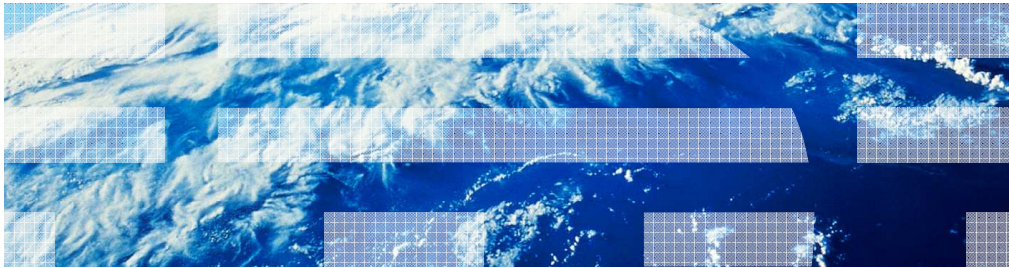


Business Process Management

IBM Business Process Manager V7.5

Key concepts of BPM Standard

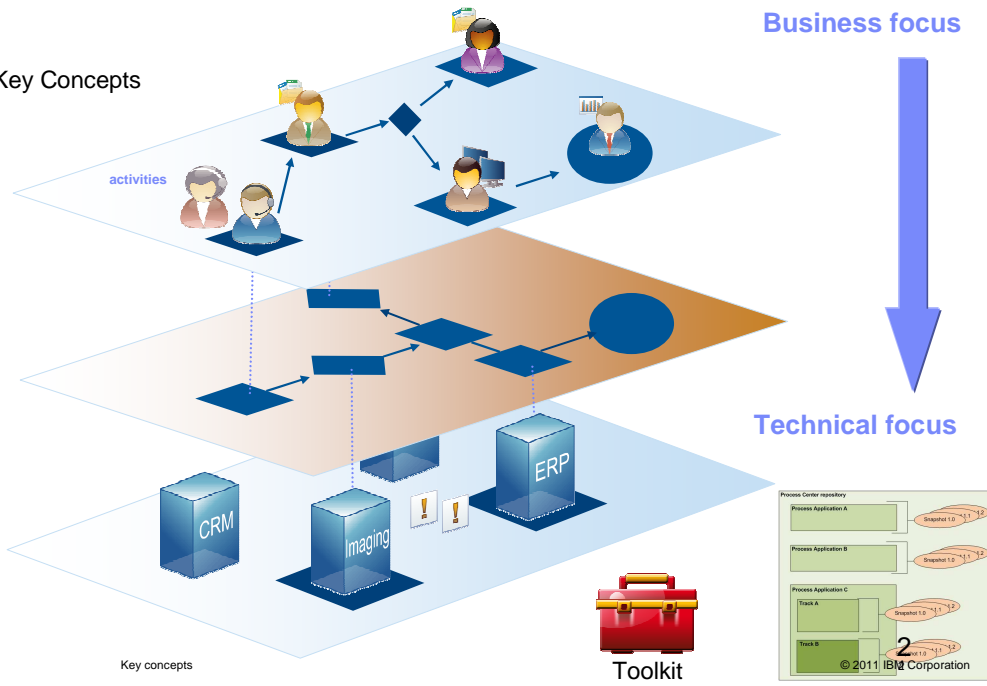


This presentation provides information about concepts that are fundamental to the IBM Business Process Manager V7.5.

The concepts discussed here shape the way process applications are developed.

Goals and agenda

- Key Concepts



2

Key concepts

The goal of this presentation is to introduce you to the key concepts that are fundamental to the Business Process Manager, Standard configuration. You will learn about application packaging, sharing and reusability, users and groups, and the programming model.

Key concepts

- Process Application
- Toolkit
- Snapshot (version management)
- Tracks (version branches)
- Participant and Security Groups
- Javascript
- Advanced editor
- Model (flow) and implementation layers
- Smart folders and tags



What are key concepts?

These are the things that you need to understand before going too far, because they shape the way you think about and approach your development effort.

Shown here is a list of the key concepts that are discussed in this presentation.

<note to the reader, give a pause after each statement. Let the statement soak in for a few extra seconds.>

The process application is a packaging and deployment <kon-struct> construct.

The toolkit is a way to manage reusable assets.

