              <xs:sequence>
                <xs:element name="OptimizeMethod" type="typeOptimizeType"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="DeployScoreStep" type="typeDeployScoreStep" minOccurs="0">

```

```

        <xs:sequence>
          <xs:element name="ImmediateBatchScoring" type="typeImmediateBatchScoring"
            minOccurs="0"></xs:element>
          <xs:element name="ScheduledBatchScoring" type="typeScheduledBatchScoring"
            minOccurs="0"></xs:element>
          <xs:element name="RealTimeScoring" type="typeRealTimeDeploy"
            minOccurs="0"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="ReportStep" minOccurs="0"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="InterfaceFeature" type="typeInterfaceFeature" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
  <xs:element name="ReferencedDimensionHierarchy" type="typeReferencedDimension"
    minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element ref="Member" maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="SpecialVariableReference" type="typeUserVariableReference"
    minOccurs="0" maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Inputs" type="typeInputs" minOccurs="0">
  <xs:sequence>
    <xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

```

<xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:sequence>
  <xs:element name="InputSource" type="typeInputSource" minOccurs="0"
maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
        <xs:sequence>
          <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
            <xs:sequence>
              <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Table" type="typeDataTable"></xs:element>
          <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
            <xs:sequence>
              <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>

```

```

</xs:sequence>
<xs:sequence>
  <xs:element name="DataSetAttribute" type="typeDataSetAttribute"
    minOccurs="0" maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:sequence>
  <xs:element name="Definition" type="xs:string"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping"
      minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute"
          minOccurs="0" maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping"
          minOccurs="0" maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>

```

```

<xs:element name="DataSetJoin" type="typeDataSetJoin" minOccurs="0"
maxOccurs="unbounded"></xs:element>
<xs:element name="RuleModelReference" type="typeRuleModelReference" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="InputMapping" type="typeRuleModelInputMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Output" type="typeRuleModelOutput" minOccurs="0"
maxOccurs="unbounded"></xs:element>
    <xs:element name="Parameter" type="typeParameter" minOccurs="0"
maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="DerivedAttribute" type="dataset:typeDerivedAttribute" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="EntityDimension" type="typeEntityDimension" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attributes" type="typeAttributeReference" minOccurs="0"
maxOccurs="unbounded"></xs:element>
    <xs:element name="InteractiveQuestions" type="typeInteractiveQuery" minOccurs="0"
maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="EntityAttribute" type="xs:string"></xs:element>
        <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
        <xs:element name="QueryText" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
  <xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="ValueSource" type="typeValueSource"></xs:element>
    </xs:sequence>
  </xs:element>

```



```

</xs:element>
<xs:element name="DerivedVariable" type="typeDerivedVariable" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="VariableExpression" type="typeVariableExpression"
minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Boundary" type="typeConstraintBoundary"></xs:element>
    <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
      <xs:choice>
        <xs:element ref="Expression" minOccurs="0"
maxOccurs="unbounded"></xs:element>
        <xs:element ref="Attribute"></xs:element>
        <xs:element ref="Value"></xs:element>
        <xs:element name="DimensionReference"
type="typeDimensionReference"></xs:element>
        <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
          <xs:sequence>
            <xs:element name="ObjectReference"
type="typeRepositoryObject"></xs:element>
            <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping"
minOccurs="0" maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping"
minOccurs="0" maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
              <xs:sequence>
                <xs:element name="KeyAttribute" type="typeKeyAttribute"
maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:choice>
    </xs:element>
    <xs:element name="ExternalUsage" type="typeExternalUsage"
minOccurs="0"></xs:element>
    <xs:element name="ExpressionFormat" type="typeExpressionFormat"
minOccurs="0"></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>

```

```

<xs:element name="Selection" type="typeLocalRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"/></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Dimension" type="typeDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="ValueSource" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
        <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
          <xs:choice>
            <xs:element ref="Expression" minOccurs="0"
maxOccurs="unbounded"/></xs:element>
            <xs:element ref="Attribute"/></xs:element>
            <xs:element ref="Value"/></xs:element>
            <xs:element name="DimensionReference"
type="typeDimensionReference"/></xs:element>
            <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
              <xs:sequence>
                <xs:element name="ObjectReference"
type="typeRepositoryObject"/></xs:element>
                <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
minOccurs="0">
                  <xs:sequence>
                    <xs:element name="AttributeMapping" type="typeAttributeMapping"
minOccurs="0" maxOccurs="unbounded"/></xs:element>
                  </xs:sequence>
                </xs:element>
                <xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
minOccurs="0">
                  <xs:sequence>
                    <xs:element name="AttributeMapping" type="typeAttributeMapping"
minOccurs="0" maxOccurs="unbounded"/></xs:element>
                  </xs:sequence>
                </xs:element>
                <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
                  <xs:sequence>
                    <xs:element name="KeyAttribute" type="typeKeyAttribute"
maxOccurs="unbounded"/></xs:element>
                  </xs:sequence>
                </xs:element>
                <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
          </xs:choice>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

```

        </xs:sequence>
      </xs:element>
    </xs:choice>
  </xs:element>
  <xs:element name="ExternalUsage" type="typeExternalUsage"
  minOccurs="0"></xs:element>
  <xs:element name="ExpressionFormat" type="typeExpressionFormat"
  minOccurs="0"></xs:element>
  <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Member" type="typeDimensionMember" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Selection" type="typeMemberSelection" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:sequence>
      <xs:element name="StartTimestamp" type="typeTimestampDetails"
      minOccurs="0"></xs:element>
      <xs:element name="EndTimestamp" type="typeTimestampDetails"
      minOccurs="0"></xs:element>
      <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
      <xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
        <xs:sequence>
          <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0"
  maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Value" type="typeValueSource"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="DynamicAllocation" type="typeDynamicAllocation" minOccurs="0">
    <xs:sequence>
      <xs:element name="AllocationValue" type="typeDynamicValue" minOccurs="0">
        <xs:sequence>
          <xs:element name="Value" type="typeValueSource"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="KeyValue" type="typeDynamicValue" minOccurs="0"
      maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Value" type="typeValueSource"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="VariableValue" type="typeVariableValue" minOccurs="0"
  maxOccurs="unbounded">
    <xs:sequence>

```

```

        <xs:element name="Value" type="typeValueSource"></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="PropertyValue" type="typePropertyValue" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
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maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Optimization" type="typeOptimizationDefinition" minOccurs="0">
<xs:sequence>
<xs:element name="ObjectiveFunction" type="typeObjectiveFunction" maxOccurs="unbounded">
<xs:choice>
<xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"></xs:element>
<xs:element ref="Attribute"></xs:element>
<xs:element ref="Value"></xs:element>
<xs:element name="DimensionReference" type="typeDimensionReference"></xs:element>
<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
<xs:sequence>
<xs:element name="ObjectReference" type="typeRepositoryObject"></xs:element>
<xs:element name="InputMapping" type="dataset:typeDataSetMapping"
minOccurs="0">
<xs:sequence>
<xs:element name="AttributeMapping" type="typeAttributeMapping"
minOccurs="0" maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
minOccurs="0">
<xs:sequence>
<xs:element name="AttributeMapping" type="typeAttributeMapping"
minOccurs="0" maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
<xs:sequence>
<xs:element name="KeyAttribute" type="typeKeyAttribute"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
</xs:choice>
</xs:sequence>
<xs:sequence>
<xs:element name="ExternalUsage" type="typeExternalUsage"
minOccurs="0"></xs:element>
<xs:element name="ExpressionFormat" type="typeExpressionFormat"
minOccurs="0"></xs:element>
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">

```

```

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    </xs:element>
    <xs:element name="Selection" type="typeLocalRule" minOccurs="0">
        <xs:sequence>
            <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
    </xs:element>
    </xs:sequence>
    </xs:element>
    </xs:choice>
    <xs:element name="DisplayField" type="xs:string" maxOccurs="unbounded"></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
    </xs:sequence>
    </xs:element>
    </xs:sequence>
    </xs:element>
    <xs:element name="UnusedResource" type="typeUnusedResource" minOccurs="0">
        <xs:sequence>
            <xs:element name="Dimension" type="typeDimension" minOccurs="0" maxOccurs="unbounded">
                <xs:sequence>
                    <xs:element name="Variable" type="typeVariable" minOccurs="0"
                        maxOccurs="unbounded">
                        <xs:sequence>
                            <xs:element name="ValueSource" type="typeValueSource"></xs:element>
                        </xs:sequence>
                    </xs:element>
                    <xs:element name="Constraint" type="typeConstraint" minOccurs="0"
                        maxOccurs="unbounded">
                        <xs:sequence>
                            <xs:element name="Boundary" type="typeConstraintBoundary"></xs:element>
                            <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
                                <xs:choice>
                                    <xs:element ref="Expression" minOccurs="0"
                                        maxOccurs="unbounded"></xs:element>
                                    <xs:element ref="Attribute"></xs:element>
                                    <xs:element ref="Value"></xs:element>
                                    <xs:element name="DimensionReference"
                                        type="typeDimensionReference"></xs:element>
                                    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">

```

```

<xs:sequence>
  <xs:element name="ObjectReference"
    type="typeRepositoryObject"></xs:element>
  <xs:element name="InputMapping"
    type="dataset:typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping"
        type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="OutputMapping"
    type="dataset:typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping"
        type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Key" type="dataset:typeDataSetKey"
    minOccurs="0">
    <xs:sequence>
      <xs:element name="KeyAttribute" type="typeKeyAttribute"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Parameter" type="typeParameterSetting"
    minOccurs="0" maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
</xs:choice>
</xs:element>
<xs:element name="ExternalUsage" type="typeExternalUsage"
  minOccurs="0"></xs:element>
<xs:element name="ExpressionFormat" type="typeExpressionFormat"
  minOccurs="0"></xs:element>
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Member" type="typeDimensionMember" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Selection" type="typeMemberSelection" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:sequence>
      <xs:element name="StartTimestamp" type="typeTimestampDetails"
        minOccurs="0"></xs:element>
      <xs:element name="EndTimestamp" type="typeTimestampDetails"
        minOccurs="0"></xs:element>
      <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
      <xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
        <xs:sequence>
          <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>

```



```

        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0"
maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Value" type="typeValueSource"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="DynamicAllocation" type="typeDynamicAllocation"
minOccurs="0">
    <xs:sequence>
      <xs:element name="AllocationValue" type="typeDynamicValue"
minOccurs="0">
        <xs:sequence>
          <xs:element name="Value" type="typeValueSource"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="KeyValue" type="typeDynamicValue" minOccurs="0"
maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Value" type="typeValueSource"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="VariableValue" type="typeVariableValue" minOccurs="0"
maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Value" type="typeValueSource"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="PropertyValue" type="typePropertyValue" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Property" type="typeProperty" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Boundary" type="typeConstraintBoundary"></xs:element>
    <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
      <xs:choice>
        <xs:element ref="Expression" minOccurs="0"
maxOccurs="unbounded"></xs:element>
        <xs:element ref="Attribute"></xs:element>
        <xs:element ref="Value"></xs:element>
        <xs:element name="DimensionReference"
type="typeDimensionReference"></xs:element>
        <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
          <xs:sequence>
            <xs:element name="ObjectReference"
type="typeRepositoryObject"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:choice>
    </xs:element>
  </xs:sequence>
</xs:element>

```

```

<xs:element name="InputMapping" type="dataset:typeDataSetMapping"
minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping"
      minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping"
      minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
</xs:choice>
</xs:element>
<xs:element name="ExternalUsage" type="typeExternalUsage"
minOccurs="0"></xs:element>
<xs:element name="ExpressionFormat" type="typeExpressionFormat"
minOccurs="0"></xs:element>
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="OutputAttribute" type="typeOutputAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="appsVersion" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="templateName" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="templateVersion" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="groupTemplate" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="name" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="priorityDimension" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="modifiedByOtherApplication" type="xs:boolean" use="optional"
default="false"></xs:attribute>
<xs:attribute name="objectOrigin" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="cacheHandle" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="previousVersion" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="testMode" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testModelInteractionPoint" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Child Elements

CurrentStateReport Element, Deployment Element, Dimension Element, EntityDimension Element, Inputs Element, InterfaceControl Element, Optimization Element, Report Element, Tasks Element, UnusedResource Element

InterfaceControl Element

Control of the interface presented for this application type

XML Representation

```

<xs:element name="InterfaceControl" type="typeInterfaceControl">
  <xs:sequence>
    <xs:element name="InterfacePages">
      <xs:sequence>
        <xs:element name="ApplicationHome" type="typeApplicationHomeStep"
          minOccurs="0"></xs:element>
        <xs:element name="DataStep" type="typeDataStep" minOccurs="0"></xs:element>
        <xs:element name="GlobalSelectionStep" type="typeGlobalSelectionStep"
          minOccurs="0"></xs:element>
        <xs:element name="DefineStep" type="typeDefineStep" minOccurs="0"></xs:element>
        <xs:element name="CombineStep" type="typeCombineStep" minOccurs="0"></xs:element>
        <xs:element name="OptimizeStep" type="typeOptimizeStep" minOccurs="0">
          <xs:sequence>
            <xs:element name="OptimizeMethod" type="typeOptimizeType"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="DeployScoreStep" type="typeDeployScoreStep" minOccurs="0">
          <xs:sequence>
            <xs:element name="ImmediateBatchScoring" type="typeImmediateBatchScoring"
              minOccurs="0"></xs:element>
            <xs:element name="ScheduledBatchScoring" type="typeScheduledBatchScoring"
              minOccurs="0"></xs:element>
            <xs:element name="RealTimeScoring" type="typeRealTimeDeploy"
              minOccurs="0"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="ReportStep" minOccurs="0"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="InterfaceFeature" type="typeInterfaceFeature" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="ReferencedDimensionHierarchy" type="typeReferencedDimension" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element ref="Member" maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="SpecialVariableReference" type="typeUserVariableReference" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>

```

Parent Elements[PredictiveApplication Element](#)**Child Elements**[InterfaceFeature Element](#), [InterfacePages Element](#), [ReferencedDimensionHierarchy Element](#), [SpecialVariableReference Element](#)**InterfacePages Element**

Pages to include in the main panel for this application

Table A-29
Attributes for InterfacePages

Attribute	Use	Description	Valid Values
defaultStep	optional	The name of the Step to display as the default in the user interface	<i>string</i>

XML Representation

```

<xs:element name="InterfacePages">
  <xs:sequence>
    <xs:element name="ApplicationHome" type="typeApplicationHomeStep" minOccurs="0"></xs:element>
    <xs:element name="DataStep" type="typeDataStep" minOccurs="0"></xs:element>
    <xs:element name="GlobalSelectionStep" type="typeGlobalSelectionStep"
minOccurs="0"></xs:element>
    <xs:element name="DefineStep" type="typeDefineStep" minOccurs="0"></xs:element>
    <xs:element name="CombineStep" type="typeCombineStep" minOccurs="0"></xs:element>
    <xs:element name="OptimizeStep" type="typeOptimizeStep" minOccurs="0">
      <xs:sequence>
        <xs:element name="OptimizeMethod" type="typeOptimizeType"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="DeployScoreStep" type="typeDeployScoreStep" minOccurs="0">
      <xs:sequence>
        <xs:element name="ImmediateBatchScoring" type="typeImmediateBatchScoring"
minOccurs="0"></xs:element>
        <xs:element name="ScheduledBatchScoring" type="typeScheduledBatchScoring"
minOccurs="0"></xs:element>
        <xs:element name="RealTimeScoring" type="typeRealTimeDeploy" minOccurs="0"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="ReportStep" minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="defaultStep" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[InterfaceControl Element](#)

Child Elements

[ApplicationHome Element](#), [CombineStep Element](#), [DataStep Element](#), [DefineStep Element](#), [DeployScoreStep Element](#), [GlobalSelectionStep Element](#), [OptimizeStep Element](#), [ReportStep Element](#)

ApplicationHome Element

The Application Home configuration

Table A-30
Attributes for ApplicationHome

Attribute	Use	Description	Valid Values
showGallery	optional	Controls the presentation of the Gallery interaction section	<i>boolean</i>
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not	<i>boolean</i>
stepHidden	optional	The 'hidden' state for this panel	<i>boolean</i>
stepIncluded	optional	The logical 'included or not' flag for this panel	<i>boolean</i>
stepLocked	optional	The locked state for this panel	<i>boolean</i>

XML Representation

```
<xs:element name="ApplicationHome" type="typeApplicationHomeStep" minOccurs="0">
  <xs:attribute name="stepIncluded" type="xs:boolean" default="true"></xs:attribute>
  <xs:attribute name="stepHidden" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepLocked" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepCompleted" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="showGallery" type="xs:boolean" use="optional" default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[InterfacePages Element](#)

Related Elements

[DataStep Element](#), [GlobalSelectionStep Element](#), [DefineStep Element](#), [CombineStep Element](#), [OptimizeStep Element](#), [DeployScoreStep Element](#)

DataStep Element

The Data Step configuration

Table A-31
Attributes for DataStep

Attribute	Use	Description	Valid Values
enableAnalytical	optional	Enable the Analytical data set usage	<i>boolean</i>
enableOperationalBatch	optional	Enable the Operational Batch data set usage	<i>boolean</i>
enableOperationalRT	optional	Enable the Operational Real-Time data set usage	<i>boolean</i>
enableSimulationTest	optional	Enable the Simulation and Test data set usage	<i>boolean</i>
lockPrimaryDataSet	optional	Optional flag (default is false) controlling whether the Project Data Model selection is locked by the administrator or not	<i>boolean</i>
permitExpressions	optional	Flag to indicate whether derived attribute expressions are permitted to extend a data set	<i>boolean</i>
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not	<i>boolean</i>
stepHidden	optional	The 'hidden' state for this panel	<i>boolean</i>
stepIncluded	optional	The logical 'included or not' flag for this panel	<i>boolean</i>
stepLocked	optional	The locked state for this panel	<i>boolean</i>

XML Representation

```
<xs:element name="DataStep" type="typeDataStep" minOccurs="0">
  <xs:attribute name="stepIncluded" type="xs:boolean" default="true"/></xs:attribute>
  <xs:attribute name="stepHidden" type="xs:boolean" default="false"/></xs:attribute>
  <xs:attribute name="stepLocked" type="xs:boolean" default="false"/></xs:attribute>
  <xs:attribute name="stepCompleted" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="enableAnalytical" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="enableOperationalBatch" type="xs:boolean" use="optional"
  default="true"/></xs:attribute>
  <xs:attribute name="enableOperationalRT" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="enableSimulationTest" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="permitExpressions" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="lockPrimaryDataSet" type="xs:boolean" use="optional" default="false"/></xs:attribute>
</xs:element>
```

Parent Elements

[InterfacePages Element](#)

Related Elements

[ApplicationHome Element](#), [GlobalSelectionStep Element](#), [DefineStep Element](#), [CombineStep Element](#), [OptimizeStep Element](#), [DeployScoreStep Element](#)

GlobalSelectionStep Element

The Global Includes and Excludes configuration

Table A-32
Attributes for *GlobalSelectionStep*

Attribute	Use	Description	Valid Values
enableModels	optional	Models off/on control	<i>boolean</i>
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not	<i>boolean</i>
stepHidden	optional	The 'hidden' state for this panel	<i>boolean</i>
stepIncluded	optional	The logical 'included or not' flag for this panel	<i>boolean</i>
stepLocked	optional	The locked state for this panel	<i>boolean</i>

XML Representation

```
<xs:element name="GlobalSelectionStep" type="typeGlobalSelectionStep" minOccurs="0">
  <xs:attribute name="stepIncluded" type="xs:boolean" default="true"></xs:attribute>
  <xs:attribute name="stepHidden" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepLocked" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepCompleted" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="enableModels" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Parent Elements

[InterfacePages Element](#)

Related Elements

[ApplicationHome Element](#), [DataStep Element](#), [DefineStep Element](#), [CombineStep Element](#), [OptimizeStep Element](#), [DeployScoreStep Element](#)

DefineStep Element

The Define Step configuration

Table A-33
Attributes for DefineStep

Attribute	Use	Description	Valid Values
enableInteractionPoints	optional	Logical switch controlling whether Interaction Points are presented to the user or not	<i>boolean</i>
enableSimulation	optional	Controls presentation of the Define-style Simulation action	<i>boolean</i>
enableTest	optional	Controls presentation of the Test action	<i>boolean</i>
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not	<i>boolean</i>
stepHidden	optional	The 'hidden' state for this panel	<i>boolean</i>
stepIncluded	optional	The logical 'included or not' flag for this panel	<i>boolean</i>
stepLocked	optional	The locked state for this panel	<i>boolean</i>

XML Representation

```
<xs:element name="DefineStep" type="typeDefineStep" minOccurs="0">
  <xs:attribute name="stepIncluded" type="xs:boolean" default="true"></xs:attribute>
  <xs:attribute name="stepHidden" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepLocked" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepCompleted" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="enableSimulation" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="enableTest" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="enableInteractionPoints" type="xs:boolean" use="optional"
    default="true"></xs:attribute>
</xs:element>
```

Table A-34
Extended Types

Type	Description
typeDecisionHierarchyDefineStep	The decision hierarchy definition step configuration. AggregationRuleSection and PredictiveModelSection may not both be enabled when using more than 2 dimensions.
typeModelingDefineStep	The Model definition step configuration
typeRulesManagementDefineStep	The Rules Management define step configuration

Parent Elements

[InterfacePages](#) Element

Related Elements

[ApplicationHome Element](#), [DataStep Element](#), [GlobalSelectionStep Element](#), [CombineStep Element](#), [OptimizeStep Element](#), [DeployScoreStep Element](#)

CombineStep Element

The Combin Step configuration

Table A-35
Attributes for CombineStep

Attribute	Use	Description	Valid Values
enableTest	optional	The flag for whether the “Test” function is enabled or disabled.	<i>boolean</i>
enableWhatif	optional	The flag for whether the “what if” function is enabled or disabled.	<i>boolean</i>
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not	<i>boolean</i>
stepHidden	optional	The ‘hidden’ state for this panel	<i>boolean</i>
stepIncluded	optional	The logical ‘included or not’ flag for this panel	<i>boolean</i>
stepLocked	optional	The locked state for this panel	<i>boolean</i>

XML Representation

```
<xs:element name="CombineStep" type="typeCombineStep" minOccurs="0">
  <xs:attribute name="stepIncluded" type="xs:boolean" default="true"></xs:attribute>
  <xs:attribute name="stepHidden" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepLocked" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepCompleted" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute default="true" name="enableWhatif" type="xs:boolean"></xs:attribute>
  <xs:attribute default="true" name="enableTest" type="xs:boolean"></xs:attribute>
</xs:element>
```

Parent Elements

[InterfacePages Element](#)

Related Elements

[ApplicationHome Element](#), [DataStep Element](#), [GlobalSelectionStep Element](#), [DefineStep Element](#), [OptimizeStep Element](#), [DeployScoreStep Element](#)

OptimizeStep Element

The Optimize Step configuration

Table A-36
Attributes for *OptimizeStep*

Attribute	Use	Description	Valid Values
enableTest	optional	The flag for whether the “Test” function is enabled or disabled.	<i>boolean</i>
enableWhatif	optional	The flag for whether the “what if” function is enabled or disabled.	<i>boolean</i>
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not	<i>boolean</i>
stepHidden	optional	The ‘hidden’ state for this panel	<i>boolean</i>
stepIncluded	optional	The logical ‘included or not’ flag for this panel	<i>boolean</i>
stepLocked	optional	The locked state for this panel	<i>boolean</i>

XML Representation

```
<xs:element name="OptimizeStep" type="typeOptimizeStep" minOccurs="0">
  <xs:attribute name="stepIncluded" type="xs:boolean" default="true"></xs:attribute>
  <xs:attribute name="stepHidden" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepLocked" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepCompleted" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:sequence>
    <xs:element name="OptimizeMethod" type="typeOptimizeType"></xs:element>
  </xs:sequence>
  <xs:attribute name="enableWhatif" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="enableTest" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Parent Elements

[InterfacePages Element](#)

Child Elements

[OptimizeMethod Element](#)

Related Elements

[ApplicationHome Element](#), [DataStep Element](#), [GlobalSelectionStep Element](#), [DefineStep Element](#), [CombineStep Element](#), [DeployScoreStep Element](#)

OptimizeMethod Element

Method to use for combining or optimizing results to reach a decision

XML Representation

```
<xs:element name="OptimizeMethod" type="typeOptimizeType"></xs:element>
```

Table A-37
Extended Types

Type	Description
PrioritizationOptimization	The Prioritization form of optimization

Parent Elements

[OptimizeStep](#) Element

DeployScoreStep Element

The Deploy/Score Step configuration

Table A-38
Attributes for *DeployScoreStep*

Attribute	Use	Description	Valid Values
hasInteractiveQuestionSection	optional	Configuration of whether this application has an Interactive Questions section or not	<i>boolean</i>
lockInteractiveQuestionSection	optional	Administrator lock of the Interactive Questions section	<i>boolean</i>
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not	<i>boolean</i>
stepHidden	optional	The 'hidden' state for this panel	<i>boolean</i>
stepIncluded	optional	The logical 'included or not' flag for this panel	<i>boolean</i>
stepLocked	optional	The locked state for this panel	<i>boolean</i>

XML Representation

```
<xs:element name="DeployScoreStep" type="typeDeployScoreStep" minOccurs="0">
  <xs:attribute name="stepIncluded" type="xs:boolean" default="true"></xs:attribute>
  <xs:attribute name="stepHidden" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepLocked" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="stepCompleted" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:sequence>
    <xs:element name="ImmediateBatchScoring" type="typeImmediateBatchScoring"
      minOccurs="0"></xs:element>
    <xs:element name="ScheduledBatchScoring" type="typeScheduledBatchScoring"
      minOccurs="0"></xs:element>
    <xs:element name="RealTimeScoring" type="typeRealTimeDeploy" minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="hasInteractiveQuestionSection" type="xs:boolean" use="optional"
    default="true"></xs:attribute>
```

```
<xs:attribute name="lockInteractiveQuestionSection" type="xs:boolean" use="optional"
  default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[InterfacePages Element](#)

Child Elements

[ImmediateBatchScoring Element](#), [RealTimeScoring Element](#), [ScheduledBatchScoring Element](#)

Related Elements

[ApplicationHome Element](#), [DataStep Element](#), [GlobalSelectionStep Element](#), [DefineStep Element](#), [CombineStep Element](#), [OptimizeStep Element](#)

ImmediateBatchScoring Element

Configuration of the Immediate Batch scoring

Table A-39

Attributes for ImmediateBatchScoring

Attribute	Use	Description	Valid Values
enableScoringOptions	optional	Controls whether the Scoring Options will be presented or not	<i>boolean</i>

XML Representation

```
<xs:element name="ImmediateBatchScoring" type="typeImmediateBatchScoring" minOccurs="0">
  <xs:attribute name="enableScoringOptions" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[DeployScoreStep Element](#)

ScheduledBatchScoring Element

Not supported in the current release

Table A-40

Attributes for ScheduledBatchScoring

Attribute	Use	Description	Valid Values
enableScoringOptions	optional	Controls whether the Scoring Options will be presented or not	<i>boolean</i>

XML Representation

```
<xs:element name="ScheduledBatchScoring" type="typeScheduledBatchScoring" minOccurs="0">
  <xs:attribute name="enableScoringOptions" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[DeployScoreStep Element](#)

RealTimeScoring Element

Configuration of a Real Time Scoring deployment

Table A-41
Attributes for RealTimeScoring

Attribute	Use	Description	Valid Values
enableInteractiveQuestions	optional	Flag indicating whether the Interactive Questions interface will be presented on the Deploy panel or not	<i>boolean</i>

XML Representation

```
<xs:element name="RealTimeScoring" type="typeRealTimeDeploy" minOccurs="0">
  <xs:attribute name="enableInteractiveQuestions" type="xs:boolean" use="optional"
    default="true"></xs:attribute>
</xs:element>
```

Parent Elements

[DeployScoreStep Element](#)

ReportStep Element

The Report Step configuration

Table A-42
Attributes for ReportStep

Attribute	Use	Description	Valid Values
hideCurrentResults	optional	Optional flag (default is false) to control whether the Current State report items are hidden from business users or not	<i>boolean</i>
lockCurrentResultsReport	optional	Optional flag (default is false) to control the administrator lock of the Current State report selection list	<i>boolean</i>

Attribute	Use	Description	Valid Values
lockCurrentResultsTitle	optional	Optional flag (default is false) to control the administrator lock of the Current State report section title	<i>boolean</i>
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not	<i>boolean</i>
stepHidden	optional	The 'hidden' state for this panel	<i>boolean</i>
stepIncluded	optional	The logical 'included or not' flag for this panel	<i>boolean</i>
stepLocked	optional	The locked state for this panel	<i>boolean</i>

XML Representation

```
<xs:element name="ReportStep" minOccurs="0">
  <xs:attribute name="stepIncluded" type="xs:boolean" default="true"/></xs:attribute>
  <xs:attribute name="stepHidden" type="xs:boolean" default="false"/></xs:attribute>
  <xs:attribute name="stepLocked" type="xs:boolean" default="false"/></xs:attribute>
  <xs:attribute name="stepCompleted" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="hideCurrentResults" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="lockCurrentResultsReport" type="xs:boolean" use="optional"
    default="false"/></xs:attribute>
  <xs:attribute name="lockCurrentResultsTitle" type="xs:boolean" use="optional"
    default="false"/></xs:attribute>
</xs:element>
```

Parent Elements

[InterfacePages Element](#)

InterfaceFeature Element

Controllable features to expose in the user interface presented for this application

Table A-43

Attributes for InterfaceFeature

Attribute	Use	Description	Valid Values
id	required	ID code for the major feature to expose	ModelReference ModelBuild ModelExport RuleExport RuleReference Collaboration UploadDownload MetadataDownload

XML Representation

```
<xs:element name="InterfaceFeature" type="typeInterfaceFeature" minOccurs="0" maxOccurs="unbounded">
```

```

<xs:attribute name="id" type="enumFeatureType" use="required">
  <xs:enumeration value="ModelReference"></xs:enumeration>
  <xs:enumeration value="ModelBuild"></xs:enumeration>
  <xs:enumeration value="ModelExport"></xs:enumeration>
  <xs:enumeration value="RuleExport"></xs:enumeration>
  <xs:enumeration value="RuleReference"></xs:enumeration>
  <xs:enumeration value="Collaboration"></xs:enumeration>
  <xs:enumeration value="UploadDownload"></xs:enumeration>
  <xs:enumeration value="MetadataDownload"></xs:enumeration>
</xs:attribute>
</xs:element>

```

Parent Elements

[InterfaceControl Element](#)

ReferencedDimensionHierarchy Element

The Dimension hierarchy as defined in the user interface

Table A-44

Attributes for *ReferencedDimensionHierarchy*

Attribute	Use	Description	Valid Values
name	required	Dimension referenced	<i>string</i>

XML Representation

```

<xs:element name="ReferencedDimensionHierarchy" type="typeReferencedDimension" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element ref="Member" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[InterfaceControl Element](#)

Child Elements

[Member Element](#)

SpecialVariableReference Element

A list of the variables to be managed in a special way by the user interface

Table A-45

Attributes for *SpecialVariableReference*

Attribute	Use	Description	Valid Values
autoManaged	optional	If set this variable is being managed automatically for the reason indicated	returnWith annotation

Attribute	Use	Description	Valid Values
displayOrder	optional	A 0 to N value indicating the display order of this variable in the user interface	<i>int</i>
isMoveable	optional	Indicates whether this variable can be moved to other Dimensions or not	<i>boolean</i>
specialUsageKey	optional	A special usage indicator such as Max Number of Offers, set of keys supported defined by release	<i>string</i>
variableName	required	The name of the variable referenced	<i>string</i>

XML Representation

```
<xs:element name="SpecialVariableReference" type="typeUserVariableReference" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="variableName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="specialUsageKey" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="displayOrder" type="xs:int" use="optional"></xs:attribute>
  <xs:attribute name="isMoveable" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="autoManaged" type="enumAutoManageVariable" use="optional">
    <xs:enumeration value="returnWith"></xs:enumeration>
    <xs:enumeration value="annotation"></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[InterfaceControl Element](#)

Inputs Element

The primary input source for this application

Table A-46

Attributes for Inputs

Attribute	Use	Description	Valid Values
name	optional	The name of this input source, required for all but the primary input source	<i>string</i>
primaryDataSetName	optional	The name of the primary (default) data set	<i>string</i>

XML Representation

```
<xs:element name="Inputs" type="typeInputs" minOccurs="0">
  <xs:sequence>
    <xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
```



```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Table" type="typeDataTable"></xs:element>
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

```

        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
    <xs:sequence>
      <xs:element name="KeyAttribute" type="typeKeyAttribute"
        minOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" default=""></xs:attribute>
<xs:attribute name="primaryDataSetName" type="xs:string"></xs:attribute>
<xs:sequence>
  <xs:element name="InputSource" type="typeInputSource" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
        <xs:sequence>
          <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
            <xs:sequence>
              <xs:element name="Category" type="xs:string" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Table" type="typeDataTable"></xs:element>
          <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
            maxOccurs="unbounded">
            <xs:sequence>
              <xs:element name="Category" type="xs:string" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
            <xs:sequence>
              <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
            <xs:sequence>
              <xs:element name="Definition" type="xs:string"></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
            <xs:sequence>
              <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Table" type="typeDataTable"></xs:element>
    </xs:sequence>
  </xs:element>

```

```

<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="DataSetJoin" type="typeDataSetJoin" minOccurs="0"
maxOccurs="unbounded"></xs:element>
<xs:element name="RuleModelReference" type="typeRuleModelReference" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="InputMapping" type="typeRuleModelInputMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Output" type="typeRuleModelOutput" minOccurs="0"
maxOccurs="unbounded"></xs:element>
    <xs:element name="Parameter" type="typeParameter" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

```

<xs:element name="DerivedAttribute" type="dataset:typeDerivedAttribute" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>

```

Parent Elements

[PredictiveApplication Element](#)

Child Elements

[DataSetJoin Element](#), [DerivedAttribute Element](#), [InputSource Element](#), [Key Element](#), [OtherDataSet Element](#), [PrimaryDataSet Element](#), [RuleModelReference Element](#)

PrimaryDataSet Element

[Deprecated] The primary (default) data set

Table A-47
Attributes for PrimaryDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>

Attribute	Use	Description	Valid Values
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>

```

```

<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[Inputs Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-48
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
```

```

<xs:sequence>
  <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
<xs:attribute name="dataType" type="xs:string" use="required"/></xs:attribute>
<xs:attribute name="miningType" type="xs:string"/></xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="maximumValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="minimumValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"/></xs:attribute>
<xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"/></xs:attribute>
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"/></xs:attribute>
</xs:element>

```

Table A-49
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[PrimaryDataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-50
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-51
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[PrimaryDataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-52
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
  <xs:attribute name="ExpressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[PrimaryDataSet Element](#)

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-54
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[PrimaryDataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-55
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

OtherDataSet Element

The data sets defined for this input source

Table A-56
Attributes for OtherDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
    <xs:enumeration value="none"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>

```

```

    <xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
    <xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[Inputs Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-57
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>

```

```
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-58
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[OtherDataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-59
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-60
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[OtherDataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-61
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

Attribute	Use	Description	Valid Values
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
  <xs:attribute name="ExpressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[OtherDataSet Element](#)

Child Elements

[Category Element](#), [DataSetAttribute Element](#), [Definition Element](#)

Related Elements

[Expression Element](#), [Expression Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-62
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

```
</xs:sequence>
</xs:element>
```

Table A-63
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[OtherDataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-64
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

Key Element

The key fields in the data model

Table A-65
Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[Inputs Element](#)

Child Elements

[KeyAttribute Element](#)

KeyAttribute Element

The list of attributes which make up the key

Table A-66
Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[Key Element](#)

InputSource Element

Secondary input sources used to derive new fields

Table A-67
Attributes for InputSource

Attribute	Use	Description	Valid Values
name	optional	The name of this input source, required for all but the primary input source	<i>string</i>
primaryDataSetName	optional	The name of the primary (default) data set	<i>string</i>

XML Representation

```

<xs:element name="InputSource" type="typeInputSource" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

```

<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" default=""></xs:attribute>
<xs:attribute name="primaryDataSetName" type="xs:string"></xs:attribute>
</xs:element>

```

Table A-68
Extended Types

Type	Description
typeInputs	The primary input source for this application; defines the project data model

Parent Elements

[Inputs Element](#)

Child Elements

[Key Element](#), [OtherDataSet Element](#), [PrimaryDataSet Element](#)

PrimaryDataSet Element

[Deprecated] The primary (default) data set

Table A-69
Attributes for PrimaryDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```
<xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
```

```

</xs:element>
<xs:element name="Table" type="typeDataTable"></xs:element>
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[InputSource Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-70
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-71
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements[PrimaryDataSet Element](#)**Child Elements**[Category Element](#)**Category Element**

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-72

Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-73

Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition

Type	Description
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[PrimaryDataSet](#) Element

Expression Element

Optional passing of expressions defined by an application into a task

Table A-74

Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
```

```
<xs:attribute name="maximumValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="minimumValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"/></xs:attribute>
<xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"/></xs:attribute>
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"/></xs:attribute>
<xs:sequence>
  <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
    maxOccurs="unbounded"/></xs:element>
</xs:sequence>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
<xs:sequence>
  <xs:element name="Definition" type="xs:string"/></xs:element>
</xs:sequence>
<xs:attribute name="ExpressionEquation" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[PrimaryDataSet Element](#)

Child Elements

[Category Element](#), [DataSetAttribute Element](#), [Definition Element](#)

Related Elements

[Expression Element](#), [Expression Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-75
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-76
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[PrimaryDataSet Element](#)

Child Elements[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-77
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Mapping Element](#)**OtherDataSet Element**

The data sets defined for this input source

Table A-78
Attributes for OtherDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>

Attribute	Use	Description	Valid Values
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>

```

```

        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
    </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
    <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[InputSource Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-79
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

Attribute	Use	Description	Valid Values
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-80
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[OtherDataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-81

Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-82

Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements[OtherDataSet Element](#)**Expression Element**

Optional passing of expressions defined by an application into a task

Table A-83
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
  <xs:attribute name="ExpressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[OtherDataSet Element](#)

Child Elements

[Category Element](#), [DataSetAttribute Element](#), [Definition Element](#)

Related Elements

[Expression Element](#), [Expression Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-84
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-85
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[OtherDataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-86
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

Key Element

The key fields in the data model

Table A-87
Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
  default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[InputSource Element](#)

Child Elements[KeyAttribute Element](#)**KeyAttribute Element**

The list of attributes which make up the key

Table A-88
Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements[Key Element](#)**DataSetJoin Element**

Joins between this and the secondary input sources

Table A-89
Attributes for DataSetJoin

Attribute	Use	Description	Valid Values
leftDataSetName	optional	The name of the left-hand (primary) data set	<i>string</i>
rightDataSetName	optional	The name of the right-hand (secondary) data set	<i>string</i>
rightInputSource	optional	The name of the right-hand (secondary) input source	<i>string</i>

XML Representation

```
<xs:element name="DataSetJoin" type="typeDataSetJoin" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="leftDataSetName" type="xs:string"></xs:attribute>
  <xs:attribute name="rightInputSource" type="xs:string"></xs:attribute>
  <xs:attribute name="rightDataSetName" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements[Inputs Element](#)

RuleModelReference Element

Referenced models used to derive new fields

Table A-90
Attributes for RuleModelReference

Attribute	Use	Description	Valid Values
author	optional	Author of the object version	<i>string</i>
brokenLink	optional	Indicates whether the object version can be found in the repository or not	<i>boolean</i>
dateCreated	optional	Date the version was created in the repository	<i>string</i>
description	optional	Description defined for the object version and user's language code	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hidden	optional	[Not used] Indicates whether this rule or model should be hidden in the user interface	<i>boolean</i>
id	required	ID of the repository object	<i>string</i>
isLocked	optional	runtime communication of object lock state	<i>boolean</i>
keywords	optional	Keywords defined for the object version	<i>string</i>
label	required	Version label of the repository object	<i>string</i>
marker	optional	Version marker for the repository object	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
modelID	optional	ID of the model in the build cache, used to track model refresh and those being created by auto-model process	<i>any</i>
name	optional	Name of the element	<i>string</i>
negated	optional	[Not used] Flag indicating negation of output field value	<i>boolean</i>
outputDataType	optional	[Deprecated - Use an Output instead] Output field data type	<i>string</i>
outputField	optional	[Deprecated - Use an Output instead] Output field to use from referenced object	<i>string</i>

Attribute	Use	Description	Valid Values
outputRole	optional	[Deprecated - Use an Output instead] The role of the output field referenced	<i>string</i>
parentObjectId	optional	Tracking of the parent object ID	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
path	optional	Full path of the object in the repository	<i>string</i>
type	optional	[Deprecated - not used] Type of this reference	Value Model Selection
usageDescription	optional	Additional description text that can be assigned by the user interface, but not part of repository information	<i>string</i>

XML Representation

```

<xs:element name="RuleModelReference" type="typeRuleModelReference" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="id" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="marker" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="path" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="dateCreated" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="brokenLink" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="author" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="keywords" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="modelID"/></xs:attribute>
  <xs:attribute name="parentObjectId" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="isLocked" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:sequence>
    <xs:element name="InputMapping" type="typeRuleModelInputMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">

```

```

    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Output" type="typeRuleModelOutput" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
  <xs:element name="Parameter" type="typeParameter" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:attribute name="type" type="enumRuleType" use="optional">
  <xs:enumeration value="Value"></xs:enumeration>
  <xs:enumeration value="Model"></xs:enumeration>
  <xs:enumeration value="Selection"></xs:enumeration>
</xs:attribute>
<xs:attribute name="outputField" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="outputDataType" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="outputRole" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="negated" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="hidden" type="xs:boolean" use="optional" default="false"></xs:attribute>
</xs:element>

```

Parent Elements[Inputs Element](#)**Child Elements**[InputMapping Element](#), [Output Element](#), [OutputMapping Element](#), [Parameter Element](#)**Related Elements**[Report Element](#), [RuleModelReference Element](#), [RuleModelReference Element](#)**InputMapping Element**

A mapping to the input attributes of the referenced object

Table A-91
Attributes for InputMapping

Attribute	Use	Description	Valid Values
inputSource	optional	The name of the input source which provides the model inputs	<i>string</i>

XML Representation

```

<xs:element name="InputMapping" type="typeRuleModelInputMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>

```

```

    </xs:sequence>
    <xs:attribute name="inputSource" type="xs:string"></xs:attribute>
</xs:element>

```

Parent Elements

[RuleModelReference Element](#)

Child Elements

[AttributeMapping Element](#)

Related Elements

[InputMapping Element](#), [InputMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-92

Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```

<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[InputMapping Element](#)

OutputMapping Element

A mapping from the output attributes of the referenced object

XML Representation

```

<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>

```

```

    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>

```

Table A-93
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[RuleModelReference Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-94
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```

<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[OutputMapping Element](#)

Output Element

The selected outputs from the model. Output names are interpreted after the output mapping.

Table A-95
Attributes for Output

Attribute	Use	Description	Valid Values
dataType	optional	The type of the output	<i>string</i>
name	optional	The name of the output	<i>string</i>
role	optional	The role of the output	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeRuleModelOutput" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="role" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[RuleModelReference Element](#)

Parameter Element

Parameters passed to the model.

Table A-96
Attributes for Parameter

Attribute	Use	Description	Valid Values
dataType	required	The type of the parameter	<i>string</i>
description	optional	Optional parameter description	<i>string</i>
maximumValue	optional	A maximum value restriction for this parameter	<i>string</i>
minimumValue	optional	A minimum value restriction for this parameter	<i>string</i>
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameter" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="value" type="xs:string"/></xs:attribute>
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="dataType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="description" type="xs:string"/></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string"/></xs:attribute>
```

```
<xs:attribute name="minimumValue" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[RuleModelReference Element](#)

Child Elements

[Category Element](#)

Related Elements

[Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#)

Category Element

Categorical values defined for this parameter

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Parameter Element](#)

DerivedAttribute Element

Derived (computed) attributes added to the data model. A derived attribute may be an expression (typeDataSetExpression) or a model output (typeModelDerivedAttribute).

Table A-97
Attributes for DerivedAttribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>

Attribute	Use	Description	Valid Values
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="DerivedAttribute" type="dataset:typeDerivedAttribute" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Table A-98
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[Inputs Element](#)

Child Elements

[Category Element](#), [DataSetAttribute Element](#)

Related Elements

[DerivedAttribute Element](#), [DerivedAttribute Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[DerivedAttribute Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-99

Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[DerivedAttribute Element](#)

EntityDimension Element

Dimension that defined the Entity of interest to this predictive application (such as Customer, Product, etc.)

