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MidVision RapidDeploy Core Plugins - Product - IBM
v. 5.1.18 User Guide

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1 WebSphere 7

1.1 IBM WebSphere Application Server v7.0 ND plugin

This IBM product plugin enables integration with and provisioning of WebSphere Application Server v7.0 services.

WebSphere is a complex, highly configurable product with literally thousands of interrelated configuration items. The RapidDeploy WebSphere plugins support deployment of code (in the form of ear/war files) and configuration to the WebSphere cell.

The plugins includes modules for snapshotting all configuration items in a WebSphere cell for comparison over time to highlight configuration drift. The exported configuration may also be templated and used as the basis to reimport to this, or another, webSphere cell.

The plugins also include modules for WebSphere configuration and code deployment via a Jython scripting framework. This allows for an application, its mappings and WebSphere configuration items to be deployed in an idempotent way (The deployment always brings the target up to the desired state). All common configuration items are supported in a simple to understand and use way.

It is easy, for example, to set a cluster count and topology with a couple of configuration lines, instead of the (potentially) thousands of lines that would be needed using an xml export definition. Then, to create a package to increase the cluster count by one cluster member on each node in the topology is a single character change to the configuration file. This will be rolled out and updated automatically on the next deployment to this environment, along with any other code and configuration changes bundled into this package. Packages can be rolled forwards and back as required.

1.1.1 Usage

This plugin can be used to [take snapshots of](#) and [perform deployments to a WebSphere cell](#).

Please also take a look at the [best practice scenarios](#) to see how to make best use of this plugin.

1.1.2 Attributes and parameters

List and description of all [tasks and parameters](#).

1.1.3 Restrictions

This is separately licensed plugin that is not shipped with the framework. Please contact MidVision sales to obtain a copy of this plugin. This plugin interacts with IBM software, which may require a separate license.

1.1.4 Support

The plugin supports the use of three different methods to deploy WebSphere Application Server and Network Deployment configuration and ear/war file changes. These are:

- Via a [Jython script framework](#) (WebSphere 5.0+)
- Via [JMX export/tokenisation/import](#) (WebSphere 7.0+).
- Via [a property file](#) export/tokenisation/import (WebSphere 7.0+).

2 WebSphere 8

2.1 IBM WebSphere Application Server v8.0 plugin

This IBM product plugin enables integration with and provisioning of WebSphere Application Server v8.0 services.

WebSphere is a complex, highly configurable product with literally thousands of interrelated configuration items. The RapidDeploy WebSphere plugins support deployment of code (in the form of ear/war files) and configuration to the WebSphere cell.

The plugins includes modules for snapshotting all configuration items in a WebSphere cell for comparison over time to highlight configuration drift. The exported configuration may also be templated and used as the basis to reimport to this, or another, webSphere cell.

The plugins also include modules for WebSphere configuration and code deployment via a Jython scripting framework. This allows for an application, its mappings and WebSphere configuration items to be deployed in an idempotent way (The deployment always brings the target up to the desired state). All common configuration items are supported in a simple to understand and use way.

It is easy, for example, to set a cluster count and topology with a couple of configuration lines, instead of the (potentially) thousands of lines that would be needed using an xml export definition. Then, to create a package to increase the cluster count by one cluster member on each node in the topology is a single character change to the configuration file. This will be rolled out and updated automatically on the next deployment to this environment, along with any other code and configuration changes bundled into this package. Packages can be rolled forwards and back as required.

2.1.1 Prerequisites

2.1.2 Usage

This plugin can be used to [take snapshots of](#) and [perform deployments to a WebSphere cell](#).

Please also take a look at the [best practice scenarios](#) to see how to make best use of this plugin.

Please also take a look at the [provisioning scenario](#) to see how to use the plugin tasks to create a project that installs and upgrades the binaries and also configures the WebSphere profiles.

2.1.3 Attributes and parameters

List and description of all [tasks and parameters](#).

2.1.4 Restrictions

This is separately licensed plugin that is not shipped with the framework. Please contact MidVision sales to obtain a copy of this plugin. This plugin interacts with IBM software, which may require a separate license.

3 WebSphere 8.5

3.1 IBM WebSphere Application Server v8.5 plugin

This IBM product plugin enables integration with and provisioning of WebSphere Application Server v8.5 services.

