IBM® Analytical Decision Management
Version 17 Release 0

Schema Reference
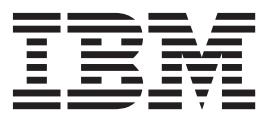
IBM

Contents

Element reference

This guide provides a reference for all the main elements in the XML schema used to configure and customize applications. Each section lists the valid attributes for an element and its parent and child elements.

A copy of the XML schema is also provided with the product for reference purposes. It can be helpful to open the main *workspace.xsd* schema in an XML editor and familiarize yourself with it. The schema is available in the IBM® SPSS® Collaboration and Deployment Services installation directory (for example, *C:\Program Files\IBM\SPSS\Deployment\7.0\Server\components\decision-management\Schemas\ workspace.xsd*).

Note: Some schemas and elements are for internal use only, and some have been deprecated since first being introduced. Only *workspace.xsd* should be used.

Elements

PredictiveApplication Element

The PredictiveApplication is a template used when creating new projects using IBM Analytical Decision Management.

Table 1. Attributes for PredictiveApplication

Attribute	Use	Description	Valid Values
appsVersion	optional	For internal use only. Version of Decision Management that last modified this project. Format is expected to be (major).(minor)	*string*
cacheHandle	optional	For internal use only. Run time tracking of the associated cache handle for this object.	*string*
groupTemplate	optional	Deprecated as of Decision Management 6.1. The Application Group definition file spec to use for controlling common presentation aspects of an object from this group.	*string*

Table 1. Attributes for PredictiveApplication (continued)

Attribute	Use	Description	Valid Values
initialDimensionForScenarioResults	optional	Dimension that will be displayed initially in Scenario Results. For example, setting initialDimensionForScenarioResults="Offer" makes the Offer dimension the default primary dimension in Scenario Results. This is optional. If no dimension is defined, the first dimension in the application template will be used.	*string*
name	optional	Deprecated as of Decision Management 6.1. Use TitleEntry in the description.xml file for this application.	*string*
objectOrigin	optional	For internal use only. Run time information on the origin of this project.	*string*
previousVersion	optional	For internal use only. Deprecated. Previous version of the Application Template used to create this project.	*string*
priorityDimension	optional	Deprecated. Dimension considered to be the Priority Dimension. Use "hasPriority" attribute in individual Dimension elements.	*string*
templateName	**required**	The name of this application template.	*string*
templateVersion	**required**	Version of the application template used to create this application instance.	*string*
testMode	optional	For internal use only. Indicates application should be executed in Test mode.	*boolean*
testModeInteractionPoint	optional	For internal use only. Indicates the interaction point when running in Test mode.	*string*

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: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="ReferenedDimensionHierarchy" type="typeReferencedDimension" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element name="SpecialVariableReference" type="typeUserVariableReference" minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:element>
  <xs:element name="Inputs" type="typeInputs" minOccurs="0"/>
  <xs:element name="EntityDimension" type="typeEntityDimension" minOccurs="0">
    <xs:sequence>
      <xs:element name="Attributes" type="typeAttributeReference" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element name="InteractiveQuestions" type="typeInteractiveQuery" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
        <xs:sequence>
          <xs:element name="ValueSource" type="typeValueSource"/>
        </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: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:sequence>
      </xs:element>
      <xs:element name="Selection" type="typeLocalRule" minOccurs="0"/>
      <xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0" maxOccurs="unbounded"/>
    </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: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: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:sequence>
      </xs:element>
      <xs:element name="Member" type="typeDimensionMember" minOccurs="0" maxOccurs="unbounded"/>
```

```
          <xs:element name="Property" type="typeProperty" minOccurs="0" 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: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: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: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: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:element name="CPLEXConfiguration" type="typeCPLEXConfiguration" minOccurs="0">
            <xs:sequence>
              <xs:element name="CPLEXSetting" type="typeCPLEXSetting" minOccurs="0" maxOccurs="unbounded">
              </xs:element>
            </xs:sequence>
          </xs:element>
        </xs:sequence>
      </xs:element>
      <xs:element name="Deployment" type="typeDeployment" minOccurs="0">
        <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:element>
      <xs:element name="CurrentStateReport" type="typeCurrentStateReportItem" minOccurs="0"/>
      <xs:element name="Report" type="typeReportItem" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element name="Tasks" type="typeTaskInformation" minOccurs="0"/>
      <xs:element name="UnusedResource" type="typeUnusedResource" minOccurs="0"/>
      <xs:element name="StreamSettings" type="typeStreamSettings" minOccurs="0"/>
    </xs:sequence>
    <xs:attribute name="appsVersion" type="xs:string" use="optional"/>
    <xs:attribute name="templateName" type="xs:string" use="required"/>
    <xs:attribute name="templateVersion" type="xs:string" use="required"/>
    <xs:attribute name="groupTemplate" type="xs:string" use="optional"/>
    <xs:attribute name="name" type="xs:string" use="optional"/>
    <xs:attribute name="priorityDimension" type="xs:string" use="optional"/>
    <xs:attribute name="initialDimensionForScenarioResults" type="xs:string" use="optional"/>
    <xs:attribute name="objectOrigin" type="xs:string" use="optional"/>
    <xs:attribute name="cacheHandle" type="xs:string" use="optional"/>
    <xs:attribute name="previousVersion" type="xs:string" use="optional"/>
    <xs:attribute name="testMode" type="xs:boolean" use="optional" default="false"/>
    <xs:attribute name="testModeInteractionPoint" type="xs:string" use="optional"/>
</xs:element>
```

Child Elements

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

InterfaceControl Element

Control of the user 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: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="ReferenedDimensionHierarchy" type="typeReferencedDimension" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element name="SpecialVariableReference" type="typeUserVariableReference" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:element>
```

Parent Elements

PredictiveApplication

Child Elements

InterfaceFeature, InterfacePages, ReferenedDimensionHierarchy, SpecialVariableReference

InterfacePages Element: Pages to include in the main panel for this application.

Table 2. Attributes for InterfacePages

Attribute	Use	Description	Valid Values
defaultStep	optional	The name of the step/tab to display as the default in the user interface.	*string*