Table A-100

Attributes for EntityDimension

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove

XML Representation

```

<xs:element name="EntityDimension" type="typeEntityDimension" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Attributes" type="typeAttributeReference" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
    <xs:element name="InteractiveQuestions" type="typeInteractiveQuery" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="EntityAttribute" type="xs:string"/></xs:element>
        <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"/></xs:element>
        <xs:element name="QueryText" type="xs:string"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="ValueSource" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="DerivedVariable" type="typeDerivedVariable" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="VariableExpression" type="typeVariableExpression"
          minOccurs="0"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
        <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
          <xs:choice>
            <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
            <xs:element ref="Attribute"/></xs:element>
            <xs:element ref="Value"/></xs:element>
            <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
            <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
              <xs:sequence>
                <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
                <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
                  minOccurs="0">
                  <xs:sequence>
                    <xs:element name="AttributeMapping" type="typeAttributeMapping"
                      minOccurs="0" maxOccurs="unbounded"/></xs:element>
                  </xs:sequence>
                </xs:element>
                <xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
                  minOccurs="0">
                  <xs:sequence>
                    <xs:element name="AttributeMapping" type="typeAttributeMapping"
                      minOccurs="0" maxOccurs="unbounded"/></xs:element>
                  </xs:sequence>
                </xs:element>
              </xs:sequence>
            </xs:element>
          </xs:choice>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

```

        </xs:sequence>
      </xs:element>
      <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
        <xs:sequence>
          <xs:element name="KeyAttribute" type="typeKeyAttribute"
            minOccurs="0" maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:choice>
</xs:element>
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"></xs:element>
<xs:element name="ExpressionFormat" type="typeExpressionFormat"
  minOccurs="0"></xs:element>
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Selection" type="typeLocalRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>

```

Parent Elements

[PredictiveApplication Element](#)

Child Elements

[Allocation Element](#), [Attributes Element](#), [Constraint Element](#), [DerivedVariable Element](#), [InteractiveQuestions Element](#), [Selection Element](#), [Variable Element](#)

Related Elements

[Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Attributes Element

Attributes that define the Entity, defined by the primary data set

Table A-101
Attributes for Attributes

Attribute	Use	Description	Valid Values
miningType	required	MiningType for a reference to an attribute in the data model	<i>string</i>

XML Representation

```
<xs:element name="Attributes" type="typeAttributeReference" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="miningType" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[EntityDimension Element](#)

InteractiveQuestions Element

List of 'more input' interactive questions issued by interactive applications

Table A-102
Attributes for InteractiveQuestions

Attribute	Use	Description	Valid Values
enabled	optional	Indication of enabled state for this query	<i>boolean</i>

XML Representation

```
<xs:element name="InteractiveQuestions" type="typeInteractiveQuery" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="EntityAttribute" type="xs:string"/></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"/></xs:element>
    <xs:element name="QueryText" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="enabled" type="xs:boolean" use="optional" default="false"/></xs:attribute>
</xs:element>
```

Parent Elements

[EntityDimension Element](#)

Child Elements

[EntityAttribute Element](#), [InteractionPoint Element](#), [QueryText Element](#)

EntityAttribute Element

Query pertains to the referenced Entity attribute

XML Representation

```
<xs:element name="EntityAttribute" type="xs:string"></xs:element>
```

Parent Elements

[InteractiveQuestions Element](#)

InteractionPoint Element

Optional Interaction Point name used when differentiating in the query based on interaction points

XML Representation

```
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
```

Parent Elements

[InteractiveQuestions Element](#)

QueryText Element

Explicit query text

XML Representation

```
<xs:element name="QueryText" type="xs:string"></xs:element>
```

Parent Elements

[InteractiveQuestions Element](#)

Variable Element

List of Variables defined for the Entity

Table A-103

Attributes for Variable

Attribute	Use	Description	Valid Values
dataType	required	Data type of this variable	<i>string</i>
description	optional	Optional variable description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>

Attribute	Use	Description	Valid Values
inherited	optional	Indication of whether this variable can be inherited by child dimension members.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
optimizationInputItem	optional	Indication of if this variable is to be controlled in Prioritize / Optimize step or not	<i>boolean</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
prompt	optional	When set this key value controls the text to display when prompting for variable value input	<i>string</i>
simulateAction	optional	If set this variable will be summarized in the indicated manner during a simulation	sum average
simulateName	optional	When set this key value controls the text to display when displaying the summarized value of this variable during a simulation	<i>string</i>
simulateNumericDisplay	optional	Optional control of the display of numeric values - Integer, Percentage or Double under user preference formatting	Double IntegerRounded IntegerTruncated Percentage
tableIndex	optional	Variable index in prioritization table	<i>int</i>

XML Representation

```

<xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="simulateAction" type="enumVariableValueSummary" use="optional">
    <xs:enumeration value="sum"/></xs:enumeration>
    <xs:enumeration value="average"/></xs:enumeration>
  </xs:attribute>

```

```

<xs:attribute name="simulateName" type="xs:string" use="optional"
default="VARIABLE_PROMPT"></xs:attribute>
<xs:attribute name="simulateNumericDisplay" type="enumNumericDisplay">
  <xs:enumeration value="Double"></xs:enumeration>
  <xs:enumeration value="IntegerRounded"></xs:enumeration>
  <xs:enumeration value="IntegerTruncated"></xs:enumeration>
  <xs:enumeration value="Percentage"></xs:enumeration>
</xs:attribute>
<xs:sequence>
  <xs:element name="ValueSource" type="typeValueSource"></xs:element>
</xs:sequence>
<xs:attribute name="tableIndex" type="xs:int" use="optional" default="0"></xs:attribute>
<xs:attribute name="prompt" type="xs:string" use="optional" default="VARIABLE_PROMPT"></xs:attribute>
<xs:attribute name="optimizationInputItem" type="xs:boolean" use="optional"
default="false"></xs:attribute>
<xs:attribute name="inherited" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Parent Elements

[EntityDimension Element](#)

Child Elements

[ValueSource Element](#)

Related Elements

[DerivedVariable Element](#), [Variable Element](#), [Variable Element](#), [DerivedVariable Element](#), [Variable Element](#)

ValueSource Element

Source of default values for this Variable

XML Representation

```
<xs:element name="ValueSource" type="typeValueSource"></xs:element>
```

Table A-104
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements

[Variable Element](#)

DerivedVariable Element

List of DerivedVariables defined for the Entity

Table A-105
Attributes for DerivedVariable

Attribute	Use	Description	Valid Values
dataType	required	Data type of this variable	<i>string</i>
description	optional	Optional variable description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
simulateAction	optional	If set this variable will be summarized in the indicated manner during a simulation	sum average
simulateName	optional	When set this key value controls the text to display when displaying the summarized value of this variable during a simulation	<i>string</i>
simulateNumericDisplay	optional	Optional control of the display of numeric values - Integer, Percentage or Double under user preference formatting	Double IntegerRounded IntegerTruncated Percentage

XML Representation

```
<xs:element name="DerivedVariable" type="typeDerivedVariable" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="simulateAction" type="enumVariableValueSummary" use="optional">
    <xs:enumeration value="sum"/></xs:enumeration>
    <xs:enumeration value="average"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="simulateName" type="xs:string" use="optional"
    default="VARIABLE_PROMPT"/></xs:attribute>
</xs:element>
```

```

<xs:attribute name="simulateNumericDisplay" type="enumNumericDisplay">
  <xs:enumeration value="Double"></xs:enumeration>
  <xs:enumeration value="IntegerRounded"></xs:enumeration>
  <xs:enumeration value="IntegerTruncated"></xs:enumeration>
  <xs:enumeration value="Percentage"></xs:enumeration>
</xs:attribute>
<xs:sequence>
  <xs:element name="VariableExpression" type="typeVariableExpression" minOccurs="0"></xs:element>
</xs:sequence>
</xs:element>

```

Parent Elements[EntityDimension Element](#)**Child Elements**[VariableExpression Element](#)**Related Elements**[Variable Element](#), [Variable Element](#), [Variable Element](#), [DerivedVariable Element](#), [Variable Element](#)**VariableExpression Element**

Objective function format for externally defined objective functions

Table A-106

Attributes for VariableExpression

Attribute	Use	Description	Valid Values
expression	required	The expression	<i>string</i>

XML Representation

```

<xs:element name="VariableExpression" type="typeVariableExpression" minOccurs="0">
  <xs:attribute name="expression" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements[DerivedVariable Element](#)**Constraint Element**

Constraints associated with this Dimension, to be applied in the execution and optimization of this application

Table A-107

Attributes for Constraint

Attribute	Use	Description	Valid Values
description	optional	Optional constraint description	<i>string</i>

Attribute	Use	Description	Valid Values
dimension	optional	The dimension owns the constraint. If not supplied, the dimension is assumed to be the owner of the Boundary variable	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
enabled	optional	Indication of whether this constraint is enabled.	<i>boolean</i>
entityScoped	optional	Indication of the scope of this constraint - within an entity or across all entities.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
type	required	Constraint type	max min equal notEqual lessThan lessThanEqual greaterThan greaterThanEqual

XML Representation

```

<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
</xs:sequence>
<xs:sequence>
  <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
  <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
    <xs:choice>
      <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
      <xs:element ref="Attribute"/></xs:element>
      <xs:element ref="Value"/></xs:element>
      <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
      <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
        <xs:sequence>
          <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
          <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
            <xs:sequence>

```

```

        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:choice>
</xs:element>
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"></xs:element>
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0"></xs:element>
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="type" type="enumConstraintType" use="required">
  <xs:enumeration value="max"></xs:enumeration>
  <xs:enumeration value="min"></xs:enumeration>
  <xs:enumeration value="equal"></xs:enumeration>
  <xs:enumeration value="notEqual"></xs:enumeration>
  <xs:enumeration value="lessThan"></xs:enumeration>
  <xs:enumeration value="lessThanEqual"></xs:enumeration>
  <xs:enumeration value="greaterThan"></xs:enumeration>
  <xs:enumeration value="greaterThanEqual"></xs:enumeration>
</xs:attribute>
<xs:attribute name="entityScoped" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="enabled" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="dimension" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[EntityDimension Element](#)

Child Elements

[Boundary Element](#), [ExpressionFormat Element](#), [ExternalUsage Element](#), [Function Element](#), [InteractionPoint Element](#)

Related Elements

EntityDimension Element, Selection Element, Dimension Element, Constraint Element, Member Element, BaseSelection Element, Optimization Element, Constraint Element, Deployment Element, Selections Element, DecisionList Element, ManualClusters Element, Selections Element, RecordSelection Element, CombiningRule Element, EntityDimension Element, Constraint Element, Selection Element, combineRule Element, Selection Element, Dimension Element, Constraint Element, Member Element, BaseSelection Element, Constraint Element, Rule Element, BaseSelection Element

Boundary Element

Constraint boundary

Table A-108

Attributes for Boundary

Attribute	Use	Description	Valid Values
value	required	The value or reference defining this boundary	<i>string</i>

XML Representation

```
<xs:element name="Boundary" type="typeConstraintBoundary">
  <xs:attribute name="value" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Table A-109

Extended Types

Type	Description
ConstantBoundary	A constant Constraint boundary
VariableReferenceBoundary	A variable reference Constraint Boundary

Parent Elements

[Constraint Element](#)

Function Element

Constraint function definition (internally evaluated constraints)

Table A-110

Attributes for Function

Attribute	Use	Description	Valid Values
Domain	optional	Resulting data type domain for this expression	<i>string</i>
Functor	optional	Optional functor involved in this expression	<i>string</i>
Name	optional	Alias name of this expression	<i>string</i>

XML Representation

```

<xs:element name="Function" type="rules:typeExpression" minOccurs="0">
  <xs:choice>
    <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
    <xs:element ref="Attribute"/></xs:element>
    <xs:element ref="Value"/></xs:element>
    <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
      <xs:sequence>
        <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
        <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
          <xs:sequence>
            <xs:element name="KeyAttribute" type="typeKeyAttribute"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
  <xs:attribute name="Name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="Domain" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="Functor" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-111
Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements

[Constraint Element](#)

Child Elements

[Attribute Element](#), [DimensionReference Element](#), [Expression Element](#), [ObjectOutput Element](#), [Value Element](#)

DimensionReference Element

A reference to a dimension that will provide the value

Table A-112
Attributes for DimensionReference

Attribute	Use	Description	Valid Values
Name	optional	Dimension name	<i>string</i>

XML Representation

```
<xs:element name="DimensionReference" type="typeDimensionReference">
  <xs:attribute name="Name" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Function Element](#)

ObjectOutput Element

The output of a repository object (rule or model)

Table A-113
Attributes for ObjectOutput

Attribute	Use	Description	Valid Values
output	required	The output attribute of the object	<i>string</i>

XML Representation

```
<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
  <xs:sequence>
    <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
    <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

```

    </xs:sequence>
    <xs:attribute name="output" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Function Element](#)

Child Elements

[InputMapping Element](#), [Key Element](#), [ObjectReference Element](#), [OutputMapping Element](#), [Parameter Element](#)

ObjectReference Element

The repository object

Table A-114
Attributes for ObjectReference

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```

<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[ObjectOutput Element](#)

InputMapping Element

A mapping from the rule attributes to the input attributes of the model.

XML Representation

```
<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-115
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[ObjectOutput Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-116
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[InputMapping Element](#)

OutputMapping Element

A renaming of the output attributes of the model.

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-117
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[ObjectOutput Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-118
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[OutputMapping Element](#)

Key Element

Key field(s) on which to group input rows to the model.

Table A-119
Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[ObjectOutput Element](#)

Child Elements

[KeyAttribute Element](#)

KeyAttribute Element

The list of attributes which make up the key

Table A-120
Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[Key Element](#)

Parameter Element

Parameters passed to the model.

Table A-121
Attributes for Parameter

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="value" type="xs:string"/></xs:attribute>
</xs:element>
```

Table A-122
Extended Types

Type	Description
typeParameter	The details of a stream parameter

Parent Elements

[ObjectOutput Element](#)

ExternalUsage Element

Defines how this constraint can be enabled or disabled via an OPL variable (externally evaluated constraints)

Table A-123
Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	required	The OPL variable	<i>string</i>
disabledValue	optional	The value that indicates this object is disabled (default 0)	<i>string</i>
enabledValue	optional	The value that indicates this object is enabled (default 1)	<i>string</i>
variableType	optional	The OPL variable type (default int)	int float string

XML Representation

```
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0">
  <xs:attribute name="controlVariable" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"/></xs:enumeration>
    <xs:enumeration value="float"/></xs:enumeration>
    <xs:enumeration value="string"/></xs:enumeration>
  </xs:attribute>
```

```

    <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"></xs:attribute>
    <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"></xs:attribute>
  </xs:element>

```

Parent Elements

[Constraint Element](#)

ExpressionFormat Element

Constraint function format (externally evaluated constraints)

Table A-124

Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	required	The format definition for this expression	<i>string</i>

XML Representation

```

<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Constraint Element](#)

InteractionPoint Element

Optional Interaction Point name used when differentiating constraint based on interaction points

XML Representation

```

<xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[Constraint Element](#)

Selection Element

Selection and Exclusion rules for Entity members

Table A-125

Attributes for Selection

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>

Attribute	Use	Description	Valid Values
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
contentType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```

<xs:element name="Selection" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="contentType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
    default="false"/></xs:attribute>
  <xs:attribute name="outputField" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-126
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[EntityDimension Element](#)

Child Elements[Definition Element](#)**Related Elements**

[EntityDimension Element](#), [Constraint Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements[Selection Element](#)**Allocation Element**

Allocation rule for the Entity Dimension and next level Dimension(s)

Table A-127

Attributes for Allocation

Attribute	Use	Description	Valid Values
dimensionReference	required	Child Dimension this Allocation pertains to	<i>string</i>
interactionPoint	optional	The optional Interaction Point indicator	<i>string</i>

XML Representation

```
<xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"></xs:element>
  </xs:sequence>
  <xs:attribute name="dimensionReference" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="interactionPoint" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements[EntityDimension Element](#)

Child Elements[Value Element](#)**Value Element**

The allocated value for this dimension

XML Representation

```
<xs:element name="Value" type="typeValueSource"></xs:element>
```

Table A-128
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements[Allocation Element](#)**Dimension Element**

The business problem's dimensional solution hierarchy

Table A-129
Attributes for Dimension

Attribute	Use	Description	Valid Values
description	optional	Optional dimension description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasPriority	optional	Set true if this dimension can have a priority value associated with it.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
parentDimension	optional	Optional parent dimension for this dimension (hierarchy)	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove

XML Representation

```

<xs:element name="Dimension" type="typeDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="ValueSource" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
        <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
          <xs:choice>
            <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
            <xs:element ref="Attribute"/></xs:element>
            <xs:element ref="Value"/></xs:element>
            <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
            <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
              <xs:sequence>
                <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
                <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
                  minOccurs="0">
                  <xs:sequence>
                    <xs:element name="AttributeMapping" type="typeAttributeMapping"
                      minOccurs="0" maxOccurs="unbounded"/></xs:element>
                  </xs:sequence>
                </xs:element>
                <xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
                  minOccurs="0">
                  <xs:sequence>
                    <xs:element name="AttributeMapping" type="typeAttributeMapping"
                      minOccurs="0" maxOccurs="unbounded"/></xs:element>
                  </xs:sequence>
                </xs:element>
                <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
                  <xs:sequence>
                    <xs:element name="KeyAttribute" type="typeKeyAttribute"
                      maxOccurs="unbounded"/></xs:element>
                  </xs:sequence>
                </xs:element>
                <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
                  maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
          </xs:choice>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"/></xs:element>
  <xs:element name="ExpressionFormat" type="typeExpressionFormat"
    minOccurs="0"/></xs:element>

```

```

        <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="Member" type="typeDimensionMember" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Selection" type="typeMemberSelection" minOccurs="0">
            <xs:sequence>
                <xs:element name="Definition" type="xs:string"></xs:element>
            </xs:sequence>
        </xs:element>
        <xs:sequence>
            <xs:element name="StartTimestamp" type="typeTimestampDetails"
                minOccurs="0"></xs:element>
            <xs:element name="EndTimestamp" type="typeTimestampDetails"
                minOccurs="0"></xs:element>
            <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            <xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
                <xs:sequence>
                    <xs:element name="Definition" type="xs:string"></xs:element>
                </xs:sequence>
            </xs:element>
        </xs:sequence>
    </xs:element>
    <xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0"
        maxOccurs="unbounded">
        <xs:sequence>
            <xs:element name="Value" type="typeValueSource"></xs:element>
        </xs:sequence>
    </xs:element>
    <xs:element name="DynamicAllocation" type="typeDynamicAllocation" minOccurs="0">
        <xs:sequence>
            <xs:element name="AllocationValue" type="typeDynamicValue" minOccurs="0">
                <xs:sequence>
                    <xs:element name="Value" type="typeValueSource"></xs:element>
                </xs:sequence>
            </xs:element>
            <xs:element name="KeyValue" type="typeDynamicValue" minOccurs="0"
                maxOccurs="unbounded">
                <xs:sequence>
                    <xs:element name="Value" type="typeValueSource"></xs:element>
                </xs:sequence>
            </xs:element>
        </xs:sequence>
    </xs:element>
    <xs:element name="VariableValue" type="typeVariableValue" minOccurs="0"
        maxOccurs="unbounded">
        <xs:sequence>
            <xs:element name="Value" type="typeValueSource"></xs:element>
        </xs:sequence>
    </xs:element>
    <xs:element name="PropertyValue" type="typePropertyValue" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="Property" type="typeProperty" minOccurs="0"
    maxOccurs="unbounded"></xs:element>

```



```

</xs:sequence>
<xs:attribute name="parentDimension" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="hasPriority" type="xs:boolean" use="optional" default="false"></xs:attribute>
</xs:element>

```

Parent Elements

[PredictiveApplication Element](#)

Child Elements

[Constraint Element](#), [Member Element](#), [Property Element](#), [Variable Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Variable Element

List of Variables defined for this Dimension

Table A-130
Attributes for Variable

Attribute	Use	Description	Valid Values
dataType	required	Data type of this variable	<i>string</i>
description	optional	Optional variable description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
inherited	optional	Indication of whether this variable can be inherited by child dimension members.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
optimizationInputItem	optional	Indication of if this variable is to be controlled in Prioritize / Optimize step or not	<i>boolean</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove

Attribute	Use	Description	Valid Values
prompt	optional	When set this key value controls the text to display when prompting for variable value input	<i>string</i>
simulateAction	optional	If set this variable will be summarized in the indicated manner during a simulation	sum average
simulateName	optional	When set this key value controls the text to display when displaying the summarized value of this variable during a simulation	<i>string</i>
simulateNumericDisplay	optional	Optional control of the display of numeric values - Integer, Percentage or Double under user preference formatting	Double IntegerRounded IntegerTruncated Percentage
tableIndex	optional	Variable index in prioritization table	<i>int</i>

XML Representation

```

<xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="simulateAction" type="enumVariableValueSummary" use="optional">
    <xs:enumeration value="sum"/></xs:enumeration>
    <xs:enumeration value="average"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="simulateName" type="xs:string" use="optional"
  default="VARIABLE_PROMPT"/></xs:attribute>
  <xs:attribute name="simulateNumericDisplay" type="enumNumericDisplay">
    <xs:enumeration value="Double"/></xs:enumeration>
    <xs:enumeration value="IntegerRounded"/></xs:enumeration>
    <xs:enumeration value="IntegerTruncated"/></xs:enumeration>
    <xs:enumeration value="Percentage"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="ValueSource" type="typeValueSource"/></xs:element>
  </xs:sequence>
  <xs:attribute name="tableIndex" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="prompt" type="xs:string" use="optional" default="VARIABLE_PROMPT"/></xs:attribute>
  <xs:attribute name="optimizationInputItem" type="xs:boolean" use="optional"
  default="false"/></xs:attribute>

```

```
<xs:attribute name="inherited" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Parent Elements

[Dimension Element](#)

Child Elements

[ValueSource Element](#)

Related Elements

[Variable Element](#), [DerivedVariable Element](#), [Variable Element](#), [DerivedVariable Element](#), [Variable Element](#)

ValueSource Element

Source of default values for this Variable

XML Representation

```
<xs:element name="ValueSource" type="typeValueSource"></xs:element>
```

Table A-131
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements

[Variable Element](#)

Constraint Element

(Deprecated) List of Constraints on this Dimension - define constraints in the Optimization section.

Table A-132
Attributes for Constraint

Attribute	Use	Description	Valid Values
description	optional	Optional constraint description	<i>string</i>
dimension	optional	The dimension owns the constraint. If not supplied, the dimension is assumed to be the owner of the Boundary variable	<i>string</i>

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
enabled	optional	Indication of whether this constraint is enabled.	<i>boolean</i>
entityScoped	optional	Indication of the scope of this constraint - within an entity or across all entities.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
type	required	Constraint type	max min equal notEqual lessThan lessThanEqual greaterThan greaterThanEqual

XML Representation

```

<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"></xs:enumeration>
    <xs:enumeration value="modify"></xs:enumeration>
    <xs:enumeration value="add"></xs:enumeration>
    <xs:enumeration value="remove"></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Boundary" type="typeConstraintBoundary"></xs:element>
    <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
      <xs:choice>
        <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"></xs:element>
        <xs:element ref="Attribute"></xs:element>
        <xs:element ref="Value"></xs:element>
        <xs:element name="DimensionReference" type="typeDimensionReference"></xs:element>
        <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
          <xs:sequence>
            <xs:element name="ObjectReference" type="typeRepositoryObject"></xs:element>
            <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                  maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>

```

```

        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:choice>
</xs:element>
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"></xs:element>
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0"></xs:element>
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="type" type="enumConstraintType" use="required">
  <xs:enumeration value="max"></xs:enumeration>
  <xs:enumeration value="min"></xs:enumeration>
  <xs:enumeration value="equal"></xs:enumeration>
  <xs:enumeration value="notEqual"></xs:enumeration>
  <xs:enumeration value="lessThan"></xs:enumeration>
  <xs:enumeration value="lessThanEqual"></xs:enumeration>
  <xs:enumeration value="greaterThan"></xs:enumeration>
  <xs:enumeration value="greaterThanEqual"></xs:enumeration>
</xs:attribute>
<xs:attribute name="entityScoped" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="enabled" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="dimension" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[Dimension Element](#)**Child Elements**[Boundary Element](#), [ExpressionFormat Element](#), [ExternalUsage Element](#), [Function Element](#), [InteractionPoint Element](#)**Related Elements**[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Boundary Element

Constraint boundary

Table A-133
Attributes for Boundary

Attribute	Use	Description	Valid Values
value	required	The value or reference defining this boundary	<i>string</i>

XML Representation

```
<xs:element name="Boundary" type="typeConstraintBoundary">
  <xs:attribute name="value" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Table A-134
Extended Types

Type	Description
ConstantBoundary	A constant Constraint boundary
VariableReferenceBoundary	A variable reference Constraint Boundary

Parent Elements

[Constraint Element](#)

Function Element

Constraint function definition (internally evaluated constraints)

Table A-135
Attributes for Function

Attribute	Use	Description	Valid Values
Domain	optional	Resulting data type domain for this expression	<i>string</i>
Functor	optional	Optional functor involved in this expression	<i>string</i>
Name	optional	Alias name of this expression	<i>string</i>

XML Representation

```
<xs:element name="Function" type="rules:typeExpression" minOccurs="0">
  <xs:choice>
    <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
    <xs:element ref="Attribute"/></xs:element>
    <xs:element ref="Value"/></xs:element>
    <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
      <xs:sequence>
        <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
</xs:element>
```

```

<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
</xs:choice>
<xs:attribute name="Name" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="Domain" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="Functor" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Table A-136
Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements

[Constraint Element](#)

Child Elements

[Attribute Element](#), [DimensionReference Element](#), [Expression Element](#), [ObjectOutput Element](#), [Value Element](#)

DimensionReference Element

A reference to a dimension that will provide the value

Table A-137
Attributes for DimensionReference

Attribute	Use	Description	Valid Values
Name	optional	Dimension name	<i>string</i>

XML Representation

```
<xs:element name="DimensionReference" type="typeDimensionReference">
```

```
<xs:attribute name="Name" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Function Element](#)

ObjectOutput Element

The output of a repository object (rule or model)

Table A-138
Attributes for ObjectOutput

Attribute	Use	Description	Valid Values
output	required	The output attribute of the object	<i>string</i>

XML Representation

```
<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
  <xs:sequence>
    <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
    <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="output" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Function Element](#)

Child Elements

[InputMapping Element](#), [Key Element](#), [ObjectReference Element](#), [OutputMapping Element](#), [Parameter Element](#)

ObjectReference Element

The repository object

Table A-139
Attributes for ObjectReference

Attribute	Use	Description	Valid Values
label	required	Version label referenced	string
mimeType	optional	File MIME type of the repository object	string
name	optional	Optional Application View name for display	string
outputQualifier	optional	Optional output qualifier to be used during execution	string
usage	optional	Additional display information for the user interface	string

XML Representation

```
<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[ObjectOutput Element](#)

InputMapping Element

A mapping from the rule attributes to the input attributes of the model.

XML Representation

```
<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-140
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[ObjectOutput Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-141
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[InputMapping Element](#)**OutputMapping Element**

A renaming of the output attributes of the model.

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-142
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[ObjectOutput Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-143
Attributes for *AttributeMapping*

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[OutputMapping Element](#)**Key Element**

Key field(s) on which to group input rows to the model.

Table A-144
Attributes for *Key*

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
```

```

</xs:sequence>
<xs:attribute name="name" type="xs:string"></xs:attribute>
<xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
  default="false"></xs:attribute>
</xs:element>

```

Parent Elements

[ObjectOutput Element](#)

Child Elements

[KeyAttribute Element](#)

KeyAttribute Element

The list of attributes which make up the key

Table A-145
Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"></xs:attribute>
</xs:element>

```

Parent Elements

[Key Element](#)

Parameter Element

Parameters passed to the model.

Table A-146
Attributes for Parameter

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```

<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="value" type="xs:string"></xs:attribute>
</xs:element>

```

Table A-147
Extended Types

Type	Description
typeParameter	The details of a stream parameter

Parent Elements

[ObjectOutput Element](#)

ExternalUsage Element

Defines how this constraint can be enabled or disabled via an OPL variable (externally evaluated constraints)

Table A-148
Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	required	The OPL variable	<i>string</i>
disabledValue	optional	The value that indicates this object is disabled (default 0)	<i>string</i>
enabledValue	optional	The value that indicates this object is enabled (default 1)	<i>string</i>
variableType	optional	The OPL variable type (default int)	int float string

XML Representation

```
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0">
  <xs:attribute name="controlVariable" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"/></xs:enumeration>
    <xs:enumeration value="float"/></xs:enumeration>
    <xs:enumeration value="string"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"/></xs:attribute>
  <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"/></xs:attribute>
</xs:element>
```

Parent Elements

[Constraint Element](#)

ExpressionFormat Element

Constraint function format (externally evaluated constraints)

Table A-149
Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	required	The format definition for this expression	<i>string</i>

XML Representation

```
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Constraint Element](#)

InteractionPoint Element

Optional Interaction Point name used when differentiating constraint based on interaction points

XML Representation

```
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Constraint Element](#)

Member Element

Dimension Member definition

Table A-150
Attributes for Member

Attribute	Use	Description	Valid Values
description	optional	Display text describing this dimension member	<i>string</i>
dynamic	optional	Indicates that dynamic allocation is enabled for this member.	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove

Attribute	Use	Description	Valid Values
priority	optional	The priority of this member to be considered by the optimization algorithm. The number 1 is the highest priority, followed by 2, etc.	<i>int</i>
sameMatrixForAllInteractionPoints	optional	Runtime UI control of the use the same matrix for all Interaction Points option	<i>boolean</i>
useMatrix	optional	Runtime UI control of the use matrix or not decision for Combine when only one input has been configured	<i>boolean</i>

XML Representation

```

<xs:element name="Member" type="typeDimensionMember" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Selection" type="typeMemberSelection" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:sequence>
      <xs:element name="StartTimestamp" type="typeTimestampDetails" minOccurs="0"/></xs:element>
      <xs:element name="EndTimestamp" type="typeTimestampDetails" minOccurs="0"/></xs:element>
      <xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
      <xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
        <xs:sequence>
          <xs:element name="Definition" type="xs:string"/></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Value" type="typeValueSource"/></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="DynamicAllocation" type="typeDynamicAllocation" minOccurs="0">
    <xs:sequence>
      <xs:element name="AllocationValue" type="typeDynamicValue" minOccurs="0">
        <xs:sequence>
          <xs:element name="Value" type="typeValueSource"/></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>

```

```

        </xs:sequence>
      </xs:element>
      <xs:element name="KeyValue" type="typeDynamicValue" minOccurs="0"
maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Value" type="typeValueSource"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="VariableValue" type="typeVariableValue" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Value" type="typeValueSource"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="PropertyValue" type="typePropertyValue" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="priority" type="xs:int" use="optional" default="1"></xs:attribute>
<xs:attribute name="dynamic" type="xs:boolean" default="false"></xs:attribute>
<xs:attribute name="sameMatrixForAllInteractionPoints" type="xs:boolean" use="optional"
default="true"></xs:attribute>
<xs:attribute name="useMatrix" type="xs:boolean" use="optional" default="false"></xs:attribute>
</xs:element>

```

Parent Elements

[Dimension Element](#)

Child Elements

[Allocation Element](#), [DynamicAllocation Element](#), [PropertyValue Element](#), [Selection Element](#), [VariableValue Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Selection Element

Selection and Exclusion rules for this Dimension Member

Table A-151
Attributes for Selection

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
mimeType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```

<xs:element name="Selection" type="typeMemberSelection" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
  default="false"/></xs:attribute>
  <xs:attribute name="outputField" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/></xs:attribute>
  <xs:sequence>
    <xs:element name="StartTimestamp" type="typeTimestampDetails" minOccurs="0"/></xs:element>
    <xs:element name="EndTimestamp" type="typeTimestampDetails" minOccurs="0"/></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
    maxOccurs="unbounded"/></xs:element>
    <xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

```

        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>

```

Parent Elements

[Member Element](#)

Child Elements

[BaseSelection Element](#), [Definition Element](#), [EndTimestamp Element](#), [InteractionPoint Element](#), [StartTimestamp Element](#)

Related Elements

[Selection Element](#)

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Selection Element](#)

StartTimestamp Element

The valid start timestamp for this Dimension Member, test will be incorporated into the final local rule if specified

Table A-152
Attributes for StartTimestamp

Attribute	Use	Description	Valid Values
day	required	the day portion of the timestamp	<i>int</i>
hour	optional	the hour portion of the timestamp	<i>int</i>
minute	optional	the minute portion of the timestamp	<i>int</i>
month	required	the month portion of the timestamp	<i>int</i>
second	optional	the second portion of the timestamp	<i>int</i>
year	required	the year portion of the timestamp	<i>int</i>

XML Representation

```
<xs:element name="StartTimestamp" type="typeTimestampDetails" minOccurs="0">
  <xs:attribute name="year" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="month" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="day" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="hour" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="minute" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="second" type="xs:int" use="optional" default="0"/></xs:attribute>
</xs:element>
```

Parent Elements[Selection Element](#)**EndTimestamp Element**

The valid end timestamp for this Dimension Member, test will be incorporated into the final local rule if specified

Table A-153
Attributes for EndTimestamp

Attribute	Use	Description	Valid Values
day	required	the day portion of the timestamp	<i>int</i>
hour	optional	the hour portion of the timestamp	<i>int</i>
minute	optional	the minute portion of the timestamp	<i>int</i>
month	required	the month portion of the timestamp	<i>int</i>
second	optional	the second portion of the timestamp	<i>int</i>
year	required	the year portion of the timestamp	<i>int</i>

XML Representation

```
<xs:element name="EndTimestamp" type="typeTimestampDetails" minOccurs="0">
  <xs:attribute name="year" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="month" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="day" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="hour" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="minute" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="second" type="xs:int" use="optional" default="0"/></xs:attribute>
</xs:element>
```

Parent Elements[Selection Element](#)

InteractionPoint Element

List of selected Interaction Points for the Dimension Member, test will be incorporated into the final local rule if specified

XML Representation

```
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Selection Element](#)

BaseSelection Element

The selection rule for the Dimension Member, will be folded into the final local rule if specified

Table A-154

Attributes for BaseSelection

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
mimeType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```
<xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"></xs:enumeration>
    <xs:enumeration value="modify"></xs:enumeration>
    <xs:enumeration value="add"></xs:enumeration>
  </xs:attribute>
</xs:element>
```

```

    <xs:enumeration value="remove"></xs:enumeration>
  </xs:attribute>
</xs:sequence>
  <xs:element name="Definition" type="xs:string"></xs:element>
</xs:sequence>
<xs:attribute name="mimeType" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="usageDescription" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
default="false"></xs:attribute>
<xs:attribute name="outputField" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="outputDataType" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Table A-155
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[Selection Element](#)

Child Elements

[Definition Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[BaseSelection Element](#)

Allocation Element

Allocation rules for this Dimension Member

Table A-156
Attributes for Allocation

Attribute	Use	Description	Valid Values
dimensionReference	required	Child Dimension this Allocation pertains to	<i>string</i>
interactionPoint	optional	The optional Interaction Point indicator	<i>string</i>

XML Representation

```
<xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"/></xs:element>
  </xs:sequence>
  <xs:attribute name="dimensionReference" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="interactionPoint" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[Member Element](#)

Child Elements

[Value Element](#)

Value Element

The allocated value for this dimension

XML Representation

```
<xs:element name="Value" type="typeValueSource"/></xs:element>
```

Table A-157
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements

[Allocation Element](#)

DynamicAllocation Element

Dynamic allocations for this member (only one allowed at present). Ignored unless the member is dynamic.

Table A-158
Attributes for DynamicAllocation

Attribute	Use	Description	Valid Values
inputSource	optional	The name of a secondary input source providing values for the allocation. If present, induces a join between the primary input source and the specified source.	<i>string</i>

XML Representation

```
<xs:element name="DynamicAllocation" type="typeDynamicAllocation" minOccurs="0">
  <xs:sequence>
    <xs:element name="AllocationValue" type="typeDynamicValue" minOccurs="0">
      <xs:sequence>
        <xs:element name="Value" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="KeyValue" type="typeDynamicValue" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Value" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="inputSource" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[Member Element](#)

Child Elements

[AllocationValue Element](#), [KeyValue Element](#)

AllocationValue Element

The value of the allocation. If not specified, the allocation is ignored.

XML Representation

```
<xs:element name="AllocationValue" type="typeDynamicValue" minOccurs="0">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"/></xs:element>
  </xs:sequence>
</xs:element>
```

Parent Elements[DynamicAllocation Element](#)**Child Elements**[Value Element](#)**Value Element**

The value source.

XML Representation

```
<xs:element name="Value" type="typeValueSource"/></xs:element>
```

Table A-159
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements[AllocationValue Element](#)**KeyValue Element**

Key values when joining with a secondary input source. If not specified, the primary key values are used instead.

XML Representation

```
<xs:element name="KeyValue" type="typeDynamicValue" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"/></xs:element>
  </xs:sequence>
</xs:element>
```

Parent Elements[DynamicAllocation Element](#)**Child Elements**[Value Element](#)

Value Element

The value source.

XML Representation

```
<xs:element name="Value" type="typeValueSource"></xs:element>
```

Table A-160
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements

[KeyValue Element](#)

VariableValue Element

Variable Values defined for this Dimension Member

Table A-161
Attributes for VariableValue

Attribute	Use	Description	Valid Values
interactionPoint	optional	Optional Interaction Point for this variable value, Variable name plus Interaction Point name (may be empty) unique in a value series	<i>string</i>
name	required	Variable referenced by name	<i>string</i>

XML Representation

```
<xs:element name="VariableValue" type="typeVariableValue" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="interactionPoint" type="xs:string" use="optional" default=""></xs:attribute>
</xs:element>
```

Parent Elements

[Member Element](#)

Child Elements[Value Element](#)**Value Element**

The value for this variable reference

XML Representation

```
<xs:element name="Value" type="typeValueSource"></xs:element>
```

Table A-162
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements[VariableValue Element](#)**PropertyValue Element**

Property values for this Dimension member.

Table A-163
Attributes for PropertyValue

Attribute	Use	Description	Valid Values
name	required	Property name	<i>string</i>

XML Representation

```
<xs:element name="PropertyValue" type="typePropertyValue" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Member Element](#)**Property Element**

Properties defined for all members of this Dimension

Table A-164
Attributes for Property

Attribute	Use	Description	Valid Values
dataType	optional	The type of this property.	<i>string</i>
defaultValue	optional	Default value if not specified for a dimension member. Optional only when the property type is string.	<i>string</i>

XML Representation

```
<xs:element name="Property" type="typeProperty" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="dataType" type="xs:string" default="string"></xs:attribute>
  <xs:attribute name="defaultValue" type="xs:string" default=""></xs:attribute>
</xs:element>
```

Parent Elements

Dimension Element

Optimization Element

Definition of the optimization to be applied on execution of this application

Table A-165
Attributes for Optimization

Attribute	Use	Description	Valid Values
algorithm	required	Optimization algorithm from list of known algorithms	Heuristic CPLEX IPBase IPMin IPMax None
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
objectiveValueName	optional	The name used to reference the objective function value from constraints and output attributes. This must be specified if more than one objective function is defined.	<i>string</i>
optimizationMode	optional	Whether the objective function should be maximized or minimized	max min

Attribute	Use	Description	Valid Values
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
path	optional	Path to the external optimization model file (CPLEX algorithm only)	<i>string</i>

XML Representation

```

<xs:element name="Optimization" type="typeOptimizationDefinition" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="ObjectiveFunction" type="typeObjectiveFunction" maxOccurs="unbounded">
      <xs:choice>
        <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
        <xs:element ref="Attribute"/></xs:element>
        <xs:element ref="Value"/></xs:element>
        <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
        <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
          <xs:sequence>
            <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
            <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                  maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                  maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
              <xs:sequence>
                <xs:element name="KeyAttribute" type="typeKeyAttribute"
                  maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:choice>
    </xs:sequence>
  </xs:element>
  <xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"/></xs:element>

```

```

    <xs:element name="ExpressionFormat" type="typeExpressionFormat"
      minOccurs="0"/></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
    <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
      <xs:choice>
        <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
        <xs:element ref="Attribute"/></xs:element>
        <xs:element ref="Value"/></xs:element>
        <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
        <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
          <xs:sequence>
            <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
            <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
              minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping"
                  minOccurs="0" maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
              minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping"
                  minOccurs="0" maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
              <xs:sequence>
                <xs:element name="KeyAttribute" type="typeKeyAttribute"
                  maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:choice>
    </xs:element>
    <xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"/></xs:element>
    <xs:element name="ExpressionFormat" type="typeExpressionFormat"
      minOccurs="0"/></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="OPLMapping" type="typeOPLMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="EntityField" type="typeEntityField" minOccurs="1"
      maxOccurs="unbounded"/></xs:element>
    <xs:element name="OptimizationOutput" type="typeOptimizationOutput" minOccurs="1"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>

```

```

        </xs:sequence>
    </xs:element>
</xs:sequence>
<xs:attribute name="algorithm" type="enumOptimizationAlgorithmType" use="required">
    <xs:enumeration value="Heuristic"></xs:enumeration>
    <xs:enumeration value="CPLEX"></xs:enumeration>
    <xs:enumeration value="IPBase"></xs:enumeration>
    <xs:enumeration value="IPMin"></xs:enumeration>
    <xs:enumeration value="IPMax"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
</xs:attribute>
<xs:attribute name="optimizationMode" type="enumOptimizationMode" use="optional" default="max">
    <xs:enumeration value="max"></xs:enumeration>
    <xs:enumeration value="min"></xs:enumeration>
</xs:attribute>
<xs:attribute name="path" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="objectiveValueName" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[PredictiveApplication Element](#)

Child Elements

[Constraint Element](#), [ObjectiveFunction Element](#), [OPLMapping Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

ObjectiveFunction Element

Objective Function definitions. If multiple definitions are defined, a unique “Name” attribute value must be specified for each one.

Table A-166
Attributes for *ObjectiveFunction*

Attribute	Use	Description	Valid Values
description	optional	Optional objective function description	<i>string</i>
Domain	optional	Resulting data type domain for this expression	<i>string</i>

Attribute	Use	Description	Valid Values
enabled	optional	Indication of whether this constraint is enabled for at least one interaction point.	<i>boolean</i>
functionType	optional	Whether the objective function value can be precomputed for each entity or can only be calculated once optimization has occurred.	linear nonLinear
Functor	optional	Optional functor involved in this expression	<i>string</i>
Name	optional	Alias name of this expression	<i>string</i>

XML Representation

```

<xs:element name="ObjectiveFunction" type="typeObjectiveFunction" maxOccurs="unbounded">
  <xs:choice>
    <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element ref="Attribute"></xs:element>
    <xs:element ref="Value"></xs:element>
    <xs:element name="DimensionReference" type="typeDimensionReference"></xs:element>
    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
      <xs:sequence>
        <xs:element name="ObjectReference" type="typeRepositoryObject"></xs:element>
        <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
          <xs:sequence>
            <xs:element name="KeyAttribute" type="typeKeyAttribute"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
  <xs:attribute name="Name" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="Domain" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="Functor" type="xs:string" use="optional"></xs:attribute>
</xs:sequence>

```

```

    <xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"></xs:element>
    <xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0"></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="enabled" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="functionType" type="enumObjectiveFunctionType" use="optional" default="linear">
    <xs:enumeration value="linear"></xs:enumeration>
    <xs:enumeration value="nonLinear"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Optimization Element](#)

Child Elements

[Attribute Element](#), [DimensionReference Element](#), [Expression Element](#), [ExpressionFormat Element](#), [ExternalUsage Element](#), [InteractionPoint Element](#), [ObjectOutput Element](#), [Value Element](#)

DimensionReference Element

A reference to a dimension that will provide the value

Table A-167

Attributes for DimensionReference

Attribute	Use	Description	Valid Values
Name	optional	Dimension name	<i>string</i>

XML Representation

```

<xs:element name="DimensionReference" type="typeDimensionReference">
  <xs:attribute name="Name" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[ObjectiveFunction Element](#)

ObjectOutput Element

The output of a repository object (rule or model)

Table A-168

Attributes for ObjectOutput

Attribute	Use	Description	Valid Values
output	required	The output attribute of the object	<i>string</i>

XML Representation

```

<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
  <xs:sequence>
    <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
    <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="output" type="xs:string" use="required"/></xs:attribute>
</xs:element>

```

Parent Elements

[ObjectiveFunction Element](#)

Child Elements

[InputMapping Element](#), [Key Element](#), [ObjectReference Element](#), [OutputMapping Element](#), [Parameter Element](#)

ObjectReference Element

The repository object

Table A-169
Attributes for ObjectReference

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>

Attribute	Use	Description	Valid Values
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[ObjectOutput Element](#)

InputMapping Element

A mapping from the rule attributes to the input attributes of the model.

XML Representation

```
<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-170
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[ObjectOutput Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-171
Attributes for *AttributeMapping*

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[InputMapping Element](#)

OutputMapping Element

A renaming of the output attributes of the model.

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-172
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[ObjectOutput Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-173
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[OutputMapping Element](#)

Key Element

Key field(s) on which to group input rows to the model.

Table A-174
Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
  default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[ObjectOutput Element](#)

Child Elements[KeyAttribute Element](#)**KeyAttribute Element**

The list of attributes which make up the key

Table A-175

Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements[Key Element](#)**Parameter Element**

Parameters passed to the model.