Snapshots and tracks are part of the version management infrastructure.

Participant groups are how you manage who can work with different parts of the business process when it is running. And the security groups are how you manage who can create, edit and deploy the business process during development.


Javascript is the programming language that you will use as a business process or service developer, when you need to define logic and manipulate data.

The advanced editor is a way for you to create JavaScript logic that is more complex than a simple if-then statement.

When creating a business process flow, there are two levels to consider. One is the model or the flow and the other is the implementation. The programming model for IBM Business Process Manager has a clear separation between the model and the implementation layers. This is discussed in detail, in subsequent slides.

And then there are the smart folders and tags, which are tools that are available in the Process Designer for managing and organizing your work.

Lets begin with the process application....



Process Application

- Aggregation of business processes and their associated library items
- Includes
 - Process models
 - Services
 - Data definitions
 - User interfaces
 - Any other assets required to run the business processes
- Creating
 - The acronym
- Snapshots for version management

Library items

▼ WIDGET ORDER MANAGEMENT

- All
- Processes
- User Interface
- Implementation
- Decisions
- Data
- Performance
- Setup
- Files

+ Create New Process App

↓ Import Process App

🔍 About Process Applications...

Process applications are containers in the Process Center repository for the process models and supporting implementations created in Lombardi Authoring Environment. Ordinarily, a process application includes process models, the services to handle implementation of activities and integration with other systems, and any other assets required to run the processes.

[Managing process applications](#)

Create New Process App

Process App Name: Customer Services

Acronym: CUS001

Description: This process application is for managing the way we deal with providing services related to our customers.

Create

A process application is the fundamental packaging construct <kon-struct>> for the IBM Business Process Manager. It is the unit of version management and deployment.

A process application can contain one or more business process definitions and can have dependencies on toolkits.

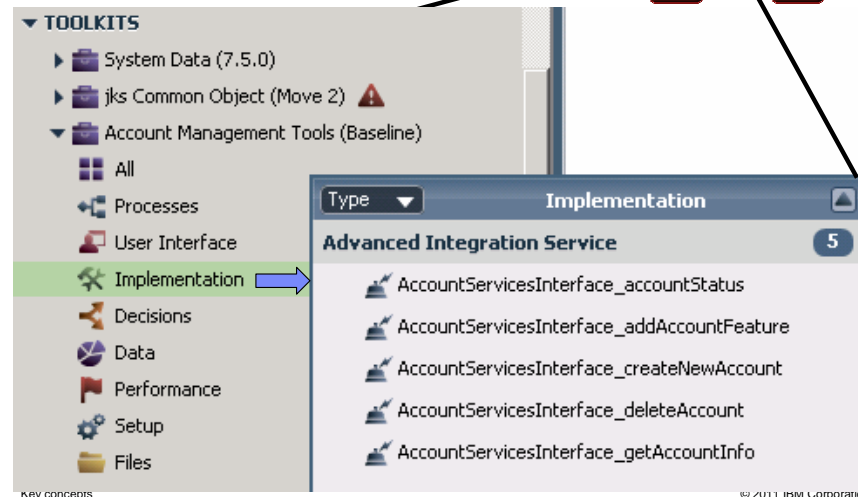
Think of a process application as a container that has all the models, data definitions, services implementations, rules and any supporting files needed to edit and run the business processes.

To create a process application you can use the Process Center application, the Process Center browser or the Process Center perspective of the Integration Designer.

When creating a process application the acronym must be unique. The acronym is used to uniquely identify process instances in the Process Center repository.

Toolkits (1 of 2)

- Toolkits are collections of BPM library items that can be **shared** across multiple projects in the IBM Process Designer



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key concepts

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Toolkits are collections of BPM library items that can be shared across multiple projects in the IBM Process Designer.

Toolkits are very similar to process applications, except that toolkits are meant to be shared.

A toolkit can contain all of the same library elements as a process application.

Shown here is the Account Management Toolkit that has five advanced services in the implementation section.