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: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:element>
```

Parent Elements

InterfaceControl

Child Elements

ApplicationHome, CombineStep, DataStep, DefineStep, DeployScoreStep, GlobalSelectionStep,
OptimizeStep, ReportStep

ApplicationHome Element: The application Home page configuration.

Table 3. Attributes for ApplicationHome

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

XML Representation

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

Parent Elements

InterfacePages

DataStep Element: The Data tab configuration.

Table 4. Attributes for DataStep

Attribute	Use	Description	Valid Values
lockPrimaryDataSet	optional	Optional flag (default is "false") controlling whether the Project Data Model selection is locked by the administrator or not.	*boolean*
permitExpressions	optional	Flag to indicate whether derived attribute expressions are permitted to extend a data set.	*boolean*
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not.	*boolean*
stepHidden	optional	The "hidden" state for this panel.	*boolean*
stepIncluded	optional	The logical "included or not" flag for this panel.	*boolean*
stepLocked	optional	The locked state for this panel.	*boolean*

XML Representation

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

Parent Elements

InterfacePages

GlobalSelectionStep Element: The Global Selections tab configuration.

Table 5. Attributes for GlobalSelectionStep

Attribute	Use	Description	Valid Values
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not.	*boolean*
stepHidden	optional	The "hidden" state for this panel.	*boolean*
stepIncluded	optional	The logical "included or not" flag for this panel.	*boolean*
stepLocked	optional	The locked state for this panel.	*boolean*

XML Representation

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

Parent Elements

InterfacePages

DefineStep Element: The Define tab configuration.

Table 6. Attributes for DefineStep

Attribute	Use	Description	Valid Values
enableInteractionPoints	optional	Logical switch controlling whether Interaction Points are presented to the user or not.	*boolean*
enableSimulation	optional	Deprecated as of Decision Management 8.0. Controls presentation of the Define-style Simulation action.	*boolean*
enableTest	optional	Deprecated as of Decision Management 8.0. Controls presentation of the Test action.	*boolean*
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not.	*boolean*
stepHidden	optional	The "hidden" state for this panel.	*boolean*
stepIncluded	optional	The logical "included or not" flag for this panel.	*boolean*
stepLocked	optional	The locked state for this panel.	*boolean*

XML Representation

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

Table 7. 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	Configuration of the Define tab in the Rules Management application.

Parent Elements

InterfacePages

CombineStep Element: The Combine tab configuration.

Table 8. Attributes for CombineStep

Attribute	Use	Description	Valid Values
enableTest	optional	Indicates whether the "Test" function is enabled or disabled on the Combine tab.	*boolean*
enableWhatif	optional	Indicates whether the "What If?" function is enabled or disabled on the Combine tab.	*boolean*
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not.	*boolean*
stepHidden	optional	The "hidden" state for this panel.	*boolean*
stepIncluded	optional	The logical "included or not" flag for this panel.	*boolean*
stepLocked	optional	The locked state for this panel.	*boolean*

XML Representation

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

Parent Elements

InterfacePages

OptimizeStep Element: The Prioritize/Optimize tab configuration.

Table 9. Attributes for OptimizeStep

Attribute	Use	Description	Valid Values
enableTest	optional	Indicates whether the "Test" function is enabled or disabled on the Prioritize/Optimize tab.	*boolean*
enableWhatif	optional	Indicates whether the "What If?" function is enabled or disabled on the Prioritize/Optimize tab.	*boolean*
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not.	*boolean*

Table 9. Attributes for OptimizeStep (continued)

Attribute	Use	Description	Valid Values
stepHidden	optional	The "hidden" state for this panel.	*boolean*
stepIncluded	optional	The logical "included or not" flag for this panel.	*boolean*
stepLocked	optional	The locked state for this panel.	*boolean*

XML Representation

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

Parent Elements

InterfacePages

Child Elements

OptimizeMethod

OptimizeMethod Element: Method to use for combining or optimizing results to reach a decision.

XML Representation

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

Table 10. Extended Types

Type	Description
PrioritizationOptimization	The Prioritization form of optimization.

Parent Elements

OptimizeStep

DeployScoreStep Element: The Deploy/Score tab configuration.

Table 11. Attributes for DeployScoreStep

Attribute	Use	Description	Valid Values
hasInteractiveQuestionSection	optional	Interactive questions is a feature that may be used with real time scoring to prompt the user for input attributes when they are missing.	*boolean*
lockBatchScoringOutputFields	optional	Administrator lock of the batch Scoring Output Fields section.	*boolean*

Table 11. Attributes for DeployScoreStep (continued)

Attribute	Use	Description	Valid Values
lockInteractiveQuestionSection	optional	Administrator lock of the Interactive Questions section.	*boolean*
lockRealTimeScoringOutputFields	optional	Administrator lock of the real time Scoring Output Fields section.	*boolean*
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not.	*boolean*
stepHidden	optional	The "hidden" state for this panel.	*boolean*
stepIncluded	optional	The logical "included or not" flag for this panel.	*boolean*
stepLocked	optional	The locked state for this panel.	*boolean*

XML Representation

```
<xs:element name="DeployScoreStep" type="typeDeployScoreStep" minOccurs="0">
  <xs:attribute name="stepIncluded" type="xs:boolean" default="true"/>
  <xs:attribute name="stepHidden" type="xs:boolean" default="false"/>
  <xs:attribute name="stepLocked" type="xs:boolean" default="false"/>
  <xs:attribute name="stepCompleted" type="xs:boolean" use="optional" default="false"/>
  <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 name="lockInteractiveQuestionSection" type="xs:boolean" use="optional" default="false"/>
  <xs:attribute name="lockRealTimeScoringOutputFields" type="xs:boolean" use="optional" default="false"/>
  <xs:attribute name="lockBatchScoringOutputFields" type="xs:boolean" use="optional" default="false"/>
</xs:element>
```

Parent Elements

InterfacePages

Child Elements

ImmediateBatchScoring, RealTimeScoring, ScheduledBatchScoring

ImmediateBatchScoring Element: Configuration of Immediate Batch scoring.

Table 12. Attributes for ImmediateBatchScoring

Attribute	Use	Description	Valid Values
enableScoringOptions	optional	Controls whether the Scoring Options will be presented or not.	*boolean*

XML Representation

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

Parent Elements

DeployScoreStep

ScheduledBatchScoring Element: For internal use only. Not supported.

Table 13. Attributes for ScheduledBatchScoring

Attribute	Use	Description	Valid Values
enableScoringOptions	optional	Controls whether the Scoring Options will be presented or not.	*boolean*

XML Representation

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

Parent Elements

DeployScoreStep

RealTimeScoring Element: Configuration of a Real Time Scoring deployment.

Table 14. 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.	*boolean*

XML Representation

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

Parent Elements

DeployScoreStep

ReportStep Element: The Report tab configuration.

Table 15. 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 non-administror users or not.	*boolean*
lockCurrentResultsReport	optional	Optional flag (default is "false") to control the administrator lock of the Current State report selection list.	*boolean*

Table 15. Attributes for ReportStep (continued)

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

XML Representation

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

Parent Elements

InterfacePages

InterfaceFeature Element: Controllable features to expose in the user interface presented for this application.

Table 16. Attributes for InterfaceFeature

Attribute	Use	Description	Valid Values
id	**required**	ID code for the major feature to expose.	**ModelReference**. Ability to reference models stored in the IBM SPSS Collaboration and Deployment Services Repository. **ModelBuild**. Ability to build models in IBM Analytical Decision Management applications other than IBM SPSS Modeler Advantage. **ModelExport**. Ability to save models to the IBM SPSS Collaboration and Deployment Services Repository. **RuleExport**. Ability to save rules to the IBM SPSS Collaboration and Deployment Services Repository. **RuleReference**. Ability to reference rules stored in the IBM SPSS Collaboration and Deployment Services Repository. **Collaboration**. Ability to reference or save objects to the IBM SPSS Collaboration and Deployment Services Repository. **UploadDownload**. Ability to open stream files from or save stream files to the user's local file system. **MetadataDownload**. The ability to download a .ZIP file containing metadata about the current project.

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 value="ModelBuild"/>
    <xs:enumeration value="ModelExport"/>
    <xs:enumeration value="RuleExport"/>
    <xs:enumeration value="RuleReference"/>
    <xs:enumeration value="Collaboration"/>
    <xs:enumeration value="UploadDownload"/>
    <xs:enumeration value="MetadataDownload"/>
  </xs:attribute>
</xs:element>
```

Parent Elements

InterfaceControl

ReferenedDimensionHierarchy Element: For internal use only. The Dimension hierarchy as defined in the user interface.

XML Representation

`<xs:element name="ReferenedDimensionHierarchy" type="typeReferencedDimension" minOccurs="0" maxOccurs="unbounded"/>`

Parent Elements

InterfaceControl

SpecialVariableReference Element: For internal use only. A list of the variables to be managed in a special way by the user interface.

XML Representation

`<xs:element name="SpecialVariableReference" type="typeUserVariableReference" minOccurs="0" maxOccurs="unbounded"/>`

Parent Elements

InterfaceControl

Inputs Element
For internal use only. The primary input source for this application.

XML Representation
`<xs:element name="Inputs" type="typeInputs" minOccurs="0"/>`

Parent Elements

PredictiveApplication

EntityDimension Element
Dimension that defined the input data to this predictive application (such as Customer, Product, etc.).