WebSphere is a complex, highly configurable product with literally thousands of interrelated configuration items. The RapidDeploy WebSphere plugins support deployment of code (in the form of ear/war files) and configuration to the WebSphere cell.

The plugins includes modules for snapshotting all configuration items in a WebSphere cell for comparison over time to highlight configuration drift. The exported configuration may also be templated and used as the basis to reimport to this, or another, webSphere cell.

The plugins also include modules for WebSphere configuration and code deployment via a Jython scripting framework. This allows for an application, its mappings and WebSphere configuration items to be deployed in an idempotent way (The deployment always brings the target up to the desired state). All common configuration items are supported in a simple to understand and use way.

It is easy, for example, to set a cluster count and topology with a couple of configuration lines, instead of the (potentially) thousands of lines that would be needed using an xml export definition. Then, to create a package to increase the cluster count by one cluster member on each node in the topology is a single character change to the configuration file. This will be rolled out and updated automatically on the next deployment to this environment, along with any other code and configuration changes bundled into this package. Packages can be rolled forwards and back as required.

3.1.1 Prerequisites

3.1.2 Usage

This plugin can be used to [take snapshots of](#) and [perform deployments to a WebSphere cell](#).

Please also take a look at the [best practice scenarios](#) to see how to make best use of this plugin.

Please also take a look at the [provisioning scenario](#) to see how to use the plugin tasks to create a project that installs and upgrades the binaries and also configures the WebSphere profiles.

3.1.3 Attributes and parameters

List and description of all [tasks and parameters](#).

3.1.4 Restrictions

This is separately licensed plugin that is not shipped with the framework. Please contact MidVision sales to obtain a copy of this plugin. This plugin interacts with IBM software, which may require a separate license.

4 WebSphere 9.0

4.1 IBM WebSphere Application Server v9.0 plugin

This IBM product plugin enables integration with and provisioning of WebSphere Application Server v9.0 services.

WebSphere is a complex, highly configurable product with literally thousands of interrelated configuration items. The RapidDeploy WebSphere plugins support deployment of code (in the form of ear/war files) and configuration to the WebSphere cell.

The plugins includes modules for snapshotting all configuration items in a WebSphere cell for comparison over time to highlight configuration drift. The exported configuration may also be templated and used as the basis to reimport to this, or another, webSphere cell.

The plugins also include modules for WebSphere configuration and code deployment via a Jython scripting framework. This allows for an application, its mappings and WebSphere configuration items to be deployed in an idempotent way (The deployment always brings the target up to the desired state). All common configuration items are supported in a simple to understand and use way.

It is easy, for example, to set a cluster count and topology with a couple of configuration lines, instead of the (potentially) thousands of lines that would be needed using an xml export definition. Then, to create a package to increase the cluster count by one cluster member on each node in the topology is a single character change to the configuration file. This will be rolled out and updated automatically on the next deployment to this environment, along with any other code and configuration changes bundled into this package. Packages can be rolled forwards and back as required.

4.1.1 Prerequisites

4.1.2 Usage

This plugin can be used to [take snapshots of](#) and [perform deployments to a WebSphere cell](#).

Please also take a look at the [best practice scenarios](#) to see how to make best use of this plugin.

Please also take a look at the [provisioning scenario](#) to see how to use the plugin tasks to create a project that installs and upgrades the binaries and also configures the WebSphere profiles.

4.1.3 Attributes and parameters

List and description of all [tasks and parameters](#).

4.1.4 Restrictions

This is separately licensed plugin that is not shipped with the framework. Please contact MidVision sales to obtain a copy of this plugin. This plugin interacts with IBM software, which may require a separate license.

5 WebSphere Liberty

5.1 IBM WebSphere Application Server Liberty Profile plugin

This IBM product plugin enables integration with and provisioning of WebSphere Application Server Liberty profile services.

WebSphere Application Server Liberty profile is a dynamic profile of WAS that enables the WAS server to provision only the features required by the application (or set of applications) deployed to the server. The RapidDeploy WebSphere plugins support deployment of code (in the form of ear/war files) and configuration of the WebSphere servers.

5.1.1 Getting started

If you are new to the Liberty Profile plugin, you can follow our step-by-step [getting started guide](#) to help you set up a simple deployment.

5.1.2 Attributes and parameters

List and description of all [tasks and parameters](#).