Table A-176

Attributes for Parameter

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="value" type="xs:string"/></xs:attribute>
</xs:element>
```

Table A-177

Extended Types

Type	Description
typeParameter	The details of a stream parameter

Parent Elements[ObjectOutput Element](#)

ExternalUsage Element

Defines how this objective function can be enabled or disabled via an OPL variable

Table A-178
Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	required	The OPL variable	<i>string</i>
disabledValue	optional	The value that indicates this object is disabled (default 0)	<i>string</i>
enabledValue	optional	The value that indicates this object is enabled (default 1)	<i>string</i>
variableType	optional	The OPL variable type (default int)	int float string

XML Representation

```
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0">
  <xs:attribute name="controlVariable" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"/></xs:enumeration>
    <xs:enumeration value="float"/></xs:enumeration>
    <xs:enumeration value="string"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"/></xs:attribute>
  <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"/></xs:attribute>
</xs:element>
```

Parent Elements

[ObjectiveFunction Element](#)

ExpressionFormat Element

Objective function format for externally defined objective functions

Table A-179
Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	required	The format definition for this expression	<i>string</i>

XML Representation

```
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements[ObjectiveFunction Element](#)**InteractionPoint Element**

Optional Interaction Point name used when differentiating in the objective function based on interaction points

XML Representation

```
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements[ObjectiveFunction Element](#)**Constraint Element**

Constraints associated with this optimization definition, to be applied in the execution and optimization of this application

Table A-180

Attributes for Constraint

Attribute	Use	Description	Valid Values
description	optional	Optional constraint description	<i>string</i>
dimension	optional	The dimension owns the constraint. If not supplied, the dimension is assumed to be the owner of the Boundary variable	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
enabled	optional	Indication of whether this constraint is enabled.	<i>boolean</i>
entityScoped	optional	Indication of the scope of this constraint - within an entity or across all entities.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>

Attribute	Use	Description	Valid Values
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
type	required	Constraint type	max min equal notEqual lessThan lessThanEqual greaterThan greaterThanEqual

XML Representation

```

<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
    <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
      <xs:choice>
        <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
        <xs:element ref="Attribute"/></xs:element>
        <xs:element ref="Value"/></xs:element>
        <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
        <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
          <xs:sequence>
            <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
            <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                  maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                  maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
              <xs:sequence>
                <xs:element name="KeyAttribute" type="typeKeyAttribute"
                  maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:choice>
    </xs:element>
  </xs:sequence>
</xs:element>

```



```

        </xs:element>
    </xs:choice>
</xs:element>
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"></xs:element>
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0"></xs:element>
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="type" type="enumConstraintType" use="required">
    <xs:enumeration value="max"></xs:enumeration>
    <xs:enumeration value="min"></xs:enumeration>
    <xs:enumeration value="equal"></xs:enumeration>
    <xs:enumeration value="notEqual"></xs:enumeration>
    <xs:enumeration value="lessThan"></xs:enumeration>
    <xs:enumeration value="lessThanEqual"></xs:enumeration>
    <xs:enumeration value="greaterThan"></xs:enumeration>
    <xs:enumeration value="greaterThanEqual"></xs:enumeration>
</xs:attribute>
<xs:attribute name="entityScoped" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="enabled" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="dimension" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[Optimization Element](#)

Child Elements

[Boundary Element](#), [ExpressionFormat Element](#), [ExternalUsage Element](#), [Function Element](#), [InteractionPoint Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Boundary Element

Constraint boundary

Table A-181
Attributes for Boundary

Attribute	Use	Description	Valid Values
value	required	The value or reference defining this boundary	<i>string</i>

XML Representation

```
<xs:element name="Boundary" type="typeConstraintBoundary">
  <xs:attribute name="value" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Table A-182
Extended Types

Type	Description
ConstantBoundary	A constant Constraint boundary
VariableReferenceBoundary	A variable reference Constraint Boundary

Parent Elements

[Constraint Element](#)

Function Element

Constraint function definition (internally evaluated constraints)

Table A-183
Attributes for Function

Attribute	Use	Description	Valid Values
Domain	optional	Resulting data type domain for this expression	<i>string</i>
Functor	optional	Optional functor involved in this expression	<i>string</i>
Name	optional	Alias name of this expression	<i>string</i>

XML Representation

```
<xs:element name="Function" type="rules:typeExpression" minOccurs="0">
  <xs:choice>
    <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
    <xs:element ref="Attribute"/></xs:element>
    <xs:element ref="Value"/></xs:element>
    <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
      <xs:sequence>
        <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
        <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
</xs:element>
```

```

</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute"
      minOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
</xs:choice>
<xs:attribute name="Name" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="Domain" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="Functor" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Table A-184
Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements

[Constraint Element](#)

Child Elements

[Attribute Element](#), [DimensionReference Element](#), [Expression Element](#), [ObjectOutput Element](#), [Value Element](#)

DimensionReference Element

A reference to a dimension that will provide the value

Table A-185
Attributes for DimensionReference

Attribute	Use	Description	Valid Values
Name	optional	Dimension name	<i>string</i>

XML Representation

```

<xs:element name="DimensionReference" type="typeDimensionReference">
  <xs:attribute name="Name" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[Function Element](#)

ObjectOutput Element

The output of a repository object (rule or model)

Table A-186
Attributes for ObjectOutput

Attribute	Use	Description	Valid Values
output	required	The output attribute of the object	<i>string</i>

XML Representation

```
<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
  <xs:sequence>
    <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
    <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="output" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Function Element](#)

Child Elements

[InputMapping Element](#), [Key Element](#), [ObjectReference Element](#), [OutputMapping Element](#), [Parameter Element](#)

ObjectReference Element

The repository object

Table A-187
Attributes for *ObjectReference*

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
contentType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="contentType" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[ObjectOutput Element](#)

InputMapping Element

A mapping from the rule attributes to the input attributes of the model.

XML Representation

```
<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-188
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[ObjectOutput Element](#)

Child Elements[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-189
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[InputMapping Element](#)**OutputMapping Element**

A renaming of the output attributes of the model.

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-190
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[ObjectOutput Element](#)

Child Elements[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-191

Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[OutputMapping Element](#)**Key Element**

Key field(s) on which to group input rows to the model.

Table A-192

Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
default="false"></xs:attribute>
```

</xs:element>

Parent Elements

[ObjectOutput Element](#)

Child Elements

[KeyAttribute Element](#)

KeyAttribute Element

The list of attributes which make up the key

Table A-193
Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[Key Element](#)

Parameter Element

Parameters passed to the model.

Table A-194
Attributes for Parameter

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="value" type="xs:string"/></xs:attribute>
</xs:element>
```

Table A-195
Extended Types

Type	Description
typeParameter	The details of a stream parameter

Parent Elements[ObjectOutput Element](#)**ExternalUsage Element**

Defines how this constraint can be enabled or disabled via an OPL variable (externally evaluated constraints)

Table A-196
Attributes for *ExternalUsage*

Attribute	Use	Description	Valid Values
controlVariable	required	The OPL variable	<i>string</i>
disabledValue	optional	The value that indicates this object is disabled (default 0)	<i>string</i>
enabledValue	optional	The value that indicates this object is enabled (default 1)	<i>string</i>
variableType	optional	The OPL variable type (default int)	int float string

XML Representation

```
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0">
  <xs:attribute name="controlVariable" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"/></xs:enumeration>
    <xs:enumeration value="float"/></xs:enumeration>
    <xs:enumeration value="string"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"/></xs:attribute>
  <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"/></xs:attribute>
</xs:element>
```

Parent Elements[Constraint Element](#)**ExpressionFormat Element**

Constraint function format (externally evaluated constraints)

Table A-197
Attributes for *ExpressionFormat*

Attribute	Use	Description	Valid Values
format	required	The format definition for this expression	<i>string</i>

XML Representation

```
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
```

```
<xs:attribute name="format" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Constraint Element](#)

InteractionPoint Element

Optional Interaction Point name used when differentiating constraint based on interaction points

XML Representation

```
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Constraint Element](#)

OPLMapping Element

Defines how the OPL inputs and outputs are to be mapped

Table A-198

Attributes for OPLMapping

Attribute	Use	Description	Valid Values
contributionVariable	optional	If supplied, this represents the name of an array variable in the OPL that associates the contribution value of each entity record to the overall objective function.	<i>string</i>
outputDecisionVariable	optional	If supplied, this represents the name of the output decision variable in the OPL that contains the objective value to be returned. This value may exclude other factors used to represent e.g. allocation priorities. If this is not supplied than the raw CPLEX output value is returned.	<i>string</i>
tupleSetVariable	required	The name of the tupleset variable in OPL that holds the tuples representing each row of entity data.	<i>string</i>

XML Representation

```
<xs:element name="OPLMapping" type="typeOPLMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="EntityField" type="typeEntityField" minOccurs="1"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="OptimizationOutput" type="typeOptimizationOutput" minOccurs="1"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="tupleSetVariable" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="outputDecisionVariable" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="contributionVariable" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[Optimization Element](#)

Child Elements

[EntityField Element](#), [OptimizationOutput Element](#)

EntityField Element

How input entity data columns map to tuple fields

Table A-199
Attributes for EntityField

Attribute	Use	Description	Valid Values
dataReturn	optional	For non-System reference types, specifies which aspect of the data is to be returned	<i>string</i>
name	required	Attribute Name	<i>string</i>
referenceType	required	Reference type	Variable Objective DimensionMember System
tupleField	required	The OPL field in the tuple that will store the value	<i>string</i>
tupleFieldType	required	The OPL tuple field type	int float string

XML Representation

```
<xs:element name="EntityField" type="typeEntityField" minOccurs="1" maxOccurs="unbounded">
  <xs:attribute name="referenceType" type="enumAttributeReferenced" use="required">
    <xs:enumeration value="Variable"></xs:enumeration>
    <xs:enumeration value="Objective"></xs:enumeration>
    <xs:enumeration value="DimensionMember"></xs:enumeration>
    <xs:enumeration value="System"></xs:enumeration>
  </xs:attribute>
```

```

<xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
<xs:attribute name="dataReturn" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="tupleField" type="xs:string" use="required"/></xs:attribute>
<xs:attribute name="tupleFieldType" type="enumOPLValueType" use="required">
  <xs:enumeration value="int"/></xs:enumeration>
  <xs:enumeration value="float"/></xs:enumeration>
  <xs:enumeration value="string"/></xs:enumeration>
</xs:attribute>
</xs:element>

```

Parent Elements

OPLMapping Element

OptimizationOutput Element

How optimization output variables are inserted into data columns

Table A-200

Attributes for OptimizationOutput

Attribute	Use	Description	Valid Values
name	required	Attribute Name	<i>string</i>
thresholdType	optional	Reference type	equal notEqual lessThan lessThanEqual greaterThan greaterThanEqual
thresholdValue	optional	Attribute Name	<i>string</i>
valueVariable	required	The OPL field in the tuple that will store the value	<i>string</i>
variableType	required	Reference type	int float string

XML Representation

```

<xs:element name="OptimizationOutput" type="typeOptimizationOutput" minOccurs="1"
maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="valueVariable" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="variableType" type="enumOPLValueType" use="required">
    <xs:enumeration value="int"/></xs:enumeration>
    <xs:enumeration value="float"/></xs:enumeration>
    <xs:enumeration value="string"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="thresholdType" type="enumSelectionBoundaryType" use="optional">
    <xs:enumeration value="equal"/></xs:enumeration>
    <xs:enumeration value="notEqual"/></xs:enumeration>
    <xs:enumeration value="lessThan"/></xs:enumeration>
    <xs:enumeration value="lessThanEqual"/></xs:enumeration>
    <xs:enumeration value="greaterThan"/></xs:enumeration>
    <xs:enumeration value="greaterThanEqual"/></xs:enumeration>
  </xs:attribute>

```

```
<xs:attribute name="thresholdValue" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[OPLMapping Element](#)

Deployment Element

Deployment details for this application

Table A-201

Attributes for Deployment

Attribute	Use	Description	Valid Values
defaultInteractionPoint	optional	Optional indicator of the Interaction Point that represents the terminal node to be set in the Stream deployment information as the scoring task	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove

XML Representation

```
<xs:element name="Deployment" type="typeDeployment" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="DeployLabel" type="typeLabelDefinition" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
    <xs:element name="OutputAttribute" type="typeOutputAttribute" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
    <xs:element name="InteractionPoint" minOccurs="0" maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="defaultInteractionPoint" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[PredictiveApplication Element](#)

Child Elements

[DeployLabel Element](#), [InteractionPoint Element](#), [OutputAttribute Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

DeployLabel Element

List of labels presented to the user during deployment

Table A-202
Attributes for *DeployLabel*

Attribute	Use	Description	Valid Values
displayColor	optional	Optional color to use when displaying this label	<i>string</i>
labelId	optional	Id of this label	<i>string</i>
labelName	required	Name of this label	<i>string</i>

XML Representation

```
<xs:element name="DeployLabel" type="typeLabelDefinition" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="labelId" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="labelName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="displayColor" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Deployment Element](#)

OutputAttribute Element

Interactive output attributes

Table A-203
Attributes for *OutputAttribute*

Attribute	Use	Description	Valid Values
name	required	Attribute Name	<i>string</i>
parent	optional	Specifies the output hierarchy for display purposes	<i>string</i>

Attribute	Use	Description	Valid Values
referenceType	required	Reference type	Variable Objective DimensionMember System
returnValue	required	Return Value	<i>string</i>

XML Representation

```
<xs:element name="OutputAttribute" type="typeOutputAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="referenceType" type="enumAttributeReferenced" use="required">
    <xs:enumeration value="Variable"></xs:enumeration>
    <xs:enumeration value="Objective"></xs:enumeration>
    <xs:enumeration value="DimensionMember"></xs:enumeration>
    <xs:enumeration value="System"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="returnValue" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="parent" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[Deployment Element](#)

InteractionPoint Element

List of defined Interaction Points for the application

Table A-204

Attributes for InteractionPoint

Attribute	Use	Description	Valid Values
isEnabled	optional	Control of the enabled/disabled indicator for this Interaction Point	<i>boolean</i>

XML Representation

```
<xs:element name="InteractionPoint" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="isEnabled" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Parent Elements

[Deployment Element](#)

CurrentStateReport Element

The optional report to use for summarizing the current state of the application

Table A-205
Attributes for *CurrentStateReport*

Attribute	Use	Description	Valid Values
author	optional	Author of the object version	<i>string</i>
brokenLink	optional	Indicates whether the object version can be found in the repository or not	<i>boolean</i>
dateCreated	optional	Date the version was created in the repository	<i>string</i>
description	optional	Description defined for the object version and user's language code	<i>string</i>
displayName	optional	The name to display to the user for this report	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
groupName	optional	Optional report group name	<i>string</i>
id	required	ID of the repository object	<i>string</i>
isLocked	optional	runtime communication of object lock state	<i>boolean</i>
keywords	optional	Keywords defined for the object version	<i>string</i>
label	required	Version label of the repository object	<i>string</i>
marker	optional	Version marker for the repository object	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
modelID	optional	ID of the model in the build cache, used to track model refresh and those being created by auto-model process	<i>any</i>
name	optional	Name of the element	<i>string</i>
parameters	optional	Optional parameters to pass to the report when it runs	<i>string</i>
parentObjectId	optional	Tracking of the parent object ID	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove

Attribute	Use	Description	Valid Values
path	optional	Full path of the object in the repository	<i>string</i>
usageDescription	optional	Additional description text that can be assigned by the user interface, but not part of repository information	<i>string</i>

XML Representation

```

<xs:element name="CurrentStateReport" type="typeCurrentStateReportItem" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="id" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="marker" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="path" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="dateCreated" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="brokenLink" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="author" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="keywords" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="modelID"/></xs:attribute>
  <xs:attribute name="parentObjectId" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="isLocked" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="parameters" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="groupName" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="displayName" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Parent Elements

[PredictiveApplication Element](#)

Report Element

Reports available in this application

Table A-206
Attributes for Report

Attribute	Use	Description	Valid Values
author	optional	Author of the object version	<i>string</i>

Attribute	Use	Description	Valid Values
brokenLink	optional	Indicates whether the object version can be found in the repository or not	<i>boolean</i>
dateCreated	optional	Date the version was created in the repository	<i>string</i>
description	optional	Description defined for the object version and user's language code	<i>string</i>
displayName	optional	The name to display to the user for this report	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
groupName	optional	Optional report group name	<i>string</i>
id	required	ID of the repository object	<i>string</i>
isLocked	optional	runtime communication of object lock state	<i>boolean</i>
keywords	optional	Keywords defined for the object version	<i>string</i>
label	required	Version label of the repository object	<i>string</i>
marker	optional	Version marker for the repository object	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
modelID	optional	ID of the model in the build cache, used to track model refresh and those being created by auto-model process	<i>any</i>
name	optional	Name of the element	<i>string</i>
parameters	optional	Optional parameters to pass to the report when it runs	<i>string</i>
parentObjectId	optional	Tracking of the parent object ID	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
path	optional	Full path of the object in the repository	<i>string</i>
usageDescription	optional	Additional description text that can be assigned by the user interface, but not part of repository information	<i>string</i>

XML Representation

```

<xs:element name="Report" type="typeReportItem" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="id" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="marker" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="path" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="dateCreated" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="brokenLink" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="author" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="keywords" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="modelID"/></xs:attribute>
  <xs:attribute name="parentObjectId" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="isLocked" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="parameters" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="groupName" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="displayName" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-207
Extended Types

Type	Description
typeCurrentStateReportItem	Specifies on the report used for displaying the current state of a deployed application

Parent Elements

[PredictiveApplication Element](#)

Related Elements

[RuleModelReference Element](#), [RuleModelReference Element](#), [RuleModelReference Element](#)

Tasks Element

Information on long-running task requests

XML Representation

```

<xs:element name="Tasks" type="typeTaskInformation" minOccurs="0">
  <xs:sequence>
    <xs:element name="Build" type="typeBuildTask" minOccurs="0">
      <xs:sequence>

```

```

<xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="UserId"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:sequence>
  <xs:element name="SourceDataSet" type="dataset:typeDataSet">
    <xs:sequence>
      <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Table" type="typeDataTable"></xs:element>
      <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
        </xs:sequence>
        <xs:sequence>
          <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
        </xs:sequence>
        <xs:sequence>
          <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
        <xs:sequence>
          <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="ModelInputs" type="xs:string" maxOccurs="unbounded"></xs:element>
  <xs:element name="Selections" type="typeLocalRule" minOccurs="0">
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="InteractiveBuild" type="typeInteractiveBuild" minOccurs="0">
    <xs:sequence>
      <xs:element name="DecisionList" type="typeLocalRule" minOccurs="0">
        <xs:sequence>
          <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="ClusterBuild" type="typeClusterBuild" minOccurs="0">
    <xs:sequence>
      <xs:element name="ManualClusters" type="typeLocalRule" minOccurs="0">

```

```

        <xs:sequence>
          <xs:element name="Definition" type="xs:string"/></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="ClusterRangeThresholds" type="typeClusterRangeThresholds"
        minOccurs="0"/></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="AssociationBuild" type="typeAssociationBuild" minOccurs="0">
    <xs:sequence>
      <xs:element name="transactionalBuild" type="typeTransactionalAssociationBuild"
        minOccurs="0"/></xs:element>
      <xs:element name="associationApplyModelSettings"
        type="typeAssociationApplyModelSettings" minOccurs="0"/></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="SelectionUsed" type="xs:string" minOccurs="0"
    maxOccurs="unbounded"/></xs:element>
  <xs:element name="Parameter" type="typeParameter" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"/></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
</xs:element>
<xs:element name="DataScan" type="typeDataScanTask" minOccurs="0">
  <xs:sequence>
    <xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
      minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="UserId"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:sequence>
<xs:element name="SourceDataSet" type="dataset:typeDataSet">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"/></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>

```

```

        </xs:sequence>
      </xs:element>
      <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
        <xs:sequence>
          <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="DerivedAttribute" type="dataset:typeDerivedAttribute" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Evaluate" type="typeEvaluateTask" minOccurs="0">
  <xs:sequence>
    <xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
      minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="UserId"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:sequence>
  <xs:element name="SourceDataSet" type="dataset:typeDataSet">
    <xs:sequence>
      <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Table" type="typeDataTable"></xs:element>
      <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
        maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
        <xs:sequence>
          <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
        <xs:sequence>
          <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">

```

```

        <xs:sequence>
          <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Selections" type="typeLocalRule" minOccurs="0">
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="SelectionUsed" type="xs:string" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
  <xs:element name="OverlayFields" type="xs:string" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Score" type="typeScoreTask" minOccurs="0">
  <xs:sequence>
    <xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
      minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="UserId"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="SourceDataSet" type="dataset:typeDataSet">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>

```

```

    </xs:sequence>
  </xs:element>
  <xs:element name="RecordSelection" type="typeLocalRule" minOccurs="0">
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
  <xs:element name="SelectedOutput" type="xs:string" maxOccurs="unbounded"></xs:element>
  <xs:element name="Mapping" type="dataset:typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="TargetDataTable" type="dataset:typeDataTable"></xs:element>
  <xs:element name="TargetDataServerCredentials" type="typeTaskDatabaseCredentials"
    minOccurs="0">
    <xs:sequence>
      <xs:element name="UserId"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Options" type="typeScoreOptions" minOccurs="0">
    <xs:choice>
      <xs:element name="TopNPercent" type="xs:double"></xs:element>
      <xs:element name="TopN" type="xs:long"></xs:element>
      <xs:element name="MinMaxPropensity"></xs:element>
    </xs:choice>
  </xs:element>
  <xs:element name="SelectionUsed" type="xs:string" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
  <xs:element name="Parameter" type="typeParameter" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="CognosTable" type="dataset:CognosTable">
    <xs:sequence>
      <xs:element name="Parameters" type="typeCognosParameter" maxOccurs="unbounded"
        minOccurs="0"></xs:element>
      <xs:element name="Filters" type="typeCognosFilter" maxOccurs="unbounded"
        minOccurs="0"></xs:element>
      <xs:element name="SelectedCognosObject" type="typeCognosObject" maxOccurs="1"
        minOccurs="0">
        <xs:sequence maxOccurs="unbounded" minOccurs="0">
          <xs:element ref="child"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Simulate" type="typeSimulateTask" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
        minOccurs="0" maxOccurs="unbounded">

```



```

    <xs:sequence>
      <xs:element name="UserId"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:sequence>
  <xs:element name="SourceDataSet" type="dataset:typeDataSet">
    <xs:sequence>
      <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Table" type="typeDataTable"></xs:element>
      <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
        maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
        <xs:sequence>
          <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
        <xs:sequence>
          <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
        <xs:sequence>
          <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="VariableValue" type="typeVariableValue" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Value" type="typeValueSource"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="DimensionDetails" type="typeTaskDimensionDetails" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="MemberDetails" type="typeTaskMemberDetails"
        maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="VariableValue" type="typeVariableValue" minOccurs="0"
            maxOccurs="unbounded">
            <xs:sequence>
              <xs:element name="Value" type="typeValueSource"></xs:element>
            </xs:sequence>
          </xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>

```

```

        <xs:element name="overlaySetting" type="typeOverlaySetting"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="CombiningRule" type="typeLocalRule" minOccurs="0">
    <xs:sequence>
        <xs:element name="Definition" type="xs:string"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="EntityDimension" type="typeEntityDimension">
    <xs:sequence>
        <xs:element name="Attributes" type="typeAttributeReference" minOccurs="0"
            maxOccurs="unbounded"/></xs:element>
        <xs:element name="InteractiveQuestions" type="typeInteractiveQuery" minOccurs="0"
            maxOccurs="unbounded">
            <xs:sequence>
                <xs:element name="EntityAttribute" type="xs:string"/></xs:element>
                <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"/></xs:element>
                <xs:element name="QueryText" type="xs:string"/></xs:element>
            </xs:sequence>
        </xs:element>
        <xs:element name="Variable" type="typeVariable" minOccurs="0"
            maxOccurs="unbounded">
            <xs:sequence>
                <xs:element name="ValueSource" type="typeValueSource"/></xs:element>
            </xs:sequence>
        </xs:element>
        <xs:element name="DerivedVariable" type="typeDerivedVariable" minOccurs="0"
            maxOccurs="unbounded">
            <xs:sequence>
                <xs:element name="VariableExpression" type="typeVariableExpression"
                    minOccurs="0"/></xs:element>
            </xs:sequence>
        </xs:element>
        <xs:element name="Constraint" type="typeConstraint" minOccurs="0"
            maxOccurs="unbounded">
            <xs:sequence>
                <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
                <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
                    <xs:choice>
                        <xs:element ref="Expression" minOccurs="0"
                            maxOccurs="unbounded"/></xs:element>
                        <xs:element ref="Attribute"/></xs:element>
                        <xs:element ref="Value"/></xs:element>
                        <xs:element name="DimensionReference"
                            type="typeDimensionReference"/></xs:element>
                        <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
                            <xs:sequence>
                                <xs:element name="ObjectReference"
                                    type="typeRepositoryObject"/></xs:element>
                                <xs:element name="InputMapping"
                                    type="dataset:typeDataSetMapping" minOccurs="0">
                                    <xs:sequence>
                                        <xs:element name="AttributeMapping"
                                            type="typeAttributeMapping" minOccurs="0"
                                            maxOccurs="unbounded"/></xs:element>
                                    </xs:sequence>
                                </xs:element>
                            </xs:sequence>
                        </xs:element>
                    </xs:choice>
                </xs:element>
            </xs:sequence>
        </xs:element>
    </xs:sequence>
</xs:element>

```

```

<xs:element name="OutputMapping"
type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping"
type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey"
minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Parameter" type="typeParameterSetting"
minOccurs="0" maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
</xs:choice>
</xs:element>
<xs:element name="ExternalUsage" type="typeExternalUsage"
minOccurs="0"></xs:element>
<xs:element name="ExpressionFormat" type="typeExpressionFormat"
minOccurs="0"></xs:element>
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Selection" type="typeLocalRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="MultiCombineRule" type="TypeCombiningRule" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="dimensionMemberName" type="xs:string"></xs:element>
    <xs:element name="hierachyName" type="xs:string"></xs:element>
    <xs:element name="combineRule" type="typeLocalRule">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Test" type="typeTestTask" minOccurs="0" maxOccurs="unbounded">

```

```

<xs:sequence>
  <xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
    minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="UserId"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:sequence>
  <xs:choice>
    <xs:element name="CustomInput" type="typeCustomInput">
      <xs:sequence>
        <xs:element name="Field" type="typeCustomInputField" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Value" type="typeCustomInputFieldValue"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="DataSetInput" type="typeTestRecordSelection">
      <xs:sequence>
        <xs:element name="SourceDataSet" type="dataset:typeDataSet">
          <xs:sequence>
            <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
              <xs:sequence>
                <xs:element name="Category" type="xs:string" minOccurs="0"
                  maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Table" type="typeDataTable"></xs:element>
            <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
              maxOccurs="unbounded">
              <xs:sequence>
                <xs:element name="Category" type="xs:string" minOccurs="0"
                  maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:sequence>
              <xs:element name="DataSetAttribute" type="typeDataSetAttribute"
                minOccurs="0" maxOccurs="unbounded"></xs:element>
            </xs:sequence>
            <xs:sequence>
              <xs:element name="Definition" type="xs:string"></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
            <xs:sequence>
              <xs:element name="AttributeMapping" type="typeAttributeMapping"
                minOccurs="0" maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
        </xs:sequence>
      </xs:element>
    </xs:element>
    <xs:element name="Selection" type="typeLocalRule" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
</xs:sequence>

```

```

        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
  <xs:element name="DisplayField" type="xs:string" maxOccurs="unbounded"></xs:element>
  <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>

```

Parent Elements

[PredictiveApplication Element](#)

Child Elements

[Build Element](#), [DataScan Element](#), [Evaluate Element](#), [Score Element](#), [Simulate Element](#), [Test Element](#)

Build Element

Settings used in last Build task submittal

Table A-208
Attributes for Build

Attribute	Use	Description	Valid Values
allowAutoDataPrep	optional	Defines whether auto data preparation should be a supported option.	<i>boolean</i>
allowAutoPartition	optional	Defines whether auto partitioning should be a supported option.	<i>boolean</i>
autoDataPrep	optional	Add auto data preparation to build task	<i>boolean</i>
autoDataPrepObjective	optional	Guidance for the auto data prep objective	Balance Speed Accuracy Custom
autoPartition	optional	Add auto partition to build task	<i>boolean</i>
isAutoBuild	optional	(Deprecated) Indication of if this is an auto-build or not	<i>boolean</i>
maxBuildTime	optional	Optional restriction on the auto-model build time	<i>int</i>
modelType	optional	The type of model to build	Interactive Auto Association Cluster NotSupported

Attribute	Use	Description	Valid Values
notSupportedModelType	optional	The model type name not supported in MA	<i>string</i>
responseSought	optional	The target response value for the task	<i>string</i>
sourceDataSetName	optional	The name of the source data set.	<i>string</i>
target	optional	The model build target field	<i>string</i>

XML Representation

```

<xs:element name="Build" type="typeBuildTask" minOccurs="0">
  <xs:sequence>
    <xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
      minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="UserId"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="SourceDataSet" type="dataset:typeDataSet">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="ModelInputs" type="xs:string" maxOccurs="unbounded"></xs:element>
    <xs:element name="Selections" type="typeLocalRule" minOccurs="0">
      <xs:sequence>

```

```

        <xs:element name="Definition" type="xs:string"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="InteractiveBuild" type="typeInteractiveBuild" minOccurs="0">
    <xs:sequence>
        <xs:element name="DecisionList" type="typeLocalRule" minOccurs="0">
            <xs:sequence>
                <xs:element name="Definition" type="xs:string"/></xs:element>
            </xs:sequence>
        </xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="ClusterBuild" type="typeClusterBuild" minOccurs="0">
    <xs:sequence>
        <xs:element name="ManualClusters" type="typeLocalRule" minOccurs="0">
            <xs:sequence>
                <xs:element name="Definition" type="xs:string"/></xs:element>
            </xs:sequence>
        </xs:element>
        <xs:element name="ClusterRangeThresholds" type="typeClusterRangeThresholds"
            minOccurs="0"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="AssociationBuild" type="typeAssociationBuild" minOccurs="0">
    <xs:sequence>
        <xs:element name="transactionalBuild" type="typeTransactionalAssociationBuild"
            minOccurs="0"/></xs:element>
        <xs:element name="associationApplyModelSettings" type="typeAssociationApplyModelSettings"
            minOccurs="0"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="SelectionUsed" type="xs:string" minOccurs="0"
    maxOccurs="unbounded"/></xs:element>
<xs:element name="Parameter" type="typeParameter" maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"/></xs:element>
    </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="sourceDataSetName" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="target" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="responseSought" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="autoDataPrep" type="xs:boolean" use="optional" default="false"/></xs:attribute>
<xs:attribute name="autoPartition" type="xs:boolean" use="optional" default="false"/></xs:attribute>
<xs:attribute name="allowAutoDataPrep" type="xs:boolean" use="optional" default="true"/></xs:attribute>
<xs:attribute name="allowAutoPartition" type="xs:boolean" use="optional" default="true"/></xs:attribute>
<xs:attribute name="notSupportedModelType" type="xs:string" use="optional" default=""/></xs:attribute>
<xs:attribute name="modelType" type="enumModelType" use="optional" default="Interactive">
    <xs:enumeration value="Interactive"/></xs:enumeration>
    <xs:enumeration value="Auto"/></xs:enumeration>
    <xs:enumeration value="Association"/></xs:enumeration>
    <xs:enumeration value="Cluster"/></xs:enumeration>
    <xs:enumeration value="NotSupported"/></xs:enumeration>
</xs:attribute>
<xs:attribute name="isAutoBuild" type="xs:boolean" use="optional" default="false"/></xs:attribute>
<xs:attribute name="autoDataPrepObjective" type="enumAdpObjective" use="optional" default="Balance">

```

```

    <xs:enumeration value="Balance"></xs:enumeration>
    <xs:enumeration value="Speed"></xs:enumeration>
    <xs:enumeration value="Accuracy"></xs:enumeration>
    <xs:enumeration value="Custom"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="maxBuildTime" type="xs:int" use="optional" default="0"></xs:attribute>
</xs:element>

```

Parent Elements[Tasks Element](#)**Child Elements**

[AssociationBuild Element](#), [ClusterBuild Element](#), [InteractiveBuild Element](#), [ModelInputs Element](#), [Parameter Element](#), [Selections Element](#), [SelectionUsed Element](#), [SourceDataServerCredentials Element](#), [SourceDataSet Element](#)

Related Elements

[DataScan Element](#), [Evaluate Element](#), [Score Element](#), [Simulate Element](#), [Test Element](#)

SourceDataServerCredentials Element

Optional data source server connection to be used in the task. NOTE: runtime-only information, these values are never to be passed in clear text or stored in an unencrypted manner in the workspace.

XML Representation

```

<xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="UserId"></xs:element>
  </xs:sequence>
</xs:element>

```

Parent Elements[Build Element](#)**Child Elements**[UserId Element](#)**UserId Element**

Specific User ID and Password information

Table A-209
Attributes for *UserId*

Attribute	Use	Description	Valid Values
dataSetName	optional	Optional reference to a dataset that this UserId can be used with. Used for correlating dataset with userid/password when multiple tables are used. Optional - not present implies use with single table PDM for 6.X compatibility.	<i>string</i>
id	required	Optional User ID when required (encode? encrypt?)	<i>string</i>
password	required	Optional User Password when required (encode? encrypt?)	<i>string</i>

XML Representation

```
<xs:element name="UserId">
  <xs:attribute name="id" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="password" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="dataSetName" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[SourceDataServerCredentials Element](#)

SourceDataSet Element

(Deprecated) The data set used as input to the model build task

Table A-210
Attributes for *SourceDataSet*

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>

Attribute	Use	Description	Valid Values
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="SourceDataSet" type="dataset:typeDataSet">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>

```

```

        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
    </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
    <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[Build Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-211
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

Attribute	Use	Description	Valid Values
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-212
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[SourceDataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-213
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-214
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements[SourceDataSet Element](#)**Expression Element**

Optional passing of expressions defined by an application into a task

Table A-215
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
  <xs:attribute name="ExpressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```


Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-217
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[SourceDataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-218
Attributes for *AttributeMapping*

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

ModellInputs Element

Selected model inputs

XML Representation

```
<xs:element name="ModellInputs" type="xs:string" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Build Element](#)

Selections Element

Optional input data selection rule

Table A-219
Attributes for *Selections*

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>

Attribute	Use	Description	Valid Values
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
mimeType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```
<xs:element name="Selections" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
    default="false"/></xs:attribute>
  <xs:attribute name="outputField" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-220
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[Build Element](#)

Child Elements

[Definition Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Selections Element](#)

InteractiveBuild Element

Optional Interactive Build details

Table A-221

Attributes for InteractiveBuild

Attribute	Use	Description	Valid Values
attributeReuse	required	Flag controlling reuse of attributes in segmentation rules	<i>boolean</i>
confidenceInterval	required	Confidence interval for new segmentation conditions	<i>double</i>
findMaxSegments	required	Control of the maximum number of segments found	<i>int</i>
findSegmentsResponse	required	Control of the segment response test	<i>boolean</i>
findSegmentsWith	required	The segment find-type information	<i>string</i>
maxAttributesUsed	required	Limit to maximum number of attributes to be used in a segmentation rule	<i>int</i>

Attribute	Use	Description	Valid Values
minimumSizeAbsolute	required	Minimum segment size as an absolute value	<i>double</i>
minimumSizePercentOfPrevious	required	Minimum segment size in percentage of previous partition	<i>double</i>

XML Representation

```
<xs:element name="InteractiveBuild" type="typeInteractiveBuild" minOccurs="0">
  <xs:sequence>
    <xs:element name="DecisionList" type="typeLocalRule" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="findSegmentsWith" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="findMaxSegments" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="findSegmentsResponse" type="xs:boolean" use="required"/></xs:attribute>
  <xs:attribute name="minimumSizePercentOfPrevious" type="xs:double" use="required"/></xs:attribute>
  <xs:attribute name="minimumSizeAbsolute" type="xs:double" use="required"/></xs:attribute>
  <xs:attribute name="maxAttributesUsed" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="attributeReuse" type="xs:boolean" use="required"/></xs:attribute>
  <xs:attribute name="confidenceInterval" type="xs:double" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Build Element](#)

Child Elements

[DecisionList Element](#)

DecisionList Element

The Decision List constructed interactively

Table A-222
Attributes for *DecisionList*

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
contentType	required	File MIME type of this rule	<i>string</i>

Attribute	Use	Description	Valid Values
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```

<xs:element name="DecisionList" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
    default="false"/></xs:attribute>
  <xs:attribute name="outputField" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-223
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[InteractiveBuild Element](#)

Child Elements

[Definition Element](#)

Related Elements

EntityDimension Element, Constraint Element, Selection Element, Dimension Element, Constraint Element, Member Element, BaseSelection Element, Optimization Element, Constraint Element, Deployment Element, Selections Element, ManualClusters Element, Selections Element, RecordSelection Element, CombiningRule Element, EntityDimension Element, Constraint Element, Selection Element, combineRule Element, Selection Element, Dimension Element, Constraint Element, Member Element, BaseSelection Element, Constraint Element, Rule Element, BaseSelection Element

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

DecisionList Element

ClusterBuild Element

Optional Cluster Model Build details

Table A-224
Attributes for ClusterBuild

Attribute	Use	Description	Valid Values
desiredRangeForClusters	optional	Indicates auto cluster modeling should discard models where the number of clusters falls outside a desired range	<i>boolean</i>

XML Representation

```
<xs:element name="ClusterBuild" type="typeClusterBuild" minOccurs="0">
  <xs:sequence>
    <xs:element name="ManualClusters" type="typeLocalRule" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="ClusterRangeThresholds" type="typeClusterRangeThresholds"
      minOccurs="0"/></xs:element>
  </xs:sequence>
  <xs:attribute name="desiredRangeForClusters" type="xs:boolean" use="optional"
    default="false"/></xs:attribute>
</xs:element>
```

Parent Elements[Build Element](#)**Child Elements**[ClusterRangeThresholds Element](#), [ManualClusters Element](#)**ManualClusters Element**

Optional manual cluster allocation rule

Table A-225

Attributes for ManualClusters

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
mimeType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```

<xs:element name="ManualClusters" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/></xs:attribute>

```

```

<xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
default="false"/></xs:attribute>
<xs:attribute name="outputField" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="outputDataType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-226
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[ClusterBuild Element](#)

Child Elements

[Definition Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[ManualClusters Element](#)

ClusterRangeThresholds Element

Thresholds for desired number of clusters

Table A-227
Attributes for *ClusterRangeThresholds*

Attribute	Use	Description	Valid Values
max	required	The desired maximum number of clusters	<i>int</i>
min	required	The desired minimum number of clusters	<i>int</i>

XML Representation

```
<xs:element name="ClusterRangeThresholds" type="typeClusterRangeThresholds" minOccurs="0">
  <xs:attribute name="min" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="max" type="xs:int" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[ClusterBuild Element](#)

AssociationBuild Element

Optional Association Model Build details

Table A-228
Attributes for *AssociationBuild*

Attribute	Use	Description	Valid Values
maxPreconditions	required		<i>int</i>
minAccuracy	required		<i>double</i>
minCoverage	required		<i>double</i>
transactionalData	optional		<i>boolean</i>

XML Representation

```
<xs:element name="AssociationBuild" type="typeAssociationBuild" minOccurs="0">
  <xs:sequence>
    <xs:element name="transactionalBuild" type="typeTransactionalAssociationBuild"
      minOccurs="0"/></xs:element>
    <xs:element name="associationApplyModelSettings" type="typeAssociationApplyModelSettings"
      minOccurs="0"/></xs:element>
  </xs:sequence>
  <xs:attribute name="minCoverage" type="xs:double" use="required"/></xs:attribute>
  <xs:attribute name="minAccuracy" type="xs:double" use="required"/></xs:attribute>
  <xs:attribute name="maxPreconditions" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="transactionalData" type="xs:boolean" use="optional" default="false"/></xs:attribute>
</xs:element>
```

Parent Elements

[Build Element](#)

Child Elements

[associationApplyModelSettings Element](#), [transactionalBuild Element](#)

transactionalBuild Element

Table A-229

Attributes for *transactionalBuild*

Attribute	Use	Description	Valid Values
content	required		<i>string</i>
id	required		<i>string</i>
sortedById	optional		<i>boolean</i>

XML Representation

```
<xs:element name="transactionalBuild" type="typeTransactionalAssociationBuild" minOccurs="0">
  <xs:attribute name="id" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="content" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="sortedById" type="xs:boolean" use="optional" default="false"/></xs:attribute>
</xs:element>
```

Parent Elements

[AssociationBuild Element](#)

associationApplyModelSettings Element

Table A-230

Attributes for *associationApplyModelSettings*

Attribute	Use	Description	Valid Values
allowRepeats	optional		<i>boolean</i>
checkBasket	required	The Association rule prediction checking type	NoPredictions Predictions NoCheck
criterion	required	The measure type to use for determining the strength of Association rules	Confidence Support RuleSupport Lift Deployability
ignoreUnmatched	optional		<i>boolean</i>
maxPredictions	required		<i>int</i>

XML Representation

```
<xs:element name="associationApplyModelSettings" type="typeAssociationApplyModelSettings"
minOccurs="0">
  <xs:attribute name="maxPredictions" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="criterion" type="enumAssociationCriterion" use="required">
    <xs:enumeration value="Confidence"/></xs:enumeration>
    <xs:enumeration value="Support"/></xs:enumeration>
    <xs:enumeration value="RuleSupport"/></xs:enumeration>
    <xs:enumeration value="Lift"/></xs:enumeration>
    <xs:enumeration value="Deployability"/></xs:enumeration>
  </xs:attribute>
</xs:element>
```

```

</xs:attribute>
<xs:attribute name="allowRepeats" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="ignoreUnmatched" type="xs:boolean" default="true" use="optional"></xs:attribute>
<xs:attribute name="checkBasket" type="enumAssociationCheckPredictionType" use="required">
  <xs:enumeration value="NoPredictions"></xs:enumeration>
  <xs:enumeration value="Predictions"></xs:enumeration>
  <xs:enumeration value="NoCheck"></xs:enumeration>
</xs:attribute>
</xs:element>

```

Parent Elements

[AssociationBuild Element](#)

SelectionUsed Element

The ‘outer’ selections added to this task

XML Representation

```
<xs:element name="SelectionUsed" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Build Element](#)

Parameter Element

The parameters exposed in the stream (imported projects only)

Table A-231
Attributes for Parameter

Attribute	Use	Description	Valid Values
dataType	required	The type of the parameter	<i>string</i>
description	optional	Optional parameter description	<i>string</i>
maximumValue	optional	A maximum value restriction for this parameter	<i>string</i>
minimumValue	optional	A minimum value restriction for this parameter	<i>string</i>
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameter" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>

```

```

<xs:attribute name="value" type="xs:string"></xs:attribute>
<xs:sequence>
  <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="description" type="xs:string"></xs:attribute>
<xs:attribute name="maximumValue" type="xs:string"></xs:attribute>
<xs:attribute name="minimumValue" type="xs:string"></xs:attribute>
</xs:element>

```

Parent Elements[Build Element](#)**Child Elements**[Category Element](#)**Related Elements**[Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#)**Category Element**

Categorical values defined for this parameter

XML Representation

```

<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements[Parameter Element](#)**DataScan Element**

Settings used in last Data Scan task submittal

Table A-232
Attributes for DataScan

Attribute	Use	Description	Valid Values
sourceDataSetName	optional	The name of the source data set.	<i>string</i>

XML Representation

```

<xs:element name="DataScan" type="typeDataScanTask" minOccurs="0">
  <xs:sequence>
    <xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
      minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="UserId"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>

```

```

    </xs:element>
  </xs:sequence>
</xs:sequence>
<xs:sequence>
  <xs:element name="SourceDataSet" type="dataset:typeDataSet">
    <xs:sequence>
      <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Table" type="typeDataTable"></xs:element>
      <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
        maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
        <xs:sequence>
          <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
        <xs:sequence>
          <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
        <xs:sequence>
          <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="DerivedAttribute" type="dataset:typeDerivedAttribute" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:attribute name="sourceDataSetName" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[Tasks Element](#)**Child Elements**[DerivedAttribute Element](#), [SourceDataSetServerCredentials Element](#), [SourceDataSet Element](#)

Related Elements

[Build Element](#), [Evaluate Element](#), [Score Element](#), [Simulate Element](#), [Test Element](#)

SourceDataServerCredentials Element

Optional data source server connection to be used in the task. NOTE: runtime-only information, these values are never to be passed in clear text or stored in an unencrypted manner in the workspace.

XML Representation

```
<xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="UserId"></xs:element>
  </xs:sequence>
</xs:element>
```

Parent Elements

[DataScan Element](#)

Child Elements

[UserId Element](#)

UserId Element

Specific User ID and Password information

Table A-233
Attributes for *UserId*

Attribute	Use	Description	Valid Values
dataSetName	optional	Optional reference to a dataset that this UserId can be used with. Used for correlating dataset with userid/password when multiple tables are used. Optional - not present implies use with single table PDM for 6.X coompatibility.	<i>string</i>
id	required	Optional User ID when required (encode? encrypt?)	<i>string</i>
password	required	Optional User Password when required (encode? encrypt?)	<i>string</i>

XML Representation

```

<xs:element name="UserId">
  <xs:attribute name="id" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="password" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataSetName" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[SourceDataServerCredentials Element](#)

SourceDataSet Element

The data set used as input to the data scan task

Table A-234
Attributes for SourceDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="SourceDataSet" type="dataset:typeDataSet">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
    <xs:enumeration value="none"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>

```



```

    <xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
    <xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[DataScan Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-235

Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>

```

```
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-236
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[SourceDataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-237
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```

<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-238
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[SourceDataSet](#) Element

Expression Element

Optional passing of expressions defined by an application into a task

Table A-239
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-240

Attributes for *DataSetAttribute*

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

```

    </xs:sequence>
</xs:element>

```

Table A-241
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[SourceDataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-242
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```

<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Mapping Element](#)

DerivedAttribute Element

The derived attribute expressions

Table A-243
Attributes for DerivedAttribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>

Attribute	Use	Description	Valid Values
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="DerivedAttribute" type="dataset:typeDerivedAttribute" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Table A-244
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements[DataScan Element](#)**Child Elements**[Category Element](#), [DataSetAttribute Element](#)**Related Elements**[DerivedAttribute Element](#), [DerivedAttribute Element](#)**Category Element**

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[DerivedAttribute Element](#)**DataSetAttribute Element**

Other attributes from which this attribute is derived

Table A-245
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements[DerivedAttribute Element](#)**Evaluate Element**

Settings used in last Evaluate task submittal

Table A-246
Attributes for Evaluate

Attribute	Use	Description	Valid Values
autoDataPrep	optional	Add auto data preparation to build task	<i>boolean</i>
chartDistribution	optional	Indicates the need to produce a Distribution chart	<i>boolean</i>
chartGains	optional	Indicates the need to produce a Gains chart	<i>boolean</i>
chartLift	optional	Indicates the need to produce a Lift chart	<i>boolean</i>
chartProfit	optional	Indicates the need to produce a Profit chart	<i>boolean</i>
chartResponse	optional	Indicates the need to produce a Response chart	<i>boolean</i>
chartROI	optional	Indicates the need to produce a ROI chart	<i>boolean</i>
chartSimulation	optional	Indicates the need to execute a simulation and expose the Interactive Simulation tab	<i>boolean</i>
cost	optional	Cost input to be used in charting	<i>double</i>
population	optional	Population control input to be used in charting	<i>double</i>
reserveRecords	optional	Optional indication of if a number of records are to be reserved automatically for evaluation and test	<i>boolean</i>
responseSought	optional	Optional target for evaluation, not used in Range targets	<i>string</i>
revenue	optional	Revenue input to be used in charting	<i>double</i>
sourceDataSetName	optional	The name of the source data set.	<i>string</i>

XML Representation

```

<xs:element name="Evaluate" type="typeEvaluateTask" minOccurs="0">
  <xs:sequence>
    <xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
      minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="UserId"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="SourceDataSet" type="dataset:typeDataSet">

```

```

<xs:sequence>
  <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Table" type="typeDataTable"></xs:element>
  <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Selections" type="typeLocalRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="SelectionUsed" type="xs:string" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
<xs:element name="OverlayFields" type="xs:string" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="sourceDataSetName" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="chartDistribution" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="chartGains" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="chartLift" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="chartResponse" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="chartProfit" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="chartROI" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="chartSimulation" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="cost" type="xs:double" use="optional"></xs:attribute>
<xs:attribute name="revenue" type="xs:double" use="optional"></xs:attribute>
<xs:attribute name="responseSought" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="population" type="xs:double" use="optional"></xs:attribute>
<xs:attribute name="reserveRecords" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="autoDataPrep" type="xs:boolean" use="optional" default="false"></xs:attribute>
</xs:element>

```

Parent Elements

[Tasks Element](#)

Child Elements

[OverlayFields Element](#), [Selections Element](#), [SelectionUsed Element](#), [SourceDataServerCredentials Element](#), [SourceDataSet Element](#)

Related Elements

[Build Element](#), [DataScan Element](#), [Score Element](#), [Simulate Element](#), [Test Element](#)

SourceDataServerCredentials Element

Optional data source server connection to be used in the task. NOTE: runtime-only information, these values are never to be passed in clear text or stored in an unencrypted manner in the workspace.