Table 17. Attributes for EntityDimension

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces.	*boolean*
name	optional	Name of the element.	*string*

XML Representation
```
<xs:element name="EntityDimension" type="typeEntityDimension" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/>
  <xs:sequence>
    <xs:element name="Attributes" type="typeAttributeReference" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element name="InteractiveQuestions" type="typeInteractiveQuery" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="ValueSource" type="typeValueSource"/>
      </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: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:sequence>
    </xs:element>
    <xs:element name="Selection" type="typeLocalRule" minOccurs="0"/>
    <xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:element>
```

Parent Elements

PredictiveApplication

Child Elements

Allocation, Attributes, Constraint, DerivedVariable, InteractiveQuestions, Selection, Variable

Attributes Element: For internal use only. Attributes that define the Entity, defined by the primary data set.

XML Representation

```
<xs:element name="Attributes" type="typeAttributeReference" minOccurs="0" maxOccurs="unbounded"/>
```

Parent Elements

EntityDimension

InteractiveQuestions Element: List of "more input" interactive questions issued by interactive applications.

XML Representation

```
<xs:element name="InteractiveQuestions" type="typeInteractiveQuery" minOccurs="0" maxOccurs="unbounded"/>
```

Parent Elements

EntityDimension

Variable Element: List of Variables defined for the Entity.

Table 18. Attributes for Variable

Attribute	Use	Description	Valid Values
alwaysVisible	optional	Indicates if this variable should always be visible in the Prioritize/Optimize step.	*boolean*
dataType	**required**	Data type of this variable.	*string*
description	optional	Optional variable description.	*string*

Table 18. Attributes for Variable (continued)

Attribute	Use	Description	Valid Values
editable	optional	Flag controlling editability in non-administrator interfaces.	*boolean*
inherited	optional	Indicates whether this variable can be inherited by child dimension members.	*boolean*
isFromTemplate	optional	Internal use only.	*boolean*
name	optional	Name of the element.	*string*
optimizationInputItem	optional	Indicates if this variable is to be controlled in the Prioritize/Optimize step or not.	*boolean*
prompt	optional	When set, this key value controls the text to display when prompting for variable value input.	*string*
simulateAction	optional	If set, this variable will be summarized in the indicated manner during a simulation.	
simulateName	optional	When set, this key value controls the text to display when displaying the summarized value of this variable during a simulation.	*string*
simulateNumericDisplay	optional	Optional control of the display of numeric values (Integer, Percentage, or Double) under User Preferences formatting.	
tableIndex	optional	Variable index in prioritization table.	*int*

XML Representation

```
<xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="dataType" type="xs:string" use="required"/>
  <xs:attribute name="description" type="xs:string" use="optional"/>
  <xs:attribute name="simulateAction" type="enumVariableValueSummary" use="optional"/>
  <xs:attribute name="simulateName" type="xs:string" use="optional" default="VARIABLE_PROMPT"/>
  <xs:attribute name="simulateNumericDisplay" type="enumNumericDisplay"/>
  <xs:sequence>
    <xs:element name="ValueSource" type="typeValueSource"/>
  </xs:sequence>
  <xs:attribute name="tableIndex" type="xs:int" use="optional" default="0"/>
  <xs:attribute name="prompt" type="xs:string" use="optional" default="VARIABLE_PROMPT"/>
  <xs:attribute name="optimizationInputItem" type="xs:boolean" use="optional" default="false"/>
  <xs:attribute name="inherited" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="isFromTemplate" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="alwaysVisible" type="xs:boolean" use="optional" default="false"/>
</xs:element>
```

Parent Elements

EntityDimension

Child Elements

ValueSource

ValueSource Element: Source of default values for this Variable.

XML Representation

```
<xs:element name="ValueSource" type="typeValueSource"/>
```

Table 19. Extended Types

Type	Description
ConstantValueSource	A constant value source

Parent Elements

Variable

DerivedVariable Element: List of DerivedVariables defined for the Entity.

Table 20. Attributes for DerivedVariable

Attribute	Use	Description	Valid Values
dataType	**required**	Data type of this variable.	*string*
description	optional	Optional variable description.	*string*
editable	optional	Flag controlling editability in non-administrator interfaces.	*boolean*
name	optional	Name of the element.	*string*
simulateAction	optional	If set, this variable will be summarized in the indicated manner during a simulation.	
simulateName	optional	When set, this key value controls the text to display when displaying the summarized value of this variable during a simulation.	*string*
simulateNumericDisplay	optional	Optional control of the display of numeric values (Integer, Percentage, or Double) under User Preferences formatting.	

XML Representation

```
<xs:element name="DerivedVariable" type="typeDerivedVariable" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="dataType" type="xs:string" use="required"/>
  <xs:attribute name="description" type="xs:string" use="optional"/>
  <xs:attribute name="simulateAction" type="enumVariableValueSummary" use="optional"/>
  <xs:attribute name="simulateName" type="xs:string" use="optional" default="VARIABLE_PROMPT"/>
  <xs:attribute name="simulateNumericDisplay" type="enumNumericDisplay"/>
  <xs:sequence>
```

```
        <xs:element name="VariableExpression" type="typeVariableExpression" minOccurs="0">
        </xs:element>
    </xs:sequence>
</xs:element>
```

Parent Elements

EntityDimension

Child Elements

VariableExpression

VariableExpression Element: An expression that can be based on other variables.

Table 21. Attributes for VariableExpression

Attribute	Use	Description	Valid Values
expression	**required**	The expression format is the same as that used in the ObjectiveFunction expression format, i.e. a text string with the base variable references embedded with "${...}". For example, <VariableExpression expression="'${OfferCost}' + '${ChannelCost}'"/>	*string*

XML Representation

```
<xs:element name="VariableExpression" type="typeVariableExpression" minOccurs="0">
  <xs:attribute name="expression" type="xs:string" use="required"/>
</xs:element>
```

Parent Elements

DerivedVariable

Constraint Element: Deprecated. Enity constraints are now defined in the Optimization section. Constraints associated with this Dimension, to be applied in the execution and optimization of this application.

Table 22. Attributes for Constraint

Attribute	Use	Description	Valid Values
description	optional	Optional constraint description.	*string*
dimension	optional	The dimension owns the constraint. If not supplied, the dimension is assumed to be the owner of the Boundary variable.	*string*
editable	optional	Flag controlling editability in non-administrator interfaces.	*boolean*
enabled	optional	Indicates whether this constraint is enabled.	*boolean*

Table 22. Attributes for Constraint (continued)

Attribute	Use	Description	Valid Values
entityScoped	optional	Indicates the scope of this constraint - within an entity or across all entities.	*boolean*
name	optional	Name of the element.	*string*
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 name="editable" type="xs:boolean" use="optional" default="true"/>
  <xs:sequence>
    <xs:element name="Boundary" type="typeConstraintBoundary">
    </xs:element>
    <xs:element name="Function" type="rules:typeExpression" minOccurs="0"/>
    <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:sequence>
  <xs:attribute name="description" type="xs:string" use="optional"/>
  <xs:attribute name="type" type="enumConstraintType" use="required">
    <xs:enumeration value="max"/>
    <xs:enumeration value="min"/>
    <xs:enumeration value="equal"/>
    <xs:enumeration value="notEqual"/>
    <xs:enumeration value="lessThan"/>
    <xs:enumeration value="lessThanEqual"/>
    <xs:enumeration value="greaterThan"/>
    <xs:enumeration value="greaterThanEqual"/>
  </xs:attribute>
  <xs:attribute name="entityScoped" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="enabled" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="dimension" type="xs:string" use="optional"/>
</xs:element>
```

Parent Elements

EntityDimension

Child Elements

Boundary, ExpressionFormat, ExternalUsage, Function, InteractionPoint

Boundary Element: Constraint boundary.

Table 23. Attributes for Boundary

Attribute	Use	Description	Valid Values
value	**required**	The value or reference defining this boundary.	*string*

XML Representation

```
<xs:element name="Boundary" type="typeConstraintBoundary">
  <xs:attribute name="value" type="xs:string" use="required"/>
</xs:element>
```

Table 24. Extended Types

Type	Description
ConstantBoundary	A constant Constraint boundary.
VariableReferenceBoundary	A variable reference Constraint Boundary.

Parent Elements

Constraint

Function Element: Constraint function definition (internally evaluated constraints).

XML Representation

```
<xs:element name="Function" type="rules:typeExpression" minOccurs="0"/>
```

Table 25. Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements

Constraint

ExternalUsage Element: Defines how this constraint can be enabled or disabled via an OPL variable (externally evaluated constraints).

Table 26. Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	**required**	The OPL variable.	*string*
disabledValue	optional	The value that indicates this object is disabled (default 0).	*string*
enabledValue	optional	The value that indicates this object is enabled (default 1).	*string*
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 name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"/>
    <xs:enumeration value="float"/>
    <xs:enumeration value="string"/>
  </xs:attribute>
  <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"/>
  <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"/>
</xs:element>
```

Parent Elements

Constraint

ExpressionFormat Element: Constraint function format (externally evaluated constraints).