5.1.3 Restrictions

This is separately licensed plugin that is not shipped with the framework. Please contact MidVision sales to obtain a copy of this plugin. This plugin interacts with IBM software, which may require a separate license.

6 IBM MQ

6.1 IBM MQ plugin

This IBM product plugin enables integration with and provisioning of IBM MQ services.

6.1.1 Prerequisites

The pre-requisites for an IBM MQ installation on the target server must still be observed. Some checks can be made by the plugin during a deployment, however it is understood that prior to deployment to a target environment the user is familiar with the requirements of the IBM MQ product on the target system. Custom orchestrations can be created to ensure those pre-requisites are met.

6.1.2 Usage

This plugin is used to:

- [Install IBM MQ](#)
- [Create a Queue Manager from scratch](#)
- [Deploy a configuration to an IBM MQ Queue Manager](#)
- [Snapshot a configuration](#)

6.1.3 Attributes and parameters

List and description of all [tasks and parameters](#).

7 IBM App Connect Enterprise

7.1 IBM App Connect Enterprise plugin

This IBM product plugin enables integration with and provisioning of IBM App Connect Enterprise services.

7.1.1 Prerequisites

The pre-requisites for an Integration Node installation on the target server must still be observed. Some checks can be made by the plugin during a deployment, however it is understood that prior to deployment to a target environment the user is familiar with the requirements of the product on the target system. Custom orchestrations can be created to ensure those pre-requisites are met.

7.1.2 Usage

For a good overview and indication of the most common usage please read the [best practice scenarios](#) to see how to make best use of this plugin.

This plugin is used to:

- [Create an Integration Node from scratch](#)
- [Deploy code and configuration to an Integration Node](#)

7.1.3 Attributes and parameters

List and description of all [tasks and parameters](#).

8 WebSphere DataPower

8.1 IBM WebSphere DataPower plugin

8.1.1 Overview

This IBM product plugin enables integration with and provisioning of IBM WebSphere DataPower device services. The IBM WebSphere DataPower plugin is [designed](#) for managing groups of DataPower devices.

8.1.2 Usage and key features

- This plugin can be used primarily to export or import DataPower domains or sub-domain components from/to DataPower devices in an environment neutral way, allowing promotion of development domains through successive environment on a route-to-live.
- The plugin can be used to snapshot and compare domains, so that a domain can be compared with other domains, or to identify configuration drift in a domain over time.
- Update DataPower firmware version
- Back up and restore devices and domains.
- User and system configuration updates.
- Create, update and delete DataPower objects such as domains or sub-domain components.

8.1.3 Getting Started

To get started, follow the steps below. See the Project, Server and Environment help for additional information on these tasks.

The following steps will guide you through setting up a RapidDeploy DataPower project with one associated environment (device). The project specify a single job step (task) to test connectivity to a device. A 'deployment package' will be created, which in this simple case will be empty save for the target device connection details, derived from the environment specification. The job is run, and the output examined to determine if the connection was successful.

- Install the DataPower plugin from the 'System icon' -> 'Plugin Manager' Panel, and restart RapidDeploy.
- Create a new project called DATAPOWER_DEPLOY.
 1. Click on the '**Projects**' icon in the task bar and then use the '+ **Add Project Wizard**' button in the top right hand corner
 2. Name the project DATAPOWER_DEPLOY. Fill in the other values on this panel.
 3. Click '**Skip to finish**' checkbox and click '**Next**'
 4. Save the project definition for DATAPOWER_DEPLOY.
- Create a target server
 1. In the RapidDeploy **Infrastructure** panel, create a new server called DATAPOWER_SERVER.
 2. It should have a hostname or IP that will be resolvable, but which could point to localhost for using the RapidDeploy server itself. This is the the server (Unix/Linux/Windows) from which you perform DataPower operations.
 3. Select the appropriate remoting plugin for your site. If using localhost select the remoting agent plugin and complete the details.