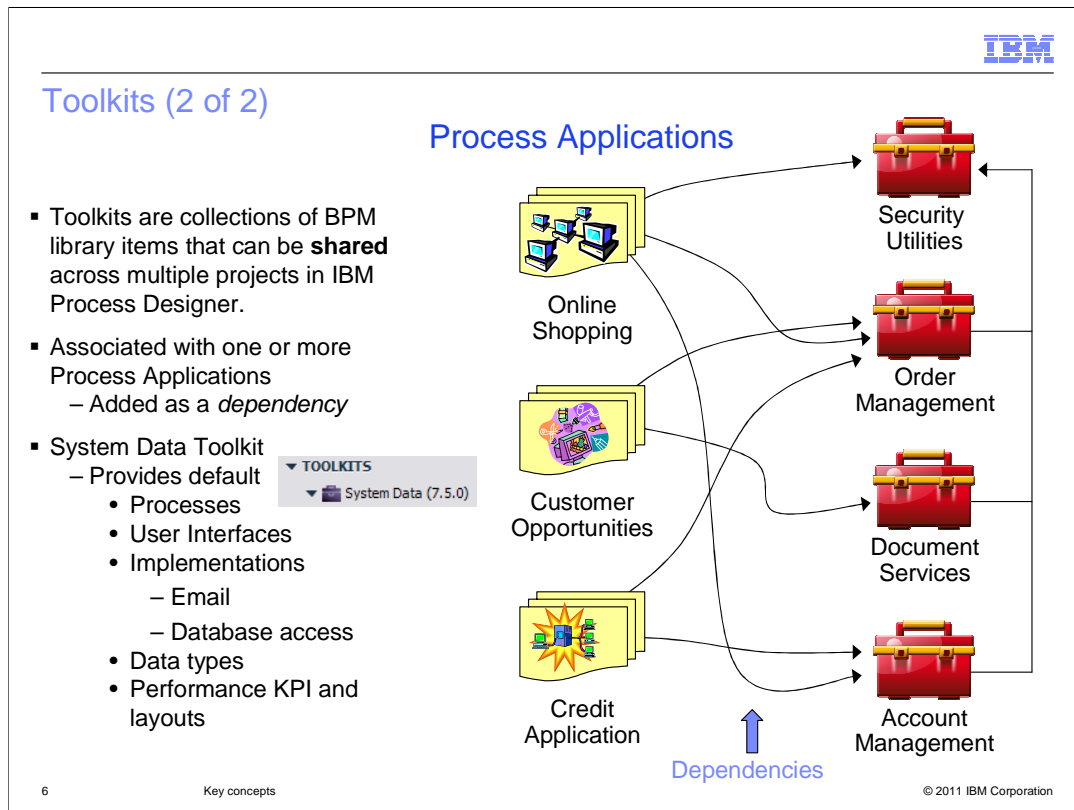
What is not shown here are the business objects that are also there as part of the advanced service implementations.

Any process application that has a dependency relationship with a toolkit can then use any of the elements of the toolkit.

In this case the shared elements are the advanced integration services and their business objects.

The toolkits can only be edited by users with the write or administrative privilege and are only available to the dependent process apps as read-only.

When there are changes to a toolkit the owner of the dependent process application can manually upgrade to the newer version of the toolkit and revert back to a previous version easily with the click of the mouse.



The picture here shows several process applications that have dependency relationships with toolkits.

You cannot create a dependency relationship between process applications.

If there are business processes, business objects, services, and so on. that you want to reuse, they must be in a toolkit.

Toolkits can have dependencies on other toolkits, as shown with the dependency between the Security Utilities and the other three toolkits.

The System Data Toolkit is a default set of library items that you can use as-is, or copy into your process application.

When you export or deploy a process application with a toolkit dependency, the toolkit is deployed or exported along with the process application.

Snapshots and tracks

A snapshot captures the state of all the elements within a process application or toolkit at a specific point in time.

A snapshot is an immutable version of the process application or toolkit and is used for version management, deployment and exporting and importing.

Since snapshots are read only, attempts to edit one will automatically take you to the current working copy. This working copy is called “the tip”.

By default there is only one working copy of a given process application or toolkit in the repository at a time. When executing business process definitions in the Inspector you are running “the tip” in the Process Center server.

The process application or toolkit remains at the tip level until a snapshot is created.

If you need to revert to a previous snapshot, you can create a clone. A clone is a copy of a snapshot with a new unique acronym.

To have more than one working copy of a process application or toolkit, you must use tracks.

Tracks allow parallel development to occur with isolation from changes in other tracks.