Table 27. Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	**required**	The format definition for this expression.	*string*

XML Representation

```
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"/>
</xs:element>
```

Parent Elements

Constraint

InteractionPoint Element: For internal use only. 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"/>
```

Parent Elements

Constraint

Selection Element: For internal use only. Selection and Exclusion rules for Entity members.

XML Representation

```
<xs:element name="Selection" type="typeLocalRule" minOccurs="0"/>
```

Parent Elements

EntityDimension

Allocation Element: For internal use only. Allocation rule for the Entity Dimension and next level Dimension(s).

XML Representation

```
<xs:element name="Allocation" type="typeDimensionAllocation" minOccurs="0" maxOccurs="unbounded"/>
```

Parent Elements

EntityDimension

Dimension Element

The business problem's dimensional solution hierarchy.

Table 28. Attributes for Dimension

Attribute	Use	Description	Valid Values
description	optional	Optional dimension description.	*string*
editable	optional	Flag controlling editability in non-administrator interfaces.	*boolean*
hasPriority	optional	Set to "true" if this dimension can have a priority value associated with it.	*boolean*
name	optional	Name of the element.	*string*
parentDimension	optional	Optional parent dimension for this dimension (hierarchy).	*string*

XML Representation

```
<xs:element name="Dimension" type="typeDimension" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/>
  <xs:sequence>
    <xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
      <xs:sequence>
        <xs:element name="ValueSource" type="typeValueSource"/>
      </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: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:sequence>
    </xs:element>
    <xs:element name="Member" type="typeDimensionMember" minOccurs="0" maxOccurs="unbounded"/>
    <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 name="description" type="xs:string" use="optional"/>
  <xs:attribute name="hasPriority" type="xs:boolean" use="optional" default="false"/>
</xs:element>
```

Parent Elements

PredictiveApplication

Child Elements

Constraint, Member, Property, Variable

Variable Element: List of Variables defined for this Dimension.

Table 29. Attributes for Variable

Attribute	Use	Description	Valid Values
alwaysVisible	optional	Indicates if this variable should always be visible in the Prioritize/Optimize step.	*boolean*
dataType	**required**	Data type of this variable.	*string*
description	optional	Optional variable description.	*string*
editable	optional	Flag controlling editability in non-administrator interfaces.	*boolean*
inherited	optional	Indicates whether this variable can be inherited by child dimension members.	*boolean*
isFromTemplate	optional	Internal use only.	*boolean*
name	optional	Name of the element.	*string*
optimizationInputItem	optional	Indicates if this variable is to be controlled in the Prioritize/Optimize step or not.	*boolean*
prompt	optional	When set, this key value controls the text to display when prompting for variable value input.	*string*
simulateAction	optional	If set, this variable will be summarized in the indicated manner during a simulation.	
simulateName	optional	When set, this key value controls the text to display when displaying the summarized value of this variable during a simulation.	*string*
simulateNumericDisplay	optional	Optional control of the display of numeric values (Integer, Percentage, or Double) under User Preferences formatting.	
tableIndex	optional	Variable index in prioritization table.	*int*

XML Representation

```
<xs:element name="Variable" type="typeVariable" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="name" type="xs:string" use="optional"/>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="dataType" type="xs:string" use="required"/>
  <xs:attribute name="description" type="xs:string" use="optional"/>
  <xs:attribute name="simulateAction" type="enumVariableValueSummary" use="optional"/>
  <xs:attribute name="simulateName" type="xs:string" use="optional" default="VARIABLE_PROMPT"/>
  <xs:attribute name="simulateNumericDisplay" type="enumNumericDisplay"/>
  <xs:sequence>
    <xs:element name="ValueSource" type="typeValueSource"/>
  </xs:sequence>
  <xs:attribute name="tableIndex" type="xs:int" use="optional" default="0"/>
```

```
  <xs:attribute name="prompt" type="xs:string" use="optional" default="VARIABLE_PROMPT"/>
  <xs:attribute name="optimizationInputItem" type="xs:boolean" use="optional" default="false"/>
  <xs:attribute name="inherited" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="isFromTemplate" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="alwaysVisible" type="xs:boolean" use="optional" default="false"/>
</xs:element>
```

Parent Elements

Dimension

Child Elements

ValueSource

ValueSource Element: Source of default values for this Variable.

XML Representation

```
<xs:element name="ValueSource" type="typeValueSource"/>
```

Table 30. Extended Types

Type	Description
ConstantValueSource	A constant value source

Parent Elements

Variable

Constraint Element: Deprecated. List of Constraints on this Dimension. Define constraints in the Optimization section.

Table 31. Attributes for Constraint

Attribute	Use	Description	Valid Values
description	optional	Optional constraint description.	*string*
dimension	optional	The dimension owns the constraint. If not supplied, the dimension is assumed to be the owner of the Boundary variable.	*string*
editable	optional	Flag controlling editability in non-administrator interfaces.	*boolean*
enabled	optional	Indicates whether this constraint is enabled.	*boolean*
entityScoped	optional	Indicates the scope of this constraint - within an entity or across all entities.	*boolean*
name	optional	Name of the element.	*string*

Table 31. Attributes for Constraint (continued)

Attribute	Use	Description	Valid Values
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 name="editable" type="xs:boolean" use="optional" default="true"/>
  <xs:sequence>
    <xs:element name="Boundary" type="typeConstraintBoundary">
    </xs:element>
    <xs:element name="Function" type="rules:typeExpression" minOccurs="0"/>
    <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:sequence>
  <xs:attribute name="description" type="xs:string" use="optional"/>
  <xs:attribute name="type" type="enumConstraintType" use="required">
    <xs:enumeration value="max"/>
    <xs:enumeration value="min"/>
    <xs:enumeration value="equal"/>
    <xs:enumeration value="notEqual"/>
    <xs:enumeration value="lessThan"/>
    <xs:enumeration value="lessThanEqual"/>
    <xs:enumeration value="greaterThan"/>
    <xs:enumeration value="greaterThanEqual"/>
  </xs:attribute>
  <xs:attribute name="entityScoped" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="enabled" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="dimension" type="xs:string" use="optional"/>
</xs:element>
```

Parent Elements

Dimension

Child Elements

Boundary, ExpressionFormat, ExternalUsage, Function, InteractionPoint

Boundary Element: Constraint boundary.

Table 32. Attributes for Boundary

Attribute	Use	Description	Valid Values
value	**required**	The value or reference defining this boundary.	*string*

XML Representation

```
<xs:element name="Boundary" type="typeConstraintBoundary">
  <xs:attribute name="value" type="xs:string" use="required"/>
</xs:element>
```

Table 33. Extended Types

Type	Description
ConstantBoundary	A constant Constraint boundary.
VariableReferenceBoundary	A variable reference Constraint Boundary.

Parent Elements

Constraint

Function Element: Constraint function definition (internally evaluated constraints).