XML Representation

```
<xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="UserId"></xs:element>
  </xs:sequence>
</xs:element>
```

Parent Elements

[Evaluate Element](#)

Child Elements

[UserId Element](#)

UserId Element

Specific User ID and Password information

Table A-247

Attributes for UserId

Attribute	Use	Description	Valid Values
dataSetName	optional	Optional reference to a dataset that this UserId can be used with. Used for correlating dataset with userid/password when multiple tables are used. Optional - not present implies use with single table PDM for 6.X coompatibility.	<i>string</i>

Attribute	Use	Description	Valid Values
id	required	Optional User ID when required (encode? encrypt?)	<i>string</i>
password	required	Optional User Password when required (encode? encrypt?)	<i>string</i>

XML Representation

```
<xs:element name="UserId">
  <xs:attribute name="id" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="password" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="dataSetName" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[SourceDataServerCredentials Element](#)

SourceDataSet Element

(Deprecated) The data set used as input to the model build task

Table A-248
Attributes for SourceDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>

Attribute	Use	Description	Valid Values
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="SourceDataSet" type="dataset:typeDataSet">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>

```

```

<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[Evaluate Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-249

Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>

```

```

<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="miningType" type="xs:string"></xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Table A-250
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[SourceDataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-251
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-252
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[SourceDataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-253
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
  <xs:attribute name="ExpressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[SourceDataSet Element](#)

Child Elements

[Category Element](#), [DataSetAttribute Element](#), [Definition Element](#)

Related Elements

[Expression Element](#), [Expression Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-254
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-255
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[SourceDataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-256
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

Selections Element

Optional input data selection rule

Table A-257
Attributes for Selections

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
contentType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```
<xs:element name="Selections" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
```

```

<xs:sequence>
  <xs:element name="Definition" type="xs:string"></xs:element>
</xs:sequence>
<xs:attribute name="mimeType" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="usageDescription" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
  default="false"></xs:attribute>
<xs:attribute name="outputField" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="outputDataType" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Table A-258
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[Evaluate Element](#)

Child Elements

[Definition Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Selections Element](#)

SelectionUsed Element

The ‘outer’ selections added to this task

XML Representation

```
<xs:element name="SelectionUsed" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Evaluate Element](#)

OverlayFields Element

List of fields to produce overlay charts for, each chart will illustrate the distribution of the overlay field's values within each value of a model output field

XML Representation

```
<xs:element name="OverlayFields" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Evaluate Element](#)

Score Element

Settings used in last Score task submittal

Table A-259

Attributes for Score

Attribute	Use	Description	Valid Values
defaultStringSize	optional	The string size for export node setting.	<i>string</i>
destinationLock	optional	Control of lock option during update for some target types	<i>boolean</i>
endDate	optional	End date for batch deployment, default is 'today'	<i>string</i>
sourceDataSetName	optional	The name of the source data set.	<i>string</i>
startDate	optional	Start date for batch deployment, default is 'today'	<i>string</i>
targetAction	optional	How the target data is to be written	Append Create Overwrite

XML Representation

```
<xs:element name="Score" type="typeScoreTask" minOccurs="0">
  <xs:sequence>
    <xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
      minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
```

```

        <xs:element name="UserId"></xs:element>
    </xs:sequence>
</xs:element>
</xs:sequence>
<xs:sequence>
    <xs:element name="SourceDataSet" type="dataset:typeDataSet">
        <xs:sequence>
            <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
                <xs:sequence>
                    <xs:element name="Category" type="xs:string" minOccurs="0"
                        maxOccurs="unbounded"></xs:element>
                </xs:sequence>
            </xs:element>
            <xs:element name="Table" type="typeDataTable"></xs:element>
            <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
                maxOccurs="unbounded">
                <xs:sequence>
                    <xs:element name="Category" type="xs:string" minOccurs="0"
                        maxOccurs="unbounded"></xs:element>
                </xs:sequence>
                <xs:sequence>
                    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
                        maxOccurs="unbounded"></xs:element>
                </xs:sequence>
                <xs:sequence>
                    <xs:element name="Definition" type="xs:string"></xs:element>
                </xs:sequence>
            </xs:element>
            <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
                <xs:sequence>
                    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                        maxOccurs="unbounded"></xs:element>
                </xs:sequence>
            </xs:element>
        </xs:sequence>
    </xs:element>
    <xs:element name="RecordSelection" type="typeLocalRule" minOccurs="0">
        <xs:sequence>
            <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
    </xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
    <xs:element name="SelectedOutput" type="xs:string" maxOccurs="unbounded"></xs:element>
    <xs:element name="Mapping" type="dataset:typeDataSetMapping" minOccurs="0">
        <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
        </xs:sequence>
    </xs:element>
    <xs:element name="TargetDataTable" type="dataset:typeDataTable"></xs:element>
    <xs:element name="TargetDataServerCredentials" type="typeTaskDatabaseCredentials"
        minOccurs="0">
        <xs:sequence>
            <xs:element name="UserId"></xs:element>
        </xs:sequence>
    </xs:element>
    <xs:element name="Options" type="typeScoreOptions" minOccurs="0">

```

```

    <xs:choice>
      <xs:element name="TopNPercent" type="xs:double"/></xs:element>
      <xs:element name="TopN" type="xs:long"/></xs:element>
      <xs:element name="MinMaxPropensity"/></xs:element>
    </xs:choice>
  </xs:element>
  <xs:element name="SelectionUsed" type="xs:string" minOccurs="0"
maxOccurs="unbounded"/></xs:element>
  <xs:element name="Parameter" type="typeParameter" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"/></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="CognosTable" type="dataset:CognosTable">
    <xs:sequence>
      <xs:element name="Parameters" type="typeCognosParameter" maxOccurs="unbounded"
minOccurs="0"/></xs:element>
      <xs:element name="Filters" type="typeCognosFilter" maxOccurs="unbounded"
minOccurs="0"/></xs:element>
      <xs:element name="SelectedCognosObject" type="typeCognosObject" maxOccurs="1"
minOccurs="0">
        <xs:sequence maxOccurs="unbounded" minOccurs="0">
          <xs:element ref="child"/></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:sequence>
    <xs:attribute name="sourceDataSetName" type="xs:string" use="optional"/></xs:attribute>
    <xs:attribute name="targetAction" use="optional">
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:enumeration value="Append"/></xs:enumeration>
          <xs:enumeration value="Create"/></xs:enumeration>
          <xs:enumeration value="Overwrite"/></xs:enumeration>
        </xs:restriction>
      </xs:simpleType>
    </xs:attribute>
    <xs:attribute name="defaultStringSize" type="xs:string" use="optional" default="255"/></xs:attribute>
    <xs:attribute name="destinationLock" type="xs:boolean" use="optional"/></xs:attribute>
    <xs:attribute name="startDate" type="xs:string" use="optional"/></xs:attribute>
    <xs:attribute name="endDate" type="xs:string" use="optional"/></xs:attribute>
  </xs:sequence>
</xs:element>

```

Parent Elements

[Tasks Element](#)

Child Elements

[CognosTable Element](#), [InteractionPoint Element](#), [Mapping Element](#), [Options Element](#), [Parameter Element](#), [RecordSelection Element](#), [SelectedOutput Element](#), [SelectionUsed Element](#), [SourceDataServerCredentials Element](#), [SourceDataSet Element](#), [TargetDataServerCredentials Element](#), [TargetDataTable Element](#)

Related Elements

[Build Element](#), [DataScan Element](#), [Evaluate Element](#), [Simulate Element](#), [Test Element](#)

SourceDataServerCredentials Element

Optional data source server connection to be used in the task. NOTE: runtime-only information, these values are never to be passed in clear text or stored in an unencrypted manner in the workspace.

XML Representation

```
<xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="UserId"></xs:element>
  </xs:sequence>
</xs:element>
```

Parent Elements

[Score Element](#)

Child Elements

[UserId Element](#)

UserId Element

Specific User ID and Password information

Table A-260
Attributes for *UserId*

Attribute	Use	Description	Valid Values
dataSetName	optional	Optional reference to a dataset that this UserId can be used with. Used for correlating dataset with userid/password when multiple tables are used. Optional - not present implies use with single table PDM for 6.X coompatibility.	<i>string</i>
id	required	Optional User ID when required (encode? encrypt?)	<i>string</i>
password	required	Optional User Password when required (encode? encrypt?)	<i>string</i>

XML Representation

```

<xs:element name="UserId">
  <xs:attribute name="id" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="password" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="dataSetName" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Parent Elements

[SourceDataServerCredentials Element](#)

SourceDataSet Element

(Deprecated) The data set to use as input to this score task

Table A-261
Attributes for SourceDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="SourceDataSet" type="dataset:typeDataSet">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
    <xs:enumeration value="none"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>

```

```

    <xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
    <xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[Score Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-262
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>

```

```
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-263
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[SourceDataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-264
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-265
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[SourceDataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-266
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-267

Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```



```

    </xs:sequence>
</xs:element>

```

Table A-268
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[SourceDataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-269
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```

<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Mapping Element](#)

RecordSelection Element

Optional input record selection rule

Table A-270
Attributes for RecordSelection

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
mimeType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```
<xs:element name="RecordSelection" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/>
    <xs:enumeration value="modify"/>
    <xs:enumeration value="add"/>
    <xs:enumeration value="remove"/>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
    default="false"/>
  <xs:attribute name="outputField" type="xs:string" use="optional"/>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/>
</xs:element>
```

Table A-271
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[Score Element](#)

Child Elements

[Definition Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[RecordSelection Element](#)

InteractionPoint Element

Optional Interaction Point execution control for Scoring task

XML Representation

```
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
```

Parent Elements

[Score Element](#)

SelectedOutput Element

Selected output data model fields to be inserted into the target

XML Representation

```
<xs:element name="SelectedOutput" type="xs:string" maxOccurs="unbounded"></xs:element>
```

Parent Elements[Score Element](#)**Mapping Element**

Optional mapping of selected outputs to the target table

XML Representation

```
<xs:element name="Mapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-272
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[Score Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-273
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Mapping Element](#)**TargetDataTable Element**

Target table, real class will be DatabaseTable, FlatFileTable, etc.

Table A-274

Attributes for TargetDataTable

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="TargetDataTable" type="dataset:typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-275

Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements[Score Element](#)**TargetDataServerCredentials Element**

Optional data source server connection to be used in the task. NOTE: runtime-only information, these values are never to be passed in clear text or stored in an unencrypted manner in the workspace.

XML Representation

```
<xs:element name="TargetDataServerCredentials" type="typeTaskDatabaseCredentials" minOccurs="0">
  <xs:sequence>
    <xs:element name="UserId"></xs:element>
  </xs:sequence>
</xs:element>
```

Parent Elements[Score Element](#)**Child Elements**[UserId Element](#)**UserId Element**

Specific User ID and Password information

Table A-276
Attributes for UserId

Attribute	Use	Description	Valid Values
dataSetName	optional	Optional reference to a dataset that this UserId can be used with. Used for correlating dataset with userid/password when multiple tables are used. Optional - not present implies use with single table PDM for 6.X coompatibility.	<i>string</i>
id	required	Optional User ID when required (encode? encrypt?)	<i>string</i>
password	required	Optional User Password when required (encode? encrypt?)	<i>string</i>

XML Representation

```
<xs:element name="UserId">
  <xs:attribute name="id" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="password" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataSetName" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements[TargetDataServerCredentials Element](#)

Options Element

Optional score output control

XML Representation

```
<xs:element name="Options" type="typeScoreOptions" minOccurs="0">
  <xs:choice>
    <xs:element name="TopNPercent" type="xs:double"/></xs:element>
    <xs:element name="TopN" type="xs:long"/></xs:element>
    <xs:element name="MinMaxPropensity"/></xs:element>
  </xs:choice>
</xs:element>
```

Parent Elements

[Score Element](#)

Child Elements

[MinMaxPropensity Element](#), [TopN Element](#), [TopNPercent Element](#)

TopNPercent Element

Output only top N percent of scores

XML Representation

```
<xs:element name="TopNPercent" type="xs:double"/></xs:element>
```

Parent Elements

[Options Element](#)

TopN Element

Output only top N scores

XML Representation

```
<xs:element name="TopN" type="xs:long"/></xs:element>
```

Parent Elements

[Options Element](#)

MinMaxPropensity Element

Output only records falling in min/max propensity range

Table A-277
Attributes for MinMaxPropensity

Attribute	Use	Description	Valid Values
max	optional	Maximum value in this range	<i>double</i>
min	optional	Minimum value in this range	<i>double</i>

XML Representation

```
<xs:element name="MinMaxPropensity">
  <xs:attribute name="max" type="xs:double"></xs:attribute>
  <xs:attribute name="min" type="xs:double"></xs:attribute>
</xs:element>
```

Parent Elements

[Options Element](#)

SelectionUsed Element

The ‘outer’ selections added to this task

XML Representation

```
<xs:element name="SelectionUsed" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Score Element](#)

Parameter Element

The parameters exposed in the stream (imported projects only)

Table A-278
Attributes for Parameter

Attribute	Use	Description	Valid Values
dataType	required	The type of the parameter	<i>string</i>
description	optional	Optional parameter description	<i>string</i>
maximumValue	optional	A maximum value restriction for this parameter	<i>string</i>
minimumValue	optional	A minimum value restriction for this parameter	<i>string</i>
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```

<xs:element name="Parameter" type="typeParameter" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="value" type="xs:string"></xs:attribute>
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="description" type="xs:string"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string"></xs:attribute>
</xs:element>

```

Parent Elements[Score Element](#)**Child Elements**[Category Element](#)**Related Elements**[Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#)**Category Element**

Categorical values defined for this parameter

XML Representation

```

<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements[Parameter Element](#)**CognosTable Element**

An Cognos-based table definition

Table A-279

Attributes for CognosTable

Attribute	Use	Description	Valid Values
AggregateData	optional		<i>boolean</i>
Anonymous	optional		<i>boolean</i>
CognosDataSource	optional		<i>any</i>
CognosSelectedItems	optional		<i>any</i>
IsExport	optional		<i>boolean</i>

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
Mode	optional	The type of Cognos BI server connection mode	Data ListReport
NameSpace	optional		<i>string</i>
OutputPackageName	optional	Output package name.	<i>string</i>
Password	optional		<i>string</i>
SelectedCognosDataSource	optional		<i>string</i>
tableName	required	Name of the selected table at the source	<i>string</i>
uri	optional		<i>string</i>
User	optional		<i>string</i>

XML Representation

```

<xs:element name="CognosTable" type="dataset:CognosTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
  <xs:sequence>
    <xs:element name="Parameters" type="typeCognosParameter" maxOccurs="unbounded"
      minOccurs="0"/></xs:element>
    <xs:element name="Filters" type="typeCognosFilter" maxOccurs="unbounded"
      minOccurs="0"/></xs:element>
    <xs:element name="SelectedCognosObject" type="typeCognosObject" maxOccurs="1" minOccurs="0">
      <xs:sequence maxOccurs="unbounded" minOccurs="0">
        <xs:element ref="child"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="CognosDataSource">
    <xs:simpleType>
      <xs:list itemType="xs:string"/></xs:list>
    </xs:simpleType>
  </xs:attribute>
  <xs:attribute name="CognosSelectedItems">
    <xs:simpleType>
      <xs:list itemType="xs:string"/></xs:list>
    </xs:simpleType>
  </xs:attribute>
  <xs:attribute name="uri" type="xs:string"/></xs:attribute>
  <xs:attribute name="Anonymous" type="xs:boolean"/></xs:attribute>
  <xs:attribute name="NameSpace" type="xs:string"/></xs:attribute>
  <xs:attribute name="User" type="xs:string"/></xs:attribute>
  <xs:attribute name="Password" type="xs:string"/></xs:attribute>
  <xs:attribute name="Mode" type="enumCognosConnectionMode" default="Data">
    <xs:enumeration value="Data"/></xs:enumeration>
    <xs:enumeration value="ListReport"/></xs:enumeration>
  </xs:attribute>
</xs:element>

```

```

</xs:attribute>
<xs:attribute name="OutputPackageName" type="xs:string"></xs:attribute>
<xs:attribute name="SelectedCognosDataSource" type="xs:string"></xs:attribute>
<xs:attribute name="IsExport" type="xs:boolean" default="false"></xs:attribute>
<xs:attribute name="AggregateData" type="xs:boolean" default="false"></xs:attribute>
</xs:element>

```

Parent Elements

[Score Element](#)

Child Elements

[Filters Element](#), [Parameters Element](#), [SelectedCognosObject Element](#)

Parameters Element

The parameter list.

Table A-280
Attributes for Parameters

Attribute	Use	Description	Valid Values
name	optional		<i>string</i>
selected	optional		<i>boolean</i>
type	optional		<i>string</i>
value	optional		<i>string</i>

XML Representation

```

<xs:element name="Parameters" type="typeCognosParameter" maxOccurs="unbounded" minOccurs="0">
  <xs:attribute name="selected" type="xs:boolean" default="true"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="type" type="xs:string"></xs:attribute>
  <xs:attribute name="value" type="xs:string"></xs:attribute>
</xs:element>

```

Parent Elements

[CognosTable Element](#)

Filters Element

The filter list.

Table A-281
Attributes for Filters

Attribute	Use	Description	Valid Values
name	optional		<i>string</i>
selected	optional		<i>boolean</i>

XML Representation

```
<xs:element name="Filters" type="typeCognosFilter" maxOccurs="unbounded" minOccurs="0">
  <xs:attribute name="selected" type="xs:boolean" default="true"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[CognosTable Element](#)

SelectedCognosObject Element

For import and export, that indicates the Cognos package.

Table A-282

Attributes for SelectedCognosObject

Attribute	Use	Description	Valid Values
fullName	optional		string
isSupport	optional		boolean
name	optional		string
path	optional		string
selected	optional		boolean
typeName	optional		string

XML Representation

```
<xs:element name="SelectedCognosObject" type="typeCognosObject" maxOccurs="1" minOccurs="0">
  <xs:sequence maxOccurs="unbounded" minOccurs="0">
    <xs:element ref="child"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="selected" type="xs:boolean"></xs:attribute>
  <xs:attribute name="fullName" type="xs:string"></xs:attribute>
  <xs:attribute name="typeName" type="xs:string"></xs:attribute>
  <xs:attribute name="path" type="xs:string"></xs:attribute>
  <xs:attribute name="isSupport" type="xs:boolean"></xs:attribute>
</xs:element>
```

Parent Elements

[CognosTable Element](#)

Child Elements

[child Element](#)

Simulate Element

Settings used in last Simulate task submittal

Table A-283
Attributes for Simulate

Attribute	Use	Description	Valid Values
noExpire	optional		<i>boolean</i>
simulationBeginDate	optional	The simulation begin date	<i>long</i>
simulationDate	optional	The simulation date	<i>long</i>
simulationEndDate	optional	The simulation end date	<i>long</i>
sourceDataSetName	optional	The name of the source data set.	<i>string</i>
specificDimensionMember	optional	Selected root Dimension member	<i>string</i>
specificInteractionPoint	optional	Selected Interaction Point	<i>string</i>
taskOrigin	optional	Runtime information on where in the UI the task was requested	Define Combine Prioritize

XML Representation

```

<xs:element name="Simulate" type="typeSimulateTask" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
      minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="UserId"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="SourceDataSet" type="dataset:typeDataSet">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">

```

```

        <xs:sequence>
          <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
<xs:element name="VariableValue" type="typeVariableValue" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="DimensionDetails" type="typeTaskDimensionDetails" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="MemberDetails" type="typeTaskMemberDetails" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="VariableValue" type="typeVariableValue" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Value" type="typeValueSource"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="overlaySetting" type="typeOverlaySetting"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="CombiningRule" type="typeLocalRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="EntityDimension" type="typeEntityDimension">
  <xs:sequence>
    <xs:element name="Attributes" type="typeAttributeReference" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="InteractiveQuestions" type="typeInteractiveQuery" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="EntityAttribute" type="xs:string"></xs:element>
        <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
        <xs:element name="QueryText" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="ValueSource" type="typeValueSource"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="DerivedVariable" type="typeDerivedVariable" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="VariableExpression" type="typeVariableExpression"
          minOccurs="0"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

```

<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
    <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
      <xs:choice>
        <xs:element ref="Expression" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
        <xs:element ref="Attribute"/></xs:element>
        <xs:element ref="Value"/></xs:element>
        <xs:element name="DimensionReference"
          type="typeDimensionReference"/></xs:element>
        <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
          <xs:sequence>
            <xs:element name="ObjectReference"
              type="typeRepositoryObject"/></xs:element>
            <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
              minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping"
                  minOccurs="0" maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
              minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping"
                  minOccurs="0" maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
              <xs:sequence>
                <xs:element name="KeyAttribute" type="typeKeyAttribute"
                  maxOccurs="unbounded"/></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:choice>
    </xs:element>
    <xs:element name="ExternalUsage" type="typeExternalUsage"
      minOccurs="0"/></xs:element>
    <xs:element name="ExpressionFormat" type="typeExpressionFormat"
      minOccurs="0"/></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Selection" type="typeLocalRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>

```

```

        <xs:element name="Value" type="typeValueSource"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="MultiCombineRule" type="TypeCombiningRule" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="dimensionMemberName" type="xs:string"></xs:element>
    <xs:element name="hierachyName" type="xs:string"></xs:element>
    <xs:element name="combineRule" type="typeLocalRule">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="sourceDataSetName" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="simulationDate" type="xs:long" use="optional" default="0"></xs:attribute>
<xs:attribute name="simulationBeginDate" type="xs:long" use="optional" default="0"></xs:attribute>
<xs:attribute name="simulationEndDate" type="xs:long" use="optional" default="0"></xs:attribute>
<xs:attribute name="noExpire" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="specificDimensionMember" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="specificInteractionPoint" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="taskOrigin" type="enumSimulationTaskOrigin">
  <xs:enumeration value="Define"></xs:enumeration>
  <xs:enumeration value="Combine"></xs:enumeration>
  <xs:enumeration value="Prioritize"></xs:enumeration>
</xs:attribute>
</xs:element>

```

Parent Elements

[Tasks Element](#)

Child Elements

[CombiningRule Element](#), [DimensionDetails Element](#), [EntityDimension Element](#), [MultiCombineRule Element](#), [SourceDataServerCredentials Element](#), [SourceDataSet Element](#), [VariableValue Element](#)

Related Elements

[Build Element](#), [DataScan Element](#), [Evaluate Element](#), [Score Element](#), [Test Element](#)

SourceDataServerCredentials Element

Optional data source server connection to be used in the task. NOTE: runtime-only information, these values are never to be passed in clear text or stored in an unencrypted manner in the workspace.

XML Representation

```

<xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="UserId"></xs:element>
  </xs:sequence>
</xs:element>

```

Parent Elements[Simulate Element](#)**Child Elements**[UserId Element](#)**UserId Element**

Specific User ID and Password information

Table A-284
Attributes for *UserId*

Attribute	Use	Description	Valid Values
dataSetName	optional	Optional reference to a dataset that this UserId can be used with. Used for correlating dataset with userid/password when multiple tables are used. Optional - not present implies use with single table PDM for 6.X coompatibility.	<i>string</i>
id	required	Optional User ID when required (encode? encrypt?)	<i>string</i>
password	required	Optional User Password when required (encode? encrypt?)	<i>string</i>

XML Representation

```

<xs:element name="UserId">
  <xs:attribute name="id" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="password" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataSetName" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[SourceDataServerCredentials Element](#)

SourceDataSet Element

(Deprecated) The data set to use as input to this score task

Table A-285
Attributes for SourceDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```
<xs:element name="SourceDataSet" type="dataset:typeDataSet">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
```

```

    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Table" type="typeDataTable"></xs:element>
  <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[Simulate Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-286
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-287
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements[SourceDataSet Element](#)**Child Elements**[Category Element](#)**Category Element**

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-288
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-289
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition

Type	Description
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[SourceDataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-290

Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```


Table A-291
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-292
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[SourceDataSet Element](#)

Child Elements[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-293
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Mapping Element](#)**VariableValue Element**

Global variable values defined for this task

Table A-294
Attributes for VariableValue

Attribute	Use	Description	Valid Values
interactionPoint	optional	Optional Interaction Point for this variable value, Variable name plus Interaction Point name (may be empty) unique in a value series	<i>string</i>
name	required	Variable referenced by name	<i>string</i>

XML Representation

```
<xs:element name="VariableValue" type="typeVariableValue" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"></xs:element>
```

```

</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="interactionPoint" type="xs:string" use="optional" default=""></xs:attribute>
</xs:element>

```

Parent Elements[Simulate Element](#)**Child Elements**[Value Element](#)**Value Element**

The value for this variable reference

XML Representation

```
<xs:element name="Value" type="typeValueSource"></xs:element>
```

Table A-295
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements[VariableValue Element](#)**DimensionDetails Element**

Dimension specific variable values defined for this task

Table A-296
Attributes for DimensionDetails

Attribute	Use	Description	Valid Values
name	required	Dimension name	<i>string</i>

XML Representation

```

<xs:element name="DimensionDetails" type="typeTaskDimensionDetails" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="MemberDetails" type="typeTaskMemberDetails" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="VariableValue" type="typeVariableValue" minOccurs="0"
maxOccurs="unbounded">

```

```

        <xs:sequence>
          <xs:element name="Value" type="typeValueSource"/></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="overlaySetting" type="typeOverlaySetting"/></xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
</xs:element>

```

Parent Elements[Simulate Element](#)**Child Elements**[MemberDetails Element](#), [overlaySetting Element](#)**MemberDetails Element**

The Dimension Member details submitted with a task

Table A-297

Attributes for MemberDetails

Attribute	Use	Description	Valid Values
name	required	Dimension Member name	<i>string</i>

XML Representation

```

<xs:element name="MemberDetails" type="typeTaskMemberDetails" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="VariableValue" type="typeVariableValue" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Value" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
</xs:element>

```

Parent Elements[DimensionDetails Element](#)**Child Elements**[VariableValue Element](#)**VariableValue Element**

Variable Values defined for this task

Table A-298
Attributes for VariableValue

Attribute	Use	Description	Valid Values
interactionPoint	optional	Optional Interaction Point for this variable value, Variable name plus Interaction Point name (may be empty) unique in a value series	<i>string</i>
name	required	Variable referenced by name	<i>string</i>

XML Representation

```
<xs:element name="VariableValue" type="typeVariableValue" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="interactionPoint" type="xs:string" use="optional" default=""></xs:attribute>
</xs:element>
```

Parent Elements

[MemberDetails Element](#)

Child Elements

[Value Element](#)

Value Element

The value for this variable reference

XML Representation

```
<xs:element name="Value" type="typeValueSource"></xs:element>
```

Table A-299
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements

[VariableValue Element](#)

overlaySetting Element

The overlay setting for each dimension level

Table A-300
Attributes for overlaySetting

Attribute	Use	Description	Valid Values
graphChecked	required	graph selected	<i>boolean</i>
overlayDimensionName	required	overlay Dimension name	<i>string</i>
tableChecked	required	table selected	<i>boolean</i>

XML Representation

```
<xs:element name="overlaySetting" type="typeOverlaySetting">
  <xs:attribute name="graphChecked" type="xs:boolean" use="required"></xs:attribute>
  <xs:attribute name="tableChecked" type="xs:boolean" use="required"></xs:attribute>
  <xs:attribute name="overlayDimensionName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[DimensionDetails Element](#)

CombiningRule Element

Rule used in a Combine What If simulation

Table A-301
Attributes for CombiningRule

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
contentType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```

<xs:element name="CombiningRule" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
  default="false"/></xs:attribute>
  <xs:attribute name="outputField" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-302
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[Simulate Element](#)

Child Elements

[Definition Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Definition Element

Definition of the local rule

XML Representation

```

<xs:element name="Definition" type="xs:string"/></xs:element>

```

Parent Elements[CombiningRule Element](#)**EntityDimension Element**

Details on the Entity dimension in a problem space

Table A-303

Attributes for *EntityDimension*

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove

XML Representation

```

<xs:element name="EntityDimension" type="typeEntityDimension">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Attributes" type="typeAttributeReference" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
    <xs:element name="InteractiveQuestions" type="typeInteractiveQuery" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="EntityAttribute" type="xs:string"/></xs:element>
        <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"/></xs:element>
        <xs:element name="QueryText" type="xs:string"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="ValueSource" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="DerivedVariable" type="typeDerivedVariable" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="VariableExpression" type="typeVariableExpression"
          minOccurs="0"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">

```

```

<xs:sequence>
  <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
  <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
    <xs:choice>
      <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
      <xs:element ref="Attribute"/></xs:element>
      <xs:element ref="Value"/></xs:element>
      <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
      <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
        <xs:sequence>
          <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
          <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
            minOccurs="0">
            <xs:sequence>
              <xs:element name="AttributeMapping" type="typeAttributeMapping"
                minOccurs="0" maxOccurs="unbounded"/></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
            minOccurs="0">
            <xs:sequence>
              <xs:element name="AttributeMapping" type="typeAttributeMapping"
                minOccurs="0" maxOccurs="unbounded"/></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
            <xs:sequence>
              <xs:element name="KeyAttribute" type="typeKeyAttribute"
                maxOccurs="unbounded"/></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
            maxOccurs="unbounded"/></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:choice>
  </xs:element>
  <xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"/></xs:element>
  <xs:element name="ExpressionFormat" type="typeExpressionFormat"
    minOccurs="0"/></xs:element>
  <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
    maxOccurs="unbounded"/></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Selection" type="typeLocalRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"/></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>

```


Parent Elements

[Simulate Element](#)

Child Elements

[Allocation Element](#), [Attributes Element](#), [Constraint Element](#), [DerivedVariable Element](#), [InteractiveQuestions Element](#), [Selection Element](#), [Variable Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Attributes Element

Attributes that define the Entity, defined by the primary data set

Table A-304

Attributes for Attributes

Attribute	Use	Description	Valid Values
miningType	required	MiningType for a reference to an attribute in the data model	<i>string</i>

XML Representation

```
<xs:element name="Attributes" type="typeAttributeReference" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="miningType" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[EntityDimension Element](#)

InteractiveQuestions Element

List of ‘more input’ interactive questions issued by interactive applications

Table A-305

Attributes for InteractiveQuestions

Attribute	Use	Description	Valid Values
enabled	optional	Indication of enabled state for this query	<i>boolean</i>

XML Representation

```
<xs:element name="InteractiveQuestions" type="typeInteractiveQuery" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="EntityAttribute" type="xs:string"></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
    <xs:element name="QueryText" type="xs:string"></xs:element>
  </xs:sequence>
  <xs:attribute name="enabled" type="xs:boolean" use="optional" default="false"></xs:attribute>
</xs:element>
```

Parent Elements[EntityDimension Element](#)**Child Elements**[EntityAttribute Element](#), [InteractionPoint Element](#), [QueryText Element](#)**EntityAttribute Element**

Query pertains to the referenced Entity attribute

XML Representation

```
<xs:element name="EntityAttribute" type="xs:string"></xs:element>
```

Parent Elements[InteractiveQuestions Element](#)**InteractionPoint Element**

Optional Interaction Point name used when differentiating in the query based on interaction points

XML Representation

```
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
```

Parent Elements[InteractiveQuestions Element](#)**QueryText Element**

Explicit query text

XML Representation

```
<xs:element name="QueryText" type="xs:string"></xs:element>
```

Parent Elements[InteractiveQuestions Element](#)**Variable Element**

List of Variables defined for the Entity

Table A-306
Attributes for Variable

Attribute	Use	Description	Valid Values
dataType	required	Data type of this variable	<i>string</i>
description	optional	Optional variable description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
inherited	optional	Indication of whether this variable can be inherited by child dimension members.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
optimizationInputItem	optional	Indication of if this variable is to be controlled in Prioritize / Optimize step or not	<i>boolean</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
prompt	optional	When set this key value controls the text to display when prompting for variable value input	<i>string</i>
simulateAction	optional	If set this variable will be summarized in the indicated manner during a simulation	sum average
simulateName	optional	When set this key value controls the text to display when displaying the summarized value of this variable during a simulation	<i>string</i>
simulateNumericDisplay	optional	Optional control of the display of numeric values - Integer, Percentage or Double under user preference formatting	Double IntegerRounded IntegerTruncated Percentage
tableIndex	optional	Variable index in prioritization table	<i>int</i>

XML Representation

```

<xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="simulateAction" type="enumVariableValueSummary" use="optional">
    <xs:enumeration value="sum"/></xs:enumeration>
    <xs:enumeration value="average"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="simulateName" type="xs:string" use="optional"
  default="VARIABLE_PROMPT"/></xs:attribute>
  <xs:attribute name="simulateNumericDisplay" type="enumNumericDisplay">
    <xs:enumeration value="Double"/></xs:enumeration>
    <xs:enumeration value="IntegerRounded"/></xs:enumeration>
    <xs:enumeration value="IntegerTruncated"/></xs:enumeration>
    <xs:enumeration value="Percentage"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="ValueSource" type="typeValueSource"/></xs:element>
  </xs:sequence>
  <xs:attribute name="tableIndex" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="prompt" type="xs:string" use="optional" default="VARIABLE_PROMPT"/></xs:attribute>
  <xs:attribute name="optimizationInputItem" type="xs:boolean" use="optional"
  default="false"/></xs:attribute>
  <xs:attribute name="inherited" type="xs:boolean" use="optional" default="true"/></xs:attribute>
</xs:element>

```

Parent Elements[EntityDimension Element](#)**Child Elements**[ValueSource Element](#)**Related Elements**[Variable Element](#), [DerivedVariable Element](#), [Variable Element](#), [DerivedVariable Element](#), [Variable Element](#)**ValueSource Element**

Source of default values for this Variable

XML Representation

```

<xs:element name="ValueSource" type="typeValueSource"/></xs:element>

```

Table A-307
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements

[Variable Element](#)

DerivedVariable Element

List of DerivedVariables defined for the Entity

Table A-308
Attributes for DerivedVariable

Attribute	Use	Description	Valid Values
dataType	required	Data type of this variable	<i>string</i>
description	optional	Optional variable description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
simulateAction	optional	If set this variable will be summarized in the indicated manner during a simulation	sum average
simulateName	optional	When set this key value controls the text to display when displaying the summarized value of this variable during a simulation	<i>string</i>
simulateNumericDisplay	optional	Optional control of the display of numeric values - Integer, Percentage or Double under user preference formatting	Double IntegerRounded IntegerTruncated Percentage

XML Representation

```
<xs:element name="DerivedVariable" type="typeDerivedVariable" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
```

```

<xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
  <xs:enumeration value="none"></xs:enumeration>
  <xs:enumeration value="modify"></xs:enumeration>
  <xs:enumeration value="add"></xs:enumeration>
  <xs:enumeration value="remove"></xs:enumeration>
</xs:attribute>
<xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="simulateAction" type="enumVariableValueSummary" use="optional">
  <xs:enumeration value="sum"></xs:enumeration>
  <xs:enumeration value="average"></xs:enumeration>
</xs:attribute>
<xs:attribute name="simulateName" type="xs:string" use="optional"
default="VARIABLE_PROMPT"></xs:attribute>
<xs:attribute name="simulateNumericDisplay" type="enumNumericDisplay">
  <xs:enumeration value="Double"></xs:enumeration>
  <xs:enumeration value="IntegerRounded"></xs:enumeration>
  <xs:enumeration value="IntegerTruncated"></xs:enumeration>
  <xs:enumeration value="Percentage"></xs:enumeration>
</xs:attribute>
<xs:sequence>
  <xs:element name="VariableExpression" type="typeVariableExpression" minOccurs="0"></xs:element>
</xs:sequence>
</xs:element>

```

Parent Elements

[EntityDimension Element](#)

Child Elements

[VariableExpression Element](#)

Related Elements

[Variable Element](#), [DerivedVariable Element](#), [Variable Element](#), [Variable Element](#), [Variable Element](#)

VariableExpression Element

Objective function format for externally defined objective functions

Table A-309

Attributes for VariableExpression

Attribute	Use	Description	Valid Values
expression	required	The expression	string

XML Representation

```

<xs:element name="VariableExpression" type="typeVariableExpression" minOccurs="0">
  <xs:attribute name="expression" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements[DerivedVariable Element](#)**Constraint Element**

Constraints associated with this Dimension, to be applied in the execution and optimization of this application

Table A-310
Attributes for Constraint

Attribute	Use	Description	Valid Values
description	optional	Optional constraint description	<i>string</i>
dimension	optional	The dimension owns the constraint. If not supplied, the dimension is assumed to be the owner of the Boundary variable	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
enabled	optional	Indication of whether this constraint is enabled.	<i>boolean</i>
entityScoped	optional	Indication of the scope of this constraint - within an entity or across all entities.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
type	required	Constraint type	max min equal notEqual lessThan lessThanEqual greaterThan greaterThanEqual

XML Representation

```
<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
```

```

<xs:sequence>
  <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
  <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
    <xs:choice>
      <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
      <xs:element ref="Attribute"/></xs:element>
      <xs:element ref="Value"/></xs:element>
      <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
      <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
        <xs:sequence>
          <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
          <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
            <xs:sequence>
              <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                maxOccurs="unbounded"/></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
            <xs:sequence>
              <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                maxOccurs="unbounded"/></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
            <xs:sequence>
              <xs:element name="KeyAttribute" type="typeKeyAttribute"
                maxOccurs="unbounded"/></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
            maxOccurs="unbounded"/></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:choice>
  </xs:element>
  <xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"/></xs:element>
  <xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0"/></xs:element>
  <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
    maxOccurs="unbounded"/></xs:element>
</xs:sequence>
<xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="type" type="enumConstraintType" use="required">
  <xs:enumeration value="max"/></xs:enumeration>
  <xs:enumeration value="min"/></xs:enumeration>
  <xs:enumeration value="equal"/></xs:enumeration>
  <xs:enumeration value="notEqual"/></xs:enumeration>
  <xs:enumeration value="lessThan"/></xs:enumeration>
  <xs:enumeration value="lessThanEqual"/></xs:enumeration>
  <xs:enumeration value="greaterThan"/></xs:enumeration>
  <xs:enumeration value="greaterThanEqual"/></xs:enumeration>
</xs:attribute>
<xs:attribute name="entityScoped" type="xs:boolean" use="optional" default="true"/></xs:attribute>
<xs:attribute name="enabled" type="xs:boolean" use="optional" default="true"/></xs:attribute>
<xs:attribute name="dimension" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```


Parent Elements

[EntityDimension Element](#)

Child Elements

[Boundary Element](#), [ExpressionFormat Element](#), [ExternalUsage Element](#), [Function Element](#), [InteractionPoint Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Boundary Element

Constraint boundary

Table A-311
Attributes for Boundary

Attribute	Use	Description	Valid Values
value	required	The value or reference defining this boundary	<i>string</i>

XML Representation

```
<xs:element name="Boundary" type="typeConstraintBoundary">
  <xs:attribute name="value" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Table A-312
Extended Types

Type	Description
ConstantBoundary	A constant Constraint boundary
VariableReferenceBoundary	A variable reference Constraint Boundary

Parent Elements

[Constraint Element](#)

Function Element

Constraint function definition (internally evaluated constraints)

Table A-313
Attributes for Function

Attribute	Use	Description	Valid Values
Domain	optional	Resulting data type domain for this expression	<i>string</i>
Functor	optional	Optional functor involved in this expression	<i>string</i>
Name	optional	Alias name of this expression	<i>string</i>

XML Representation

```

<xs:element name="Function" type="rules:typeExpression" minOccurs="0">
  <xs:choice>
    <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
    <xs:element ref="Attribute"/></xs:element>
    <xs:element ref="Value"/></xs:element>
    <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
      <xs:sequence>
        <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
        <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
          <xs:sequence>
            <xs:element name="KeyAttribute" type="typeKeyAttribute"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
  <xs:attribute name="Name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="Domain" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="Functor" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-314
Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements[Constraint Element](#)**Child Elements**[Attribute Element](#), [DimensionReference Element](#), [Expression Element](#), [ObjectOutput Element](#), [Value Element](#)**DimensionReference Element**

A reference to a dimension that will provide the value

Table A-315

Attributes for DimensionReference

Attribute	Use	Description	Valid Values
Name	optional	Dimension name	<i>string</i>

XML Representation

```
<xs:element name="DimensionReference" type="typeDimensionReference">
  <xs:attribute name="Name" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements[Function Element](#)**ObjectOutput Element**

The output of a repository object (rule or model)

Table A-316

Attributes for ObjectOutput

Attribute	Use	Description	Valid Values
output	required	The output attribute of the object	<i>string</i>

XML Representation

```
<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
  <xs:sequence>
    <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
    <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
```

```

    </xs:sequence>
  </xs:element>
  <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
    <xs:sequence>
      <xs:element name="KeyAttribute" type="typeKeyAttribute"
        minOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="output" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Function Element](#)

Child Elements

[InputMapping Element](#), [Key Element](#), [ObjectReference Element](#), [OutputMapping Element](#), [Parameter Element](#)

ObjectReference Element

The repository object

Table A-317
Attributes for *ObjectReference*

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
contentType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```

<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="contentType" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[ObjectOutput Element](#)**InputMapping Element**

A mapping from the rule attributes to the input attributes of the model.

XML Representation

```
<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-318
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[ObjectOutput Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-319
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[InputMapping Element](#)**OutputMapping Element**

A renaming of the output attributes of the model.

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-320
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[ObjectOutput Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-321
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[OutputMapping Element](#)**Key Element**

Key field(s) on which to group input rows to the model.

Table A-322

Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
    default="false"/></xs:attribute>
</xs:element>
```

Parent Elements[ObjectOutput Element](#)**Child Elements**[KeyAttribute Element](#)**KeyAttribute Element**

The list of attributes which make up the key

Table A-323

Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements[Key Element](#)

Parameter Element

Parameters passed to the model.

Table A-324
Attributes for Parameter

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="value" type="xs:string"></xs:attribute>
</xs:element>
```

Table A-325
Extended Types

Type	Description
typeParameter	The details of a stream parameter

Parent Elements

[ObjectOutput Element](#)

ExternalUsage Element

Defines how this constraint can be enabled or disabled via an OPL variable (externally evaluated constraints)

Table A-326
Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	required	The OPL variable	<i>string</i>
disabledValue	optional	The value that indicates this object is disabled (default 0)	<i>string</i>
enabledValue	optional	The value that indicates this object is enabled (default 1)	<i>string</i>
variableType	optional	The OPL variable type (default int)	int float string

XML Representation

```
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0">
  <xs:attribute name="controlVariable" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="variableType" type="enumOPLValueType" use="optional" default="int">
```



```

    <xs:enumeration value="int"></xs:enumeration>
    <xs:enumeration value="float"></xs:enumeration>
    <xs:enumeration value="string"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"></xs:attribute>
  <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"></xs:attribute>
</xs:element>

```

Parent Elements

[Constraint Element](#)

ExpressionFormat Element

Constraint function format (externally evaluated constraints)

Table A-327

Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	required	The format definition for this expression	<i>string</i>

XML Representation

```

<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Constraint Element](#)

InteractionPoint Element

Optional Interaction Point name used when differentiating constraint based on interaction points

XML Representation

```

<xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[Constraint Element](#)

Selection Element

Selection and Exclusion rules for Entity members

Table A-328
Attributes for Selection

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
mimeType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```
<xs:element name="Selection" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/>
    <xs:enumeration value="modify"/>
    <xs:enumeration value="add"/>
    <xs:enumeration value="remove"/>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
    default="false"/>
  <xs:attribute name="outputField" type="xs:string" use="optional"/>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/>
</xs:element>
```

Table A-329
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[EntityDimension Element](#)

Child Elements

[Definition Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Selection Element](#)

Allocation Element

Allocation rule for the Entity Dimension and next level Dimension(s)

Table A-330

Attributes for Allocation

Attribute	Use	Description	Valid Values
dimensionReference	required	Child Dimension this Allocation pertains to	<i>string</i>
interactionPoint	optional	The optional Interaction Point indicator	<i>string</i>

XML Representation

```
<xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"/></xs:element>
  </xs:sequence>
  <xs:attribute name="dimensionReference" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="interactionPoint" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements[EntityDimension Element](#)**Child Elements**[Value Element](#)**Value Element**

The allocated value for this dimension

XML Representation

```
<xs:element name="Value" type="typeValueSource"></xs:element>
```

Table A-331
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements[Allocation Element](#)**MultiCombineRule Element****XML Representation**

```
<xs:element name="MultiCombineRule" type="TypeCombiningRule" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="dimensionMemberName" type="xs:string"></xs:element>
    <xs:element name="hierachyName" type="xs:string"></xs:element>
    <xs:element name="combineRule" type="typeLocalRule">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
```

Parent Elements[Simulate Element](#)**Child Elements**

[combineRule Element](#), [dimensionMemberName Element](#), [hierachyName Element](#)

dimensionMemberName Element**XML Representation**

```
<xs:element name="dimensionMemberName" type="xs:string"></xs:element>
```

Parent Elements

[MultiCombineRule Element](#)

hierachyName Element**XML Representation**

```
<xs:element name="hierachyName" type="xs:string"></xs:element>
```

Parent Elements

[MultiCombineRule Element](#)

combineRule Element

A Rule definition stored locally

Table A-332

Attributes for combineRule

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
contentType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```

<xs:element name="combineRule" type="typeLocalRule">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
  default="false"/></xs:attribute>
  <xs:attribute name="outputField" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-333
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[MultiCombineRule Element](#)

Child Elements

[Definition Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Definition Element

Definition of the local rule

XML Representation

```

<xs:element name="Definition" type="xs:string"/></xs:element>

```

Parent Elements[combineRule Element](#)**Test Element**

Setting used in last Test task submittal

Table A-334

Attributes for Test

Attribute	Use	Description	Valid Values
taskOrigin	optional	Runtime information on where in the UI the task was requested	<i>string</i>
testDate	optional	The testn date, default is 'today'	<i>string</i>
useCustomData	optional	Indicator if the custom data or record limit from source data set is to be used	<i>boolean</i>

XML Representation

```

<xs:element name="Test" type="typeTestTask" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials"
      minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="UserId"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:choice>
      <xs:element name="CustomInput" type="typeCustomInput">
        <xs:sequence>
          <xs:element name="Field" type="typeCustomInputField" maxOccurs="unbounded">
            <xs:sequence>
              <xs:element name="Value" type="typeCustomInputFieldValue"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="DataSetInput" type="typeTestRecordSelection">
        <xs:sequence>
          <xs:element name="SourceDataSet" type="dataset:typeDataSet">
            <xs:sequence>
              <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
                <xs:sequence>
                  <xs:element name="Category" type="xs:string" minOccurs="0"
                    maxOccurs="unbounded"></xs:element>
                </xs:sequence>
              </xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Table" type="typeDataTable"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:choice>
  </xs:sequence>
</xs:element>

```

```

<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute"
minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping"
minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Selection" type="typeLocalRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:choice>
<xs:element name="DisplayField" type="xs:string" maxOccurs="unbounded"></xs:element>
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
<xs:attribute name="testDate" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="useCustomData" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="taskOrigin" type="xs:string"></xs:attribute>
</xs:element>

```

Parent Elements[Tasks Element](#)**Child Elements**[CustomInput Element](#), [DataSetInput Element](#), [DisplayField Element](#), [InteractionPoint Element](#), [SourceDataServerCredentials Element](#)**Related Elements**[Build Element](#), [DataScan Element](#), [Evaluate Element](#), [Score Element](#), [Simulate Element](#)

SourceDataServerCredentials Element

Optional data source server connection to be used in the task. NOTE: runtime-only information, these values are never to be passed in clear text or stored in an unencrypted manner in the workspace.

