



IBM Software Group

IBM® WebSphere® Extended Deployment V6

Managing Application Editions



@business on demand.

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This presentation will cover managing application editions in WebSphere Extended Deployment V6.

Agenda

- Installing a new application edition
- The Edition Control Center
- Configuring routing policies



The agenda is to discuss installing a new edition of an application, managing editions in the Edition Control Center, and configuring routing policies.

Installing A New Edition

- Install a new edition just like a new application
- Edition must be specified on “Select installation options” panel

→ Step 1: Select installation options

Step 2: Map modules to servers

Step 3: Map virtual hosts for Web modules

Step 4: Clone Existing Work Classes

Step 5: Summary

Select installation options

Specify the various options that are available to prepare and install your application.

Pre-compile JSP

Directory to install application

Distribute application

Use Binary Configuration

Deploy enterprise beans

Application name
XDStock

Application Edition
2.0

Edition Description
New Release

Create MBeans for resources

Enable class reloading

Reload interval in seconds

Deploy Web services

Validate Input off/warn/fail
warn

Process embedded configuration

Next Cancel



Installing a new edition of an application is performed just like installing the original version, by selecting 'Install New Application' from the 'Applications' menu. To specify that you are installing a new edition of an existing application, specify the same application name, and provide a version number in the 'Application Edition' field, as highlighted here. You can also specify edition information when installing an application from the command line with wsadmin.

Installing A New Edition (cont.)

- When installing a new edition, an existing work class is cloned and created for the new edition

The screenshot shows a dialog box titled "Clone Existing Work Classes". On the left, a vertical sidebar lists five steps: "Step 1 Select installation options", "Step 2 Map modules to servers", "Step 3 Map virtual hosts for Web modules", "Step 4: Clone Existing Work Classes" (highlighted with a yellow arrow), and "Step 5 Summary". The main area of the dialog contains the following text: "Clone existing work classes from from an available application edition." followed by "Clone existing work classes from this application edition:" and a dropdown menu currently showing "XDStock". At the bottom of the dialog are three buttons: "Previous", "Next" (which is highlighted with a dashed border), and "Cancel".

When installing an edition, you will be asked to clone an existing Work Class, so that a work class can be associated with the new instance of the application to dictate how incoming requests will be classified.

Administrative Interfaces

- Administrative Console
 - ▶ Applications > Edition Control Center
 - ▶ Enterprise Applications > *application-name* > Routing Policies
- MBean interface
 - ▶ Basic operational unit accessible through wsadmin scripting and Java™ APIs



The Edition Control Center, for managing the rollout of different editions, can be accessed through the Administrative Console by expanding 'Applications' in the left-side menu and selecting 'Edition Control Center'. Routing policies, which dictate how requests should be routed to active editions, are specified on a per-application basis by selecting an application from the 'Enterprise Applications' menu item and clicking on the 'Routing Policies' tab near the top of the frame.

There is also an MBean interface, which makes edition management functionality available using wsadmin or custom Java Management Extensions (JMX) clients.

Edition Control Center

- *Applications > Edition Control Center*

Edition Control Center

The edition control center enables management and operational control over application editions, including interruption free application upgrade. An application edition is a version of an application comprised of distinct versions of modules and/or bindings. This page provides a summary view of each enterprise application, its editions, and their current state. Click on an enterprise application name to manage the individual editions of the selected application.

Preferences

Applications ▾	Editions ▾	Active ▾	Validation ▾
LREE	1	1	0
LongRunningScheduler	1	1	0
SimpleCIEar	2	1	0
XDStockTradeEdition	2	1	0
Total 4			



Shown here is a screen capture of the Edition Control Center, displaying the number of deployed editions of each application and how many editions are active or in validation mode. Clicking on the name of an application allows you to manage that application's editions.

Edition Control Center: Manage Editions

[Edition Control Center](#) > Manage Editions

Manage editions of an application. The deployment targets for each edition were specified during the application install process. After install, an edition is initially in the inactive state. Inactive editions cannot be started. Activating an edition makes it eligible to be started. Validating an edition puts it into a special "validation mode" that configures the edition to run on a clone of its original deployment target. Validation mode requires assignment of a routing policy to the edition to control who may access it. Rolling out an edition performs an interruption-free upgrade of one edition to another on the same deployment target. Rolling out an edition that is in validation mode performs an interruption free upgrade of the edition on the deployment target from which the validation mode target was cloned. After the rollout, the clone is deleted. Deactivation makes an edition ineligible to be started. An edition must be stopped before deactivation.