XML Representation

```
<xs:element name="Function" type="rules:typeExpression" minOccurs="0"/>
```

Table 34. Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements

Constraint

ExternalUsage Element: Defines how this constraint can be enabled or disabled via an OPL variable (externally evaluated constraints).

Table 35. Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	**required**	The OPL variable.	*string*
disabledValue	optional	The value that indicates this object is disabled (default 0).	*string*
enabledValue	optional	The value that indicates this object is enabled (default 1).	*string*
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 name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"/>
    <xs:enumeration value="float"/>
    <xs:enumeration value="string"/>
  </xs:attribute>
  <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"/>
  <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"/>
</xs:element>
```

Parent Elements

Constraint

ExpressionFormat Element: Constraint function format (externally evaluated constraints).

Table 36. Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	**required**	The format definition for this expression.	*string*

XML Representation

```
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"/>
</xs:element>
```

Parent Elements

Constraint

InteractionPoint Element: For internal use only. 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"/>
```

Parent Elements

Constraint

Member Element: For internal use only. Dimension Member definition.

XML Representation

```
<xs:element name="Member" type="typeDimensionMember" minOccurs="0" maxOccurs="unbounded"/>
```

Parent Elements

Dimension

Property Element: Deprecated as of Decision Management 8.0. Properties defined for all members of this Dimension.

Table 37. 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 name="defaultValue" type="xs:string" default=""/>
</xs:element>
```

Parent Elements

Dimension

Optimization Element
Definition of the optimization to be applied on execution of this application.

Table 38. Attributes for Optimization

Attribute	Use	Description	Valid Values
algorithm	**required**	Optimizaton algorithm from list of known algorithms.	**Heuristic** **CPLEX** **None**
editable	optional	Flag controlling editability in non-administrator interfaces.	*boolean*
name	optional	Name of the element.	*string*
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.	*string*
optimizationMode	optional	Whether the objective function should be maximized or minimized.	**max** **min**
path	optional	Path to the external optimization model file (CPLEX algorithm only).	*string*

XML Representation

```
<xs:element name="Optimization" type="typeOptimizationDefinition" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/>
  <xs:sequence>
    <xs:element name="ObjectiveFunction" type="typeObjectiveFunction" maxOccurs="unbounded">
      <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: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: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: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:element name="CPLEXConfiguration" type="typeCPLEXConfiguration" minOccurs="0">
        <xs:sequence>
          <xs:element name="CPLEXSetting" type="typeCPLEXSetting" minOccurs="0" maxOccurs="unbounded">
          </xs:element>
        </xs:sequence>
      </xs:element>
    </xs:sequence>
    <xs:attribute name="algorithm" type="enumOptimizationAlgorithmType" use="required">
      <xs:enumeration value="Heuristic"/>
      <xs:enumeration value="CPLEX"/>
      <xs:enumeration value="None"/>
    </xs:attribute>
    <xs:attribute name="optimizationMode" type="enumOptimizationMode" use="optional" default="max">
      <xs:enumeration value="max"/>
      <xs:enumeration value="min"/>
    </xs:attribute>
    <xs:attribute name="path" type="xs:string" use="optional"/>
    <xs:attribute name="objectiveValueName" type="xs:string" use="optional"/>
</xs:element>
```

Parent Elements

PredictiveApplication

Child Elements

CPLEXConfiguration, Constraint, OPLMapping, ObjectiveFunction

ObjectiveFunction Element: Objective Function definitions. If multiple definitions are defined, a unique "Name" attribute value must be specified for each one.

Table 39. Attributes for ObjectiveFunction

Attribute	Use	Description	Valid Values
description	optional	Optional objective function description.	*string*
enabled	optional	Indication of whether this constraint is enabled for at least one interaction point.	*boolean*
functionType	optional	Whether the objective function value can be precomputed for each entity, or can only be calculated after optimization has occurred.	**linear** **nonLinear**
simulateAction	optional	How the objective value should be summarized when the function is linear.	

XML Representation

```
<xs:element name="ObjectiveFunction" type="typeObjectiveFunction" maxOccurs="unbounded">
  <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:sequence>
  <xs:attribute name="description" type="xs:string" use="optional"/>
  <xs:attribute name="enabled" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="functionType" type="enumObjectiveFunctionType" use="optional" default="linear">
    <xs:enumeration value="linear"/>
    <xs:enumeration value="nonLinear"/>
  </xs:attribute>
  <xs:attribute name="simulateAction" type="enumVariableValueSummary" use="optional" default="sum"/>
</xs:element>
```

Parent Elements

Optimization

Child Elements

ExpressionFormat, ExternalUsage, InteractionPoint

ExternalUsage Element: Defines how this objective function can be enabled or disabled via an OPL variable.

Table 40. Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	**required**	The OPL variable.	*string*
disabledValue	optional	The value that indicates this object is disabled (default 0).	*string*
enabledValue	optional	The value that indicates this object is enabled (default 1).	*string*
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 name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"/>
    <xs:enumeration value="float"/>
    <xs:enumeration value="string"/>
  </xs:attribute>
  <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"/>
  <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"/>
</xs:element>
```

Parent Elements

ObjectiveFunction

ExpressionFormat Element: Objective function format for externally-defined objective functions.

Table 41. Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	**required**	The format definition for this expression.	*string*

XML Representation

```
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"/>
</xs:element>
```

Parent Elements

ObjectiveFunction

InteractionPoint Element: For internal use only. Optional Interaction Point name used when differentiating the objective function based on interaction points.

XML Representation

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

Parent Elements

ObjectiveFunction

Constraint Element: Constraints associated with this optimization definition, to be applied in the execution and optimization of this application.

Table 42. Attributes for Constraint

Attribute	Use	Description	Valid Values
description	optional	Optional constraint description.	*string*
dimension	optional	The dimension owns the constraint. If not supplied, the dimension is assumed to be the owner of the Boundary variable.	*string*
editable	optional	Flag controlling editability in non-administrator interfaces.	*boolean*
enabled	optional	Indicates whether this constraint is enabled.	*boolean*
entityScoped	optional	Indicates the scope of this constraint - within an entity or across all entities.	*boolean*
name	optional	Name of the element.	*string*
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 name="editable" type="xs:boolean" use="optional" default="true"/>
  <xs:sequence>
    <xs:element name="Boundary" type="typeConstraintBoundary">
    </xs:element>
    <xs:element name="Function" type="rules:typeExpression" minOccurs="0"/>
    <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:sequence>
  <xs:attribute name="description" type="xs:string" use="optional"/>
  <xs:attribute name="type" type="enumConstraintType" use="required">
    <xs:enumeration value="max"/>
    <xs:enumeration value="min"/>
    <xs:enumeration value="equal"/>
```

```
  <xs:enumeration value="notEqual"/>
  <xs:enumeration value="lessThan"/>
  <xs:enumeration value="lessThanEqual"/>
  <xs:enumeration value="greaterThan"/>
  <xs:enumeration value="greaterThanEqual"/>
</xs:attribute>
<xs:attribute name="entityScoped" type="xs:boolean" use="optional" default="true"/>
<xs:attribute name="enabled" type="xs:boolean" use="optional" default="true"/>
<xs:attribute name="dimension" type="xs:string" use="optional"/>
</xs:element>
```

Parent Elements

Optimization

Child Elements

Boundary, ExpressionFormat, ExternalUsage, Function, InteractionPoint

Boundary Element: Constraint boundary.

Table 43. Attributes for Boundary

Attribute	Use	Description	Valid Values
value	**required**	The value or reference defining this boundary.	*string*

XML Representation

```
<xs:element name="Boundary" type="typeConstraintBoundary">
  <xs:attribute name="value" type="xs:string" use="required"/>
</xs:element>
```

Table 44. Extended Types

Type	Description
ConstantBoundary	A constant Constraint boundary.
VariableReferenceBoundary	A variable reference Constraint Boundary.

Parent Elements

Constraint

Function Element: Constraint function definition (internally evaluated constraints).

XML Representation

```
<xs:element name="Function" type="rules:typeExpression" minOccurs="0"/>
```

Table 45. Extended Types

Type	Description
typeObjectiveFunction	Objective Function definition.

Parent Elements

Constraint

ExternalUsage Element: Defines how this constraint can be enabled or disabled via an OPL variable (externally evaluated constraints).

Table 46. Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	**required**	The OPL variable.	*string*
disabledValue	optional	The value that indicates this object is disabled (default 0).	*string*
enabledValue	optional	The value that indicates this object is enabled (default 1).	*string*
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 name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"/>
    <xs:enumeration value="float"/>
    <xs:enumeration value="string"/>
  </xs:attribute>
  <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"/>
  <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"/>
</xs:element>
```

Parent Elements

Constraint

ExpressionFormat Element: Constraint function format (externally evaluated constraints).