For example, tracks enable one team to fix the current version of a process while another team builds a completely new version.

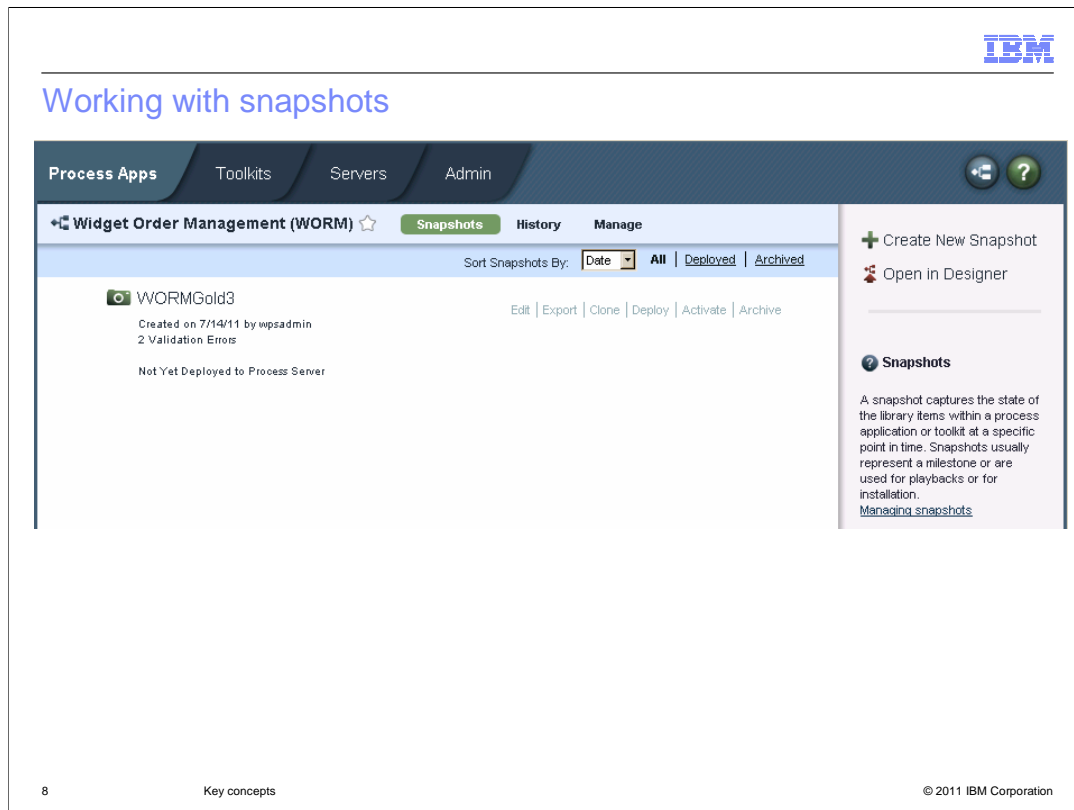
By default, tracks are not enabled. Tracks must be explicitly enabled for a given process application or toolkit.

To deploy a process application and its dependencies to a process server for testing, staging, or production, you must first create a snapshot.

The snapshot is the deployable unit.

To move a process application from one Process Center to another, you export it as a snapshot and then import the snapshot to the target Process Center.

To export a process application or toolkit, you must first create a snapshot.



To work with snapshots you use the Process Center.

The Process Center can be accessed using the Process Designer, the web based Process Center console or the Process Center perspective of the Integration Designer.

Selecting the process application or toolkit will bring you to this screen. Notice the menu bar in the middle, with the options, “snapshots”, “history”, and “Manage”

On the “snapshots” page you can create new snapshots, edit the name and description, and export it. You can also create a clone, deploy it to a process server, activate or deactivate it, and move it to the archive.

The export function is for moving the snapshot from one Process Center to another one.

The edit function lets you change the name and the description of the snapshot. Note that the names of the snapshots can be the same, but the acronym is unique.

If you need to revert back to a previous version then you can create a clone of a snapshot.

The deploy option is how you push a process application to one of the process servers you have configured in your environment. It is only used for putting it on the server. Once it has been deployed, you will use the Process administrative console of the target server to manage the details.