XML Representation

```
<xs:element name="SourceDataServerCredentials" type="typeTaskDatabaseCredentials" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="UserId"></xs:element>
  </xs:sequence>
</xs:element>
```

Parent Elements

[Test Element](#)

Child Elements

[UserId Element](#)

UserId Element

Specific User ID and Password information

Table A-335

Attributes for UserId

Attribute	Use	Description	Valid Values
dataSetName	optional	Optional reference to a dataset that this UserId can be used with. Used for correlating dataset with userid/password when multiple tables are used. Optional - not present implies use with single table PDM for 6.X coompatibility.	<i>string</i>
id	required	Optional User ID when required (encode? encrypt?)	<i>string</i>
password	required	Optional User Password when required (encode? encrypt?)	<i>string</i>

XML Representation

```
<xs:element name="UserId">
  <xs:attribute name="id" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="password" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataSetName" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements[SourceDataServerCredentials Element](#)**CustomInput Element**

User specified test input records

XML Representation

```

<xs:element name="CustomInput" type="typeCustomInput">
  <xs:sequence>
    <xs:element name="Field" type="typeCustomInputField" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Value" type="typeCustomInputFieldValue"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

Parent Elements[Test Element](#)**Child Elements**[Field Element](#)**Field Element**

The series of input fields with all column values

Table A-336
Attributes for Field

Attribute	Use	Description	Valid Values
name	required	The field name	<i>string</i>

XML Representation

```

<xs:element name="Field" type="typeCustomInputField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeCustomInputFieldValue" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements[CustomInput Element](#)

Child Elements[Value Element](#)**Value Element**

Column-wise list of field values

Table A-337

Attributes for Value

Attribute	Use	Description	Valid Values
isNull	optional	Indicator of null values	<i>boolean</i>
value	required	Input value	<i>string</i>

XML Representation

```
<xs:element name="Value" type="typeCustomInputFieldValue" maxOccurs="unbounded">
  <xs:attribute name="value" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="isNull" type="xs:boolean" use="optional" default="false"></xs:attribute>
</xs:element>
```

Parent Elements[Field Element](#)**DataSetInput Element**

Row limited Data Set used for test input

Table A-338

Attributes for DataSetInput

Attribute	Use	Description	Valid Values
basedOn	required	The first hit, random selection or selection rule record limit to be used	FirstHit RandomSelection
recordLimit	required	Numeric limit to the test run	<i>int</i>
sourceDataSetName	optional	The name of the source data set.	<i>string</i>

XML Representation

```
<xs:element name="DataSetInput" type="typeTestRecordSelection">
  <xs:sequence>
    <xs:element name="SourceDataSet" type="dataset:typeDataSet">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
```

```

</xs:element name="Table" type="typeDataTable"></xs:element>
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Selection" type="typeLocalRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="sourceDataSetName" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="recordLimit" type="xs:int" use="required"></xs:attribute>
<xs:attribute name="basedOn" type="enumTestBasedOn" use="required">
  <xs:enumeration value="FirstHit"></xs:enumeration>
  <xs:enumeration value="RandomSelection"></xs:enumeration>
</xs:attribute>
</xs:element>

```

Parent Elements[Test Element](#)**Child Elements**[Selection Element, SourceDataSet Element](#)**SourceDataSet Element**

(Deprecated) The data set used as input to the test task, optional when custom data sent

Table A-339
Attributes for SourceDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none

Attribute	Use	Description	Valid Values
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="SourceDataSet" type="dataset:typeDataSet">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>

```

```

        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[DataSetInput Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-340
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>

Attribute	Use	Description	Valid Values
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Table A-341
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[SourceDataSet Element](#)

Child Elements[Category Element](#)**Category Element**

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-342
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-343
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition

Type	Description
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[SourceDataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-344
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```


Table A-345
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-346
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[SourceDataSet Element](#)

Child Elements[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-347
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Mapping Element](#)**Selection Element**

Optional selection rule for this test

Table A-348
Attributes for Selection

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
mimeType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>

Attribute	Use	Description	Valid Values
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```

<xs:element name="Selection" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
    default="false"/></xs:attribute>
  <xs:attribute name="outputField" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-349
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[DataSetInput Element](#)

Child Elements

[Definition Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension](#)

[Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Selection Element](#)

DisplayField Element

The fields to be displayed as the 'key' to the test record, when primary key is known it should be the default

XML Representation

```
<xs:element name="DisplayField" type="xs:string" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Test Element](#)

InteractionPoint Element

Selected Interaction Point for this test

XML Representation

```
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"></xs:element>
```

Parent Elements

[Test Element](#)

UnusedResource Element

The unused elements(Dimensions, Constraints, etc) which is rule out by uncheck the elements in Project Configuration dialog.

XML Representation

```
<xs:element name="UnusedResource" type="typeUnusedResource" minOccurs="0">
```

```

<xs:sequence>
  <xs:element name="Dimension" type="typeDimension" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="ValueSource" type="typeValueSource"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Boundary" type="typeConstraintBoundary"></xs:element>
          <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
            <xs:choice>
              <xs:element ref="Expression" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
              <xs:element ref="Attribute"></xs:element>
              <xs:element ref="Value"></xs:element>
              <xs:element name="DimensionReference"
                type="typeDimensionReference"></xs:element>
              <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
                <xs:sequence>
                  <xs:element name="ObjectReference"
                    type="typeRepositoryObject"></xs:element>
                  <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
                    minOccurs="0">
                    <xs:sequence>
                      <xs:element name="AttributeMapping" type="typeAttributeMapping"
                        minOccurs="0" maxOccurs="unbounded"></xs:element>
                    </xs:sequence>
                  </xs:element>
                  <xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
                    minOccurs="0">
                    <xs:sequence>
                      <xs:element name="AttributeMapping" type="typeAttributeMapping"
                        minOccurs="0" maxOccurs="unbounded"></xs:element>
                    </xs:sequence>
                  </xs:element>
                  <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
                    <xs:sequence>
                      <xs:element name="KeyAttribute" type="typeKeyAttribute"
                        maxOccurs="unbounded"></xs:element>
                    </xs:sequence>
                  </xs:element>
                  <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
                    maxOccurs="unbounded"></xs:element>
                </xs:sequence>
              </xs:element>
            </xs:choice>
          </xs:element>
          <xs:element name="ExternalUsage" type="typeExternalUsage"
            minOccurs="0"></xs:element>
          <xs:element name="ExpressionFormat" type="typeExpressionFormat"
            minOccurs="0"></xs:element>
          <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>

```

```

<xs:element name="Member" type="typeDimensionMember" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Selection" type="typeMemberSelection" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="StartTimestamp" type="typeTimestampDetails"
minOccurs="0"></xs:element>
    <xs:element name="EndTimestamp" type="typeTimestampDetails"
minOccurs="0"></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
    <xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0"
maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Value" type="typeValueSource"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="DynamicAllocation" type="typeDynamicAllocation" minOccurs="0">
    <xs:sequence>
      <xs:element name="AllocationValue" type="typeDynamicValue" minOccurs="0">
        <xs:sequence>
          <xs:element name="Value" type="typeValueSource"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="KeyValue" type="typeDynamicValue" minOccurs="0"
maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Value" type="typeValueSource"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="VariableValue" type="typeVariableValue" minOccurs="0"
maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Value" type="typeValueSource"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="PropertyValue" type="typePropertyValue" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Property" type="typeProperty" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">

```



```

<xs:sequence>
  <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
  <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
    <xs:choice>
      <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
      <xs:element ref="Attribute"/></xs:element>
      <xs:element ref="Value"/></xs:element>
      <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
      <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
        <xs:sequence>
          <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
          <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
            minOccurs="0">
            <xs:sequence>
              <xs:element name="AttributeMapping" type="typeAttributeMapping"
                minOccurs="0" maxOccurs="unbounded"/></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
            minOccurs="0">
            <xs:sequence>
              <xs:element name="AttributeMapping" type="typeAttributeMapping"
                minOccurs="0" maxOccurs="unbounded"/></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
            <xs:sequence>
              <xs:element name="KeyAttribute" type="typeKeyAttribute"
                maxOccurs="unbounded"/></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
            maxOccurs="unbounded"/></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:choice>
  </xs:element>
  <xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"/></xs:element>
  <xs:element name="ExpressionFormat" type="typeExpressionFormat"
    minOccurs="0"/></xs:element>
  <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
    maxOccurs="unbounded"/></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="OutputAttribute" type="typeOutputAttribute" minOccurs="0"
  maxOccurs="unbounded"/></xs:element>
</xs:sequence>
</xs:element>

```

Parent Elements[PredictiveApplication Element](#)**Child Elements**[Constraint Element, Dimension Element, OutputAttribute Element](#)

Dimension Element

The unused Dimensions.

Table A-350
Attributes for Dimension

Attribute	Use	Description	Valid Values
description	optional	Optional dimension description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasPriority	optional	Set true if this dimension can have a priority value associated with it.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
parentDimension	optional	Optional parent dimension for this dimension (hierarchy)	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove

XML Representation

```
<xs:element name="Dimension" type="typeDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="ValueSource" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
        <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
          <xs:choice>
            <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
            <xs:element ref="Attribute"/></xs:element>
            <xs:element ref="Value"/></xs:element>
            <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
            <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
              <xs:sequence>
                <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
                <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
                  minOccurs="0">

```

```

        <xs:sequence>
          <xs:element name="AttributeMapping" type="typeAttributeMapping"
            minOccurs="0" maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
      minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping"
          minOccurs="0" maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:choice>
</xs:element>
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"></xs:element>
<xs:element name="ExpressionFormat" type="typeExpressionFormat"
  minOccurs="0"></xs:element>
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Member" type="typeDimensionMember" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Selection" type="typeMemberSelection" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="StartTimestamp" type="typeTimestampDetails"
        minOccurs="0"></xs:element>
      <xs:element name="EndTimestamp" type="typeTimestampDetails"
        minOccurs="0"></xs:element>
      <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
      <xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
        <xs:sequence>
          <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Value" type="typeValueSource"></xs:element>
    </xs:sequence>
  </xs:element>

```

```

<xs:element name="DynamicAllocation" type="typeDynamicAllocation" minOccurs="0">
  <xs:sequence>
    <xs:element name="AllocationValue" type="typeDynamicValue" minOccurs="0">
      <xs:sequence>
        <xs:element name="Value" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="KeyValue" type="typeDynamicValue" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Value" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="VariableValue" type="typeVariableValue" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="PropertyValue" type="typePropertyValue" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Property" type="typeProperty" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="parentDimension" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="hasPriority" type="xs:boolean" use="optional" default="false"/></xs:attribute>
</xs:element>

```

Parent Elements

[UnusedResource Element](#)

Child Elements

[Constraint Element](#), [Member Element](#), [Property Element](#), [Variable Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Variable Element

List of Variables defined for this Dimension

Table A-351
Attributes for Variable

Attribute	Use	Description	Valid Values
dataType	required	Data type of this variable	<i>string</i>
description	optional	Optional variable description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
inherited	optional	Indication of whether this variable can be inherited by child dimension members.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
optimizationInputItem	optional	Indication of if this variable is to be controlled in Prioritize / Optimize step or not	<i>boolean</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
prompt	optional	When set this key value controls the text to display when prompting for variable value input	<i>string</i>
simulateAction	optional	If set this variable will be summarized in the indicated manner during a simulation	sum average
simulateName	optional	When set this key value controls the text to display when displaying the summarized value of this variable during a simulation	<i>string</i>
simulateNumericDisplay	optional	Optional control of the display of numeric values - Integer, Percentage or Double under user preference formatting	Double IntegerRounded IntegerTruncated Percentage
tableIndex	optional	Variable index in prioritization table	<i>int</i>

XML Representation

```
<xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
  </xs:attribute>
</xs:element>
```

```

    <xs:enumeration value="add"></xs:enumeration>
    <xs:enumeration value="remove"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="simulateAction" type="enumVariableValueSummary" use="optional">
    <xs:enumeration value="sum"></xs:enumeration>
    <xs:enumeration value="average"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="simulateName" type="xs:string" use="optional"
  default="VARIABLE_PROMPT"></xs:attribute>
  <xs:attribute name="simulateNumericDisplay" type="enumNumericDisplay">
    <xs:enumeration value="Double"></xs:enumeration>
    <xs:enumeration value="IntegerRounded"></xs:enumeration>
    <xs:enumeration value="IntegerTruncated"></xs:enumeration>
    <xs:enumeration value="Percentage"></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="ValueSource" type="typeValueSource"></xs:element>
  </xs:sequence>
  <xs:attribute name="tableIndex" type="xs:int" use="optional" default="0"></xs:attribute>
  <xs:attribute name="prompt" type="xs:string" use="optional" default="VARIABLE_PROMPT"></xs:attribute>
  <xs:attribute name="optimizationInputItem" type="xs:boolean" use="optional"
  default="false"></xs:attribute>
  <xs:attribute name="inherited" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Parent Elements[Dimension Element](#)**Child Elements**[ValueSource Element](#)**Related Elements**[Variable Element](#), [DerivedVariable Element](#), [Variable Element](#), [Variable Element](#), [DerivedVariable Element](#)**ValueSource Element**

Source of default values for this Variable

XML Representation

```
<xs:element name="ValueSource" type="typeValueSource"></xs:element>
```

Table A-352
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source

Type	Description
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements

Variable Element

Constraint Element

(Deprecated) List of Constraints on this Dimension - define constraints in the Optimization section.

Table A-353

Attributes for Constraint

Attribute	Use	Description	Valid Values
description	optional	Optional constraint description	<i>string</i>
dimension	optional	The dimension owns the constraint. If not supplied, the dimension is assumed to be the owner of the Boundary variable	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
enabled	optional	Indication of whether this constraint is enabled.	<i>boolean</i>
entityScoped	optional	Indication of the scope of this constraint - within an entity or across all entities.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
type	required	Constraint type	max min equal notEqual lessThan lessThanEqual greaterThan greaterThanEqual

XML Representation

```
<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
```

```

    <xs:enumeration value="modify"></xs:enumeration>
    <xs:enumeration value="add"></xs:enumeration>
    <xs:enumeration value="remove"></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Boundary" type="typeConstraintBoundary"></xs:element>
    <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
      <xs:choice>
        <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"></xs:element>
        <xs:element ref="Attribute"></xs:element>
        <xs:element ref="Value"></xs:element>
        <xs:element name="DimensionReference" type="typeDimensionReference"></xs:element>
        <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
          <xs:sequence>
            <xs:element name="ObjectReference" type="typeRepositoryObject"></xs:element>
            <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                  maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
              <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                  maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
              <xs:sequence>
                <xs:element name="KeyAttribute" type="typeKeyAttribute"
                  maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:choice>
    </xs:element>
    <xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"></xs:element>
    <xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0"></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="type" type="enumConstraintType" use="required">
    <xs:enumeration value="max"></xs:enumeration>
    <xs:enumeration value="min"></xs:enumeration>
    <xs:enumeration value="equal"></xs:enumeration>
    <xs:enumeration value="notEqual"></xs:enumeration>
    <xs:enumeration value="lessThan"></xs:enumeration>
    <xs:enumeration value="lessThanEqual"></xs:enumeration>
    <xs:enumeration value="greaterThan"></xs:enumeration>
    <xs:enumeration value="greaterThanEqual"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="entityScoped" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="enabled" type="xs:boolean" use="optional" default="true"></xs:attribute>

```



```
<xs:attribute name="dimension" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Dimension Element](#)

Child Elements

[Boundary Element](#), [ExpressionFormat Element](#), [ExternalUsage Element](#), [Function Element](#), [InteractionPoint Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#), [BaseSelection Element](#)

Boundary Element

Constraint boundary

Table A-354
Attributes for Boundary

Attribute	Use	Description	Valid Values
value	required	The value or reference defining this boundary	<i>string</i>

XML Representation

```
<xs:element name="Boundary" type="typeConstraintBoundary">
  <xs:attribute name="value" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Table A-355
Extended Types

Type	Description
ConstantBoundary	A constant Constraint boundary
VariableReferenceBoundary	A variable reference Constraint Boundary

Parent Elements

[Constraint Element](#)

Function Element

Constraint function definition (internally evaluated constraints)

Table A-356
Attributes for Function

Attribute	Use	Description	Valid Values
Domain	optional	Resulting data type domain for this expression	<i>string</i>
Functor	optional	Optional functor involved in this expression	<i>string</i>
Name	optional	Alias name of this expression	<i>string</i>

XML Representation

```

<xs:element name="Function" type="rules:typeExpression" minOccurs="0">
  <xs:choice>
    <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
    <xs:element ref="Attribute"/></xs:element>
    <xs:element ref="Value"/></xs:element>
    <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
      <xs:sequence>
        <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
        <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
          <xs:sequence>
            <xs:element name="KeyAttribute" type="typeKeyAttribute"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
  <xs:attribute name="Name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="Domain" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="Functor" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-357
Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements

[Constraint Element](#)

Child Elements

[Attribute Element](#), [DimensionReference Element](#), [Expression Element](#), [ObjectOutput Element](#), [Value Element](#)

DimensionReference Element

A reference to a dimension that will provide the value

Table A-358
Attributes for DimensionReference

Attribute	Use	Description	Valid Values
Name	optional	Dimension name	<i>string</i>

XML Representation

```
<xs:element name="DimensionReference" type="typeDimensionReference">
  <xs:attribute name="Name" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Function Element](#)

ObjectOutput Element

The output of a repository object (rule or model)

Table A-359
Attributes for ObjectOutput

Attribute	Use	Description	Valid Values
output	required	The output attribute of the object	<i>string</i>

XML Representation

```
<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
  <xs:sequence>
    <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
    <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
```

```

        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="output" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Function Element](#)

Child Elements

[InputMapping Element](#), [Key Element](#), [ObjectReference Element](#), [OutputMapping Element](#), [Parameter Element](#)

ObjectReference Element

The repository object

Table A-360

Attributes for ObjectReference

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
contentType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```

<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"></xs:attribute>

```

```

<xs:attribute name="name" type="xs:string"></xs:attribute>
<xs:attribute name="usage" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="mimeType" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[ObjectOutput Element](#)

InputMapping Element

A mapping from the rule attributes to the input attributes of the model.

XML Representation

```

<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>

```

Table A-361
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[ObjectOutput Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-362
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[InputMapping Element](#)

OutputMapping Element

A renaming of the output attributes of the model.

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-363
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[ObjectOutput Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-364
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[OutputMapping Element](#)

Key Element

Key field(s) on which to group input rows to the model.

Table A-365
Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
  default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[ObjectOutput Element](#)

Child Elements

[KeyAttribute Element](#)

KeyAttribute Element

The list of attributes which make up the key

Table A-366
Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements[Key Element](#)**Parameter Element**

Parameters passed to the model.

Table A-367
Attributes for Parameter

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="value" type="xs:string"></xs:attribute>
</xs:element>
```

Table A-368
Extended Types

Type	Description
typeParameter	The details of a stream parameter

Parent Elements[ObjectOutput Element](#)**ExternalUsage Element**

Defines how this constraint can be enabled or disabled via an OPL variable (externally evaluated constraints)

Table A-369
Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	required	The OPL variable	<i>string</i>
disabledValue	optional	The value that indicates this object is disabled (default 0)	<i>string</i>

Attribute	Use	Description	Valid Values
enabledValue	optional	The value that indicates this object is enabled (default 1)	<i>string</i>
variableType	optional	The OPL variable type (default int)	int float string

XML Representation

```
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0">
  <xs:attribute name="controlVariable" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"/></xs:enumeration>
    <xs:enumeration value="float"/></xs:enumeration>
    <xs:enumeration value="string"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"/></xs:attribute>
  <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"/></xs:attribute>
</xs:element>
```

Parent Elements

[Constraint Element](#)

ExpressionFormat Element

Constraint function format (externally evaluated constraints)

Table A-370
Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	required	The format definition for this expression	<i>string</i>

XML Representation

```
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Constraint Element](#)

InteractionPoint Element

Optional Interaction Point name used when differentiating constraint based on interaction points

XML Representation

```
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[Constraint Element](#)**Member Element**

Dimension Member definition

Table A-371

Attributes for Member

Attribute	Use	Description	Valid Values
description	optional	Display text describing this dimension member	<i>string</i>
dynamic	optional	Indicates that dynamic allocation is enabled for this member.	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
priority	optional	The priority of this member to be considered by the optimization algorithm. The number 1 is the highest priority, followed by 2, etc.	<i>int</i>
sameMatrixForAllInteractionPoints	optional	Runtime UI control of the use the same matrix for all Interaction Points option	<i>boolean</i>
useMatrix	optional	Runtime UI control of the use matrix or not decision for Combine when only one input has been configured	<i>boolean</i>

XML Representation

```

<xs:element name="Member" type="typeDimensionMember" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Selection" type="typeMemberSelection" minOccurs="0">
      <xs:sequence>

```

```

    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="StartTimestamp" type="typeTimestampDetails" minOccurs="0"/></xs:element>
    <xs:element name="EndTimestamp" type="typeTimestampDetails" minOccurs="0"/></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
    <xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="DynamicAllocation" type="typeDynamicAllocation" minOccurs="0">
  <xs:sequence>
    <xs:element name="AllocationValue" type="typeDynamicValue" minOccurs="0">
      <xs:sequence>
        <xs:element name="Value" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="KeyValue" type="typeDynamicValue" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Value" type="typeValueSource"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="VariableValue" type="typeVariableValue" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="PropertyValue" type="typePropertyValue" minOccurs="0"
  maxOccurs="unbounded"/></xs:element>
</xs:sequence>
<xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="priority" type="xs:int" use="optional" default="1"/></xs:attribute>
<xs:attribute name="dynamic" type="xs:boolean" default="false"/></xs:attribute>
<xs:attribute name="sameMatrixForAllInteractionPoints" type="xs:boolean" use="optional"
  default="true"/></xs:attribute>
<xs:attribute name="useMatrix" type="xs:boolean" use="optional" default="false"/></xs:attribute>
</xs:element>

```

Parent Elements

[Dimension Element](#)

Child Elements

Allocation Element, DynamicAllocation Element, PropertyValue Element, Selection Element, VariableValue Element

Related Elements

EntityDimension Element, Constraint Element, Selection Element, Dimension Element, Constraint Element, Member Element, BaseSelection Element, Optimization Element, Constraint Element, Deployment Element, Selections Element, DecisionList Element, ManualClusters Element, Selections Element, RecordSelection Element, CombiningRule Element, EntityDimension Element, Constraint Element, Selection Element, combineRule Element, Selection Element, Dimension Element, Constraint Element, BaseSelection Element, Constraint Element, Rule Element, BaseSelection Element

Selection Element

Selection and Exclusion rules for this Dimension Member

Table A-372
Attributes for Selection

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
contentType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```
<xs:element name="Selection" type="typeMemberSelection" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
  </xs:element>
```

```

    <xs:enumeration value="modify"></xs:enumeration>
    <xs:enumeration value="add"></xs:enumeration>
    <xs:enumeration value="remove"></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
  default="false"></xs:attribute>
  <xs:attribute name="outputField" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"></xs:attribute>
  <xs:sequence>
    <xs:element name="StartTimestamp" type="typeTimestampDetails" minOccurs="0"></xs:element>
    <xs:element name="EndTimestamp" type="typeTimestampDetails" minOccurs="0"></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
    <xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

Parent Elements[Member Element](#)**Child Elements**[BaseSelection Element](#), [Definition Element](#), [EndTimestamp Element](#), [InteractionPoint Element](#), [StartTimestamp Element](#)**Related Elements**[Selection Element](#)**Definition Element**

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements[Selection Element](#)

StartTimestamp Element

The valid start timestamp for this Dimension Member, test will be incorporated into the final local rule if specified

Table A-373
Attributes for StartTimestamp

Attribute	Use	Description	Valid Values
day	required	the day portion of the timestamp	<i>int</i>
hour	optional	the hour portion of the timestamp	<i>int</i>
minute	optional	the minute portion of the timestamp	<i>int</i>
month	required	the month portion of the timestamp	<i>int</i>
second	optional	the second portion of the timestamp	<i>int</i>
year	required	the year portion of the timestamp	<i>int</i>

XML Representation

```
<xs:element name="StartTimestamp" type="typeTimestampDetails" minOccurs="0">
  <xs:attribute name="year" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="month" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="day" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="hour" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="minute" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="second" type="xs:int" use="optional" default="0"/></xs:attribute>
</xs:element>
```

Parent Elements

[Selection Element](#)

EndTimestamp Element

The valid end timestamp for this Dimension Member, test will be incorporated into the final local rule if specified

Table A-374
Attributes for EndTimestamp

Attribute	Use	Description	Valid Values
day	required	the day portion of the timestamp	<i>int</i>
hour	optional	the hour portion of the timestamp	<i>int</i>
minute	optional	the minute portion of the timestamp	<i>int</i>
month	required	the month portion of the timestamp	<i>int</i>

Attribute	Use	Description	Valid Values
second	optional	the second portion of the timestamp	<i>int</i>
year	required	the year portion of the timestamp	<i>int</i>

XML Representation

```
<xs:element name="EndTimestamp" type="typeTimestampDetails" minOccurs="0">
  <xs:attribute name="year" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="month" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="day" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="hour" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="minute" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="second" type="xs:int" use="optional" default="0"/></xs:attribute>
</xs:element>
```

Parent Elements

[Selection Element](#)

InteractionPoint Element

List of selected Interaction Points for the Dimension Member, test will be incorporated into the final local rule if specified

XML Representation

```
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Selection Element](#)

BaseSelection Element

The selection rule for the Dimension Member, will be folded into the final local rule if specified

Table A-375

Attributes for BaseSelection

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>

Attribute	Use	Description	Valid Values
mimeType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```

<xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
    default="false"/></xs:attribute>
  <xs:attribute name="outputField" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-376
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[Selection Element](#)

Child Elements

[Definition Element](#)

Related Elements

EntityDimension Element, Constraint Element, Selection Element, Dimension Element, Constraint Element, Member Element, BaseSelection Element, Optimization Element, Constraint Element, Deployment Element, Selections Element, DecisionList Element, ManualClusters Element, Selections Element, RecordSelection Element, CombiningRule Element, EntityDimension Element, Constraint Element, Selection Element, combineRule Element, Selection Element, Dimension Element, Constraint Element, Member Element, Constraint Element, Rule Element, BaseSelection Element

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[BaseSelection Element](#)

Allocation Element

Allocation rules for this Dimension Member

Table A-377

Attributes for Allocation

Attribute	Use	Description	Valid Values
dimensionReference	required	Child Dimension this Allocation pertains to	<i>string</i>
interactionPoint	optional	The optional Interaction Point indicator	<i>string</i>

XML Representation

```
<xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"></xs:element>
  </xs:sequence>
  <xs:attribute name="dimensionReference" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="interactionPoint" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[Member Element](#)

Child Elements

[Value Element](#)

Value Element

The allocated value for this dimension

XML Representation

```
<xs:element name="Value" type="typeValueSource"></xs:element>
```

Table A-378
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements

[Allocation Element](#)

DynamicAllocation Element

Dynamic allocations for this member (only one allowed at present). Ignored unless the member is dynamic.

Table A-379
Attributes for DynamicAllocation

Attribute	Use	Description	Valid Values
inputSource	optional	The name of a secondary input source providing values for the allocation. If present, induces a join between the primary input source and the specified source.	<i>string</i>

XML Representation

```
<xs:element name="DynamicAllocation" type="typeDynamicAllocation" minOccurs="0">
  <xs:sequence>
    <xs:element name="AllocationValue" type="typeDynamicValue" minOccurs="0">
      <xs:sequence>
        <xs:element name="Value" type="typeValueSource"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="KeyValue" type="typeDynamicValue" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Value" type="typeValueSource"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="inputSource" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements[Member Element](#)**Child Elements**[AllocationValue Element](#), [KeyValue Element](#)**AllocationValue Element**

The value of the allocation. If not specified, the allocation is ignored.

XML Representation

```
<xs:element name="AllocationValue" type="typeDynamicValue" minOccurs="0">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"></xs:element>
  </xs:sequence>
</xs:element>
```

Parent Elements[DynamicAllocation Element](#)**Child Elements**[Value Element](#)**Value Element**

The value source.

XML Representation

```
<xs:element name="Value" type="typeValueSource"></xs:element>
```

Table A-380
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements[AllocationValue Element](#)

KeyValue Element

Key values when joining with a secondary input source. If not specified, the primary key values are used instead.

XML Representation

```
<xs:element name="KeyValue" type="typeDynamicValue" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"></xs:element>
  </xs:sequence>
</xs:element>
```

Parent Elements

[DynamicAllocation Element](#)

Child Elements

[Value Element](#)

Value Element

The value source.

XML Representation

```
<xs:element name="Value" type="typeValueSource"></xs:element>
```

Table A-381
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements

[KeyValue Element](#)

VariableValue Element

Variable Values defined for this Dimension Member

Table A-382
Attributes for *VariableValue*

Attribute	Use	Description	Valid Values
interactionPoint	optional	Optional Interaction Point for this variable value, Variable name plus Interaction Point name (may be empty) unique in a value series	<i>string</i>
name	required	Variable referenced by name	<i>string</i>

XML Representation

```
<xs:element name="VariableValue" type="typeVariableValue" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Value" type="typeValueSource"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="interactionPoint" type="xs:string" use="optional" default=""></xs:attribute>
</xs:element>
```

Parent Elements

[Member Element](#)

Child Elements

[Value Element](#)

Value Element

The value for this variable reference

XML Representation

```
<xs:element name="Value" type="typeValueSource"></xs:element>
```

Table A-383
Extended Types

Type	Description
ConstantValueSource	A constant value source
AttributeValueSource	An attribute value source
LocalRuleValueSource	A local rule value source
ReferencedRuleModelValueSource	Referenced rule or model value source

Parent Elements

[VariableValue Element](#)

PropertyValue Element

Property values for this Dimension member.

Table A-384

Attributes for PropertyValue

Attribute	Use	Description	Valid Values
name	required	Property name	string

XML Representation

```
<xs:element name="PropertyValue" type="typePropertyValue" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Member Element](#)

Property Element

Properties defined for all members of this Dimension

Table A-385

Attributes for Property

Attribute	Use	Description	Valid Values
dataType	optional	The type of this property.	string
defaultValue	optional	Default value if not specified for a dimension member. Optional only when the property type is string.	string

XML Representation

```
<xs:element name="Property" type="typeProperty" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="dataType" type="xs:string" default="string"/></xs:attribute>
  <xs:attribute name="defaultValue" type="xs:string" default=""/></xs:attribute>
</xs:element>
```

Parent Elements

[Dimension Element](#)

Constraint Element

The unused Constraints.

Table A-386

Attributes for Constraint

Attribute	Use	Description	Valid Values
description	optional	Optional constraint description	string

Attribute	Use	Description	Valid Values
dimension	optional	The dimension owns the constraint. If not supplied, the dimension is assumed to be the owner of the Boundary variable	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
enabled	optional	Indication of whether this constraint is enabled.	<i>boolean</i>
entityScoped	optional	Indication of the scope of this constraint - within an entity or across all entities.	<i>boolean</i>
name	optional	Name of the element	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
type	required	Constraint type	max min equal notEqual lessThan lessThanEqual greaterThan greaterThanEqual

XML Representation

```

<xs:element name="Constraint" type="typeConstraint" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
</xs:sequence>
<xs:sequence>
  <xs:element name="Boundary" type="typeConstraintBoundary"/></xs:element>
  <xs:element name="Function" type="rules:typeExpression" minOccurs="0">
    <xs:choice>
      <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
      <xs:element ref="Attribute"/></xs:element>
      <xs:element ref="Value"/></xs:element>
      <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
      <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
        <xs:sequence>
          <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
          <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
            <xs:sequence>

```

```

        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:choice>
</xs:element>
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"></xs:element>
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0"></xs:element>
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
  maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="type" type="enumConstraintType" use="required">
  <xs:enumeration value="max"></xs:enumeration>
  <xs:enumeration value="min"></xs:enumeration>
  <xs:enumeration value="equal"></xs:enumeration>
  <xs:enumeration value="notEqual"></xs:enumeration>
  <xs:enumeration value="lessThan"></xs:enumeration>
  <xs:enumeration value="lessThanEqual"></xs:enumeration>
  <xs:enumeration value="greaterThan"></xs:enumeration>
  <xs:enumeration value="greaterThanEqual"></xs:enumeration>
</xs:attribute>
<xs:attribute name="entityScoped" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="enabled" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="dimension" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[UnusedResource Element](#)

Child Elements

[Boundary Element](#), [ExpressionFormat Element](#), [ExternalUsage Element](#), [Function Element](#), [InteractionPoint Element](#)

Related Elements

EntityDimension Element, Constraint Element, Selection Element, Dimension Element, Constraint Element, Member Element, BaseSelection Element, Optimization Element, Constraint Element, Deployment Element, Selections Element, DecisionList Element, ManualClusters Element, Selections Element, RecordSelection Element, CombiningRule Element, EntityDimension Element, Constraint Element, Selection Element, combineRule Element, Selection Element, Dimension Element, Constraint Element, Member Element, BaseSelection Element, Rule Element, BaseSelection Element

Boundary Element

Constraint boundary

Table A-387

Attributes for Boundary

Attribute	Use	Description	Valid Values
value	required	The value or reference defining this boundary	<i>string</i>

XML Representation

```
<xs:element name="Boundary" type="typeConstraintBoundary">
  <xs:attribute name="value" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Table A-388

Extended Types

Type	Description
ConstantBoundary	A constant Constraint boundary
VariableReferenceBoundary	A variable reference Constraint Boundary

Parent Elements

[Constraint Element](#)

Function Element

Constraint function definition (internally evaluated constraints)

Table A-389

Attributes for Function

Attribute	Use	Description	Valid Values
Domain	optional	Resulting data type domain for this expression	<i>string</i>
Functor	optional	Optional functor involved in this expression	<i>string</i>
Name	optional	Alias name of this expression	<i>string</i>

XML Representation

```

<xs:element name="Function" type="rules:typeExpression" minOccurs="0">
  <xs:choice>
    <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
    <xs:element ref="Attribute"/></xs:element>
    <xs:element ref="Value"/></xs:element>
    <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
      <xs:sequence>
        <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
        <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
          <xs:sequence>
            <xs:element name="KeyAttribute" type="typeKeyAttribute"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
  <xs:attribute name="Name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="Domain" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="Functor" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-390
Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements

[Constraint Element](#)

Child Elements

[Attribute Element](#), [DimensionReference Element](#), [Expression Element](#), [ObjectOutput Element](#), [Value Element](#)

DimensionReference Element

A reference to a dimension that will provide the value

Table A-391

Attributes for DimensionReference

Attribute	Use	Description	Valid Values
Name	optional	Dimension name	<i>string</i>

XML Representation

```
<xs:element name="DimensionReference" type="typeDimensionReference">
  <xs:attribute name="Name" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Function Element](#)

ObjectOutput Element

The output of a repository object (rule or model)

Table A-392

Attributes for ObjectOutput

Attribute	Use	Description	Valid Values
output	required	The output attribute of the object	<i>string</i>

XML Representation

```
<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
  <xs:sequence>
    <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
    <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

```

    </xs:sequence>
    <xs:attribute name="output" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Function Element](#)

Child Elements

[InputMapping Element](#), [Key Element](#), [ObjectReference Element](#), [OutputMapping Element](#), [Parameter Element](#)

ObjectReference Element

The repository object

Table A-393
Attributes for ObjectReference

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```

<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[ObjectOutput Element](#)

InputMapping Element

A mapping from the rule attributes to the input attributes of the model.

XML Representation

```
<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-394
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[ObjectOutput Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-395
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[InputMapping Element](#)

OutputMapping Element

A renaming of the output attributes of the model.

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-396
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[ObjectOutput Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-397
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[OutputMapping Element](#)

Key Element

Key field(s) on which to group input rows to the model.

Table A-398
Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[ObjectOutput Element](#)

Child Elements

[KeyAttribute Element](#)

KeyAttribute Element

The list of attributes which make up the key

Table A-399
Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[Key Element](#)

Parameter Element

Parameters passed to the model.

Table A-400
Attributes for Parameter

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="value" type="xs:string"></xs:attribute>
</xs:element>
```

Table A-401
Extended Types

Type	Description
typeParameter	The details of a stream parameter

Parent Elements

[ObjectOutput Element](#)

ExternalUsage Element

Defines how this constraint can be enabled or disabled via an OPL variable (externally evaluated constraints)

Table A-402
Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	required	The OPL variable	<i>string</i>
disabledValue	optional	The value that indicates this object is disabled (default 0)	<i>string</i>
enabledValue	optional	The value that indicates this object is enabled (default 1)	<i>string</i>
variableType	optional	The OPL variable type (default int)	int float string

XML Representation

```
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0">
  <xs:attribute name="controlVariable" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"></xs:enumeration>
    <xs:enumeration value="float"></xs:enumeration>
    <xs:enumeration value="string"></xs:enumeration>
  </xs:attribute>
```



```

    <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"></xs:attribute>
    <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"></xs:attribute>
</xs:element>

```

Parent Elements

[Constraint Element](#)

ExpressionFormat Element

Constraint function format (externally evaluated constraints)

Table A-403

Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	required	The format definition for this expression	<i>string</i>

XML Representation

```

<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Constraint Element](#)

InteractionPoint Element

Optional Interaction Point name used when differentiating constraint based on interaction points

XML Representation

```

<xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[Constraint Element](#)

OutputAttribute Element

The unused Output Attribute.

Table A-404

Attributes for OutputAttribute

Attribute	Use	Description	Valid Values
name	required	Attribute Name	<i>string</i>
parent	optional	Specifies the output hierarchy for display purposes	<i>string</i>

Attribute	Use	Description	Valid Values
referenceType	required	Reference type	Variable Objective DimensionMember System
returnValue	required	Return Value	<i>string</i>

XML Representation

```
<xs:element name="OutputAttribute" type="typeOutputAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="referenceType" type="enumAttributeReferenced" use="required">
    <xs:enumeration value="Variable"></xs:enumeration>
    <xs:enumeration value="Objective"></xs:enumeration>
    <xs:enumeration value="DimensionMember"></xs:enumeration>
    <xs:enumeration value="System"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="returnValue" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="parent" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[UnusedResource Element](#)

Rule Element

The root element for all rule types

XML Representation

```
<xs:element name="Rule">
  <xs:sequence>
    <xs:element name="Rule" type="typeRule">
      <xs:sequence>
        <xs:element name="ApplicationView" minOccurs="0"></xs:element>
        <xs:element name="DataSet" type="dataset.typeDataSet" minOccurs="0">
          <xs:sequence>
            <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
              <xs:sequence>
                <xs:element name="Category" type="xs:string" minOccurs="0"
                  maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Table" type="typeDataTable"></xs:element>
            <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
              maxOccurs="unbounded">
              <xs:sequence>
                <xs:element name="Category" type="xs:string" minOccurs="0"
                  maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
```

```

    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>

```

Child Elements

Rule Element

Rule Element

Specific rule instance

Table A-405

Attributes for Rule

Attribute	Use	Description	Valid Values
description	optional	Optional description of this rule	<i>string</i>

Attribute	Use	Description	Valid Values
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	<i>string</i>
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```

<xs:element name="Rule" type="typeRule">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"></xs:element>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

```

        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
            minOccurs="0"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Member" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"/></xs:element>
        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
            minOccurs="0"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"/></xs:element>
</xs:sequence>
<xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="usageType" type="enumUsageType" use="optional">
    <xs:enumeration value="Segment"/></xs:enumeration>
    <xs:enumeration value="SegmentSet"/></xs:enumeration>
    <xs:enumeration value="Selection"/></xs:enumeration>
    <xs:enumeration value="ExcludeSet"/></xs:enumeration>
    <xs:enumeration value="IncludeSet"/></xs:enumeration>
    <xs:enumeration value="Allocation"/></xs:enumeration>
    <xs:enumeration value="Aggregation"/></xs:enumeration>
    <xs:enumeration value="Matrix"/></xs:enumeration>
    <xs:enumeration value="Expression"/></xs:enumeration>
    <xs:enumeration value="Arbitration"/></xs:enumeration>
    <xs:enumeration value="Threshold"/></xs:enumeration>
</xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-406
Extended Types

Type	Description
typeDecisionRule	A Decision Rule
typeMatrixRule	The Decision Matrix Rule
typeRandomRule	the Random Rule
typeExpressionRule	A simple expression
typeThresholdRule	An allocation rule defined by a series of threshold tests against a rule or model output
typeArbitrationRule	An allocation rule defined to be a 'primary' rule and a 'secondary' rule pair

Parent Elements

Rule Element

DataSet Element

Optional information on data set used to define this rule

Table A-408
Attributes for DataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```
<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
```

```

    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
<xs:element name="Table" type="typeDataTable"></xs:element>
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[Rule Element](#)**Child Elements**[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)**Attribute Element**

The attributes of the given data set at the point of last refresh

Table A-409
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-410
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements[DataSet Element](#)**Child Elements**[Category Element](#)**Category Element**

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-411
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-412
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition

Type	Description
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[DataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-413

Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```


Table A-414
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-415
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-416
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Mapping Element](#)**Input Element**

The required inputs for this rule

Table A-417
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```

<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[Rule Element](#)**Child Elements**[Category Element, modelOutputMetadata Element](#)**Category Element**

The categorical values this field may return

XML Representation

```

<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements[Input Element](#)**modelOutputMetadata Element**

Model Output Metadata relating to this field

Table A-418

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-419

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```

<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Rule Element](#)

Child Elements

[Member Element](#)

Member Element

Optional list of dimension members referred to within this rule

XML Representation

```

<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```


Parent Elements[InputDimension Element](#)**Output Element**

The outputs produced by an execution of this rule

Table A-420
Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements[Rule Element](#)**Child Elements**[Category Element, modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Output Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-421

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"/></xs:enumeration>
    <xs:enumeration value="Propensity"/></xs:enumeration>
    <xs:enumeration value="RuleIndex"/></xs:enumeration>
    <xs:enumeration value="Outcome"/></xs:enumeration>
    <xs:enumeration value="Target"/></xs:enumeration>
    <xs:enumeration value="Other"/></xs:enumeration>
    <xs:enumeration value="None"/></xs:enumeration>
    <xs:enumeration value="EntityId"/></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Output Element](#)

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"/></xs:element>
```

Parent Elements

[Rule Element](#)

Value Element

A constant value

Table A-422
Attributes for Value

Attribute	Use	Description	Valid Values
IsNil	optional	Flag indicating if the value is NULL or not	<i>boolean</i>
type	optional	Specific data type of this literal value	<i>any</i>

XML Representation

```
<xs:element name="Value" type="typeValue">
  <xs:attribute name="IsNil" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="type" use="optional">
    <xs:simpleType>
      <xs:restriction base="xs:string"/></xs:restriction>
    </xs:simpleType>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#), [Function Element](#), [Function Element](#), [ObjectiveFunction Element](#), [Function Element](#), [Function Element](#), [Function Element](#), [Function Element](#), [Expression Element](#), [Expression Element](#), [typeObjectiveFunction Type](#)

Extended Types

Extended types extend elements in an XML document by adding attributes and child elements. To use an extended type in an XML document, you specify the extended type with the `xsi:type` attribute for the element. Then you can use the attributes and elements defined by the extended type.

AttributeValueSource Type

An attribute value source

Table A-423
Attributes for AttributeValueSource

Attribute	Use	Description	Valid Values
inputSource	optional	The name of a secondary input source which defines the attribute. Currently, used only for dynamic allocation. If not specified, the attribute must belong to the primary (entity) input source.	<i>string</i>

XML Representation

```
<xs:complexType name="AttributeValueSource">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttributeReference"/></xs:element>
  </xs:sequence>
</xs:complexType>
```

Extends

[ValueSource Element](#), [Value Element](#), [ValueSource Element](#), [Value Element](#), [Value Element](#), [Value Element](#), [Value Element](#), [Value Element](#), [Value Element](#), [ValueSource Element](#), [Value Element](#), [ValueSource Element](#), [Value Element](#), [Value Element](#), [Value Element](#), [Value Element](#)

Child Elements

[Attribute Element](#)

Related Types

[ConstantValueSource Type](#), [LocalRuleValueSource Type](#), [ReferencedRuleModelValueSource Type](#)

Attribute Element

The attribute that determines this allocation

Table A-424
Attributes for Attribute

Attribute	Use	Description	Valid Values
miningType	required	MinningType for a reference to an attribute in the data model	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttributeReference">
  <xs:attribute name="miningType" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

AttributeValueSource Type

CognosTable Type

An Cognos-based table definition

Table A-425

Attributes for CognosTable

Attribute	Use	Description	Valid Values
AggregateData	optional		<i>boolean</i>
Anonymous	optional		<i>boolean</i>
CognosDataSource	optional		<i>any</i>
CognosSelectedItems	optional		<i>any</i>
IsExport	optional		<i>boolean</i>
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
Mode	optional	The type of Cognos BI server connection mode	Data ListReport
Namespace	optional		<i>string</i>
OutputPackageName	optional	Output package name.	<i>string</i>
Password	optional		<i>string</i>
SelectedCognosDataSource	optional		<i>string</i>
tableName	required	Name of the selected table at the source	<i>string</i>
uri	optional		<i>string</i>
User	optional		<i>string</i>

XML Representation

```

<xs:complexType name="CognosTable">
  <xs:sequence>
    <xs:element name="Parameters" type="typeCognosParameter" maxOccurs="unbounded"
      minOccurs="0"></xs:element>
    <xs:element name="Filters" type="typeCognosFilter" maxOccurs="unbounded"
      minOccurs="0"></xs:element>
    <xs:element name="SelectedCognosObject" type="typeCognosObject" maxOccurs="1" minOccurs="0">
      <xs:sequence maxOccurs="unbounded" minOccurs="0">
        <xs:element ref="child"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>

```

Extends

Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, TargetDataTable Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element, Table Element

Child Elements

Filters Element, Parameters Element, SelectedCognosObject Element

Related Types

DatabaseTable Type, DimensionsFileTable Type, ExcelFileTable Type, FlatFileTable Type, PevTable Type, SASFileTable Type, SpssFileTable Type

Parameters Element

The parameter list.

Table A-426

Attributes for Parameters

Attribute	Use	Description	Valid Values
name	optional		<i>string</i>
selected	optional		<i>boolean</i>
type	optional		<i>string</i>
value	optional		<i>string</i>

XML Representation

```
<xs:element name="Parameters" type="typeCognosParameter" maxOccurs="unbounded" minOccurs="0">
  <xs:attribute name="selected" type="xs:boolean" default="true"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="type" type="xs:string"/></xs:attribute>
  <xs:attribute name="value" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

CognosTable Type

Filters Element

The filter list.