Table 47. Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	**required**	The format definition for this expression.	*string*

XML Representation

```
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"/>
</xs:element>
```

Parent Elements

Constraint

InteractionPoint Element: For internal use only. 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"/>
```

Parent Elements

Constraint

OPLMapping Element: Defines how the OPL inputs and outputs are to be mapped.

Table 48. Attributes for OPLMapping

Attribute	Use	Description	Valid Values
contributionVariable	optional	Deprecated. 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. Now replaced by OptimizationOutput element with role of objectiveValue.	*string*
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 allocation priorities, for example. If this is not supplied, then the raw CPLEX output value is returned.	*string*
tupleSetVariable	**required**	The name of the tupleset variable in OPL that holds the tuples representing each row of entity data.	*string*

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 name="outputDecisionVariable" type="xs:string" use="optional"/>
  <xs:attribute name="contributionVariable" type="xs:string" use="optional"/>
</xs:element>
```

Parent Elements

Optimization

Child Elements

EntityField, OptimizationOutput

EntityField Element: How input entity data columns map to tuple fields.

Table 49. 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.	*string*

Table 49. Attributes for EntityField (continued)

Attribute	Use	Description	Valid Values
name	**required**	Attribute Name.	*string*
referenceType	**required**	Reference type.	**Variable** **Objective** **DimensionMember** **Attribute** **System**
tupleField	**required**	The OPL field in the tuple that will store the value.	*string*
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 value="Objective"/>
    <xs:enumeration value="DimensionMember"/>
    <xs:enumeration value="Attribute"/>
    <xs:enumeration value="System"/>
  </xs:attribute>
  <xs:attribute name="name" type="xs:string" use="required"/>
  <xs:attribute name="dataReturn" type="xs:string" use="optional"/>
  <xs:attribute name="tupleField" type="xs:string" use="required"/>
  <xs:attribute name="tupleFieldType" type="enumOPLValueType" use="required">
    <xs:enumeration value="int"/>
    <xs:enumeration value="float"/>
    <xs:enumeration value="string"/>
  </xs:attribute>
</xs:element>
```

Parent Elements

OPLMapping

OptimizationOutput Element: How optimization output variables are inserted into data columns.

Table 50. Attributes for OptimizationOutput

Attribute	Use	Description	Valid Values
name	**required**	Attribute Name. The value is ignored if the role is objectiveValue.	*string*
role	optional	The output role.	**objectiveValue** **optimizedValue**
selectionOnly	optional	If a threshold has been defined for this output and this attribute is set to true, then the corresponding output field will be dropped after the selection threshold has been applied.	*boolean*

Table 50. Attributes for OptimizationOutput (continued)

Attribute	Use	Description	Valid Values
thresholdType	optional	The selection boundary type.	**equal** **notEqual** **lessThan** **lessThanEqual** **greaterThan** **greaterThanEqual**
thresholdValue	optional	The selection boundary value.	*string*
valueVariable	**required**	The OPL field in the tuple that will store the value.	*string*
variableType	**required**	The type of the OPL variable.	**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 name="valueVariable" type="xs:string" use="required"/>
  <xs:attribute name="role" type="enumOptimizationOutputRole" use="optional" default="optimizedValue">
    <xs:enumeration value="objectiveValue"/>
    <xs:enumeration value="optimizedValue"/>
  </xs:attribute>
  <xs:attribute name="variableType" type="enumOPLValueType" use="required">
    <xs:enumeration value="int"/>
    <xs:enumeration value="float"/>
    <xs:enumeration value="string"/>
  </xs:attribute>
  <xs:attribute name="thresholdType" type="enumSelectionBoundaryType" use="optional">
    <xs:enumeration value="equal"/>
    <xs:enumeration value="notEqual"/>
    <xs:enumeration value="lessThan"/>
    <xs:enumeration value="lessThanEqual"/>
    <xs:enumeration value="greaterThan"/>
    <xs:enumeration value="greaterThanEqual"/>
  </xs:attribute>
  <xs:attribute name="thresholdValue" type="xs:string" use="optional"/>
  <xs:attribute name="selectionOnly" type="xs:boolean" use="optional" default="true"/>
</xs:element>
```

Parent Elements

OPLMapping

CPLEXConfiguration Element: Defines advanced CPLEX configuration settings.

Table 51. Attributes for CPLEXConfiguration

Attribute	Use	Description	Valid Values
exportModelPath	optional	The location on the IBM SPSS Modeler Server machine to which the prepared OPL model file should be exported. The suffix should be either .lp or .mps.	*string*
isModelExported	optional	Indicates whether the prepared OPL model file should be exported.	*boolean*

Table 51. Attributes for CPLEXConfiguration (continued)

Attribute	Use	Description	Valid Values
useCPLEXSettings	optional	Indicates whether the CPLEX settings should be applied to the component.	*boolean*

XML Representation

```
<xs:element name="CPLEXConfiguration" type="typeCPLEXConfiguration" minOccurs="0">
  <xs:sequence>
    <xs:element name="CPLEXSetting" type="typeCPLEXSetting" minOccurs="0" maxOccurs="unbounded">
    </xs:element>
  </xs:sequence>
  <xs:attribute name="useCPLEXSettings" type="xs:boolean" use="optional" default="false"/>
  <xs:attribute name="isModelExported" type="xs:boolean" use="optional" default="false"/>
  <xs:attribute name="exportModelPath" type="xs:string" use="optional"/>
</xs:element>
```

Parent Elements

Optimization

Child Elements

CPLEXSetting

CPLEXSetting Element: Defines a specific CPLEX setting.

Table 52. Attributes for CPLEXSetting

Attribute	Use	Description	Valid Values
settingName	**required**	The name of the setting (see CPLEX C++ setting value names in CPLEX documentation).	*string*
settingType	**required**	The type of the OPL setting value.	**bool** **int** **num** **long** **string**
settingValue	**required**	The setting value. Note that boolean values are represented using 0 or 1 for false and true respectively.	*string*

XML Representation

```
<xs:element name="CPLEXSetting" type="typeCPLEXSetting" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="settingName" type="xs:string" use="required"/>
  <xs:attribute name="settingType" type="enumOPLSettingValueType" use="required">
    <xs:enumeration value="bool"/>
    <xs:enumeration value="int"/>
    <xs:enumeration value="num"/>
    <xs:enumeration value="long"/>
    <xs:enumeration value="string"/>
  </xs:attribute>
  <xs:attribute name="settingValue" type="xs:string" use="required"/>
</xs:element>
```

Parent Elements

CPLEXConfiguration

Deployment Element

Deployment details for this application.

Table 53. Attributes for Deployment

Attribute	Use	Description	Valid Values
defaultInteractionPoint	optional	For internal use only. Optional indicator of the Interaction Point that represents the terminal node to be set in the Stream deployment information as the scoring task.	*string*
editable	optional	Flag controlling editability in non-administrator interfaces.	*boolean*
name	optional	Name of the element.	*string*

XML Representation

```
<xs:element name="Deployment" type="typeDeployment" minOccurs="0">
  <xs:attribute name="name" type="xs:string" use="optional"/>
  <xs:attribute name="editable" type="xs:boolean" use="optional" default="true"/>
  <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:element>
```

Parent Elements

PredictiveApplication

Child Elements

DeployLabel, InteractionPoint, OutputAttribute

DeployLabel Element: List of labels available for the user to select from during deployment.