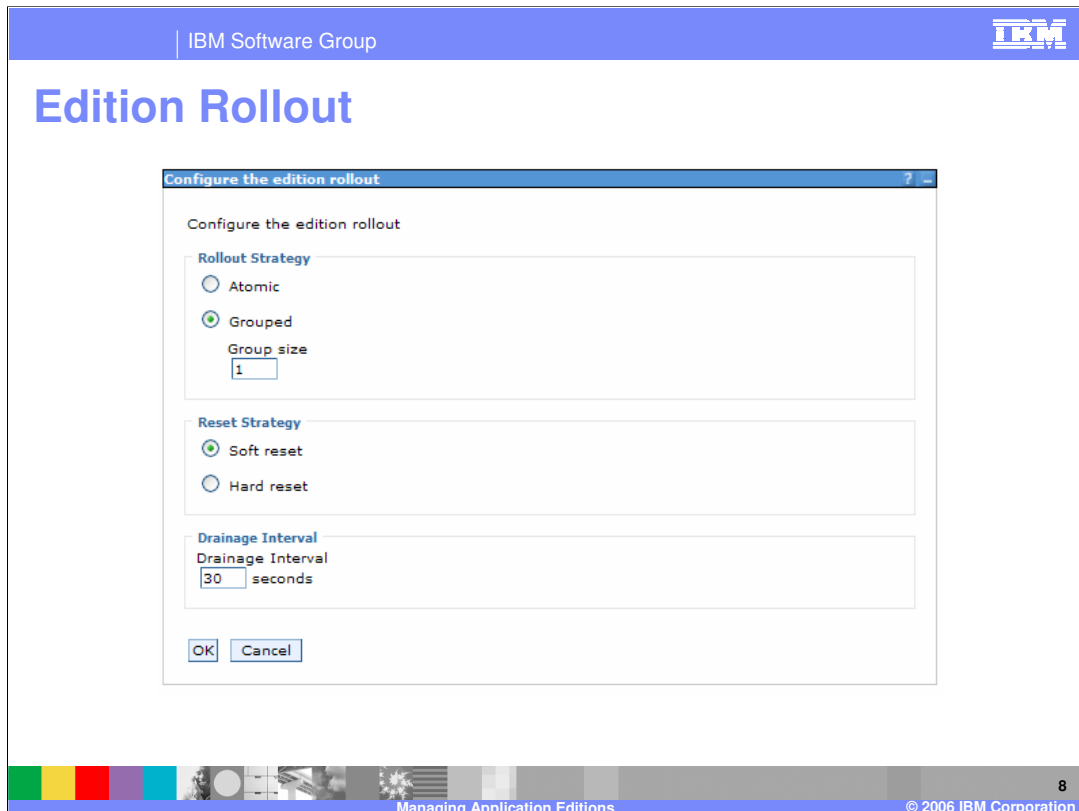
Application=**XDStockTradeEdition**

Preferences

<input type="button" value="Activate"/> <input type="button" value="Validate"/> <input type="button" value="Rollout"/> <input type="button" value="Deactivate"/>				
<input checked="" type="checkbox"/> <input type="checkbox"/>				
Select	Editions	Description	Target	State
<input type="checkbox"/>	1.0		WebSphere:cell=wsbeta156Cell01,cluster=StockTrade_DC	INACTIVE
<input type="checkbox"/>	1.0.1		WebSphere:cell=wsbeta156Cell01,cluster=StockTrade_DC	ACTIVE
Total 2				



From the panel shown here you can manage the individual editions of an application. An edition can be activated, deactivated, rolled out, or put into validation mode using the buttons shown. An edition must be activated before it can be rolled out.



The edition rollout wizard allows you to govern the behavior of the application rollout. Here you can choose to perform either a grouped or atomic rollout.

“Group Rollout” rolls an edition out to the target cluster in small groups of servers as specified by Group size. During a Group rollout both the old and new editions of the application will be serving traffic until the rollout is complete. “Atomic Rollout” rolls the edition out to the target cluster using a ‘divide and switch’ approach, installing the application to half of the cluster, then the other half, ensuring that only one edition is actively serving traffic at any given time.

When a “Soft reset” strategy is chosen, the application will be stopped, and the new edition started within a running application server. Choosing “Hard reset” dictates that the entire application server should be stopped and restarted with the new edition. This is generally only necessary if the application makes use of resources that are loaded by the host operating system, such as native libraries.

After incoming requests have stopped being routed to the application server, the time specified by “Drainage interval” will be allowed to pass before stopping the application. This interval should be set to give in-flight requests adequate time to complete.

Configuring Routing Policy

- On-Demand Router can be configured route requests to a particular application edition
 - ▶ By IP address
 - ▶ By user or group
 - ▶ By HTTP cookie
 - ▶ Any combination of the above



As previously mentioned, for each application you can configure routing policies that tell the On Demand Router how to decide which edition should serve each incoming request. For example, you can classify requests by IP address or hostname, user or group IDs, and HTTP cookies or URI patterns. Routing policies are configured just like work class rules, except that they are found under the 'routing policies' tab instead of the 'service policies' tab.

Routing Policies Interface

Configuration Local Topology Service Policies Routing Policies

Define routing policies for an application and all of its editions:

Apply OK Reset Cancel

Work Classes for HTTP Requests

New Delete

Default_HTTP_WC

If HTTP request matches

HTTP patterns:

[LongRunningJobSchedulerWebSvcRouter? (LongRunningJobSchedulerWebSvcRouter.war) Edit HTTP Patterns]

Then apply the following routing rules

Add Rule Delete Rule Move Up Move Down

Select	Order	Routing Rule	Build Rule
<input type="checkbox"/>	1	If clientipv4 = '192.168.0.4' Then Permit routing to Select edition name LongRunningScheduler	Rule Builder

If no routing rules apply

Select action:
Permit routing to

Select edition name
LongRunningScheduler

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Routing policies can be entered in the Administrative Console, as shown here, using syntax similar to an SQL 'where' clause. If you do not know the syntax for the policy you would like to apply, the 'rule builder' button allows you to build policies using a menu system. You might already be familiar with this interface if you have configured work classes.

Summary

- The Edition Control Center is used to manage and rollout multiple editions of an application
- New application editions are installed using the standard application installation interface
- Routing policies dictate how requests should be routed to different editions



In summary, the Edition Control Center enables you to manage the deployment of multiple versions of an enterprise application within a cell. New application editions are installed just like any other application, except that you must specify an edition number. Routing policies are rules that determine how incoming requests should be routed when there are multiple editions of an application running in the cluster concurrently.

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