Table A-427

Attributes for Filters

Attribute	Use	Description	Valid Values
name	optional		<i>string</i>
selected	optional		<i>boolean</i>

XML Representation

```
<xs:element name="Filters" type="typeCognosFilter" maxOccurs="unbounded" minOccurs="0">
  <xs:attribute name="selected" type="xs:boolean" default="true"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[CognosTable Type](#)

SelectedCognosObject Element

For import and export, that indicates the Cognos package.

Table A-428

Attributes for SelectedCognosObject

Attribute	Use	Description	Valid Values
fullName	optional		string
isSupport	optional		boolean
name	optional		string
path	optional		string
selected	optional		boolean
typeName	optional		string

XML Representation

```
<xs:element name="SelectedCognosObject" type="typeCognosObject" maxOccurs="1" minOccurs="0">
  <xs:sequence maxOccurs="unbounded" minOccurs="0">
    <xs:element ref="child"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="selected" type="xs:boolean"></xs:attribute>
  <xs:attribute name="fullName" type="xs:string"></xs:attribute>
  <xs:attribute name="typeName" type="xs:string"></xs:attribute>
  <xs:attribute name="path" type="xs:string"></xs:attribute>
  <xs:attribute name="isSupport" type="xs:boolean"></xs:attribute>
</xs:element>
```

Parent Elements

[CognosTable Type](#)

Child Elements

[child Element](#)

ConstantBoundary Type

A constant Constraint boundary

Table A-429
Attributes for ConstantBoundary

Attribute	Use	Description	Valid Values
value	required	The value or reference defining this boundary	<i>string</i>

XML Representation

```
<xs:complexType name="ConstantBoundary"></xs:complexType>
```

Extends

[Boundary Element](#), [Boundary Element](#), [Boundary Element](#), [Boundary Element](#), [Boundary Element](#), [Boundary Element](#)

Related Types

[VariableReferenceBoundary Type](#)

ConstantValueSource Type

A constant value source

XML Representation

```
<xs:complexType name="ConstantValueSource">
  <xs:sequence>
    <xs:element name="Value" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:complexType>
```

Extends

[ValueSource Element](#), [Value Element](#), [ValueSource Element](#), [Value Element](#), [Value Element](#), [Value Element](#), [Value Element](#), [Value Element](#), [Value Element](#), [ValueSource Element](#), [Value Element](#), [ValueSource Element](#), [Value Element](#), [Value Element](#), [Value Element](#), [Value Element](#)

Child Elements

[Value Element](#)

Related Types

[AttributeValueSource Type](#), [LocalRuleValueSource Type](#), [ReferencedRuleModelValueSource Type](#)

Value Element

Constant value, multiple values get multiple elements and are not delimited

Child Elements

[ExplicitRangeOfCells Element](#), [NamedRange Element](#), [OnBlankRows Element](#), [WorksheetIndex Element](#), [WorksheetName Element](#)

Related Types

[CognosTable Type](#), [DatabaseTable Type](#), [DimensionsFileTable Type](#), [FlatFileTable Type](#), [PevTable Type](#), [SASFileTable Type](#), [SpssFileTable Type](#)

NamedRange Element

Optional Data Range to use for supplying data

XML Representation

```
<xs:element name="NamedRange" type="xs:string"></xs:element>
```

Parent Elements

[ExcelFileTable Type](#)

WorksheetIndex Element

Worksheet index to use as data table

XML Representation

```
<xs:element name="WorksheetIndex" type="xs:string"></xs:element>
```

Parent Elements

[ExcelFileTable Type](#)

WorksheetName Element

Worksheet name to use as data table

XML Representation

```
<xs:element name="WorksheetName" type="xs:string"></xs:element>
```

Parent Elements

[ExcelFileTable Type](#)

ExplicitRangeOfCells Element

Explicit range of cells that defines this table of data, ignored for named range and optional for worksheets

Table A-433
Attributes for *ExplicitRangeOfCells*

Attribute	Use	Description	Valid Values
end	required	Ending cell, bottom right corner of range	<i>string</i>
start	required	Starting cell, top left corner of range	<i>string</i>

XML Representation

```
<xs:element name="ExplicitRangeOfCells" type="typeCellRange" minOccurs="0">
  <xs:attribute name="start" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="end" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[ExcelFileTable Type](#)

OnBlankRows Element

When processing by first non-blank row, this is the 'On Blank Rows' indicator

XML Representation

```
<xs:element name="OnBlankRows" type="enumOnBlankRows" default="Stop" minOccurs="0">
  <xs:enumeration value="Return"/></xs:enumeration>
  <xs:enumeration value="Stop"/></xs:enumeration>
  <xs:enumeration value="Skip"/></xs:enumeration>
</xs:element>
```

Parent Elements

[ExcelFileTable Type](#)

FlatFileTable Type

A flat file-based table definition

Table A-434
Attributes for *FlatFileTable*

Attribute	Use	Description	Valid Values
decimalSymbol	optional	Optional, explicit definition of the decimal symbol used in the file	period comma default
doubleQuoteHandling	optional	Specification of how double quote characters should be handled. Default is Discard.	discard pair include
encoding	optional	Ability to force a given encoding when reading the file	clientDefault UTF-8

Child Elements

[Delimiters Element](#), [EolCommentChars Element](#), [InvalidCharReplace Element](#), [NumberOfInputFields Element](#), [SkipHeaderChars Element](#)

Related Types

[CognosTable Type](#), [DatabaseTable Type](#), [DimensionsFileTable Type](#), [ExcelFileTable Type](#), [PevTable Type](#), [SASFileTable Type](#), [SpssFileTable Type](#)

Delimiters Element

Field delimiters

Table A-435

Attributes for Delimiters

Attribute	Use	Description	Valid Values
AllowMultipleBlankDelims	optional	Consider multiple spaces to be a single delimiter	<i>boolean</i>
Comma	optional	Comma delimited	<i>boolean</i>
Newline	optional	Newline character delimited	<i>boolean</i>
NonPrintingChars	optional	Any non-printing character considered the delimiter	<i>boolean</i>
Other	optional	User-specified delimiter	<i>string</i>
Space	optional	Space delimited	<i>boolean</i>
Tab	optional	Tab delimited	<i>boolean</i>

XML Representation

```
<xs:element name="Delimiters" type="typeFieldDelimiters">
  <xs:attribute name="Space" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="AllowMultipleBlankDelims" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="Newline" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="NonPrintingChars" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="Comma" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="Tab" type="xs:boolean" default="false"></xs:attribute>
  <xs:attribute name="Other" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[FlatFileTable Type](#)

EolCommentChars Element

End Of Line comment characters

XML Representation

```
<xs:element name="EolCommentChars" type="xs:string" minOccurs="0"></xs:element>
```

Parent Elements[FlatFileTable Type](#)**NumberOfInputFields Element**

Number of input fields. When not checked, this element is not included. Otherwise, number > 0 is expected.

XML Representation

```
<xs:element name="NumberOfInputFields" type="xs:int" minOccurs="0"/></xs:element>
```

Parent Elements[FlatFileTable Type](#)**SkipHeaderChars Element**

When specified, this element indicates the number of characters to skip for the ‘header’

XML Representation

```
<xs:element name="SkipHeaderChars" type="xs:int" minOccurs="0"/></xs:element>
```

Parent Elements[FlatFileTable Type](#)**InvalidCharReplace Element**

Characters to use for replacing any invalid characters encountered. Default is Discard when not specified.

XML Representation

```
<xs:element name="InvalidCharReplace" type="xs:string" minOccurs="0"/></xs:element>
```

Parent Elements[FlatFileTable Type](#)**LocalRuleValueSource Type**

A local rule value source

XML Representation

```
<xs:complexType name="LocalRuleValueSource">  
  <xs:sequence>
```



```

<xs:element name="Rule" type="typeLocalRule">
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:complexType>

```

Extends

ValueSource Element, Value Element, ValueSource Element, Value Element, Value Element, Value Element, Value Element, Value Element, Value Element, ValueSource Element, Value Element, ValueSource Element, Value Element, Value Element, Value Element, Value Element

Child Elements

Rule Element

Related Types

AttributeValueSource Type, ConstantValueSource Type, ReferencedRuleModelValueSource Type

Rule Element

Local rule that determines this allocation

Table A-436
Attributes for Rule

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
contentType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```

<xs:element name="Rule" type="typeLocalRule">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
  default="false"/></xs:attribute>
  <xs:attribute name="outputField" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-437
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[LocalRuleValueSource](#) Type

Child Elements

[Definition](#) Element

Related Elements

[EntityDimension](#) Element, [Constraint](#) Element, [Selection](#) Element, [Dimension](#) Element, [Constraint](#) Element, [Member](#) Element, [BaseSelection](#) Element, [Optimization](#) Element, [Constraint](#) Element, [Deployment](#) Element, [Selections](#) Element, [DecisionList](#) Element, [ManualClusters](#) Element, [Selections](#) Element, [RecordSelection](#) Element, [CombiningRule](#) Element, [EntityDimension](#) Element, [Constraint](#) Element, [Selection](#) Element, [combineRule](#) Element, [Selection](#) Element, [Dimension](#) Element, [Constraint](#) Element, [Member](#) Element, [BaseSelection](#) Element, [Constraint](#) Element, [BaseSelection](#) Element

Definition Element

Definition of the local rule

XML Representation

```

<xs:element name="Definition" type="xs:string"/></xs:element>

```


Child Elements[DpdReference Element](#)**Related Types**[CognosTable Type](#), [DatabaseTable Type](#), [DimensionsFileTable Type](#), [ExcelFileTable Type](#), [FlatFileTable Type](#), [SASFileTable Type](#), [SpssFileTable Type](#)**DpdReference Element**

Enterprise View Data Provider Definition used to access data from this table, implicitly of the same label as the Application View associated with the table

Table A-439
Attributes for DpdReference

Attribute	Use	Description	Valid Values
name	required	Display name of this Data Provider Definition	string
objectID	required	Object ID reference to this Data Provider Definition	string

XML Representation

```
<xs:element name="DpdReference" type="typeDpdReference">
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="objectID" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements[PevTable Type](#)**PrioritizationOptimization Type**

The Prioritization form of optimization

Table A-440
Attributes for PrioritizationOptimization

Attribute	Use	Description	Valid Values
enableNumReturnsByIP	optional	Flag controlling the ability to specify the number of return values by Interaction Point	boolean
lockConfigurationByIP	optional	Optional Admin lock of the ability to change the Configuration by IP control	boolean

Attribute	Use	Description	Valid Values
lockNumReturns	optional	Optional Admin lockl of the 'number of returns' input	<i>boolean</i>
sameConfiguraitonForIP	optional	Indication of if the same Prioritization configuration is to be applied for all Interaction Points (true default) or not (false)	<i>boolean</i>

XML Representation

```
<xs:complexType name="PrioritizationOptimization"></xs:complexType>
```

Extends

[OptimizeMethod Element](#)

ReferencedRuleModelValueSource Type

Referenced rule or model value source

XML Representation

```
<xs:complexType name="ReferencedRuleModelValueSource">
  <xs:sequence>
    <xs:element name="RuleModelReference" type="typeRuleModelReference">
      <xs:sequence>
        <xs:element name="InputMapping" type="typeRuleModelInputMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Output" type="typeRuleModelOutput" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
        <xs:element name="Parameter" type="typeParameter" minOccurs="0" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Extends

ValueSource Element, Value Element, ValueSource Element, Value Element, Value Element, Value Element, Value Element, Value Element, Value Element, ValueSource Element, Value Element, ValueSource Element, Value Element, Value Element, Value Element, Value Element

Child Elements

RuleModelReference Element

Related Types

AttributeValueSource Type, ConstantValueSource Type, LocalRuleValueSource Type

RuleModelReference Element

Repository Rule or Model object value source referenced

Table A-441

Attributes for RuleModelReference

Attribute	Use	Description	Valid Values
author	optional	Author of the object version	<i>string</i>
brokenLink	optional	Indicates whether the object version can be found in the repository or not	<i>boolean</i>
dateCreated	optional	Date the version was created in the repository	<i>string</i>
description	optional	Description defined for the object version and user's language code	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hidden	optional	[Not used] Indicates whether this rule or model should be hidden in the user interface	<i>boolean</i>
id	required	ID of the repository object	<i>string</i>
isLocked	optional	runtime communication of object lock state	<i>boolean</i>
keywords	optional	Keywords defined for the object version	<i>string</i>
label	required	Version label of the repository object	<i>string</i>
marker	optional	Version marker for the repository object	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>

Attribute	Use	Description	Valid Values
modelID	optional	ID of the model in the build cache, used to track model refresh and those being created by auto-model process	<i>any</i>
name	optional	Name of the element	<i>string</i>
negated	optional	[Not used] Flag indicating negation of output field value	<i>boolean</i>
outputDataType	optional	[Deprecated - Use an Output instead] Output field data type	<i>string</i>
outputField	optional	[Deprecated - Use an Output instead] Output field to use from referenced object	<i>string</i>
outputRole	optional	[Deprecated - Use an Output instead] The role of the output field referenced	<i>string</i>
parentObjectId	optional	Tracking of the parent object ID	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
path	optional	Full path of the object in the repository	<i>string</i>
type	optional	[Deprecated - not used] Type of this reference	Value Model Selection
usageDescription	optional	Additional description text that can be assigned by the user interface, but not part of repository information	<i>string</i>

XML Representation

```

<xs:element name="RuleModelReference" type="typeRuleModelReference">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="id" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="marker" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="path" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="dateCreated" type="xs:string" use="optional"/></xs:attribute>

```

```

<xs:attribute name="brokenLink" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="author" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="keywords" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="usageDescription" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="modelID"></xs:attribute>
<xs:attribute name="parentObjectId" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="isLocked" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:sequence>
  <xs:element name="InputMapping" type="typeRuleModelInputMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Output" type="typeRuleModelOutput" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
  <xs:element name="Parameter" type="typeParameter" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:attribute name="type" type="enumRuleType" use="optional">
  <xs:enumeration value="Value"></xs:enumeration>
  <xs:enumeration value="Model"></xs:enumeration>
  <xs:enumeration value="Selection"></xs:enumeration>
</xs:attribute>
<xs:attribute name="outputField" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="outputDataType" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="outputRole" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="negated" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="hidden" type="xs:boolean" use="optional" default="false"></xs:attribute>
</xs:element>

```

Parent Elements

[ReferencedRuleModelValueSource Type](#)

Child Elements

[InputMapping Element](#), [Output Element](#), [OutputMapping Element](#), [Parameter Element](#)

Related Elements

[RuleModelReference Element](#), [Report Element](#), [RuleModelReference Element](#)

InputMapping Element

A mapping to the input attributes of the referenced object

Table A-442
Attributes for InputMapping

Attribute	Use	Description	Valid Values
inputSource	optional	The name of the input source which provides the model inputs	<i>string</i>

XML Representation

```
<xs:element name="InputMapping" type="typeRuleModelInputMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="inputSource" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[RuleModelReference Element](#)

Child Elements

[AttributeMapping Element](#)

Related Elements

[InputMapping Element](#), [InputMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-443
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
```

```
<xs:attribute name="toName" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[InputMapping Element](#)

OutputMapping Element

A mapping from the output attributes of the referenced object

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-444
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[RuleModelReference Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-445
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[OutputMapping Element](#)

Output Element

The selected outputs from the model. Output names are interpreted after the output mapping.

Table A-446
Attributes for Output

Attribute	Use	Description	Valid Values
dataType	optional	The type of the output	<i>string</i>
name	optional	The name of the output	<i>string</i>
role	optional	The role of the output	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeRuleModelOutput" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="role" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[RuleModelReference Element](#)

Parameter Element

Parameters passed to the model.

Table A-447
Attributes for Parameter

Attribute	Use	Description	Valid Values
dataType	required	The type of the parameter	<i>string</i>
description	optional	Optional parameter description	<i>string</i>
maximumValue	optional	A maximum value restriction for this parameter	<i>string</i>
minimumValue	optional	A minimum value restriction for this parameter	<i>string</i>

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameter" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="value" type="xs:string"></xs:attribute>
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="description" type="xs:string"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[RuleModelReference Element](#)

Child Elements

[Category Element](#)

Related Elements

[Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#)

Category Element

Categorical values defined for this parameter

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Parameter Element](#)

SASFileTable Type

A SAS save file-based table definition

Table A-450
Attributes for typeArbitrationRule

Attribute	Use	Description	Valid Values
description	optional	Optional description of this rule	<i>string</i>
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	<i>string</i>
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```

<xs:complexType name="typeArbitrationRule">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"/></xs:element>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"/></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>

```

```

<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
<xs:sequence>
  <xs:element name="Primary" type="typeRule">
    <xs:sequence>
      <xs:element name="ApplicationView" minOccurs="0"></xs:element>
      <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
        <xs:sequence>
          <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
            <xs:sequence>
              <xs:element name="Category" type="xs:string" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Table" type="typeDataTable"></xs:element>
          <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
            maxOccurs="unbounded">
            <xs:sequence>
              <xs:element name="Category" type="xs:string" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
            <xs:sequence>
              <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
            <xs:sequence>
              <xs:element name="Definition" type="xs:string"></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
            <xs:sequence>
              <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>

```



```

        </xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
            minOccurs="0"></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Member" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
            minOccurs="0"></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Secondary" type="typeRule">
    <xs:sequence>
        <xs:element name="ApplicationView" minOccurs="0"></xs:element>
        <xs:element name="DataSet" type="dataset.typeDataSet" minOccurs="0">
            <xs:sequence>
                <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
                    <xs:sequence>
                        <xs:element name="Category" type="xs:string" minOccurs="0"
                            maxOccurs="unbounded"></xs:element>
                    </xs:sequence>
                </xs:element>
                <xs:element name="Table" type="typeDataTable"></xs:element>
                <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
                    maxOccurs="unbounded">
                    <xs:sequence>
                        <xs:element name="Category" type="xs:string" minOccurs="0"
                            maxOccurs="unbounded"></xs:element>
                    </xs:sequence>
                    <xs:sequence>
                        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
                            maxOccurs="unbounded"></xs:element>
                    </xs:sequence>
                    <xs:sequence>
                        <xs:element name="Definition" type="xs:string"></xs:element>
                    </xs:sequence>
                </xs:element>
            </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
            <xs:sequence>

```

```

        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
</xs:element>
</xs:sequence>
</xs:complexType>

```

Extends

[Rule Element](#), [Primary Element](#), [Secondary Element](#), [ColumnRule Element](#), [RowRule Element](#), [RuleObject Element](#)

Child Elements

[AnalyticEngine Element](#), [ApplicationView Element](#), [DataSet Element](#), [Input Element](#), [InputDimension Element](#), [Output Element](#), [Primary Element](#), [Secondary Element](#)

Related Types

[typeDecisionRule Type](#), [typeExpressionRule Type](#), [typeMatrixRule Type](#), [typeRandomRule Type](#), [typeThresholdRule Type](#)

ApplicationView Element

Reference to Application View and table the rule is designed to work with, object ID content of this element

Table A-451
Attributes for *ApplicationView*

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
table	optional	optional? Table name referenced from this Application View	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ApplicationView" minOccurs="0">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="table" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeArbitrationRule](#) Type

Related Elements

[ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ObjectReference Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#)

DataSet Element

Optional information on data set used to define this rule

Table A-452
Attributes for *DataSet*

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none

Attribute	Use	Description	Valid Values
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>

```

```

        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[typeArbitrationRule Type](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-453
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>

Attribute	Use	Description	Valid Values
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Table A-454
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[DataSet Element](#)

Child Elements[Category Element](#)**Category Element**

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-455
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-456
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition

Type	Description
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[DataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-457

Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```


Table A-458
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-459
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-460
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Mapping Element](#)**Input Element**

The required inputs for this rule

Table A-461
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```

<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[typeArbitrationRule Type](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```

<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[Input Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-462

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-463

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```

<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[typeArbitrationRule Type](#)

Child Elements

[Member Element](#)

Member Element

Optional list of dimension members referred to within this rule

XML Representation

```

<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements[InputDimension Element](#)**Output Element**

The outputs produced by an execution of this rule

Table A-464
Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements[typeArbitrationRule Type](#)**Child Elements**[Category Element, modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Output Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-465

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"/></xs:enumeration>
    <xs:enumeration value="Propensity"/></xs:enumeration>
    <xs:enumeration value="RuleIndex"/></xs:enumeration>
    <xs:enumeration value="Outcome"/></xs:enumeration>
    <xs:enumeration value="Target"/></xs:enumeration>
    <xs:enumeration value="Other"/></xs:enumeration>
    <xs:enumeration value="None"/></xs:enumeration>
    <xs:enumeration value="EntityId"/></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Output Element](#)

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"/></xs:element>
```

Parent Elements

[typeArbitrationRule](#) Type

Primary Element

UI will assign only a Decision List as the primary rule

Table A-466
Attributes for Primary

Attribute	Use	Description	Valid Values
description	optional	Optional description of this rule	<i>string</i>
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	<i>string</i>
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```
<xs:element name="Primary" type="typeRule">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"/></xs:element>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"/></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
```



```

        </xs:sequence>
        <xs:sequence>
            <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
        <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
        </xs:sequence>
    </xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
            minOccurs="0"></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Member" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
            minOccurs="0"></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
<xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="usageType" type="enumUsageType" use="optional">
    <xs:enumeration value="Segment"></xs:enumeration>
    <xs:enumeration value="SegmentSet"></xs:enumeration>
    <xs:enumeration value="Selection"></xs:enumeration>
    <xs:enumeration value="ExcludeSet"></xs:enumeration>
    <xs:enumeration value="IncludeSet"></xs:enumeration>
    <xs:enumeration value="Allocation"></xs:enumeration>
    <xs:enumeration value="Aggregation"></xs:enumeration>
    <xs:enumeration value="Matrix"></xs:enumeration>
    <xs:enumeration value="Expression"></xs:enumeration>
    <xs:enumeration value="Arbitration"></xs:enumeration>
    <xs:enumeration value="Threshold"></xs:enumeration>
</xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Table A-467
Extended Types

Type	Description
typeDecisionRule	A Decision Rule
typeMatrixRule	The Decision Matrix Rule
typeRandomRule	the Random Rule
typeExpressionRule	A simple expression
typeThresholdRule	An allocation rule defined by a series of threshold tests against a rule or model output
typeArbitrationRule	An allocation rule defined to be a 'primary' rule and a 'secondary' rule pair

Parent Elements

[typeArbitrationRule](#) Type

Child Elements

[AnalyticEngine Element](#), [ApplicationView Element](#), [DataSet Element](#), [Input Element](#), [InputDimension Element](#), [Output Element](#)

ApplicationView Element

Reference to Application View and table the rule is designed to work with, object ID content of this element

Table A-468
Attributes for ApplicationView

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
contentType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
table	optional	optional? Table name referenced from this Application View	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ApplicationView" minOccurs="0">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
```

```

    <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
    <xs:attribute name="table" type="xs:string"/></xs:attribute>
</xs:element>

```

Parent Elements

Primary Element

Related Elements

ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ObjectReference Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element

DataSet Element

Optional information on data set used to define this rule

Table A-469
Attributes for DataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
  </xs:attribute>

```

```

    <xs:enumeration value="none"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[Primary Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-470

Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>

```

```

<xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Table A-471
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[DataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```

<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-472
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>

Attribute	Use	Description	Valid Values
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-473
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[DataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-474
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>

[Expression Element](#), [Expression Element](#), [Expression Element](#), [Expression Element](#), [Expression Element](#), [Expression Element](#), [Expression Element](#), [Expression Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-475
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-476
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-477
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

Input Element

The required inputs for this rule

Table A-478
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[Primary Element](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Input Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-479

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-480

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements[Primary Element](#)**Child Elements**[Member Element](#)**Member Element**

Optional list of dimension members referred to within this rule

XML Representation

```
<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[InputDimension Element](#)**Output Element**

The outputs produced by an execution of this rule

Table A-481
Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```

<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[Primary Element](#)**Child Elements**[Category Element, modelOutputMetadata Element](#)**Category Element**

The categorical values this field may return

XML Representation

```

<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements[Output Element](#)**modelOutputMetadata Element**

Model Output Metadata relating to this field

Table A-482

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Output Element](#)

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```

<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>

```

Parent Elements

[Primary Element](#)

Secondary Element

The rule to be executed if the Primary rule above does not return a value.

Table A-483
Attributes for Secondary

Attribute	Use	Description	Valid Values
description	optional	Optional description of this rule	<i>string</i>
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	<i>string</i>
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```

<xs:element name="Secondary" type="typeRule">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"/></xs:element>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"/></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
          minOccurs="0"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Member" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Output" type="typeField" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
          minOccurs="0"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>

```



```

    </xs:element>
    <xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="usageType" type="enumUsageType" use="optional">
    <xs:enumeration value="Segment"></xs:enumeration>
    <xs:enumeration value="SegmentSet"></xs:enumeration>
    <xs:enumeration value="Selection"></xs:enumeration>
    <xs:enumeration value="ExcludeSet"></xs:enumeration>
    <xs:enumeration value="IncludeSet"></xs:enumeration>
    <xs:enumeration value="Allocation"></xs:enumeration>
    <xs:enumeration value="Aggregation"></xs:enumeration>
    <xs:enumeration value="Matrix"></xs:enumeration>
    <xs:enumeration value="Expression"></xs:enumeration>
    <xs:enumeration value="Arbitration"></xs:enumeration>
    <xs:enumeration value="Threshold"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Table A-484
Extended Types

Type	Description
typeDecisionRule	A Decision Rule
typeMatrixRule	The Decision Matrix Rule
typeRandomRule	the Random Rule
typeExpressionRule	A simple expression
typeThresholdRule	An allocation rule defined by a series of threshold tests against a rule or model output
typeArbitrationRule	An allocation rule defined to be a 'primary' rule and a 'secondary' rule pair

Parent Elements

[typeArbitrationRule](#) Type

Child Elements

[AnalyticEngine](#) Element, [ApplicationView](#) Element, [DataSet](#) Element, [Input](#) Element, [InputDimension](#) Element, [Output](#) Element

ApplicationView Element

Reference to Application View and table the rule is designed to work with, object ID content of this element

Table A-485
Attributes for ApplicationView

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>

Attribute	Use	Description	Valid Values
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
table	optional	optional? Table name referenced from this Application View	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ApplicationView" minOccurs="0">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="table" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

Secondary Element

Related Elements

ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ObjectReference Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element

DataSet Element

Optional information on data set used to define this rule

Table A-486
Attributes for DataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>

Attribute	Use	Description	Valid Values
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>

```

```

    </xs:sequence>
  </xs:element>
  <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

Secondary Element

Child Elements

Attribute Element, Expression Element, Mapping Element, Table Element

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-487
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>

Attribute	Use	Description	Valid Values
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-488
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[DataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-489
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Table A-490
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[DataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-491
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:sequence>
  <xs:element name="Definition" type="xs:string"></xs:element>
```


Parent Elements[Expression Element](#)**Definition Element**

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements[Expression Element](#)**Mapping Element**

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-493
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[DataSet Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-494
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

Mapping Element

Input Element

The required inputs for this rule

Table A-495
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

```

    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[Secondary Element](#)**Child Elements**[Category Element](#), [modelOutputMetadata Element](#)**Category Element**

The categorical values this field may return

XML Representation

```

<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements[Input Element](#)**modelOutputMetadata Element**

Model Output Metadata relating to this field

Table A-496

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">

```

```

    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-497

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```

<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Secondary Element](#)

Child Elements

[Member Element](#)

Member Element

Optional list of dimension members referred to within this rule

XML Representation

```

<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[InputDimension Element](#)

Output Element

The outputs produced by an execution of this rule

Table A-498
Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[Secondary Element](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Output Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-499

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Output Element](#)

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
```

Parent Elements[Secondary Element](#)***typeCurrentStateReportItem* Type**

Specifics on the report used for displaying the current state of a deployed application

Table A-500

Attributes for *typeCurrentStateReportItem*

Attribute	Use	Description	Valid Values
author	optional	Author of the object version	<i>string</i>
brokenLink	optional	Indicates whether the object version can be found in the repository or not	<i>boolean</i>
dateCreated	optional	Date the version was created in the repository	<i>string</i>
description	optional	Description defined for the object version and user's language code	<i>string</i>
displayName	optional	The name to display to the user for this report	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
groupName	optional	Optional report group name	<i>string</i>
id	required	ID of the repository object	<i>string</i>
isLocked	optional	runtime communication of object lock state	<i>boolean</i>
keywords	optional	Keywords defined for the object version	<i>string</i>
label	required	Version label of the repository object	<i>string</i>
marker	optional	Version marker for the repository object	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
modelID	optional	ID of the model in the build cache, used to track model refresh and those being created by auto-model process	<i>any</i>
name	optional	Name of the element	<i>string</i>
parameters	optional	Optional parameters to pass to the report when it runs	<i>string</i>
parentObjectId	optional	Tracking of the parent object ID	<i>string</i>

Attribute	Use	Description	Valid Values
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
path	optional	Full path of the object in the repository	<i>string</i>
usageDescription	optional	Additional description text that can be assigned by the user interface, but not part of repository information	<i>string</i>

XML Representation

```
<xs:complexType name="typeCurrentStateReportItem"></xs:complexType>
```

Extends

[Report Element](#)

typeDataSetExpression Type

A simple expression computed on the attributes of a single dataset

Table A-501

Attributes for *typeDataSetExpression*

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

Table A-502
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeDataSetExpression Type](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[typeDataSetExpression Type](#)

typeDecisionHierarchyDefineStep Type

The decision hierarchy definition step configuration. AggregationRuleSection and PredictiveModelSection may not both be enabled when using more than 2 dimensions.

Table A-503
Attributes for typeDecisionHierarchyDefineStep

Attribute	Use	Description	Valid Values
enableInteractionPoints	optional	Logical switch controlling whether Interaction Points are presented to the user or not	<i>boolean</i>
enableSimulation	optional	Controls presentation of the Define-style Simulation action	<i>boolean</i>
enableTest	optional	Controls presentation of the Test action	<i>boolean</i>
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
stepHidden	optional	The 'hidden' state for this panel	<i>boolean</i>
stepIncluded	optional	The logical 'included or not' flag for this panel	<i>boolean</i>
stepLocked	optional	The locked state for this panel	<i>boolean</i>

XML Representation

```
<xs:complexType name="typeDecisionHierarchyDefineStep">
  <xs:sequence>
    <xs:element name="DimensionSetting" type="typeDimensionSetting" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="SelectionSection" type="typeSelectionsSection"/></xs:element>
        <xs:element name="AggregateRuleSection" type="typeAggregateRuleSection"/></xs:element>
        <xs:element name="PredictiveModelSection" type="typePredictiveModelSection"/></xs:element>
        <xs:element name="AllocationRuleSection" type="typeAllocationRuleSection"/></xs:element>
        <xs:element name="PlanningSection" type="typePlanningSection"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Extends

[DefineStep Element](#)

Child Elements

[DimensionSetting Element](#)

Related Types

[typeModelingDefineStep Type](#), [typeRulesManagementDefineStep Type](#)

DimensionSetting Element

Configuration(s) of the dimensions(each level in single element or multiple elements).

Table A-504

Attributes for DimensionSetting

Attribute	Use	Description	Valid Values
enableSubInherit	optional	The flag for whether current dimension setting would inherit by sub dimension in one element.	<i>boolean</i>
lockDimensionTree	optional	The flag for lock dimension tree.	<i>boolean</i>
name	optional	Dimension name.	<i>string</i>

XML Representation

```

<xs:element name="DimensionSetting" type="typeDimensionSetting" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="SelectionSection" type="typeSelectionsSection"></xs:element>
    <xs:element name="AggregateRuleSection" type="typeAggregateRuleSection"></xs:element>
    <xs:element name="PredictiveModelSection" type="typePredictiveModelSection"></xs:element>
    <xs:element name="AllocationRuleSection" type="typeAllocationRuleSection"></xs:element>
    <xs:element name="PlanningSection" type="typePlanningSection"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="enableSubInherit" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="lockDimensionTree" type="xs:boolean" use="optional" default="false"></xs:attribute>
</xs:element>

```

Parent Elements

[typeDecisionHierarchyDefineStep](#) Type

Child Elements

[AggregateRuleSection](#) Element, [AllocationRuleSection](#) Element, [PlanningSection](#) Element, [PredictiveModelSection](#) Element, [SelectionSection](#) Element

SelectionSection Element

Configuration of the Selections section

Table A-505

Attributes for SelectionSection

Attribute	Use	Description	Valid Values
enabled	required	Logical switch controlling whether this section is enabled or not	<i>boolean</i>
enableModels	optional	Models off/on control	<i>boolean</i>

XML Representation

```

<xs:element name="SelectionSection" type="typeSelectionsSection">
  <xs:attribute name="enabled" type="xs:boolean" use="required"></xs:attribute>
  <xs:attribute name="enableModels" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Parent Elements

[DimensionSetting](#) Element

AggregateRuleSection Element

Configuration of the Aggregate Rule section

Table A-506
Attributes for AggregateRuleSection

Attribute	Use	Description	Valid Values
enableCategoriesAndThresholds	optional	Controls the appearance of the threshold or value range segmentation with category assignment	<i>boolean</i>
enabled	required	Logical switch controlling whether this section is enabled or not	<i>boolean</i>
enableModels	optional	Models off/on control	<i>boolean</i>

XML Representation

```
<xs:element name="AggregateRuleSection" type="typeAggregateRuleSection">
  <xs:attribute name="enabled" type="xs:boolean" use="required"/></xs:attribute>
  <xs:attribute name="enableModels" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="enableCategoriesAndThresholds" type="xs:boolean" use="optional"
    default="true"/></xs:attribute>
</xs:element>
```

Parent Elements

[DimensionSetting Element](#)

PredictiveModelSection Element

Configuration of the Predictive Model section

Table A-507
Attributes for PredictiveModelSection

Attribute	Use	Description	Valid Values
enableCategoriesAndThresholds	optional	Controls the appearance of the threshold or value range segmentation with category assignment	<i>boolean</i>
enabled	required	Logical switch controlling whether this section is enabled or not	<i>boolean</i>

XML Representation

```
<xs:element name="PredictiveModelSection" type="typePredictiveModelSection">
  <xs:attribute name="enabled" type="xs:boolean" use="required"/></xs:attribute>
  <xs:attribute name="enableCategoriesAndThresholds" type="xs:boolean" use="optional"
    default="true"/></xs:attribute>
</xs:element>
```

Parent Elements

[DimensionSetting Element](#)

AllocationRuleSection Element

Configuration of the Allocation Rule section

Table A-508

Attributes for AllocationRuleSection

Attribute	Use	Description	Valid Values
enabled	required	Logical switch controlling whether this section is enabled or not	<i>boolean</i>
enableFirstRuleHitExecution	optional	Permit user option of halting rule execution on first 'true' encountered	<i>boolean</i>
enableListExecution	optional	Permit user option of running the entire rule set, potentially resulting in multiple 'true' events	<i>boolean</i>
enableModels	optional	Models off/on control	<i>boolean</i>
enableRandomExecution	optional	Permit user option of telling the execution code to only choose from the available responses	<i>boolean</i>

XML Representation

```
<xs:element name="AllocationRuleSection" type="typeAllocationRuleSection">
  <xs:attribute name="enabled" type="xs:boolean" use="required"/></xs:attribute>
  <xs:attribute name="enableModels" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="enableFirstRuleHitExecution" type="xs:boolean" use="optional"
    default="true"/></xs:attribute>
  <xs:attribute name="enableListExecution" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="enableRandomExecution" type="xs:boolean" use="optional"
    default="true"/></xs:attribute>
</xs:element>
```

Parent Elements

[DimensionSetting Element](#)

PlanningSection Element

Configuration of the Planning section

Table A-509
Attributes for *PlanningSection*

Attribute	Use	Description	Valid Values
enableInteractionPoints	required	Logical switch controlling whether Interaction Points are presented to the user or not	<i>boolean</i>
enableStartEndDates	required	Logical switch controlling whether Start and End date limits are presented to the user or not	<i>boolean</i>

XML Representation

```
<xs:element name="PlanningSection" type="typePlanningSection">
  <xs:attribute name="enableInteractionPoints" type="xs:boolean" use="required"></xs:attribute>
  <xs:attribute name="enableStartEndDates" type="xs:boolean" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[DimensionSetting Element](#)

typeDecisionRule Type

A Decision Rule

Table A-510
Attributes for *typeDecisionRule*

Attribute	Use	Description	Valid Values
aggregation	required	The rule subtype (more than aggregation) controlling execution of this rule	AllMatches FirstMatch Segment Selection Sum
aggregationRemainderType	optional	The type of remainder processing to be performed on a 'Sum' aggregation; when omitted there will be no remainder applied	ApplyWhenZero ApplyAlways
description	optional	Optional description of this rule	<i>string</i>
multiValued	optional	Indicates that a single segment (or the remainder) can return multiple values for the same output field.	<i>boolean</i>

Attribute	Use	Description	Valid Values
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	<i>string</i>
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```

<xs:complexType name="typeDecisionRule">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"/></xs:element>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"/></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>

```



```

        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
            minOccurs="0"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Member" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"/></xs:element>
        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
            minOccurs="0"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"/></xs:element>
</xs:sequence>
<xs:sequence>
    <xs:element name="Segment" type="typeDecisionSegment" minOccurs="0" maxOccurs="unbounded">
        <xs:sequence>
            <xs:choice>
                <xs:element name="Expression" type="typeExpression">
                    <xs:choice>
                        <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
                        <xs:element ref="Attribute"/></xs:element>
                        <xs:element ref="Value"/></xs:element>
                        <xs:element name="DimensionReference"
                            type="typeDimensionReference"/></xs:element>
                        <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
                            <xs:sequence>
                                <xs:element name="ObjectReference"
                                    type="typeRepositoryObject"/></xs:element>
                                <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
                                    minOccurs="0">
                                    <xs:sequence>
                                        <xs:element name="AttributeMapping" type="typeAttributeMapping"
                                            minOccurs="0" maxOccurs="unbounded"/></xs:element>
                                    </xs:sequence>
                                </xs:element>
                                <xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
                                    minOccurs="0">
                                    <xs:sequence>
                                        <xs:element name="AttributeMapping" type="typeAttributeMapping"
                                            minOccurs="0" maxOccurs="unbounded"/></xs:element>
                                    </xs:sequence>
                                </xs:element>
                                <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
                                    <xs:sequence>
                                        <xs:element name="KeyAttribute" type="typeKeyAttribute"
                                            maxOccurs="unbounded"/></xs:element>
                                    </xs:sequence>
                                </xs:element>
                            </xs:sequence>
                        </xs:element>
                    </xs:choice>
                </xs:choice>
            </xs:sequence>
        </xs:element>
    </xs:sequence>
</xs:sequence>
</xs:element>

```

```

        <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
</xs:element>
<xs:element name="ObjectReference"></xs:element>
</xs:choice>
<xs:choice>
  <xs:element name="OutputFieldValue" type="typeOutputFieldValue" minOccurs="0"
    maxOccurs="unbounded">
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:element name="Value" type="typeValue"></xs:element>
    </xs:choice>
  </xs:element>
  <xs:element name="ValueOutput" type="typeValueOutput" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
</xs:choice>
</xs:sequence>
</xs:element>
<xs:element name="Remainder" type="typeRemainder" minOccurs="0">
  <xs:choice>
    <xs:element name="OutputFieldValue" type="typeOutputFieldValue" minOccurs="0"
      maxOccurs="unbounded">
      <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="Value" type="typeValue"></xs:element>
      </xs:choice>
    </xs:element>
    <xs:element name="ValueOutput" type="typeValueOutput" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:choice>
</xs:element>
</xs:sequence>
</xs:complexType>

```

Extends

[Rule Element](#), [Primary Element](#), [Secondary Element](#), [ColumnRule Element](#), [RowRule Element](#), [RuleObject Element](#)

Child Elements

[AnalyticEngine Element](#), [ApplicationView Element](#), [DataSet Element](#), [Input Element](#), [InputDimension Element](#), [Output Element](#), [Remainder Element](#), [Segment Element](#)

Related Types

[typeArbitrationRule Type](#), [typeExpressionRule Type](#), [typeMatrixRule Type](#), [typeRandomRule Type](#), [typeThresholdRule Type](#)

ApplicationView Element

Reference to Application View and table the rule is designed to work with, object ID content of this element

Table A-511
Attributes for *ApplicationView*

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
table	optional	optional? Table name referenced from this Application View	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ApplicationView" minOccurs="0">
  <xs:attribute name="label" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="table" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[typeDecisionRule Type](#)

Related Elements

[ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ObjectReference Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#)

DataSet Element

Optional information on data set used to define this rule

Table A-512
Attributes for *DataSet*

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none

Attribute	Use	Description	Valid Values
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>

```

```

        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[typeDecisionRule Type](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-513
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	string
description	optional	Optional attribute description	string

Attribute	Use	Description	Valid Values
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-514
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[DataSet Element](#)

Child Elements[Category Element](#)**Category Element**

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-515
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-516
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition

Type	Description
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[DataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-517

Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```


Table A-518
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-519
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-520
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Mapping Element](#)**Input Element**

The required inputs for this rule

Table A-521
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```

<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[typeDecisionRule Type](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```

<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[Input Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-522

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-523

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```

<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[typeDecisionRule Type](#)

Child Elements

[Member Element](#)

Member Element

Optional list of dimension members referred to within this rule

XML Representation

```

<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements[InputDimension Element](#)**Output Element**

The outputs produced by an execution of this rule

Table A-524
Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements[typeDecisionRule Type](#)**Child Elements**[Category Element, modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Output Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-525

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"/></xs:enumeration>
    <xs:enumeration value="Propensity"/></xs:enumeration>
    <xs:enumeration value="RuleIndex"/></xs:enumeration>
    <xs:enumeration value="Outcome"/></xs:enumeration>
    <xs:enumeration value="Target"/></xs:enumeration>
    <xs:enumeration value="Other"/></xs:enumeration>
    <xs:enumeration value="None"/></xs:enumeration>
    <xs:enumeration value="EntityId"/></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Output Element](#)

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"/></xs:element>
```

Parent Elements

[typeDecisionRule](#) Type

Segment Element

The Segment expressions for this Decision List rule

Table A-526

Attributes for Segment

Attribute	Use	Description	Valid Values
description	optional	Optional segment description	<i>string</i>
isExcluded	optional	Optional indicator of whether this segment should default to an Exclude when used in selection or not	<i>boolean</i>
localLock	optional	Optional indicator of if an Admin has locked this segment in the rule, only has meaning to UI supporting this feature	<i>boolean</i>
segmentName	optional	Alias name for this segment	<i>string</i>
sharedObjectReferences	optional	Optional attribute (default false) indicates of if this segment references objects in the repository or not	<i>boolean</i>

XML Representation

```
<xs:element name="Segment" type="typeDecisionSegment" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:choice>
      <xs:element name="Expression" type="typeExpression">
        <xs:choice>
          <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
          <xs:element ref="Attribute"/></xs:element>
          <xs:element ref="Value"/></xs:element>
          <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
          <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
            <xs:sequence>
              <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
              <xs:element name="InputMapping" type="dataset:typeDataSetMapping"
                minOccurs="0">
                <xs:sequence>
                  <xs:element name="AttributeMapping" type="typeAttributeMapping"
                    minOccurs="0" maxOccurs="unbounded"/></xs:element>
                </xs:sequence>
              </xs:sequence>
            </xs:element>
          </xs:element>
        </xs:choice>
      </xs:choice>
    </xs:sequence>
  </xs:element>
```



```

</xs:element>
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping"
minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping"
minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
</xs:choice>
</xs:element>
<xs:element name="ObjectReference"></xs:element>
</xs:choice>
<xs:choice>
  <xs:element name="OutputFieldValue" type="typeOutputFieldValue" minOccurs="0"
maxOccurs="unbounded">
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:element name="Value" type="typeValue"></xs:element>
    </xs:choice>
  </xs:element>
  <xs:element name="ValueOutput" type="typeValueOutput" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:choice>
</xs:sequence>
<xs:attribute name="segmentName" type="xs:string"></xs:attribute>
<xs:attribute name="isExcluded" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="localLock" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="sharedObjectReferences" type="xs:boolean" use="optional"
default="false"></xs:attribute>
</xs:element>

```

Parent Elements

[typeDecisionRule Type](#)

Child Elements

[Expression Element](#), [ObjectReference Element](#), [OutputFieldValue Element](#), [ValueOutput Element](#)

Expression Element

Segment expression

Table A-527
Attributes for Expression

Attribute	Use	Description	Valid Values
Domain	optional	Resulting data type domain for this expression	<i>string</i>
Functor	optional	Optional functor involved in this expression	<i>string</i>
Name	optional	Alias name of this expression	<i>string</i>

XML Representation

```

<xs:element name="Expression" type="typeExpression">
  <xs:choice>
    <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element ref="Attribute"></xs:element>
    <xs:element ref="Value"></xs:element>
    <xs:element name="DimensionReference" type="typeDimensionReference"></xs:element>
    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
      <xs:sequence>
        <xs:element name="ObjectReference" type="typeRepositoryObject"></xs:element>
        <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
          <xs:sequence>
            <xs:element name="KeyAttribute" type="typeKeyAttribute"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
  <xs:attribute name="Name" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="Domain" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="Functor" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Table A-528
Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements[Segment Element](#)**Child Elements**[Attribute Element](#), [DimensionReference Element](#), [Expression Element](#), [ObjectOutput Element](#), [Value Element](#)**DimensionReference Element**

A reference to a dimension that will provide the value

Table A-529

Attributes for DimensionReference

Attribute	Use	Description	Valid Values
Name	optional	Dimension name	<i>string</i>

XML Representation

```
<xs:element name="DimensionReference" type="typeDimensionReference">
  <xs:attribute name="Name" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements[Expression Element](#)**ObjectOutput Element**

The output of a repository object (rule or model)

Table A-530

Attributes for ObjectOutput

Attribute	Use	Description	Valid Values
output	required	The output attribute of the object	<i>string</i>

XML Representation

```
<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
  <xs:sequence>
    <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
    <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
```

```

    </xs:sequence>
  </xs:element>
  <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
    <xs:sequence>
      <xs:element name="KeyAttribute" type="typeKeyAttribute"
        minOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="output" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Expression Element](#)

Child Elements

[InputMapping Element](#), [Key Element](#), [ObjectReference Element](#), [OutputMapping Element](#), [Parameter Element](#)

ObjectReference Element

The repository object

Table A-531
Attributes for *ObjectReference*

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
contentType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```

<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="contentType" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[ObjectOutput Element](#)**InputMapping Element**

A mapping from the rule attributes to the input attributes of the model.

XML Representation

```
<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-532
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[ObjectOutput Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-533
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[InputMapping Element](#)**OutputMapping Element**

A renaming of the output attributes of the model.