Table 54. Attributes for DeployLabel

Attribute	Use	Description	Valid Values
displayColor	optional	Optional color to use when displaying this label.	*string*
labelId	optional	ID of this label.	*string*
labelName	**required**	Name of this label.	*string*

XML Representation

```
<xs:element name="DeployLabel" type="typeLabelDefinition" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="labelId" type="xs:string" use="optional"/>
  <xs:attribute name="labelName" type="xs:string" use="required"/>
  <xs:attribute name="displayColor" type="xs:string" use="optional"/>
</xs:element>
```

Parent Elements

Deployment

OutputAttribute Element: Default output attributes configured for this application.

Table 55. Attributes for OutputAttribute

Attribute	Use	Description	Valid Values
name	**required**	Attribute Name.	*string*
parent	optional	Specifies the output hierarchy for display purposes.	*string*
referenceType	**required**	Reference type.	**Variable Objective DimensionMember Attribute System**
returnValue	**required**	Return Value.	*string*

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 value="Objective"/>
    <xs:enumeration value="DimensionMember"/>
    <xs:enumeration value="Attribute"/>
    <xs:enumeration value="System"/>
  </xs:attribute>
  <xs:attribute name="name" type="xs:string" use="required"/>
  <xs:attribute name="returnValue" type="xs:string" use="required"/>
  <xs:attribute name="parent" type="xs:string" use="optional"/>
</xs:element>
```

Parent Elements

Deployment

InteractionPoint Element: For internal use only. List of defined Interaction Points for the application.

Table 56. Attributes for InteractionPoint

Attribute	Use	Description	Valid Values
isEnabled	optional	Control of the enabled/disabled check box for this Interaction Point.	*boolean*

XML Representation

```
<xs:element name="InteractionPoint" minOccurs="0" maxOccurs="unbounded">
  <xs:attribute name="isEnabled" type="xs:boolean" use="optional" default="true"/>
</xs:element>
```

Parent Elements

Deployment

CurrentStateReport Element

For internal use only. The optional report to use for summarizing the current state of the application.

XML Representation

```
<xs:element name="CurrentStateReport" type="typeCurrentStateReportItem" minOccurs="0"/>
```

Parent Elements

PredictiveApplication

Report Element

For internal use only. Reports available in this application.

XML Representation

```
<xs:element name="Report" type="typeReportItem" minOccurs="0" maxOccurs="unbounded"/>
```

Parent Elements

PredictiveApplication

Tasks Element

For internal use only. Information on long-running task requests.

XML Representation

```
<xs:element name="Tasks" type="typeTaskInformation" minOccurs="0"/>
```

Parent Elements

PredictiveApplication

UnusedResource Element

The unused elements (Dimensions, Constraints, etc.) which are omitted deselecting the elements in the Project Configuration dialog.

XML Representation

```
<xs:element name="UnusedResource" type="typeUnusedResource" minOccurs="0"/>
```

Parent Elements

PredictiveApplication

StreamSettings Element

Settings to apply to the underlying IBM SPSS Modeler stream.

XML Representation

```
<xs:element name="StreamSettings" type="typeStreamSettings" minOccurs="0"/>
```

Parent Elements

PredictiveApplication

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.

ConstantBoundary Type

A constant Constraint boundary.

Table 57. Attributes for ConstantBoundary

Attribute	Use	Description	Valid Values
value	**required**	The value or reference defining this boundary.	*string*

XML Representation

```
<xs:complexType name="ConstantBoundary">
</xs:complexType>
```

Extends

Boundary

Related Types

ConstantBoundary, VariableReferenceBoundary

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:sequence>
</xs:complexType>
```

Extends

ValueSource

Child Elements

Value

Related Types

ConstantValueSource

Value Element
Constant value, multiple values get multiple elements and are not delimited.

XML Representation

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

PrioritizationOptimization Type

The Prioritization form of optimization.

Table 58. 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*
lockNumReturns	optional	Optional admin lock of the 'number of returns' input.	*boolean*
sameConfiguraitonForIP	optional	Indicates whether the same Prioritization configuration is to be applied for all Interaction Points (default is "true") or not ("false").	*boolean*

XML Representation

```
<xs:complexType name="PrioritizationOptimization">
</xs:complexType>
```

Extends

OptimizeMethod

Related Types

PrioritizationOptimization

VariableReferenceBoundary Type

A variable reference Constraint Boundary.

Table 59. Attributes for VariableReferenceBoundary

Attribute	Use	Description	Valid Values
value	**required**	The value or reference defining this boundary.	*string*

XML Representation

```
<xs:complexType name="VariableReferenceBoundary">
</xs:complexType>
```

Extends

Boundary

Related Types

ConstantBoundary, VariableReferenceBoundary

typeDecisionHierarchyDefineStep Type

The decision hierarchy definition step configuration. AggregationRuleSection and PredictiveModelSection may not both be enabled when using more than 2 dimensions.

Table 60. Attributes for typeDecisionHierarchyDefineStep

Attribute	Use	Description	Valid Values
enableInteractionPoints	optional	Logical switch controlling whether Interaction Points are presented to the user or not.	*boolean*
enableSimulation	optional	Deprecated as of Decision Management 8.0. Controls presentation of the Define-style Simulation action.	*boolean*
enableTest	optional	Deprecated as of Decision Management 8.0. Controls presentation of the Test action.	*boolean*
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not.	*boolean*
stepHidden	optional	The "hidden" state for this panel.	*boolean*
stepIncluded	optional	The logical "included or not" flag for this panel.	*boolean*
stepLocked	optional	The locked state for this panel.	*boolean*

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

Child Elements

DimensionSetting

Related Types

typeDecisionHierarchyDefineStep, typeModelingDefineStep, typeRulesManagementDefineStep

DimensionSetting Element

Configuration(s) of the dimensions (each level in sigle element or multiple elements).

Table 61. Attributes for DimensionSetting

Attribute	Use	Description	Valid Values
enableSubInherit	optional	Indicates whether current dimension setting would inherit by sub dimension in one element.	*boolean*
lockDimensionTree	optional	Indicates whether the dimension tree is locked.	*boolean*
name	optional	Dimension name.	*string*

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

Child Elements

AggregateRuleSection, AllocationRuleSection, PlanningSection, PredictiveModelSection, SelectionSection

SelectionSection Element: Configuration of the Selections section.

Table 62. Attributes for SelectionSection

Attribute	Use	Description	Valid Values
enableModels	optional	Models off/on control.	*boolean*
enabled	**required**	Logical switch controlling whether this section is enabled or not.	*boolean*

XML Representation

```
<xs:element name="SelectionSection" type="typeSelectionsSection">
  <xs:attribute name="enabled" type="xs:boolean" use="required"/>
  <xs:attribute name="enableModels" type="xs:boolean" use="optional" default="true"/>
</xs:element>
```

Parent Elements

DimensionSetting

AggregateRuleSection Element: Configuration of the Aggregate Rule section.

Table 63. Attributes for AggregateRuleSection

Attribute	Use	Description	Valid Values
enableCategoriesAndThresholds	optional	Controls the appearance of the threshold or value range segmentation with category assignment.	*boolean*
enableModels	optional	Models off/on control.	*boolean*
enabled	**required**	Logical switch controlling whether this section is enabled or not.	*boolean*

XML Representation

```
<xs:element name="AggregateRuleSection" type="typeAggregateRuleSection">
  <xs:attribute name="enabled" type="xs:boolean" use="required"/>
  <xs:attribute name="enableModels" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="enableCategoriesAndThresholds" type="xs:boolean" use="optional" default="true"/>
</xs:element>
```

Parent Elements

DimensionSetting

PredictiveModelSection Element: Configuration of the Predictive Model section.