Activate allows you to start new process instances of a snapshot in a Process Center server. When a snapshot is in the inactive state, the exposed process variables for starting it are not visible to the Process Portal. When the snapshot is activated, the exposed elements of the business process definitions become visible. This is only necessary for the snapshots in the Process Center server because the tip is already active and when the snapshot is deploy to a Process Server, it is automatically activated.

Archive will remove the snapshot from your immediate view. To see and retrieve an archived snapshot, you use the bottom menu option, “Archived”. Snapshots are never deleted.

If you want more detail at this time, select the Managing Snapshots link to the information center.

Enabling tracks

Process Apps | Toolkits | Servers | Admin

Widget Order Management (WORM) ☆ | Snapshots | History | **Manage**

Process App Name: Widget Order Management

Acronym: WORM

Description: Widget Order Ready Management

Allow users to create tracks in this process app

▼ Why Tracks

Tracks allow parallel development to occur with isolation from changes in other tracks. For example, tracks enable one team to fix the current version of a process while another team builds a completely new version based on new external systems and a new corporate identity.

- A branch in the version tree
- Must be explicitly enabled by
- Used for delivering maintenance fixes

9 | Key concepts | © 2011 IBM Corporation

As mentioned previously, tracks allow parallel development to occur with isolation from changes in other tracks.

To use tracks you must explicitly enable the feature for the process application or toolkit.

This is done on the 'manage' page.

On this page, all you need to do is enable the option, "Allow user to create tracks in this process app"

Working with tracks

The image consists of two screenshots from the IBM BPM interface. The top screenshot shows the 'Snapshots' page for 'Widget Order Management (WORM)'. A red box highlights the 'New Track' button in the 'Edit' menu. A 'Create New Track' dialog box is open, showing a 'New Track Name' field with 'Maintenance' entered and a description field with the text: 'This is the maintenance stream. The fixes incorporated in this track will need to be manually incorporated into the'. The bottom screenshot shows the same page with a 'Tracks' dropdown menu highlighted by a red box, showing 'Maintenance' selected. On the right-hand side, a menu is open with 'Edit Track Details' highlighted by a red box.

Once tracks have been enabled, there is a new option on the snapshots page called, “New Tracks”.

Use this option to create a new track. Note that the default snapshot name is main plus the original name of the parent snapshot, You can change it using the edit option.

When a new track is created, the acronym is automatically generated for you, based on the first character of each word in the track name.

For example, My New Track will have an acronym of MNT.

Also on the snapshots page, there are some new options on the right and on the left there is a drop down box to switch between tracks.

Participant and security groups

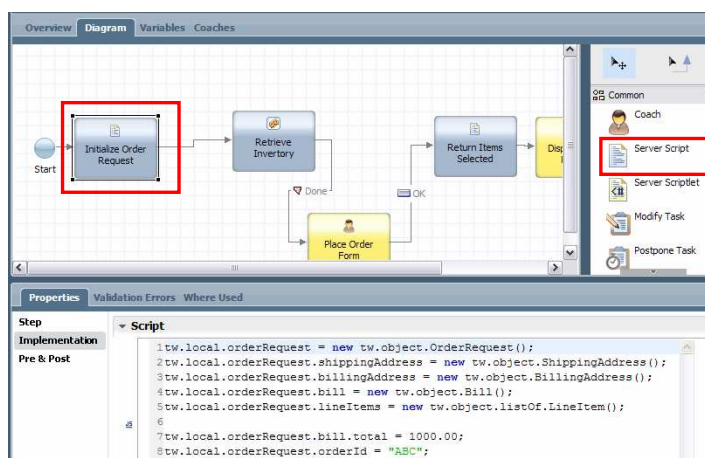
With IBM Business Process Manager there are three levels of managing users, groups and user privileges.

The first one is the more traditional one, where an administrator using the Process Administration console adds the users and groups. It is at this level that the administrator determines who can log into the Process Center. This is shown in the upper screen capture.

Once a user is in the Process Center they can create process applications and toolkits. As an owner of a process application or toolkit they can also manage who can read, edit or administer it. The user privileges are set on the 'manage' page of the process application or toolkit. This is shown in the middle screen capture on the right.

There is one more level of user management called the participant group. The participant group is a way for the process developer to specify what users can work on a given activity in the business process. The participant groups are created by the process developer and are aggregations of users and groups that exist in the user-registry. The participant groups are then associated with a swim lane and the swim lanes contain the activities that the users in the group can work on.