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-534
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[ObjectOutput Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-535
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[OutputMapping Element](#)**Key Element**

Key field(s) on which to group input rows to the model.

Table A-536

Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
</xs:element>
```

Parent Elements[ObjectOutput Element](#)**Child Elements**[KeyAttribute Element](#)**KeyAttribute Element**

The list of attributes which make up the key

Table A-537

Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements[Key Element](#)

Parameter Element

Parameters passed to the model.

Table A-538
Attributes for Parameter

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="value" type="xs:string"/></xs:attribute>
</xs:element>
```

Table A-539
Extended Types

Type	Description
typeParameter	The details of a stream parameter

Parent Elements

[ObjectOutput Element](#)

ObjectReference Element

Output from a repository object

Table A-540
Attributes for ObjectReference

Attribute	Use	Description	Valid Values
column	required	The output column of the referenced repository object	<i>string</i>
label	required	Version label referenced	<i>string</i>
contentType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ObjectReference">
  <xs:attribute name="label" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="column" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Segment Element](#)

Related Elements

[ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#)

OutputFieldValue Element

Allocated output values produced by ‘match’ of the expression above, optional for rule types that have their overall output implied as in the Segment and Selection rules. Any output of the rule not specified is implied to have a null value.

Table A-541
Attributes for *OutputFieldValue*

Attribute	Use	Description	Valid Values
allocateAll	optional	A hint to the UI that the value originated from the user selecting “allocate all”.	<i>boolean</i>
fieldName	required	The name of the output field with which this value is associated.	<i>string</i>

XML Representation

```
<xs:element name="OutputFieldValue" type="typeOutputFieldValue" minOccurs="0" maxOccurs="unbounded">
  <xs:choice minOccurs="0" maxOccurs="unbounded">
    <xs:element name="Value" type="typeValue"></xs:element>
  </xs:choice>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="allocateAll" type="xs:boolean" default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[Segment Element](#)

Child Elements[Value Element](#)**Value Element**

A literal value.

Table A-542
Attributes for Value

Attribute	Use	Description	Valid Values
IsNil	optional	Flag indicating if the value is NULL or not	<i>boolean</i>
type	optional	Specific data type of this literal value	<i>any</i>

XML Representation

```
<xs:element name="Value" type="typeValue">
  <xs:attribute name="IsNil" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="type" use="optional">
    <xs:simpleType>
      <xs:restriction base="xs:string"></xs:restriction>
    </xs:simpleType>
  </xs:attribute>
</xs:element>
```

Parent Elements[OutputFieldValue Element](#)**ValueOutput Element**

[Deprecated] Replaced by OutputFieldValue.

Table A-543
Attributes for ValueOutput

Attribute	Use	Description	Valid Values
field	required		<i>string</i>

XML Representation

```
<xs:element name="ValueOutput" type="typeValueOutput" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="field" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Segment Element](#)

Remainder Element

The optional definition of a remainder

Table A-544

Attributes for Remainder

Attribute	Use	Description	Valid Values
segmentName	optional	Alias name for this segment	<i>string</i>

XML Representation

```
<xs:element name="Remainder" type="typeRemainder" minOccurs="0">
  <xs:choice>
    <xs:element name="OutputFieldValue" type="typeOutputFieldValue" minOccurs="0"
      maxOccurs="unbounded">
      <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="Value" type="typeValue"></xs:element>
      </xs:choice>
    </xs:element>
    <xs:element name="ValueOutput" type="typeValueOutput" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:choice>
  <xs:attribute name="segmentName" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[typeDecisionRule Type](#)

Child Elements

[OutputFieldValue Element](#), [ValueOutput Element](#)

OutputFieldValue Element

Output values associated with the remainder situation for a rule. Any output of the rule not specified is implied to have a null value.

Table A-545

Attributes for OutputFieldValue

Attribute	Use	Description	Valid Values
allocateAll	optional	A hint to the UI that the value originated from the user selecting "allocate all".	<i>boolean</i>
fieldName	required	The name of the output field with which this value is associated.	<i>string</i>

XML Representation

```
<xs:element name="OutputFieldValue" type="typeOutputFieldValue" minOccurs="0" maxOccurs="unbounded">
  <xs:choice minOccurs="0" maxOccurs="unbounded">
```

```

    <xs:element name="Value" type="typeValue"></xs:element>
  </xs:choice>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="allocateAll" type="xs:boolean" default="false"></xs:attribute>
</xs:element>

```

Parent Elements

[Remainder Element](#)

Child Elements

[Value Element](#)

Value Element

A literal value.

Table A-546
Attributes for Value

Attribute	Use	Description	Valid Values
IsNil	optional	Flag indicating if the value is NULL or not	<i>boolean</i>
type	optional	Specific data type of this literal value	<i>any</i>

XML Representation

```

<xs:element name="Value" type="typeValue">
  <xs:attribute name="IsNil" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="type" use="optional">
    <xs:simpleType>
      <xs:restriction base="xs:string"></xs:restriction>
    </xs:simpleType>
  </xs:attribute>
</xs:element>

```

Parent Elements

[OutputFieldValue Element](#)

ValueOutput Element

[Deprecated] Replaced by OutputFieldValue.

Table A-547
Attributes for ValueOutput

Attribute	Use	Description	Valid Values
field	required		<i>string</i>

XML Representation

```
<xs:element name="ValueOutput" type="typeValueOutput" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="field" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Remainder Element](#)

typeDerivedAttribute Type

A derived (computed) attribute

Table A-548

Attributes for typeDerivedAttribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:complexType name="typeDerivedAttribute" abstract="true">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:complexType>
```


Table A-550
Attributes for *typeExpressionRule*

Attribute	Use	Description	Valid Values
description	optional	Optional description of this rule	<i>string</i>
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	<i>string</i>
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```

<xs:complexType name="typeExpressionRule">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"/>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"/>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"/>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"/>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>

```

```

<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
<xs:sequence>
  <xs:element name="Expression" type="typeExpression">
    <xs:choice>
      <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"></xs:element>
      <xs:element ref="Attribute"></xs:element>
      <xs:element ref="Value"></xs:element>
      <xs:element name="DimensionReference" type="typeDimensionReference"></xs:element>
      <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
        <xs:sequence>
          <xs:element name="ObjectReference" type="typeRepositoryObject"></xs:element>
          <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
            <xs:sequence>
              <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
            <xs:sequence>
              <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
            <xs:sequence>
              <xs:element name="KeyAttribute" type="typeKeyAttribute"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:choice>
  </xs:element>
</xs:sequence>
</xs:element>

```



```

    </xs:choice>
  </xs:element>
</xs:sequence>
</xs:complexType>

```

Extends

Rule Element, Primary Element, Secondary Element, ColumnRule Element, RowRule Element, RuleObject Element

Child Elements

AnalyticEngine Element, ApplicationView Element, DataSet Element, Expression Element, Input Element, InputDimension Element, Output Element

Related Types

typeArbitrationRule Type, typeDecisionRule Type, typeMatrixRule Type, typeRandomRule Type, typeThresholdRule Type

ApplicationView Element

Reference to Application View and table the rule is designed to work with, object ID content of this element

Table A-551
Attributes for ApplicationView

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
contentType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
table	optional	optional? Table name referenced from this Application View	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```

<xs:element name="ApplicationView" minOccurs="0">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="contentType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="table" type="xs:string"/></xs:attribute>
</xs:element>

```

Parent Elements

[typeExpressionRule](#) [Type](#)

Related Elements

[ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ObjectReference Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#)

DataSet Element

Optional information on data set used to define this rule

Table A-552
Attributes for DataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
    <xs:enumeration value="none"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>

```

```

    <xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
    <xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[typeExpressionRule](#) Type

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-553
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>

```

```
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-554
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[DataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-555
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Table A-556
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[DataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-557
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-558

Attributes for *DataSetAttribute*

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```



```
</xs:sequence>
</xs:element>
```

Table A-559
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-560
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

Input Element

The required inputs for this rule

Table A-561
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>

Attribute	Use	Description	Valid Values
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[typeExpressionRule Type](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Input Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-562

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-563

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[typeExpressionRule Type](#)**Child Elements**[Member Element](#)**Member Element**

Optional list of dimension members referred to within this rule

XML Representation

```
<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[InputDimension Element](#)**Output Element**

The outputs produced by an execution of this rule

Table A-564

Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"/></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"/></xs:attribute>
```

```

<xs:attribute name="measureType" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="maxValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="minValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
  default="false"/></xs:attribute>
<xs:attribute name="expressionEquation" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Parent Elements

[typeExpressionRule](#) Type

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Output Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-565

Attributes for *modelOutputMetadata*

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"/></xs:enumeration>
    <xs:enumeration value="Propensity"/></xs:enumeration>
    <xs:enumeration value="RuleIndex"/></xs:enumeration>
    <xs:enumeration value="Outcome"/></xs:enumeration>
    <xs:enumeration value="Target"/></xs:enumeration>
  </xs:element>

```

```

    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Output Element](#)

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
```

Parent Elements

[typeExpressionRule Type](#)

Expression Element

An expression

Table A-566

Attributes for Expression

Attribute	Use	Description	Valid Values
Domain	optional	Resulting data type domain for this expression	<i>string</i>
Functor	optional	Optional functor involved in this expression	<i>string</i>
Name	optional	Alias name of this expression	<i>string</i>

XML Representation

```

<xs:element name="Expression" type="typeExpression">
  <xs:choice>
    <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element ref="Attribute"></xs:element>
    <xs:element ref="Value"></xs:element>
    <xs:element name="DimensionReference" type="typeDimensionReference"></xs:element>
    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
      <xs:sequence>
        <xs:element name="ObjectReference" type="typeRepositoryObject"></xs:element>
        <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
</xs:element>

```

```

    </xs:sequence>
  </xs:element>
  <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
    <xs:sequence>
      <xs:element name="KeyAttribute" type="typeKeyAttribute"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:element>
</xs:choice>
<xs:attribute name="Name" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="Domain" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="Functor" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Table A-567
Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements

[typeExpressionRule](#) Type

Child Elements

[Attribute Element](#), [DimensionReference Element](#), [Expression Element](#), [ObjectOutput Element](#), [Value Element](#)

DimensionReference Element

A reference to a dimension that will provide the value

Table A-568
Attributes for DimensionReference

Attribute	Use	Description	Valid Values
Name	optional	Dimension name	<i>string</i>

XML Representation

```

<xs:element name="DimensionReference" type="typeDimensionReference">
  <xs:attribute name="Name" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[Expression Element](#)**ObjectOutput Element**

The output of a repository object (rule or model)

Table A-569
Attributes for *ObjectOutput*

Attribute	Use	Description	Valid Values
output	required	The output attribute of the object	<i>string</i>

XML Representation

```
<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
  <xs:sequence>
    <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
    <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
      <xs:sequence>
        <xs:element name="KeyAttribute" type="typeKeyAttribute"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="output" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements[Expression Element](#)**Child Elements**

[InputMapping Element](#), [Key Element](#), [ObjectReference Element](#), [OutputMapping Element](#), [Parameter Element](#)

ObjectReference Element

The repository object

Table A-570
Attributes for ObjectReference

Attribute	Use	Description	Valid Values
label	required	Version label referenced	string
mimeType	optional	File MIME type of the repository object	string
name	optional	Optional Application View name for display	string
outputQualifier	optional	Optional output qualifier to be used during execution	string
usage	optional	Additional display information for the user interface	string

XML Representation

```
<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[ObjectOutput Element](#)

InputMapping Element

A mapping from the rule attributes to the input attributes of the model.

XML Representation

```
<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-571
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[ObjectOutput Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-572
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[InputMapping Element](#)**OutputMapping Element**

A renaming of the output attributes of the model.

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-573
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[ObjectOutput Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-574
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[OutputMapping Element](#)**Key Element**

Key field(s) on which to group input rows to the model.

Table A-575
Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
```

```

</xs:sequence>
<xs:attribute name="name" type="xs:string"></xs:attribute>
<xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
  default="false"></xs:attribute>
</xs:element>

```

Parent Elements

[ObjectOutput Element](#)

Child Elements

[KeyAttribute Element](#)

KeyAttribute Element

The list of attributes which make up the key

Table A-576

Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"></xs:attribute>
</xs:element>

```

Parent Elements

[Key Element](#)

Parameter Element

Parameters passed to the model.

Table A-577

Attributes for Parameter

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```

<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="value" type="xs:string"></xs:attribute>
</xs:element>

```

Table A-578
Extended Types

Type	Description
typeParameter	The details of a stream parameter

Parent Elements

[ObjectOutput Element](#)

typeInputs Type

The primary input source for this application; defines the project data model

Table A-579
Attributes for typeInputs

Attribute	Use	Description	Valid Values
name	optional	The name of this input source, required for all but the primary input source	<i>string</i>
primaryDataSetName	optional	The name of the primary (default) data set	<i>string</i>

XML Representation

```
<xs:complexType name="typeInputs">
  <xs:sequence>
    <xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

```

        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0"
maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Table" type="typeDataTable"></xs:element>
      <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
        </xs:sequence>
        <xs:sequence>
          <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
        </xs:sequence>
        <xs:sequence>
          <xs:element name="Definition" type="xs:string"></xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
        <xs:sequence>
          <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
    <xs:sequence>
      <xs:element name="KeyAttribute" type="typeKeyAttribute"
maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:sequence>
  <xs:element name="InputSource" type="typeInputSource" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
        <xs:sequence>
          <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
            <xs:sequence>
              <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Table" type="typeDataTable"></xs:element>
          <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">

```

```

    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
</xs:element>
<xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>

```

```

        </xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="DataSetJoin" type="typeDataSetJoin" minOccurs="0"
maxOccurs="unbounded"></xs:element>
<xs:element name="RuleModelReference" type="typeRuleModelReference" minOccurs="0"
maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="InputMapping" type="typeRuleModelInputMapping" minOccurs="0">
            <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
            </xs:sequence>
        </xs:element>
        <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
            <xs:sequence>
                <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
            </xs:sequence>
        </xs:element>
        <xs:element name="Output" type="typeRuleModelOutput" minOccurs="0"
maxOccurs="unbounded"></xs:element>
        <xs:element name="Parameter" type="typeParameter" minOccurs="0" maxOccurs="unbounded">
            <xs:sequence>
                <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
            </xs:sequence>
        </xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="DerivedAttribute" type="dataset:typeDerivedAttribute" minOccurs="0"
maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
    </xs:sequence>
</xs:element>
</xs:sequence>
</xs:complexType>

```

Extends

[InputSource Element](#), [InputSource Element](#)

Child Elements

[DataSetJoin Element](#), [DerivedAttribute Element](#), [InputSource Element](#), [Key Element](#), [OtherDataSet Element](#), [PrimaryDataSet Element](#), [RuleModelReference Element](#)

PrimaryDataSet Element

[Deprecated] The primary (default) data set

Table A-580
Attributes for PrimaryDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```
<xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
```

```

</xs:element>
<xs:element name="Table" type="typeDataTable"></xs:element>
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[typeInputs Type](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-581
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-582
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements[PrimaryDataSet Element](#)**Child Elements**[Category Element](#)**Category Element**

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-583
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-584
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition

Type	Description
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[PrimaryDataSet](#) Element

Expression Element

Optional passing of expressions defined by an application into a task

Table A-585

Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
```


Table A-586
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-587
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[PrimaryDataSet Element](#)

Child Elements[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-588
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Mapping Element](#)**OtherDataSet Element**

The data sets defined for this input source

Table A-589
Attributes for OtherDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>

Attribute	Use	Description	Valid Values
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>

```

```

        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
    </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
    <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[typeInputs Type](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-590
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

Attribute	Use	Description	Valid Values
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-591
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[OtherDataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-592
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-593
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements[OtherDataSet Element](#)**Expression Element**

Optional passing of expressions defined by an application into a task

Table A-594
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
  <xs:attribute name="ExpressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```


Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-596
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[OtherDataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-597
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

Key Element

The key fields in the data model

Table A-598
Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[typeInputs Type](#)

Child Elements[KeyAttribute Element](#)**KeyAttribute Element**

The list of attributes which make up the key

Table A-599

Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements[Key Element](#)**InputSource Element**

Secondary input sources used to derive new fields

Table A-600

Attributes for InputSource

Attribute	Use	Description	Valid Values
name	optional	The name of this input source, required for all but the primary input source	<i>string</i>
primaryDataSetName	optional	The name of the primary (default) data set	<i>string</i>

XML Representation

```
<xs:element name="InputSource" type="typeInputSource" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"/></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
```

```

        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    </xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>

```

```

</xs:sequence>
<xs:attribute name="name" type="xs:string" default=""></xs:attribute>
<xs:attribute name="primaryDataSetName" type="xs:string"></xs:attribute>
</xs:element>

```

Table A-601
Extended Types

Type	Description
typeInputs	The primary input source for this application; defines the project data model

Parent Elements

[typeInputs](#) Type

Child Elements

[Key Element](#), [OtherDataSet Element](#), [PrimaryDataSet Element](#)

PrimaryDataSet Element

[Deprecated] The primary (default) data set

Table A-602
Attributes for PrimaryDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>

Attribute	Use	Description	Valid Values
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="PrimaryDataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>

```

```

<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[InputSource Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-603

Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>

```

```

<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="miningType" type="xs:string"></xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Table A-604
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[PrimaryDataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-605
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-606
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[PrimaryDataSet](#) Element

Expression Element

Optional passing of expressions defined by an application into a task

Table A-607
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
  <xs:attribute name="ExpressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[PrimaryDataSet Element](#)

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-609
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[PrimaryDataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-610
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```

<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Mapping Element](#)

OtherDataSet Element

The data sets defined for this input source

Table A-611
Attributes for OtherDataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="OtherDataSet" type="dataset:typeDataSet" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
    <xs:enumeration value="none"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>

```

```

    <xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
    <xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[InputSource Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-612

Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>

```

```
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-613
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[OtherDataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-614
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```

<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Table A-615
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[OtherDataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-616
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-617

Attributes for *DataSetAttribute*

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

```

    </xs:sequence>
</xs:element>

```

Table A-618
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[OtherDataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-619
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```

<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Mapping Element](#)

Key Element

The key fields in the data model

Table A-620
Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[InputSource Element](#)

Child Elements

[KeyAttribute Element](#)

KeyAttribute Element

The list of attributes which make up the key

Table A-621
Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[Key Element](#)

DataSetJoin Element

Joins between this and the secondary input sources

Table A-622
Attributes for DataSetJoin

Attribute	Use	Description	Valid Values
leftDataSetName	optional	The name of the left-hand (primary) data set	<i>string</i>
rightDataSetName	optional	The name of the right-hand (secondary) data set	<i>string</i>
rightInputSource	optional	The name of the right-hand (secondary) input source	<i>string</i>

XML Representation

```
<xs:element name="DataSetJoin" type="typeDataSetJoin" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="leftDataSetName" type="xs:string"/></xs:attribute>
  <xs:attribute name="rightInputSource" type="xs:string"/></xs:attribute>
  <xs:attribute name="rightDataSetName" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeInputs Type](#)

RuleModelReference Element

Referenced models used to derive new fields

Table A-623
Attributes for RuleModelReference

Attribute	Use	Description	Valid Values
author	optional	Author of the object version	<i>string</i>
brokenLink	optional	Indicates whether the object version can be found in the repository or not	<i>boolean</i>
dateCreated	optional	Date the version was created in the repository	<i>string</i>
description	optional	Description defined for the object version and user's language code	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hidden	optional	[Not used] Indicates whether this rule or model should be hidden in the user interface	<i>boolean</i>
id	required	ID of the repository object	<i>string</i>

Attribute	Use	Description	Valid Values
isLocked	optional	runtime communication of object lock state	<i>boolean</i>
keywords	optional	Keywords defined for the object version	<i>string</i>
label	required	Version label of the repository object	<i>string</i>
marker	optional	Version marker for the repository object	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
modelID	optional	ID of the model in the build cache, used to track model refresh and those being created by auto-model process	<i>any</i>
name	optional	Name of the element	<i>string</i>
negated	optional	[Not used] Flag indicating negation of output field value	<i>boolean</i>
outputDataType	optional	[Deprecated - Use an Output instead] Output field data type	<i>string</i>
outputField	optional	[Deprecated - Use an Output instead] Output field to use from referenced object	<i>string</i>
outputRole	optional	[Deprecated - Use an Output instead] The role of the output field referenced	<i>string</i>
parentObjectId	optional	Tracking of the parent object ID	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
path	optional	Full path of the object in the repository	<i>string</i>
type	optional	[Deprecated - not used] Type of this reference	Value Model Selection
usageDescription	optional	Additional description text that can be assigned by the user interface, but not part of repository information	<i>string</i>

XML Representation

```

<xs:element name="RuleModelReference" type="typeRuleModelReference" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>

```

```

<xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
  <xs:enumeration value="none"></xs:enumeration>
  <xs:enumeration value="modify"></xs:enumeration>
  <xs:enumeration value="add"></xs:enumeration>
  <xs:enumeration value="remove"></xs:enumeration>
</xs:attribute>
<xs:attribute name="id" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="mimeType" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="label" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="marker" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="path" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="dateCreated" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="brokenLink" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="author" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="keywords" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="usageDescription" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="modelID"></xs:attribute>
<xs:attribute name="parentObjectId" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="isLocked" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:sequence>
  <xs:element name="InputMapping" type="typeRuleModelInputMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Output" type="typeRuleModelOutput" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
  <xs:element name="Parameter" type="typeParameter" minOccurs="0" maxOccurs="unbounded">
    <xs:sequence>
      <xs:element name="Category" type="xs:string" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:attribute name="type" type="enumRuleType" use="optional">
  <xs:enumeration value="Value"></xs:enumeration>
  <xs:enumeration value="Model"></xs:enumeration>
  <xs:enumeration value="Selection"></xs:enumeration>
</xs:attribute>
<xs:attribute name="outputField" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="outputDataType" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="outputRole" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="negated" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="hidden" type="xs:boolean" use="optional" default="false"></xs:attribute>
</xs:element>

```

Parent Elements

[typeInputs Type](#)

Child Elements

[InputMapping Element](#), [Output Element](#), [OutputMapping Element](#), [Parameter Element](#)

Related Elements

[RuleModelReference Element](#), [Report Element](#), [RuleModelReference Element](#)

InputMapping Element

A mapping to the input attributes of the referenced object

Table A-624
Attributes for *InputMapping*

Attribute	Use	Description	Valid Values
inputSource	optional	The name of the input source which provides the model inputs	<i>string</i>

XML Representation

```
<xs:element name="InputMapping" type="typeRuleModelInputMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="inputSource" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[RuleModelReference Element](#)

Child Elements

[AttributeMapping Element](#)

Related Elements

[InputMapping Element](#), [InputMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-625
Attributes for *AttributeMapping*

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[InputMapping Element](#)

OutputMapping Element

A mapping from the output attributes of the referenced object

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-626
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[RuleModelReference Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-627
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	string
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	string

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[OutputMapping Element](#)

Output Element

The selected outputs from the model. Output names are interpreted after the output mapping.

Table A-628
Attributes for Output

Attribute	Use	Description	Valid Values
dataType	optional	The type of the output	string
name	optional	The name of the output	string
role	optional	The role of the output	string

XML Representation

```
<xs:element name="Output" type="typeRuleModelOutput" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="role" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[RuleModelReference Element](#)

Parameter Element

Parameters passed to the model.

Table A-629
Attributes for Parameter

Attribute	Use	Description	Valid Values
dataType	required	The type of the parameter	<i>string</i>
description	optional	Optional parameter description	<i>string</i>
maximumValue	optional	A maximum value restriction for this parameter	<i>string</i>
minimumValue	optional	A minimum value restriction for this parameter	<i>string</i>
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameter" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="value" type="xs:string"></xs:attribute>
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="description" type="xs:string"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string"></xs:attribute>
</xs:element>
```

Parent Elements

[RuleModelReference Element](#)

Child Elements

[Category Element](#)

Related Elements

[Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#)

Category Element

Categorical values defined for this parameter

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Parameter Element](#)

DerivedAttribute Element

Derived (computed) attributes added to the data model. A derived attribute may be an expression (typeDataSetExpression) or a model output (typeModelDerivedAttribute).

Table A-630
Attributes for DerivedAttribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="DerivedAttribute" type="dataset:typeDerivedAttribute" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
```

```

<xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:sequence>
  <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>

```

Table A-631
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[typeInputs](#) Type

Child Elements

[Category Element](#), [DataSetAttribute Element](#)

Related Elements

[DerivedAttribute Element](#), [DerivedAttribute Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[DerivedAttribute Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-632
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[DerivedAttribute Element](#)

typeMatrixRule Type

The Decision Matrix Rule

Table A-633

Attributes for typeMatrixRule

Attribute	Use	Description	Valid Values
description	optional	Optional description of this rule	<i>string</i>
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	<i>string</i>
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```
<xs:complexType name="typeMatrixRule">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"/></xs:element>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"/></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

```

        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
<xs:sequence>
  <xs:element name="ColumnRule" type="typeRule" minOccurs="0">
    <xs:sequence>
      <xs:element name="ApplicationView" minOccurs="0"></xs:element>
      <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
        <xs:sequence>
          <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
            <xs:sequence>
              <xs:element name="Category" type="xs:string" minOccurs="0"
                maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:element>
          <xs:element name="Table" type="typeDataTable"></xs:element>
          <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
            maxOccurs="unbounded">
            <xs:sequence>

```

```

        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="RowRule" type="typeRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"></xs:element>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
  </xs:sequence>
</xs:element>

```

```

<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Row" type="typeMatrixRow" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Cell" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AllocationDisplay" type="typeAllocationDisplay" minOccurs="0"
maxOccurs="unbounded"></xs:element>
</xs:sequence>
</xs:complexType>

```


Extends

[Rule Element](#), [Primary Element](#), [Secondary Element](#), [ColumnRule Element](#), [RowRule Element](#), [RuleObject Element](#)

Child Elements

[AllocationDisplay Element](#), [AnalyticEngine Element](#), [ApplicationView Element](#), [ColumnRule Element](#), [DataSet Element](#), [Input Element](#), [InputDimension Element](#), [Output Element](#), [Row Element](#), [RowRule Element](#)

Related Types

[typeArbitrationRule Type](#), [typeDecisionRule Type](#), [typeExpressionRule Type](#), [typeRandomRule Type](#), [typeThresholdRule Type](#)

ApplicationView Element

Reference to Application View and table the rule is designed to work with, object ID content of this element

Table A-634
Attributes for ApplicationView

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
table	optional	optional? Table name referenced from this Application View	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ApplicationView" minOccurs="0">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="table" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeMatrixRule Type](#)

Related Elements

ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ObjectReference Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element

DataSet Element

Optional information on data set used to define this rule

Table A-635
Attributes for DataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
    <xs:enumeration value="none"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>

```

```

    <xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
    <xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[typeMatrixRule Type](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-636
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>

```

```
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-637
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[DataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-638
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-639
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements[DataSet Element](#)**Expression Element**

Optional passing of expressions defined by an application into a task

Table A-640
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-641

Attributes for *DataSetAttribute*

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```



```
</xs:sequence>
</xs:element>
```

Table A-642
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-643
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

Input Element

The required inputs for this rule

Table A-644
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>

Attribute	Use	Description	Valid Values
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[typeMatrixRule Type](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Input Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-645

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-646

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[typeMatrixRule Type](#)**Child Elements**[Member Element](#)**Member Element**

Optional list of dimension members referred to within this rule

XML Representation

```
<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[InputDimension Element](#)**Output Element**

The outputs produced by an execution of this rule

Table A-647

Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"/></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"/></xs:attribute>
```

```

<xs:attribute name="measureType" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="maxValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="minValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
  default="false"/></xs:attribute>
<xs:attribute name="expressionEquation" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Parent Elements

[typeMatrixRule](#) Type

Child Elements

[Category](#) Element, [modelOutputMetadata](#) Element

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Output](#) Element

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-648

Attributes for *modelOutputMetadata*

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"/></xs:enumeration>
    <xs:enumeration value="Propensity"/></xs:enumeration>
    <xs:enumeration value="RuleIndex"/></xs:enumeration>
    <xs:enumeration value="Outcome"/></xs:enumeration>
    <xs:enumeration value="Target"/></xs:enumeration>
  </xs:element>

```

```

    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Output Element](#)

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
```

Parent Elements

[typeMatrixRule Type](#)

ColumnRule Element

Rule for column values in the matrix, when not specified row rule is required

Table A-649

Attributes for ColumnRule

Attribute	Use	Description	Valid Values
description	optional	Optional description of this rule	<i>string</i>
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	<i>string</i>
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```

<xs:element name="ColumnRule" type="typeRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"></xs:element>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>

```

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Table" type="typeDataTable"></xs:element>
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
<xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
<xs:attribute name="usageType" type="enumUsageType" use="optional">
  <xs:enumeration value="Segment"></xs:enumeration>

```

```

<xs:enumeration value="SegmentSet"></xs:enumeration>
<xs:enumeration value="Selection"></xs:enumeration>
<xs:enumeration value="ExcludeSet"></xs:enumeration>
<xs:enumeration value="IncludeSet"></xs:enumeration>
<xs:enumeration value="Allocation"></xs:enumeration>
<xs:enumeration value="Aggregation"></xs:enumeration>
<xs:enumeration value="Matrix"></xs:enumeration>
<xs:enumeration value="Expression"></xs:enumeration>
<xs:enumeration value="Arbitration"></xs:enumeration>
<xs:enumeration value="Threshold"></xs:enumeration>
</xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Table A-650
Extended Types

Type	Description
typeDecisionRule	A Decision Rule
typeMatrixRule	The Decision Matrix Rule
typeRandomRule	the Random Rule
typeExpressionRule	A simple expression
typeThresholdRule	An allocation rule defined by a series of threshold tests against a rule or model output
typeArbitrationRule	An allocation rule defined to be a 'primary' rule and a 'secondary' rule pair

Parent Elements

[typeMatrixRule](#) Type

Child Elements

[AnalyticEngine](#) Element, [ApplicationView](#) Element, [DataSet](#) Element, [Input](#) Element, [InputDimension](#) Element, [Output](#) Element

ApplicationView Element

Reference to Application View and table the rule is designed to work with, object ID content of this element

Table A-651
Attributes for ApplicationView

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
contentType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>

Attribute	Use	Description	Valid Values
table	optional	optional? Table name referenced from this Application View	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ApplicationView" minOccurs="0">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="table" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[ColumnRule Element](#)

Related Elements

[ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ObjectReference Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#)

DataSet Element

Optional information on data set used to define this rule

Table A-652

Attributes for DataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>

Attribute	Use	Description	Valid Values
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>

```

```

        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
            maxOccurs="unbounded"></xs:element>
    </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
    <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[ColumnRule Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-653
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

Attribute	Use	Description	Valid Values
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-654
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[DataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-655

Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-656

Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table defintion
SASFileTable	A SAS save file-based table defintion
SpssFileTable	An SPSS save file-based table defintion
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements[DataSet Element](#)**Expression Element**

Optional passing of expressions defined by an application into a task

Table A-657
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
  <xs:attribute name="ExpressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```


Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-659
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-660
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

Input Element

The required inputs for this rule

Table A-661
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

```

    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[ColumnRule Element](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```

<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[Input Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-662

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">

```

```

    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-663

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```

<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[ColumnRule Element](#)

Child Elements

[Member Element](#)

Member Element

Optional list of dimension members referred to within this rule

XML Representation

```

<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[InputDimension Element](#)

Output Element

The outputs produced by an execution of this rule

Table A-664
Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[ColumnRule Element](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Output Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-665

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"/></xs:enumeration>
    <xs:enumeration value="Propensity"/></xs:enumeration>
    <xs:enumeration value="RuleIndex"/></xs:enumeration>
    <xs:enumeration value="Outcome"/></xs:enumeration>
    <xs:enumeration value="Target"/></xs:enumeration>
    <xs:enumeration value="Other"/></xs:enumeration>
    <xs:enumeration value="None"/></xs:enumeration>
    <xs:enumeration value="EntityId"/></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Output Element](#)

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"/></xs:element>
```

Parent Elements**ColumnRule Element****RowRule Element**

Rule for row values in the matrix, when not specified column rule is required

Table A-666

Attributes for RowRule

Attribute	Use	Description	Valid Values
description	optional	Optional description of this rule	<i>string</i>
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	<i>string</i>
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```
<xs:element name="RowRule" type="typeRule" minOccurs="0">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"/>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"/>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"/>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"/>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
```

```

    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"/></xs:element>
</xs:sequence>
<xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="usageType" type="enumUsageType" use="optional">
  <xs:enumeration value="Segment"/></xs:enumeration>
  <xs:enumeration value="SegmentSet"/></xs:enumeration>
  <xs:enumeration value="Selection"/></xs:enumeration>
  <xs:enumeration value="ExcludeSet"/></xs:enumeration>
  <xs:enumeration value="IncludeSet"/></xs:enumeration>
  <xs:enumeration value="Allocation"/></xs:enumeration>
  <xs:enumeration value="Aggregation"/></xs:enumeration>
  <xs:enumeration value="Matrix"/></xs:enumeration>
  <xs:enumeration value="Expression"/></xs:enumeration>
  <xs:enumeration value="Arbitration"/></xs:enumeration>
  <xs:enumeration value="Threshold"/></xs:enumeration>
</xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-667
Extended Types

Type	Description
typeDecisionRule	A Decision Rule
typeMatrixRule	The Decision Matrix Rule
typeRandomRule	the Random Rule

Type	Description
typeExpressionRule	A simple expression
typeThresholdRule	An allocation rule defined by a series of threshold tests against a rule or model output
typeArbitrationRule	An allocation rule defined to be a 'primary' rule and a 'secondary' rule pair

Parent Elements

[typeMatrixRule](#) Type

Child Elements

[AnalyticEngine](#) Element, [ApplicationView](#) Element, [DataSet](#) Element, [Input](#) Element, [InputDimension](#) Element, [Output](#) Element

ApplicationView Element

Reference to Application View and table the rule is designed to work with, object ID content of this element

Table A-668
Attributes for *ApplicationView*

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
table	optional	optional? Table name referenced from this Application View	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ApplicationView" minOccurs="0">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="table" type="xs:string"/></xs:attribute>
</xs:element>
```


Parent Elements

[RowRule Element](#)

Related Elements

[ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ObjectReference Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#)

DataSet Element

Optional information on data set used to define this rule

Table A-669
Attributes for DataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>

```

```

    <xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
    <xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[RowRule Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-670

Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>

```

```
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-671
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[DataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-672
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Table A-673
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[DataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-674
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-675

Attributes for *DataSetAttribute*

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

```

    </xs:sequence>
</xs:element>

```

Table A-676
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-677
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```

<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Mapping Element](#)

Input Element

The required inputs for this rule

Table A-678
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>

Attribute	Use	Description	Valid Values
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[RowRule Element](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Input Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-679

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-680

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[RowRule Element](#)**Child Elements**[Member Element](#)**Member Element**

Optional list of dimension members referred to within this rule

XML Representation

```
<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements[InputDimension Element](#)**Output Element**

The outputs produced by an execution of this rule

Table A-681

Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
```

```

<xs:attribute name="measureType" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="maxValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="minValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
  default="false"/></xs:attribute>
<xs:attribute name="expressionEquation" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Parent Elements

[RowRule Element](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Output Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-682

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"/></xs:enumeration>
    <xs:enumeration value="Propensity"/></xs:enumeration>
    <xs:enumeration value="RuleIndex"/></xs:enumeration>
    <xs:enumeration value="Outcome"/></xs:enumeration>
    <xs:enumeration value="Target"/></xs:enumeration>
  </xs:element>

```

```

    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Output Element](#)

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"/></xs:element>
```

Parent Elements

[RowRule Element](#)

Row Element

Series of intersection values for the columns in a row of the matrix, if a one-rule input either row or column names will be blank

Table A-683

Attributes for Row

Attribute	Use	Description	Valid Values
rowName	required	The title to be displayed for this row, the row rule return value to be tested (blank when only a column rule)	<i>string</i>

XML Representation

```

<xs:element name="Row" type="typeMatrixRow" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Cell" maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="rowName" type="xs:string" use="required"/></xs:attribute>
</xs:element>

```

Parent Elements

[typeMatrixRule Type](#)

Child Elements

[Cell Element](#)

Cell Element

Cells in this matrix row

Table A-684
Attributes for Cell

Attribute	Use	Description	Valid Values
columnName	required	The name to be displayed for this column, the column rule return value to be tested (blank when only a row rule)	<i>string</i>

XML Representation

```
<xs:element name="Cell" maxOccurs="unbounded">
  <xs:attribute name="columnName" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Row Element](#)

AllocationDisplay Element

Display aspects for the allocated values of this matrix rule

Table A-685
Attributes for AllocationDisplay

Attribute	Use	Description	Valid Values
color	optional	color to be used in the display of this name	<i>string</i>
name	required	name of the allocated object	<i>string</i>

XML Representation

```
<xs:element name="AllocationDisplay" type="typeAllocationDisplay" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="color" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeMatrixRule Type](#)

typeMemberSelection Type

The Dimension member selection properties and resulting selection rule

Table A-686
Attributes for *typeMemberSelection*

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
mimeType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```
<xs:complexType name="typeMemberSelection">
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="StartTimestamp" type="typeTimestampDetails" minOccurs="0"/></xs:element>
    <xs:element name="EndTimestamp" type="typeTimestampDetails" minOccurs="0"/></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
    <xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
      <xs:sequence>
        <xs:element name="Definition" type="xs:string"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Extends

[Selection Element](#), [BaseSelection Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [BaseSelection Element](#), [Rule Element](#), [BaseSelection Element](#)

Child Elements

[BaseSelection Element](#), [Definition Element](#), [EndTimestamp Element](#), [InteractionPoint Element](#), [StartTimestamp Element](#)

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[typeMemberSelection Type](#)

StartTimestamp Element

The valid start timestamp for this Dimension Member, test will be incorporated into the final local rule if specified

Table A-687
Attributes for StartTimestamp

Attribute	Use	Description	Valid Values
day	required	the day portion of the timestamp	<i>int</i>
hour	optional	the hour portion of the timestamp	<i>int</i>
minute	optional	the minute portion of the timestamp	<i>int</i>
month	required	the month portion of the timestamp	<i>int</i>
second	optional	the second portion of the timestamp	<i>int</i>
year	required	the year portion of the timestamp	<i>int</i>

XML Representation

```
<xs:element name="StartTimestamp" type="typeTimestampDetails" minOccurs="0">
  <xs:attribute name="year" type="xs:int" use="required"></xs:attribute>
  <xs:attribute name="month" type="xs:int" use="required"></xs:attribute>
  <xs:attribute name="day" type="xs:int" use="required"></xs:attribute>
  <xs:attribute name="hour" type="xs:int" use="optional" default="0"></xs:attribute>
  <xs:attribute name="minute" type="xs:int" use="optional" default="0"></xs:attribute>
  <xs:attribute name="second" type="xs:int" use="optional" default="0"></xs:attribute>
</xs:element>
```

Parent Elements

[typeMemberSelection Type](#)

EndTimestamp Element

The valid end timestamp for this Dimension Member, test will be incorporated into the final local rule if specified

Table A-688
Attributes for EndTimestamp

Attribute	Use	Description	Valid Values
day	required	the day portion of the timestamp	<i>int</i>
hour	optional	the hour portion of the timestamp	<i>int</i>
minute	optional	the minute portion of the timestamp	<i>int</i>
month	required	the month portion of the timestamp	<i>int</i>
second	optional	the second portion of the timestamp	<i>int</i>
year	required	the year portion of the timestamp	<i>int</i>

XML Representation

```
<xs:element name="EndTimestamp" type="typeTimestampDetails" minOccurs="0">
  <xs:attribute name="year" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="month" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="day" type="xs:int" use="required"/></xs:attribute>
  <xs:attribute name="hour" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="minute" type="xs:int" use="optional" default="0"/></xs:attribute>
  <xs:attribute name="second" type="xs:int" use="optional" default="0"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeMemberSelection Type](#)

InteractionPoint Element

List of selected Interaction Points for the Dimension Member, test will be incorporated into the final local rule if specified

XML Representation

```
<xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[typeMemberSelection Type](#)

BaseSelection Element

The selection rule for the Dimension Member, will be folded into the final local rule if specified

Table A-689
Attributes for BaseSelection

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
hasLocalExpressionReferences	optional	Set during an edit to indicate whether the rule has local expression references in it or not. When true, this rule cannot be exported.	<i>boolean</i>
mimeType	required	File MIME type of this rule	<i>string</i>
name	optional	Name of the element	<i>string</i>
outputDataType	optional	Output field data type	<i>string</i>
outputField	optional	Output field to use from the rule	<i>string</i>
patchAction	optional	This field is used to control the apply process for version patch templates	none modify add remove
usageDescription	optional	Optional additional descriptive text for this rule	<i>string</i>

XML Representation

```
<xs:element name="BaseSelection" type="typeLocalRule" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/></xs:attribute>
  <xs:attribute name="patchAction" type="enumPatchAction" use="optional" default="none">
    <xs:enumeration value="none"/></xs:enumeration>
    <xs:enumeration value="modify"/></xs:enumeration>
    <xs:enumeration value="add"/></xs:enumeration>
    <xs:enumeration value="remove"/></xs:enumeration>
  </xs:attribute>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"/></xs:element>
  </xs:sequence>
  <xs:attribute name="mimeType" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="usageDescription" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="hasLocalExpressionReferences" type="xs:boolean" use="optional"
    default="false"/></xs:attribute>
  <xs:attribute name="outputField" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputDataType" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-690
Extended Types

Type	Description
typeMemberSelection	The Dimension member selection properties and resulting selection rule

Parent Elements

[typeMemberSelection Type](#)

Child Elements

[Definition Element](#)

Related Elements

[EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Optimization Element](#), [Constraint Element](#), [Deployment Element](#), [Selections Element](#), [DecisionList Element](#), [ManualClusters Element](#), [Selections Element](#), [RecordSelection Element](#), [CombiningRule Element](#), [EntityDimension Element](#), [Constraint Element](#), [Selection Element](#), [combineRule Element](#), [Selection Element](#), [Dimension Element](#), [Constraint Element](#), [Member Element](#), [BaseSelection Element](#), [Constraint Element](#), [Rule Element](#)

Definition Element

Definition of the local rule

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[BaseSelection Element](#)

typeModelDerivedAttribute Type

An attribute whose value is provided by the output from a model.

Table A-691

Attributes for typeModelDerivedAttribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>

Parent Elements

[typeModelDerivedAttribute Type](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-692
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeModelDerivedAttribute Type](#)

ModelOutput Element

The name of the model output. Refers to an Output element of a previous RuleModelReference.