Table 64. Attributes for PredictiveModelSection

Attribute	Use	Description	Valid Values
enableCategoriesAndThresholds	optional	Controls the appearance of the threshold or value range segmentation with category assignment.	*boolean*
enabled	**required**	Logical switch controlling whether this section is enabled or not.	*boolean*

XML Representation

```
<xs:element name="PredictiveModelSection" type="typePredictiveModelSection">
  <xs:attribute name="enabled" type="xs:boolean" use="required"/>
  <xs:attribute name="enableCategoriesAndThresholds" type="xs:boolean" use="optional" default="true"/>
</xs:element>
```

Parent Elements

DimensionSetting

AllocationRuleSection Element: Configuration of the Allocation Rule section.

Table 65. Attributes for AllocationRuleSection

Attribute	Use	Description	Valid Values
enableFirstRuleHitExecution	optional	Permit user option of halting rule execution on first 'true' encountered.	*boolean*
enableListExecution	optional	Permit user option of running the entire rule set, potentially resulting in multiple 'true' events.	*boolean*

Table 65. Attributes for AllocationRuleSection (continued)

Attribute	Use	Description	Valid Values
enableModels	optional	Models off/on control.	*boolean*
enableRandomExecution	optional	Permit user option of telling the execution code to only choose from the available responses.	*boolean*
enabled	**required**	Logical switch controlling whether this section is enabled or not.	*boolean*

XML Representation

```
<xs:element name="AllocationRuleSection" type="typeAllocationRuleSection">
  <xs:attribute name="enabled" type="xs:boolean" use="required"/>
  <xs:attribute name="enableModels" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="enableFirstRuleHitExecution" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="enableListExecution" type="xs:boolean" use="optional" default="true"/>
  <xs:attribute name="enableRandomExecution" type="xs:boolean" use="optional" default="true"/>
</xs:element>
```

Parent Elements

DimensionSetting

PlanningSection Element: Configuration of the Planning section.

Table 66. Attributes for PlanningSection

Attribute	Use	Description	Valid Values
enableInteractionPoints	**required**	Logical switch controlling whether Interaction Points are presented to the user or not.	*boolean*
enableStartEndDates	**required**	Logical switch controlling whether Start and End date limits are presented to the user or not.	*boolean*

XML Representation

```
<xs:element name="PlanningSection" type="typePlanningSection">
  <xs:attribute name="enableInteractionPoints" type="xs:boolean" use="required"/>
  <xs:attribute name="enableStartEndDates" type="xs:boolean" use="required"/>
</xs:element>
```

Parent Elements

DimensionSetting

typeModelingDefineStep Type

The Model definition step configuration.

Table 67. Attributes for typeModelingDefineStep

Attribute	Use	Description	Valid Values
enableAssociationModeling	optional	Controls the appearance of the Association Modeling subpanel.	*boolean*

Table 67. Attributes for typeModelingDefineStep (continued)

Attribute	Use	Description	Valid Values
enableAutoModeling	optional	Controls the appearance of the Auto-Modeling subpanel.	*boolean*
enableClusterModeling	optional	Controls the appearance of the Auto-Cluster Modeling subpanel.	*boolean*
enableInteractionPoints	optional	Logical switch controlling whether Interaction Points are presented to the user or not.	*boolean*
enableInteractiveModeling	optional	Controls the appearance of the Interactive Modeling subpanel.	*boolean*
enableManualCluster	optional	Controls the appearance of the manual cluster section in the Auto-Cluster Modeling subpanel.	*boolean*
enableSimulation	optional	Deprecated as of Decision Management 8.0. Controls presentation of the Define-style Simulation action.	*boolean*
enableTest	optional	Deprecated as of Decision Management 8.0. Controls presentation of the Test action.	*boolean*
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not.	*boolean*
stepHidden	optional	The "hidden" state for this panel.	*boolean*
stepIncluded	optional	The logical "included or not" flag for this panel.	*boolean*
stepLocked	optional	The locked state for this panel.	*boolean*

XML Representation

```
<xs:complexType name="typeModelingDefineStep">
  <xs:sequence>
    <xs:element name="clusterResults" type="modelResults:typeClusterResults" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
```

Extends

DefineStep

Child Elements

clusterResults

Related Types

typeDecisionHierarchyDefineStep, typeModelingDefineStep, typeRulesManagementDefineStep

clusterResults Element
Cluster model results.

XML Representation
```
<xs:element name="clusterResults" type="modelResults:typeClusterResults" minOccurs="0"/>
```

typeObjectiveFunction Type

Objective Function definition.

Table 68. Attributes for typeObjectiveFunction

Attribute	Use	Description	Valid Values
description	optional	Optional objective function description.	*string*
enabled	optional	Indication of whether this constraint is enabled for at least one interaction point.	*boolean*
functionType	optional	Whether the objective function value can be precomputed for each entity, or can only be calculated after optimization has occurred.	**linear** **nonLinear**
simulateAction	optional	How the objective value should be summarized when the function is linear.	

XML Representation
```
<xs:complexType name="typeObjectiveFunction" mixed="false">
  <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:sequence>
</xs:complexType>
```

Extends

Function

Child Elements

ExpressionFormat, ExternalUsage, InteractionPoint

Related Types

typeObjectiveFunction

ExternalUsage Element

Defines how this objective function can be enabled or disabled via an OPL variable.

Table 69. Attributes for ExternalUsage

Attribute	Use	Description	Valid Values
controlVariable	**required**	The OPL variable.	*string*
disabledValue	optional	The value that indicates this object is disabled (default 0).	*string*
enabledValue	optional	The value that indicates this object is enabled (default 1).	*string*
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 name="variableType" type="enumOPLValueType" use="optional" default="int">
    <xs:enumeration value="int"/>
    <xs:enumeration value="float"/>
    <xs:enumeration value="string"/>
  </xs:attribute>
  <xs:attribute name="enabledValue" type="xs:string" use="optional" default="1"/>
  <xs:attribute name="disabledValue" type="xs:string" use="optional" default="0"/>
</xs:element>
```

Parent Elements

ObjectiveFunction

ExpressionFormat Element

Objective function format for externally-defined objective functions.

Table 70. Attributes for ExpressionFormat

Attribute	Use	Description	Valid Values
format	**required**	The format definition for this expression.	*string*

XML Representation

```
<xs:element name="ExpressionFormat" type="typeExpressionFormat" minOccurs="0">
  <xs:attribute name="format" type="xs:string" use="required"/>
</xs:element>
```

Parent Elements

ObjectiveFunction

InteractionPoint Element

For internal use only. Optional Interaction Point name used when differentiating the objective function based on interaction points.

XML Representation

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

Parent Elements

ObjectiveFunction

typeRulesManagementDefineStep Type

Configuration of the Define tab in the Rules Management application.

Table 71. Attributes for typeRulesManagementDefineStep

Attribute	Use	Description	Valid Values
enableInteractionPoints	optional	Logical switch controlling whether Interaction Points are presented to the user or not.	*boolean*
enableSimulation	optional	Deprecated as of Decision Management 8.0. Controls presentation of the Define-style Simulation action.	*boolean*
enableTest	optional	Deprecated as of Decision Management 8.0. Controls presentation of the Test action.	*boolean*
stepCompleted	optional	Indicates whether the user has marked this panel as completed or not.	*boolean*
stepHidden	optional	The "hidden" state for this panel.	*boolean*
stepIncluded	optional	The logical "included or not" flag for this panel.	*boolean*
stepLocked	optional	The locked state for this panel.	*boolean*

XML Representation

```
<xs:complexType name="typeRulesManagementDefineStep">
</xs:complexType>
```

Extends

DefineStep

Related Types

typeDecisionHierarchyDefineStep, typeModelingDefineStep, typeRulesManagementDefineStep

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