JavaScript



- JavaScript is the scripting language
 - Initializing complex variables
 - Manipulating data for coaches, services and data access
- Syntax assist

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Key concepts

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When initializing variables, implementing services or complex logic in a decision, manipulating data for coaches, or accessing data from a file or database, you will need to use JavaScript.

There is a syntax assist that will help you work with system variables and your user defined variables.

Shown here is an example of initializing some complex variables before they are used by a Coach.

The screenshot displays the IBM BPM Advanced Editor interface. At the top right is the IBM logo. The main title is "Advanced editor". On the left is a "Preferences" panel with a tree view under "Lombardi" containing "Appearance", "Blueprint", "Capabilities", "Documentation Wiki", "JavaScript", "Optimizer Settings", and "Passwords". The "Capabilities" section is expanded, showing "Lombardi Advanced Features" with "Advanced Editors" checked. A yellow callout box states: "Caveat: you can only see the complete logic when in the *advanced editor*".

Below the preferences is a "Default" view of a decision gateway. The "Step" is "Implementation". The decision logic is shown as a single line: `tw.local.reviewD == "complete"`. Below this is a "Default Line" for the "Untitled (Send Message to Customer)" path.

Below the default view is an "Advanced" view of the same decision gateway. The "Step" is "Implementation". The decision logic is shown as a multi-line list: `1 tw.local.reviewDecision,reviewerDecision`, `2 ==`, and `3 "complete"`. Below this is a "Default Line" for the "Untitled (Send Message to Customer)" path.

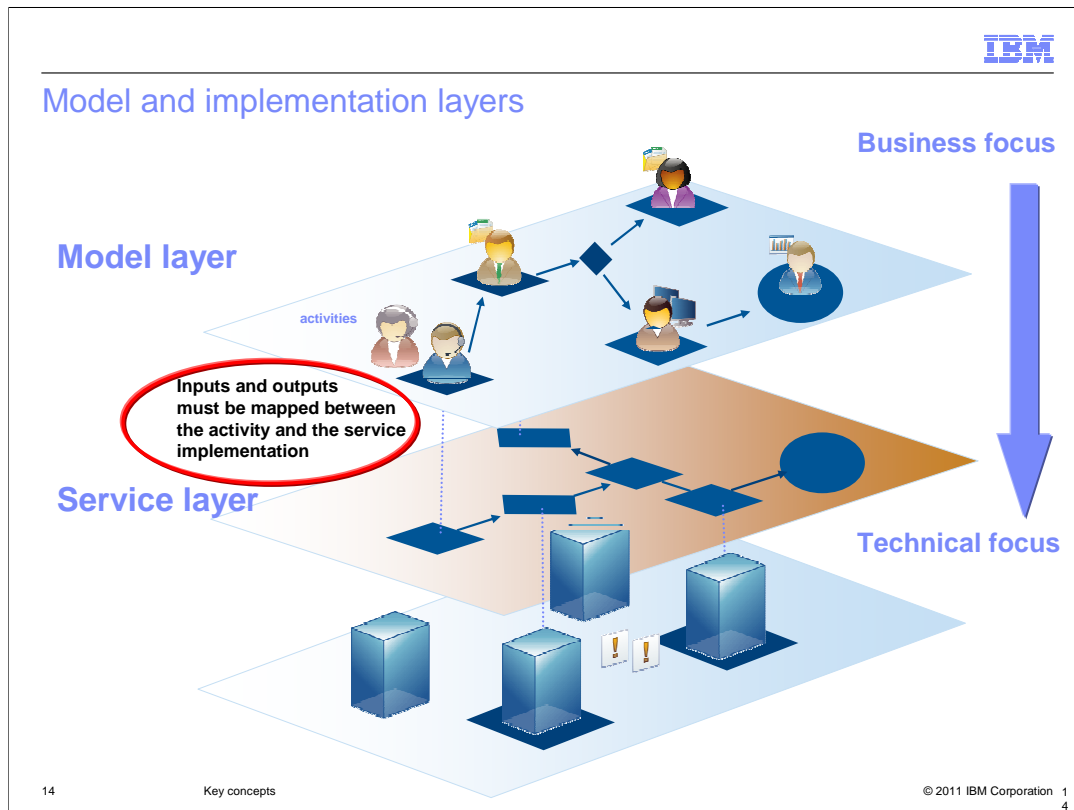
At the bottom left is the number "13" and at the bottom right is "011 IBM Corporation".