Table A-693
Attributes for ModelOutput

Attribute	Use	Description	Valid Values
outputName	optional	The name of the output.	<i>string</i>

XML Representation

```
<xs:element name="ModelOutput" type="typeRuleModelOutputReference">
  <xs:attribute name="outputName" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeModelDerivedAttribute Type](#)

typeModelingDefineStep Type

The Model definition step configuration

Table A-694
Attributes for typeModelingDefineStep

Attribute	Use	Description	Valid Values
enableAssociationModeling	optional	Flag controlling the appearance of the Association Modeling subpanel	<i>boolean</i>
enableAutoModeling	optional	Flag controlling the appearance of the Auto-Modeling subpanel	<i>boolean</i>
enableClusterModeling	optional	Flag controlling the appearance of the Auto-Cluster Modeling subpanel	<i>boolean</i>
enableInteractionPoints	optional	Logical switch controlling whether Interaction Points are presented to the user or not	<i>boolean</i>
enableInteractiveModeling	optional	Flag controlling the appearance of the Interactive Modeling subpanel	<i>boolean</i>
enableManualCluster	optional	Flag controlling the appearance of the manual cluster section in Auto-Cluster Modeling subpanel	<i>boolean</i>
enableSimulation	optional	Controls presentation of the Define-style Simulation action	<i>boolean</i>
enableTest	optional	Controls presentation of the Test action	<i>boolean</i>
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not	<i>boolean</i>
stepHidden	optional	The 'hidden' state for this panel	<i>boolean</i>
stepIncluded	optional	The logical 'included or not' flag for this panel	<i>boolean</i>
stepLocked	optional	The locked state for this panel	<i>boolean</i>

XML Representation

```
<xs:complexType name="typeModelingDefineStep">
  <xs:sequence>
    <xs:element name="clusterResults" type="modelResults:typeClusterResults" minOccurs="0">
      <xs:sequence>
        <xs:element name="manualClusterResults" type="typeClusterResultSet">
          <xs:sequence>
            <xs:element name="clusterResult" type="typeClusterResult" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

```

        </xs:sequence>
      </xs:element>
    <xs:element name="autoClusterResults" type="typeClusterResultSet">
      <xs:sequence>
        <xs:element name="clusterResult" type="typeClusterResult" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:complexType>

```

Extends[DefineStep Element](#)**Child Elements**[clusterResults Element](#)**Related Types**[typeDecisionHierarchyDefineStep Type](#), [typeRulesManagementDefineStep Type](#)**clusterResults Element**

cluster model results

XML Representation

```

<xs:element name="clusterResults" type="modelResults:typeClusterResults" minOccurs="0">
  <xs:sequence>
    <xs:element name="manualClusterResults" type="typeClusterResultSet">
      <xs:sequence>
        <xs:element name="clusterResult" type="typeClusterResult" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="autoClusterResults" type="typeClusterResultSet">
      <xs:sequence>
        <xs:element name="clusterResult" type="typeClusterResult" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

Parent Elements[typeModelingDefineStep Type](#)

Child Elements

[autoClusterResults Element](#), [manualClusterResults Element](#)

manualClusterResults Element**XML Representation**

```
<xs:element name="manualClusterResults" type="typeClusterResultSet">
  <xs:sequence>
    <xs:element name="clusterResult" type="typeClusterResult" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Parent Elements

[clusterResults Element](#)

Child Elements

[clusterResult Element](#)

clusterResult Element

Table A-695
Attributes for clusterResult

Attribute	Use	Description	Valid Values
count	optional		<i>long</i>
label	optional		<i>string</i>
name	required		<i>string</i>

XML Representation

```
<xs:element name="clusterResult" type="typeClusterResult" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="count" type="xs:long" use="optional"></xs:attribute>
  <xs:attribute name="label" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[manualClusterResults Element](#)

autoClusterResults Element**XML Representation**

```
<xs:element name="autoClusterResults" type="typeClusterResultSet">
  <xs:sequence>
    <xs:element name="clusterResult" type="typeClusterResult" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```



```
</xs:sequence>
</xs:element>
```

Parent Elements

[clusterResults Element](#)

Child Elements

[clusterResult Element](#)

clusterResult Element

Table A-696
Attributes for clusterResult

Attribute	Use	Description	Valid Values
count	optional		<i>long</i>
label	optional		<i>string</i>
name	required		<i>string</i>

XML Representation

```
<xs:element name="clusterResult" type="typeClusterResult" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="count" type="xs:long" use="optional"/></xs:attribute>
  <xs:attribute name="label" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[autoClusterResults Element](#)

typeObjectiveFunction Type

Objective Function definition.

Table A-697
Attributes for typeObjectiveFunction

Attribute	Use	Description	Valid Values
description	optional	Optional objective function description	<i>string</i>
Domain	optional	Resulting data type domain for this expression	<i>string</i>
enabled	optional	Indication of whether this constraint is enabled for at least one interaction point.	<i>boolean</i>

Attribute	Use	Description	Valid Values
functionType	optional	Whether the objective function value can be precomputed for each entity or can only be calculated once optimization has occurred.	linear nonLinear
Functor	optional	Optional functor involved in this expression	<i>string</i>
Name	optional	Alias name of this expression	<i>string</i>

XML Representation

```

<xs:complexType name="typeObjectiveFunction" mixed="false">
  <xs:choice>
    <xs:element ref="Expression" minOccurs="0" maxOccurs="unbounded"/></xs:element>
    <xs:element ref="Attribute"/></xs:element>
    <xs:element ref="Value"/></xs:element>
    <xs:element name="DimensionReference" type="typeDimensionReference"/></xs:element>
    <xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
      <xs:sequence>
        <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
        <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
          <xs:sequence>
            <xs:element name="KeyAttribute" type="typeKeyAttribute"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:choice>
  <xs:sequence>
    <xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0"/></xs:element>
    <xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0"/></xs:element>
    <xs:element name="InteractionPoint" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:complexType>

```

Extends

[Expression Element](#), [Function Element](#), [Function Element](#), [Function Element](#), [Function Element](#), [Function Element](#), [Function Element](#), [Expression Element](#), [Expression Element](#)

Child Elements

[Attribute Element](#), [DimensionReference Element](#), [Expression Element](#), [ExpressionFormat Element](#), [ExternalUsage Element](#), [InteractionPoint Element](#), [ObjectOutput Element](#), [Value Element](#)

DimensionReference Element

A reference to a dimension that will provide the value

Table A-698

Attributes for *DimensionReference*

Attribute	Use	Description	Valid Values
Name	optional	Dimension name	<i>string</i>

XML Representation

```
<xs:element name="DimensionReference" type="typeDimensionReference">
  <xs:attribute name="Name" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeObjectiveFunction Type](#)

ObjectOutput Element

The output of a repository object (rule or model)

Table A-699

Attributes for *ObjectOutput*

Attribute	Use	Description	Valid Values
output	required	The output attribute of the object	<i>string</i>

XML Representation

```
<xs:element name="ObjectOutput" type="typeRepositoryObjectOutput">
  <xs:sequence>
    <xs:element name="ObjectReference" type="typeRepositoryObject"/></xs:element>
    <xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
```

```

    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
    <xs:sequence>
      <xs:element name="KeyAttribute" type="typeKeyAttribute"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Parameter" type="typeParameterSetting" minOccurs="0"
    maxOccurs="unbounded"></xs:element>
</xs:sequence>
<xs:attribute name="output" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[typeObjectiveFunction Type](#)

Child Elements

[InputMapping Element](#), [Key Element](#), [ObjectReference Element](#), [OutputMapping Element](#), [Parameter Element](#)

ObjectReference Element

The repository object

Table A-700

Attributes for ObjectReference

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```

<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements[ObjectOutput Element](#)**InputMapping Element**

A mapping from the rule attributes to the input attributes of the model.

XML Representation

```
<xs:element name="InputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-701
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[ObjectOutput Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-702
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[InputMapping Element](#)**OutputMapping Element**

A renaming of the output attributes of the model.

XML Representation

```
<xs:element name="OutputMapping" type="dataset:typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-703
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements[ObjectOutput Element](#)**Child Elements**[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-704
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
  maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[OutputMapping Element](#)**Key Element**

Key field(s) on which to group input rows to the model.

Table A-705

Attributes for Key

Attribute	Use	Description	Valid Values
isApplicationViewKey	optional	True if the key definition was obtained from an AV	<i>boolean</i>
name	optional	The name of this key	<i>string</i>

XML Representation

```
<xs:element name="Key" type="dataset:typeDataSetKey" minOccurs="0">
  <xs:sequence>
    <xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="isApplicationViewKey" type="xs:boolean" use="optional"
    default="false"/></xs:attribute>
</xs:element>
```

Parent Elements[ObjectOutput Element](#)**Child Elements**[KeyAttribute Element](#)**KeyAttribute Element**

The list of attributes which make up the key

Table A-706

Attributes for KeyAttribute

Attribute	Use	Description	Valid Values
attributeName	optional	The name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="KeyAttribute" type="typeKeyAttribute" maxOccurs="unbounded">
  <xs:attribute name="attributeName" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements[Key Element](#)

Parameter Element

Parameters passed to the model.

Table A-707
Attributes for Parameter

Attribute	Use	Description	Valid Values
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:element name="Parameter" type="typeParameterSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="value" type="xs:string"></xs:attribute>
</xs:element>
```

Table A-708
Extended Types

Type	Description
typeParameter	The details of a stream parameter

Parent Elements

[ObjectOutput Element](#)

ExternalUsage Element

Defines how this objective function can be enabled or disabled via an OPL variable

Table A-709
Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	required	The OPL variable	<i>string</i>
disabledValue	optional	The value that indicates this object is disabled (default 0)	<i>string</i>
enabledValue	optional	The value that indicates this object is enabled (default 1)	<i>string</i>
variableType	optional	The OPL variable type (default int)	int float string

XML Representation

```
<xs:element name="ExternalUsage" type="typeExternalUsage" minOccurs="0">
  <xs:attribute name="controlVariable" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"></xs:enumeration>
    <xs:enumeration value="float"></xs:enumeration>
  </xs:attribute>
</xs:element>
```



```

    <xs:enumeration value="string"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"></xs:attribute>
  <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"></xs:attribute>
</xs:element>

```

Parent Elements

[typeObjectiveFunction Type](#)

ExpressionFormat Element

Objective function format for externally defined objective functions

Table A-710

Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	required	The format definition for this expression	<i>string</i>

XML Representation

```

<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[typeObjectiveFunction Type](#)

InteractionPoint Element

Optional Interaction Point name used when differentiating in the objective function based on interaction points

XML Representation

```

<xs:element name="InteractionPoint" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[typeObjectiveFunction Type](#)

typeParameter Type

The details of a stream parameter

Table A-711

Attributes for typeParameter

Attribute	Use	Description	Valid Values
dataType	required	The type of the parameter	<i>string</i>

Attribute	Use	Description	Valid Values
description	optional	Optional parameter description	<i>string</i>
maximumValue	optional	A maximum value restriction for this parameter	<i>string</i>
minimumValue	optional	A minimum value restriction for this parameter	<i>string</i>
name	required	The name of the parameter.	<i>string</i>
value	optional	The value of the parameter.	<i>string</i>

XML Representation

```
<xs:complexType name="typeParameter">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:complexType>
```

Extends

[Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#), [Parameter Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this parameter

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[typeParameter Type](#)

typeRandomRule Type

the Random Rule

Table A-712
Attributes for typeRandomRule

Attribute	Use	Description	Valid Values
description	optional	Optional description of this rule	string
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	string
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```

<xs:complexType name="typeRandomRule">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"/></xs:element>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"/></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>

```

```

<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
<xs:sequence>
  <xs:element name="Choice" type="typeChoice" maxOccurs="unbounded">
    <xs:choice>
      <xs:element name="OutputFieldValue" type="typeOutputFieldValue" maxOccurs="unbounded">
        <xs:choice minOccurs="0" maxOccurs="unbounded">
          <xs:element name="Value" type="typeValue"></xs:element>
        </xs:choice>
      </xs:element>
      <xs:element name="OutputValue" type="typeValueOutput"
        maxOccurs="unbounded"></xs:element>
    </xs:choice>
  </xs:element>
</xs:sequence>
</xs:complexType>

```

Extends

[Rule Element](#), [Primary Element](#), [Secondary Element](#), [ColumnRule Element](#), [RowRule Element](#), [RuleObject Element](#)

Child Elements

[AnalyticEngine Element](#), [ApplicationView Element](#), [Choice Element](#), [DataSet Element](#), [Input Element](#), [InputDimension Element](#), [Output Element](#)

Related Types

[typeArbitrationRule Type](#), [typeDecisionRule Type](#), [typeExpressionRule Type](#), [typeMatrixRule Type](#), [typeThresholdRule Type](#)

ApplicationView Element

Reference to Application View and table the rule is designed to work with, object ID content of this element

Table A-713
Attributes for ApplicationView

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
table	optional	optional? Table name referenced from this Application View	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ApplicationView" minOccurs="0">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="table" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeRandomRule](#) Type

Related Elements

[ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ObjectReference Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#)

DataSet Element

Optional information on data set used to define this rule

Table A-714
Attributes for DataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```
<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
```

```

</xs:element>
<xs:element name="Table" type="typeDataTable"></xs:element>
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:sequence>
    <xs:element name="Definition" type="xs:string"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[typeRandomRule Type](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-715
Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-716
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements[DataSet Element](#)**Child Elements**[Category Element](#)**Category Element**

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[Attribute Element](#)**Table Element**

The table used in this data set

Table A-717

Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"/></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Table A-718

Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition

Type	Description
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[DataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-719
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```
<xs:element name="Expression" type="typeDataSetExpression" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
```


Table A-720
Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

Table A-721
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements[AttributeMapping Element](#)**AttributeMapping Element**

The mapping of these attributes to the primary attributes

Table A-722
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Mapping Element](#)**Input Element**

The required inputs for this rule

Table A-723
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```

<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[typeRandomRule Type](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```

<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements

[Input Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-724

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-725

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```

<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[typeRandomRule Type](#)

Child Elements

[Member Element](#)

Member Element

Optional list of dimension members referred to within this rule

XML Representation

```

<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>

```

Parent Elements[InputDimension Element](#)**Output Element**

The outputs produced by an execution of this rule

Table A-726
Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements[typeRandomRule Type](#)**Child Elements**[Category Element, modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Output Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-727

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"/></xs:enumeration>
    <xs:enumeration value="Propensity"/></xs:enumeration>
    <xs:enumeration value="RuleIndex"/></xs:enumeration>
    <xs:enumeration value="Outcome"/></xs:enumeration>
    <xs:enumeration value="Target"/></xs:enumeration>
    <xs:enumeration value="Other"/></xs:enumeration>
    <xs:enumeration value="None"/></xs:enumeration>
    <xs:enumeration value="EntityId"/></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Output Element](#)

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"/></xs:element>
```

Parent Elements

[typeRandomRule Type](#)

Choice Element

Choice holds the Offer to be extended in the element and a 'relativeAbundance' indicator influencing how the random value is selected as an attribute

Table A-728
Attributes for Choice

Attribute	Use	Description	Valid Values
relativeAbundance	optional	The N of M (total) influence on the random allocation	double

XML Representation

```
<xs:element name="Choice" type="typeChoice" maxOccurs="unbounded">
  <xs:choice>
    <xs:element name="OutputFieldValue" type="typeOutputFieldValue" maxOccurs="unbounded">
      <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="Value" type="typeValue"/></xs:element>
      </xs:choice>
    </xs:element>
    <xs:element name="OutputValue" type="typeValueOutput" maxOccurs="unbounded"/></xs:element>
  </xs:choice>
  <xs:attribute name="relativeAbundance" type="xs:double"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeRandomRule Type](#)

Child Elements

[OutputFieldValue Element](#), [OutputValue Element](#)

OutputFieldValue Element

Output values produced when the choice threshold is met. Any output of the rule not specified is implied to have a null value.

Table A-729
Attributes for *OutputFieldValue*

Attribute	Use	Description	Valid Values
allocateAll	optional	A hint to the UI that the value originated from the user selecting "allocate all".	<i>boolean</i>
fieldName	required	The name of the output field with which this value is associated.	<i>string</i>

XML Representation

```
<xs:element name="OutputFieldValue" type="typeOutputFieldValue" maxOccurs="unbounded">
  <xs:choice minOccurs="0" maxOccurs="unbounded">
    <xs:element name="Value" type="typeValue"></xs:element>
  </xs:choice>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="allocateAll" type="xs:boolean" default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[Choice Element](#)

Child Elements

[Value Element](#)

Value Element

A literal value.

Table A-730
Attributes for *Value*

Attribute	Use	Description	Valid Values
IsNil	optional	Flag indicating if the value is NULL or not	<i>boolean</i>
type	optional	Specific data type of this literal value	<i>any</i>

XML Representation

```
<xs:element name="Value" type="typeValue">
  <xs:attribute name="IsNil" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="type" use="optional">
    <xs:simpleType>
      <xs:restriction base="xs:string"></xs:restriction>
    </xs:simpleType>
  </xs:attribute>
</xs:element>
```

Parent Elements[OutputFieldValue Element](#)**OutputValue Element**

[Deprecated] Replaced by OutputFieldValue.

Table A-731

Attributes for OutputValue

Attribute	Use	Description	Valid Values
field	required		<i>string</i>

XML Representation

```
<xs:element name="OutputValue" type="typeValueOutput" maxOccurs="unbounded">
  <xs:attribute name="field" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[Choice Element](#)**typeRuleModelInputMapping Type**

Maps to the input attributes of a rule or model.

Table A-732

Attributes for typeRuleModelInputMapping

Attribute	Use	Description	Valid Values
inputSource	optional	The name of the input source which provides the model inputs	<i>string</i>

XML Representation

```
<xs:complexType name="typeRuleModelInputMapping">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:complexType>
```

Extends

[Mapping Element](#), [InputMapping Element](#), [OutputMapping Element](#), [Mapping Element](#), [Mapping Element](#), [Mapping Element](#), [Mapping Element](#), [OutputMapping Element](#), [InputMapping Element](#), [OutputMapping Element](#), [InputMapping Element](#), [OutputMapping Element](#), [InputMapping Element](#), [OutputMapping Element](#), [Mapping Element](#), [Mapping Element](#), [Mapping Element](#), [Mapping Element](#), [Mapping Element](#), [InputMapping Element](#), [OutputMapping Element](#), [Mapping Element](#), [InputMapping Element](#), [OutputMapping Element](#), [InputMapping Element](#), [OutputMapping Element](#), [Mapping](#)

Element, OutputMapping Element, Mapping Element, Mapping Element, Mapping Element, Mapping Element, InputMapping Element, OutputMapping Element, Mapping Element, InputMapping Element, OutputMapping Element, Mapping Element, Mapping Element, Mapping Element, Mapping Element, OutputMapping Element, Mapping Element, Mapping Element, Mapping Element, InputMapping Element, OutputMapping Element, Mapping Element, Mapping Element, Mapping Element, Mapping Element

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-733
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[typeRuleModelInputMapping Type](#)

typeRulesManagementDefineStep Type

The Rules Management define step configuration

Table A-734
Attributes for typeRulesManagementDefineStep

Attribute	Use	Description	Valid Values
enableInteractionPoints	optional	Logical switch controlling whether Interaction Points are presented to the user or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
enableSimulation	optional	Controls presentation of the Define-style Simulation action	<i>boolean</i>
enableTest	optional	Controls presentation of the Test action	<i>boolean</i>
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not	<i>boolean</i>
stepHidden	optional	The 'hidden' state for this panel	<i>boolean</i>
stepIncluded	optional	The logical 'included or not' flag for this panel	<i>boolean</i>
stepLocked	optional	The locked state for this panel	<i>boolean</i>

XML Representation

```
<xs:complexType name="typeRulesManagementDefineStep"></xs:complexType>
```

Extends

[DefineStep Element](#)

Related Types

[typeDecisionHierarchyDefineStep Type](#), [typeModelingDefineStep Type](#)

typeThresholdRule Type

An allocation rule defined by a series of threshold tests against a rule or model output

Table A-735

Attributes for *typeThresholdRule*

Attribute	Use	Description	Valid Values
description	optional	Optional description of this rule	<i>string</i>
numericThreshold	optional	Indicates how the threshold test is to be performed. Value of 'true' will cause a greater-than-or-equals numeric comparison in the test order specified; a 'false' will be an equals string comparison.	<i>boolean</i>
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	<i>string</i>

Attribute	Use	Description	Valid Values
thresholdType	optional	The data type of all threshold values in this rule.	<i>string</i>
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```

<xs:complexType name="typeThresholdRule">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"></xs:element>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
          <xs:sequence>
            <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
              maxOccurs="unbounded"></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:complexType>

```

```

        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
            minOccurs="0"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
    maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Member" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
    <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
            maxOccurs="unbounded"/></xs:element>
        <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
            minOccurs="0"/></xs:element>
    </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"/></xs:element>
</xs:sequence>
<xs:sequence>
    <xs:element name="ReferencedValue" type="typeObjectOutput">
        <xs:choice>
            <xs:element name="RuleObject" type="typeRule">
                <xs:sequence>
                    <xs:element name="ApplicationView" minOccurs="0"/></xs:element>
                    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
                        <xs:sequence>
                            <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
                                <xs:sequence>
                                    <xs:element name="Category" type="xs:string" minOccurs="0"
                                        maxOccurs="unbounded"/></xs:element>
                                </xs:sequence>
                            </xs:element>
                            <xs:element name="Table" type="typeDataTable"/></xs:element>
                            <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
                                maxOccurs="unbounded">
                                <xs:sequence>
                                    <xs:element name="Category" type="xs:string" minOccurs="0"
                                        maxOccurs="unbounded"/></xs:element>
                                </xs:sequence>
                                <xs:sequence>
                                    <xs:element name="DataSetAttribute" type="typeDataSetAttribute"
                                        minOccurs="0" maxOccurs="unbounded"/></xs:element>
                                </xs:sequence>
                                <xs:sequence>
                                    <xs:element name="Definition" type="xs:string"/></xs:element>
                                </xs:sequence>
                            </xs:element>
                            <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
                                <xs:sequence>
                                    <xs:element name="AttributeMapping" type="typeAttributeMapping"
                                        minOccurs="0" maxOccurs="unbounded"/></xs:element>
                                </xs:sequence>
                            </xs:element>
                        </xs:sequence>
                    </xs:element>
                </xs:choice>
            </xs:element>
        </xs:sequence>
    </xs:sequence>
</xs:sequence>

```



```

</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="ObjectReference" type="typeRepositoryObject"></xs:element>
</xs:choice>
</xs:element>
<xs:element name="Threshold" type="typeThresholdAllocation" minOccurs="0"
  maxOccurs="unbounded">
  <xs:choice>
    <xs:element name="OutputFieldValue" type="typeOutputFieldValue" maxOccurs="unbounded">
      <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="Value" type="typeValue"></xs:element>
      </xs:choice>
    </xs:element>
    <xs:element name="ValueOutput" type="typeValueOutput"
      maxOccurs="unbounded"></xs:element>
  </xs:choice>
</xs:element>
<xs:element name="Remainder" type="typeRemainder" minOccurs="0">
  <xs:choice>
    <xs:element name="OutputFieldValue" type="typeOutputFieldValue" minOccurs="0"
      maxOccurs="unbounded">
      <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="Value" type="typeValue"></xs:element>
      </xs:choice>
    </xs:element>
    <xs:element name="ValueOutput" type="typeValueOutput" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:choice>
</xs:element>
</xs:sequence>
</xs:complexType>

```

Extends

[Rule Element](#), [Primary Element](#), [Secondary Element](#), [ColumnRule Element](#), [RowRule Element](#), [RuleObject Element](#)

Child Elements

[AnalyticEngine Element](#), [ApplicationView Element](#), [DataSet Element](#), [Input Element](#), [InputDimension Element](#), [Output Element](#), [ReferencedValue Element](#), [Remainder Element](#), [Threshold Element](#)

Related Types

[typeArbitrationRule Type](#), [typeDecisionRule Type](#), [typeExpressionRule Type](#), [typeMatrixRule Type](#), [typeRandomRule Type](#)

ApplicationView Element

Reference to Application View and table the rule is designed to work with, object ID content of this element

Table A-736
Attributes for ApplicationView

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
contentType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
table	optional	optional? Table name referenced from this Application View	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ApplicationView" minOccurs="0">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="contentType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="table" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeThresholdRule Type](#)

Related Elements

ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ObjectReference Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element, ApplicationView Element

DataSet Element

Optional information on data set used to define this rule

Table A-737
Attributes for DataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
  <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
    <xs:sequence>
      <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
  </xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
<xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="compatibility" type="enumCompatibility" use="optional">
  <xs:enumeration value="complete"></xs:enumeration>
  <xs:enumeration value="partial"></xs:enumeration>
  <xs:enumeration value="none"></xs:enumeration>
</xs:attribute>
<xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
<xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>

```

```

    <xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
    <xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
  </xs:element>

```

Parent Elements

[typeThresholdRule Type](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-738

Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>

```

```
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-739
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[DataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-740
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Table A-741
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[DataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-742
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-743

Attributes for *DataSetAttribute*

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"/></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"/></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
```

```

    </xs:sequence>
  </xs:element>

```

Table A-744
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-745
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```

<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>

```

Parent Elements

[Mapping Element](#)

Input Element

The required inputs for this rule

Table A-746
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>

Attribute	Use	Description	Valid Values
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[typeThresholdRule Type](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Input Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-747

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-748

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[typeThresholdRule Type](#)**Child Elements**[Member Element](#)**Member Element**

Optional list of dimension members referred to within this rule

XML Representation

```
<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements[InputDimension Element](#)**Output Element**

The outputs produced by an execution of this rule

Table A-749

Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
```

```

<xs:attribute name="measureType" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="maxValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="minValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
  default="false"/></xs:attribute>
<xs:attribute name="expressionEquation" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Parent Elements

[typeThresholdRule Type](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Output Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-750

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"/></xs:enumeration>
    <xs:enumeration value="Propensity"/></xs:enumeration>
    <xs:enumeration value="RuleIndex"/></xs:enumeration>
    <xs:enumeration value="Outcome"/></xs:enumeration>
    <xs:enumeration value="Target"/></xs:enumeration>
  </xs:element>

```

```

    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

[Output Element](#)

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
```

Parent Elements

[typeThresholdRule Type](#)

ReferencedValue Element

The value to be tested in the defined thresholds

Table A-751

Attributes for *ReferencedValue*

Attribute	Use	Description	Valid Values
output	required	The output attribute of the referenced object	<i>string</i>
role	optional	Optional role indicator for this output	<i>string</i>

XML Representation

```

<xs:element name="ReferencedValue" type="typeObjectOutput">
  <xs:choice>
    <xs:element name="RuleObject" type="typeRule">
      <xs:sequence>
        <xs:element name="ApplicationView" minOccurs="0"></xs:element>
        <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
          <xs:sequence>
            <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
              <xs:sequence>
                <xs:element name="Category" type="xs:string" minOccurs="0"
                  maxOccurs="unbounded"></xs:element>
              </xs:sequence>
            </xs:element>
            <xs:element name="Table" type="typeDataTable"></xs:element>
            <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
              maxOccurs="unbounded">
              <xs:sequence>

```

```

        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
  </xs:element>
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
</xs:sequence>
</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
</xs:sequence>
</xs:element>
<xs:element name="ObjectReference" type="typeRepositoryObject"></xs:element>
</xs:choice>
<xs:attribute name="output" type="xs:string" use="required"></xs:attribute>
<xs:attribute name="role" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[typeThresholdRule Type](#)

Child Elements

ObjectReference Element, RuleObject Element

RuleObject Element

An embedded rule

Table A-752

Attributes for RuleObject

Attribute	Use	Description	Valid Values
description	optional	Optional description of this rule	<i>string</i>
outputQualifier	optional	The qualifier to be used in the execution plan for naming the measures	<i>string</i>
usageType	optional	The User Perspective of the usage of this rule, communication between the application designer and the business user who will apply the rule	Segment SegmentSet Selection ExcludeSet IncludeSet Allocation Aggregation Matrix Expression Arbitration Threshold

XML Representation

```

<xs:element name="RuleObject" type="typeRule">
  <xs:sequence>
    <xs:element name="ApplicationView" minOccurs="0"/></xs:element>
    <xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
      <xs:sequence>
        <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
        </xs:element>
        <xs:element name="Table" type="typeDataTable"/></xs:element>
        <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
          maxOccurs="unbounded">
          <xs:sequence>
            <xs:element name="Category" type="xs:string" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
              maxOccurs="unbounded"/></xs:element>
          </xs:sequence>
          <xs:sequence>
            <xs:element name="Definition" type="xs:string"/></xs:element>
          </xs:sequence>
        </xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>

```

```

    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"/></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0"
  maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"/></xs:element>
  </xs:sequence>
</xs:element>
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"/></xs:element>
</xs:sequence>
<xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="usageType" type="enumUsageType" use="optional">
  <xs:enumeration value="Segment"/></xs:enumeration>
  <xs:enumeration value="SegmentSet"/></xs:enumeration>
  <xs:enumeration value="Selection"/></xs:enumeration>
  <xs:enumeration value="ExcludeSet"/></xs:enumeration>
  <xs:enumeration value="IncludeSet"/></xs:enumeration>
  <xs:enumeration value="Allocation"/></xs:enumeration>
  <xs:enumeration value="Aggregation"/></xs:enumeration>
  <xs:enumeration value="Matrix"/></xs:enumeration>
  <xs:enumeration value="Expression"/></xs:enumeration>
  <xs:enumeration value="Arbitration"/></xs:enumeration>
  <xs:enumeration value="Threshold"/></xs:enumeration>
</xs:attribute>
<xs:attribute name="description" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Table A-753
Extended Types

Type	Description
typeDecisionRule	A Decision Rule
typeMatrixRule	The Decision Matrix Rule
typeRandomRule	the Random Rule

Type	Description
typeExpressionRule	A simple expression
typeThresholdRule	An allocation rule defined by a series of threshold tests against a rule or model output
typeArbitrationRule	An allocation rule defined to be a 'primary' rule and a 'secondary' rule pair

Parent Elements

[ReferencedValue Element](#)

Child Elements

[AnalyticEngine Element](#), [ApplicationView Element](#), [DataSet Element](#), [Input Element](#), [InputDimension Element](#), [Output Element](#)

ApplicationView Element

Reference to Application View and table the rule is designed to work with, object ID content of this element

Table A-754
Attributes for ApplicationView

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
table	optional	optional? Table name referenced from this Application View	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```
<xs:element name="ApplicationView" minOccurs="0">
  <xs:attribute name="label" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="name" type="xs:string"/></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"/></xs:attribute>
  <xs:attribute name="table" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[RuleObject Element](#)

Related Elements

[ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ObjectReference Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#), [ApplicationView Element](#)

DataSet Element

Optional information on data set used to define this rule

Table A-755
Attributes for DataSet

Attribute	Use	Description	Valid Values
compatibility	optional	The compatibility level of this data set	complete partial none
deployUsage	optional	Indicates whether this data set will be used to Deploy the application or not	<i>boolean</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
isCompatible	optional	Runtime flag used to track compatibility of this data set with another 'primary' data set	<i>boolean</i>
modelUsage	optional	Indicates whether this data set will be selectable when doing a model build or refresh in the application or not	<i>boolean</i>
name	required	Alias name for this data set	<i>string</i>
recordsNo	optional	Count records result. Records number of this data set	<i>long</i>
rescanRequired	optional	Runtime flag used to track if the data scan refresh is required on this data set or not	<i>boolean</i>
scanComplete	optional	Runtime flag used to track if the data scan has been performed on this data set or not	<i>boolean</i>

Attribute	Use	Description	Valid Values
scoreUsage	optional	Indicates whether this data set will be selectable when Scoring in the application or not	<i>boolean</i>
testUsage	optional	Indicates whether this data set will be selectable when doing a Test or Simulate in the application or not	<i>boolean</i>

XML Representation

```

<xs:element name="DataSet" type="dataset:typeDataSet" minOccurs="0">
  <xs:sequence>
    <xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:element name="Table" type="typeDataTable"></xs:element>
    <xs:element name="Expression" type="typeDataSetExpression" minOccurs="0"
      maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="Category" type="xs:string" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
    <xs:sequence>
      <xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0"
        maxOccurs="unbounded"></xs:element>
    </xs:sequence>
    <xs:sequence>
      <xs:element name="Definition" type="xs:string"></xs:element>
    </xs:sequence>
    </xs:element>
    <xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
      <xs:sequence>
        <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
          maxOccurs="unbounded"></xs:element>
      </xs:sequence>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="deployUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scoreUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="modelUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="testUsage" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="compatibility" type="enumCompatibility" use="optional">
    <xs:enumeration value="complete"></xs:enumeration>
    <xs:enumeration value="partial"></xs:enumeration>
    <xs:enumeration value="none"></xs:enumeration>
  </xs:attribute>
  <xs:attribute name="isCompatible" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="scanComplete" type="xs:boolean" use="optional" default="false"></xs:attribute>

```

```

    <xs:attribute name="rescanRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
    <xs:attribute name="recordsNo" type="xs:long" use="optional"></xs:attribute>
</xs:element>

```

Parent Elements

[RuleObject Element](#)

Child Elements

[Attribute Element](#), [Expression Element](#), [Mapping Element](#), [Table Element](#)

Attribute Element

The attributes of the given data set at the point of last refresh

Table A-756

Attributes for Attribute

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>
miningType	optional	The data mining type of this attribute	<i>string</i>
name	required	Name of the attribute	<i>string</i>

XML Representation

```

<xs:element name="Attribute" type="typeAttribute" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="miningType" type="xs:string"></xs:attribute>
  <xs:attribute name="description" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maximumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minimumValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isSelected" type="xs:boolean" use="optional" default="true"></xs:attribute>
  <xs:attribute name="isOperational" type="xs:boolean" use="optional" default="true"></xs:attribute>

```

```
<xs:attribute name="isAnalytic" type="xs:boolean" use="optional" default="true"></xs:attribute>
</xs:element>
```

Table A-757
Extended Types

Type	Description
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDerivedAttribute	A derived (computed) attribute
typeModelDerivedAttribute	An attribute whose value is provided by the output from a model.
typeDataSetExpression	A simple expression computed on the attributes of a single dataset
typeDataSetExpression	A simple expression computed on the attributes of a single dataset

Parent Elements

[DataSet Element](#)

Child Elements

[Category Element](#)

Category Element

Categorical values defined for this attribute

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Attribute Element](#)

Table Element

The table used in this data set

Table A-758
Attributes for Table

Attribute	Use	Description	Valid Values
loginId	optional	Optional ID to be used if a login is required, passwords will not be saved	<i>string</i>
loginRequired	optional	Indicates whether credentials are required for table access or not	<i>boolean</i>
tableName	required	Name of the selected table at the source	<i>string</i>

XML Representation

```
<xs:element name="Table" type="typeDataTable">
  <xs:attribute name="tableName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="loginRequired" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="loginId" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Table A-759
Extended Types

Type	Description
ExcelFileTable	An Excel file-based table definition
FlatFileTable	A flat file-based table definition
DimensionsFileTable	A SAS save file-based table definition
SASFileTable	A SAS save file-based table definition
SpssFileTable	An SPSS save file-based table definition
DatabaseTable	A database-based table definition
PevTable	An Enterprise View-based table definition
CognosTable	An Cognos-based table definition

Parent Elements

[DataSet Element](#)

Expression Element

Optional passing of expressions defined by an application into a task

Table A-760
Attributes for Expression

Attribute	Use	Description	Valid Values
dataType	required	Storage type of the attribute	<i>string</i>
description	optional	Optional attribute description	<i>string</i>
editable	optional	Flag controlling editability in non-administrator interfaces	<i>boolean</i>
ExpressionEquation	optional	Expression equation	<i>string</i>
isAnalytic	optional	Indicates if this attribute is analytic or not	<i>boolean</i>
isOperational	optional	Indicates if this attribute is operational or not	<i>boolean</i>
isSelected	optional	Indicates selection state for this attribute	<i>boolean</i>
maximumValue	optional	A maximum value restriction for this attribute	<i>string</i>
minimumValue	optional	A minimum value restriction for this attribute	<i>string</i>

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Expression Element](#)

DataSetAttribute Element

Other attributes from which this attribute is derived

Table A-761

Attributes for DataSetAttribute

Attribute	Use	Description	Valid Values
attributeQualifier	optional	An optional qualifier which can be used to scope the attribute reference	<i>string</i>

XML Representation

```
<xs:element name="DataSetAttribute" type="typeDataSetAttribute" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="attributeQualifier" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[Expression Element](#)

Definition Element

Expression definition

XML Representation

```
<xs:element name="Definition" type="xs:string"></xs:element>
```

Parent Elements

[Expression Element](#)

Mapping Element

The mapping required to make this data set compatible with the application

XML Representation

```
<xs:element name="Mapping" type="typeDataSetMapping" minOccurs="0">
  <xs:sequence>
    <xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
      maxOccurs="unbounded"></xs:element>
  </xs:sequence>
</xs:element>
```

```
</xs:sequence>
</xs:element>
```

Table A-762
Extended Types

Type	Description
typeRuleModelInputMapping	Maps to the input attributes of a rule or model.

Parent Elements

[DataSet Element](#)

Child Elements

[AttributeMapping Element](#)

AttributeMapping Element

The mapping of these attributes to the primary attributes

Table A-763
Attributes for AttributeMapping

Attribute	Use	Description	Valid Values
fromName	required	Source attribute on the 'left' side of this mapping (from the primary data set)	<i>string</i>
toName	required	Attribute from this table mapped on the 'to' (right) side of this mapping	<i>string</i>

XML Representation

```
<xs:element name="AttributeMapping" type="typeAttributeMapping" minOccurs="0"
maxOccurs="unbounded">
  <xs:attribute name="fromName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="toName" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements

[Mapping Element](#)

Input Element

The required inputs for this rule

Table A-764
Attributes for Input

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>

Attribute	Use	Description	Valid Values
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Input" type="typeField" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="measureType" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="maxValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="minValue" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
    default="false"></xs:attribute>
  <xs:attribute name="expressionEquation" type="xs:string" use="optional"></xs:attribute>
</xs:element>
```

Parent Elements

[RuleObject Element](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
```

Parent Elements

[Input Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-765

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```
<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"></xs:enumeration>
    <xs:enumeration value="Propensity"></xs:enumeration>
    <xs:enumeration value="RuleIndex"></xs:enumeration>
    <xs:enumeration value="Outcome"></xs:enumeration>
    <xs:enumeration value="Target"></xs:enumeration>
    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>
```

Parent Elements

[Input Element](#)

InputDimension Element

Dimensions referenced from this rule

Table A-766

Attributes for InputDimension

Attribute	Use	Description	Valid Values
name	required	The name of the dimension	<i>string</i>

XML Representation

```
<xs:element name="InputDimension" type="typeInputDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"></xs:element>
  </xs:sequence>
  <xs:attribute name="name" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[RuleObject Element](#)**Child Elements**[Member Element](#)**Member Element**

Optional list of dimension members referred to within this rule

XML Representation

```
<xs:element name="Member" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements[InputDimension Element](#)**Output Element**

The outputs produced by an execution of this rule

Table A-767

Attributes for Output

Attribute	Use	Description	Valid Values
dataType	required	Data type of this referenced field	<i>string</i>
expressionEquation	optional	Expression equation	<i>string</i>
fieldName	required	Project data model attribute referenced as input	<i>string</i>
isTypeDatasetExpression	optional	is TypeDatasetExpression	<i>boolean</i>
maxValue	optional	The maximum value for range measures	<i>string</i>
measureType	optional	The measure type used in modeling for this field	<i>string</i>
minValue	optional	The minimum value for range measures	<i>string</i>

XML Representation

```
<xs:element name="Output" type="typeField" maxOccurs="unbounded">
  <xs:sequence>
    <xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
    <xs:element name="modelOutputMetadata" type="typeModelOutputMetadata"
      minOccurs="0"/></xs:element>
  </xs:sequence>
  <xs:attribute name="fieldName" type="xs:string" use="required"/></xs:attribute>
  <xs:attribute name="dataType" type="xs:string" use="required"/></xs:attribute>
```

```

<xs:attribute name="measureType" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="maxValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="minValue" type="xs:string" use="optional"/></xs:attribute>
<xs:attribute name="isTypeDatasetExpression" type="xs:boolean" use="optional"
  default="false"/></xs:attribute>
<xs:attribute name="expressionEquation" type="xs:string" use="optional"/></xs:attribute>
</xs:element>

```

Parent Elements

[RuleObject Element](#)

Child Elements

[Category Element](#), [modelOutputMetadata Element](#)

Category Element

The categorical values this field may return

XML Representation

```
<xs:element name="Category" type="xs:string" minOccurs="0" maxOccurs="unbounded"/></xs:element>
```

Parent Elements

[Output Element](#)

modelOutputMetadata Element

Model Output Metadata relating to this field

Table A-768

Attributes for modelOutputMetadata

Attribute	Use	Description	Valid Values
role	optional	The model output role of a field	Probability Propensity RuleIndex Outcome Target Other None EntityId

XML Representation

```

<xs:element name="modelOutputMetadata" type="typeModelOutputMetadata" minOccurs="0">
  <xs:attribute name="role" type="dataset:enumModelOutputRole" use="optional" default="None">
    <xs:enumeration value="Probability"/></xs:enumeration>
    <xs:enumeration value="Propensity"/></xs:enumeration>
    <xs:enumeration value="RuleIndex"/></xs:enumeration>
    <xs:enumeration value="Outcome"/></xs:enumeration>
    <xs:enumeration value="Target"/></xs:enumeration>
  </xs:element>

```

```

    <xs:enumeration value="Other"></xs:enumeration>
    <xs:enumeration value="None"></xs:enumeration>
    <xs:enumeration value="EntityId"></xs:enumeration>
  </xs:attribute>
</xs:element>

```

Parent Elements

Output Element

AnalyticEngine Element

Runtime executable representation of the rule

XML Representation

```
<xs:element name="AnalyticEngine" type="xs:string" minOccurs="0"></xs:element>
```

Parent Elements

RuleObject Element

ObjectReference Element

A reference to a repository object

Table A-769
Attributes for *ObjectReference*

Attribute	Use	Description	Valid Values
label	required	Version label referenced	<i>string</i>
mimeType	optional	File MIME type of the repository object	<i>string</i>
name	optional	Optional Application View name for display	<i>string</i>
outputQualifier	optional	Optional output qualifier to be used during execution	<i>string</i>
usage	optional	Additional display information for the user interface	<i>string</i>

XML Representation

```

<xs:element name="ObjectReference" type="typeRepositoryObject">
  <xs:attribute name="label" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="name" type="xs:string"></xs:attribute>
  <xs:attribute name="usage" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="outputQualifier" type="xs:string" use="optional"></xs:attribute>
  <xs:attribute name="mimeType" type="xs:string" use="optional"></xs:attribute>
</xs:element>

```


Parent Elements[ReferencedValue Element](#)**Threshold Element**

An ordered set of threshold tests and associated allocations

Table A-770

Attributes for *Threshold*

Attribute	Use	Description	Valid Values
thresholdValue	required	Threshold value to test	<i>string</i>

XML Representation

```
<xs:element name="Threshold" type="typeThresholdAllocation" minOccurs="0" maxOccurs="unbounded">
  <xs:choice>
    <xs:element name="OutputFieldValue" type="typeOutputFieldValue" maxOccurs="unbounded">
      <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="Value" type="typeValue"></xs:element>
      </xs:choice>
    </xs:element>
    <xs:element name="ValueOutput" type="typeValueOutput" maxOccurs="unbounded"></xs:element>
  </xs:choice>
  <xs:attribute name="thresholdValue" type="xs:string" use="required"></xs:attribute>
</xs:element>
```

Parent Elements[typeThresholdRule Type](#)**Child Elements**[OutputFieldValue Element](#), [ValueOutput Element](#)**OutputFieldValue Element**

Output values produced when the threshold is met. Any output of the rule not specified is implied to have a null value.

Table A-771

Attributes for *OutputFieldValue*

Attribute	Use	Description	Valid Values
allocateAll	optional	A hint to the UI that the value originated from the user selecting "allocate all".	<i>boolean</i>
fieldName	required	The name of the output field with which this value is associated.	<i>string</i>

XML Representation

```

<xs:element name="OutputFieldValue" type="typeOutputFieldValue" maxOccurs="unbounded">
  <xs:choice minOccurs="0" maxOccurs="unbounded">
    <xs:element name="Value" type="typeValue"></xs:element>
  </xs:choice>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="allocateAll" type="xs:boolean" default="false"></xs:attribute>
</xs:element>

```

Parent Elements[Threshold Element](#)**Child Elements**[Value Element](#)**Value Element**

A literal value.

Table A-772
Attributes for Value

Attribute	Use	Description	Valid Values
IsNil	optional	Flag indicating if the value is NULL or not	<i>boolean</i>
type	optional	Specific data type of this literal value	<i>any</i>

XML Representation

```

<xs:element name="Value" type="typeValue">
  <xs:attribute name="IsNil" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="type" use="optional">
    <xs:simpleType>
      <xs:restriction base="xs:string"></xs:restriction>
    </xs:simpleType>
  </xs:attribute>
</xs:element>

```

Parent Elements[OutputFieldValue Element](#)**ValueOutput Element**

[Deprecated] Replaced by OutputFieldValue.

Table A-773
Attributes for ValueOutput

Attribute	Use	Description	Valid Values
field	required		<i>string</i>

XML Representation

```
<xs:element name="ValueOutput" type="typeValueOutput" maxOccurs="unbounded">
  <xs:attribute name="field" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements

[Threshold Element](#)

Remainder Element

The optional definition of a remainder

Table A-774
Attributes for Remainder

Attribute	Use	Description	Valid Values
segmentName	optional	Alias name for this segment	<i>string</i>

XML Representation

```
<xs:element name="Remainder" type="typeRemainder" minOccurs="0">
  <xs:choice>
    <xs:element name="OutputFieldValue" type="typeOutputFieldValue" minOccurs="0"
      maxOccurs="unbounded">
      <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="Value" type="typeValue"/></xs:element>
      </xs:choice>
    </xs:element>
    <xs:element name="ValueOutput" type="typeValueOutput" minOccurs="0"
      maxOccurs="unbounded"/></xs:element>
  </xs:choice>
  <xs:attribute name="segmentName" type="xs:string"/></xs:attribute>
</xs:element>
```

Parent Elements

[typeThresholdRule Type](#)

Child Elements

[OutputFieldValue Element](#), [ValueOutput Element](#)

OutputFieldValue Element

Output values associated with the remainder situation for a rule. Any output of the rule not specified is implied to have a null value.

Table A-775
Attributes for *OutputFieldValue*

Attribute	Use	Description	Valid Values
allocateAll	optional	A hint to the UI that the value originated from the user selecting “allocate all”.	<i>boolean</i>
fieldName	required	The name of the output field with which this value is associated.	<i>string</i>

XML Representation

```
<xs:element name="OutputFieldValue" type="typeOutputFieldValue" minOccurs="0" maxOccurs="unbounded">
  <xs:choice minOccurs="0" maxOccurs="unbounded">
    <xs:element name="Value" type="typeValue"></xs:element>
  </xs:choice>
  <xs:attribute name="fieldName" type="xs:string" use="required"></xs:attribute>
  <xs:attribute name="allocateAll" type="xs:boolean" default="false"></xs:attribute>
</xs:element>
```

Parent Elements

[Remainder Element](#)

Child Elements

[Value Element](#)

Value Element

A literal value.

Table A-776
Attributes for *Value*

Attribute	Use	Description	Valid Values
IsNil	optional	Flag indicating if the value is NULL or not	<i>boolean</i>
type	optional	Specific data type of this literal value	<i>any</i>

XML Representation

```
<xs:element name="Value" type="typeValue">
  <xs:attribute name="IsNil" type="xs:boolean" use="optional" default="false"></xs:attribute>
  <xs:attribute name="type" use="optional">
    <xs:simpleType>
      <xs:restriction base="xs:string"></xs:restriction>
    </xs:simpleType>
  </xs:attribute>
</xs:element>
```

Parent Elements[OutputFieldValue Element](#)**ValueOutput Element**

[Deprecated] Replaced by OutputFieldValue.

Table A-777

Attributes for ValueOutput

Attribute	Use	Description	Valid Values
field	required		<i>string</i>

XML Representation

```
<xs:element name="ValueOutput" type="typeValueOutput" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="field" type="xs:string" use="required"/></xs:attribute>
</xs:element>
```

Parent Elements[Remainder Element](#)**VariableReferenceBoundary Type**

A variable reference Constraint Boundary

Table A-778

Attributes for VariableReferenceBoundary

Attribute	Use	Description	Valid Values
value	required	The value or reference defining this boundary	<i>string</i>

XML Representation

```
<xs:complexType name="VariableReferenceBoundary"/></xs:complexType>
```

Extends

[Boundary Element](#), [Boundary Element](#), [Boundary Element](#), [Boundary Element](#), [Boundary Element](#), [Boundary Element](#)

Related Types[ConstantBoundary Type](#)

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