By default the implementation editor for the decision gateways is restricted to the basic if-then <kon-struct> construct.

Sometimes the logic you need to express just does not fit into the mold. In this case you can convert the one-line edit window to a multi-line edit window by changing the capabilities in the preferences, to use the advanced editors.

The drawback with this is that the setting is for a user and not the model. This means that if you set it to advanced and create some logic that is several lines, only developers that have set their preferences to use the advanced editors will see all of the logic. This can become confusing.

Other users not in advanced mode will come in and try to 'fix' the logic because they can't see the whole picture.



The architecture for IBM Business Process Manager is a layered architecture.

The top layer is the model layer.

The model layer is focused on the business, creating the flow of the business process and specifying who does what, when and what data is needed to do the task.

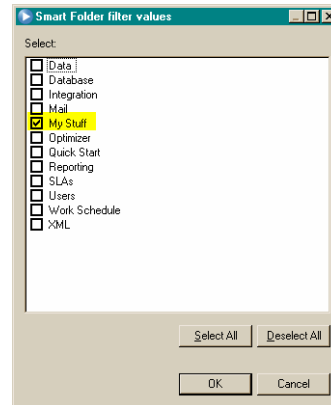
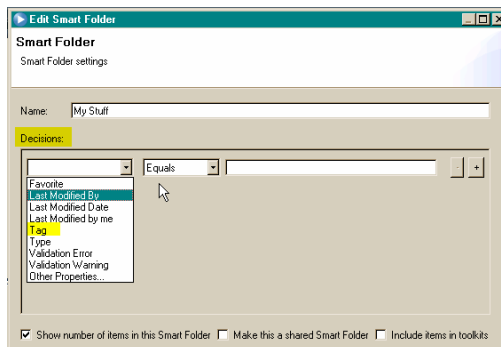
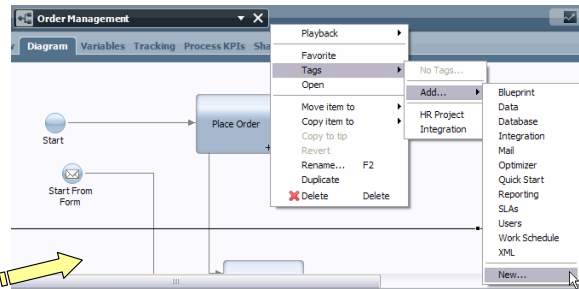
The service layer is the implementation layer and is focused on the technical aspects of creating an executable business process. For a given activity in the model layer, there is an association with a default service or a Coach in the implementation layer. If the activity is in the 'system' lane, then a default system service is associated with the implementation of the activity. If the activity is in a non-system lane, then a default Coach is associated with the implementation of the activity.

Whatever the case, the business process flow can be run with the Inspector and the default activities will behave as 'no-operations'. This allows the process to run without fully specifying the implementations for those activities.

Tags and smart folders



- Tags and smart folders work together
- Create a new tag or use an existing one and associate it with a library item
- Then create a smart folder that filters on one or more tags



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Tags and smart folders are Process Designer concepts that help you organize and manage your work.

Once your development effort is underway it becomes more difficult to find the things you need to work on. Smart folders are a way you can create a folder that holds only the library items that you're working with.

It begins with the tag.

First you identify an existing tag or create a new one.

To select or create a tag, open the library item in the designer, right mouse click the area to the right of the name and the menu is displayed. When you select the tag, it is associated with the library item

Then you create a smart folder using the plus sign next to the smart folders, and set the filter based on one or more tags that are available.

Any library items that are tagged with the tags in the filter will show up in the smart folder.

Summary



- Process Application
- Toolkit
- Snapshot (version management)
- Tracks (version branches)
- Participant and Security Groups
- Javascript
- Advanced editor
- Model (flow) and implementation layers
- Smart folders and tags

In this presentation you were introduced to the key concepts that are fundamental to the IBM Business Process Manager V7.5.

You learned about application packaging, sharing and reusability, users and groups, and the programming model.



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