4. Save the definition.
- Go back to the DATAPOWER_DEPLOY project you created previously,
 1. On the **Orchestration** tab, select a new task. Add the '**DataPower**' -> '**Test DataPower Connection**' task.
 2. Fill in the values for this task. Specifically the '**Device Name**', '**Device Address**', '**Port**', '**Username**' and '**Password**'. If you set these to Data Dictionary values you can use them again without reentering them for any later tasks you add.
 3. Go to the **Targets** tab. Create a new target selecting the server (DATAPOWER_SERVER). The configuration name can be set to something meaningful like 'connectionTest'. The settings sub-tab allows you to create an environment from a template, but this is not required for this example.
 4. On the **Packages** tab, create a new deployment package using the '**Create Package**' button. This will zip up the project directory, which now contains the new domain xml file. The package should be called DATAPOWER_DEPLOY-0.0.1.
 - Execute a job on the created target with the selected package
 1. On the '**Targets**' tab, click the '**Play**' button in the '**Action**' column to the right of the target you created.
 2. The Package you created should be selected by default.
 3. Execute the job.

You should see the following output in the logs:

```

-----
Task: DataPowerTestConnectionTask
-----
...
Test Connection: [SUCCESS]
...
Work Unit ... Complete ...

```

8.1.4 Attributes and parameters

List and description of all [tasks and parameters](#).

8.1.5 Restrictions

This is separately licensed plugin that is not shipped with the framework. Please contact MidVision sales to obtain a copy of this plugin. This plugin interacts with IBM software, which may require a separate license.

8.1.6 Further reading

- [Architecture overview](#).
- [tasks and parameters](#).
- [DataPower additional log settings](#).

9 Jython configuration

9.1 Jython deployment framework

This documentation applies to WebSphere 6.0+ deployments.

This framework uses Jython via wsadmin on the target servers to create and update WebSphere configuration items such as DataSources, Clusters, Work Managers, SIB CoreGroups etc. You can use the framework to create/update an application on the target servers and all of its dependent configuration at any scope.

Alternatively you could use the framework to just update a set of, or single object, such as a set of data sources and their providers and keep this up-to-date.

9.1.1 Heterogeneous cell deployment

This framework allows you to deploy to heterogeneous WebSphere cells supporting multiple different applications, such that the deployment of one application and its configuration will not affect any other applications running in the cell.

9.1.2 Chaining tasks

Multiple jython deployment tasks may be chained together in an orchestration, or a single task can be used to create or update all of the required configuration.

War/Ear files can be deployed via this framework, and all of their deployment time mappings automatically configured War/ear file deployment can be via the same deployment project as configuration, or they can be segregated.

9.1.3 Usage

The simplest way to get started is to use a [template](#) to create the files required for deployment.

Experienced users can [manually tailor](#) the jython configuration files themselves for maximum flexibility.

9.1.4 Prerequisites

Ensure that the IBM WebSphere Deployment Manager and Nodeagent instances have sufficient allocated memory to perform the deployments you need, and that the timeouts are set appropriately.

To avoid issues we recommend the following settings

1. Adjust the JVM Maximum Heap of the deployment manager. We recommend for large EAR file deployments this is updated to at least 768Mb
2. To avoid deployment timeouts, in the `$ WAS_DM_HOME/properties/soap.client.props` file, set the following value:

```
com.ibm.SOAP.requestTimeout=180
```

to:

```
com.ibm.SOAP.requestTimeout=600
```

3. If you don't want to pass the Administrative password to the Deployment Manager during the deployment, amend `$ WAS_DM_PROFILE_HOME/properties/soap.client.props` file again. Set the following values:

```
com.ibm.SOAP.securityEnabled=true
```

Then set the username and password:

```
com.ibm.SOAP.loginUserid=wasadmin  
com.ibm.SOAP.loginPassword={xor}KD4sPjsyNjE=
```

In the above case the password is encrypted using the WebSphere encryption tool.

9.1.5 Resolving issues

Here you will find a list of [common issues and their resolution](#).

10 Jython deployments

10.1 Jython Framework: Using a template

This IBM product plugin enables integration with and provisioning of WebSphere Application Server services via a Jython framework.

This section covers the simple case where you use the templates to create the deployment files, and the data dictionary when you want to update the configuration at a later date.

10.1.1 Usage

This plugin contains a number of orchestration tasks that augment the core task framework to allow deployment of WebSphere ear/war files and their associated configurations.

10.1.2 Templates

A number of templates are available when you create a new project.

Templates are available to create/update the following WebSphere Artifacts:

- Create multiple JDBC Provider and Data Sources template
- Create cluster template. Includes Web Container, JVM settings (Process, Logging, Transaction), Object Cache, Cluster scaling settings (vertical/horizontal), Replication Domains, Port Allocation, Trace Service settings etc.
- Create deployable Enterprise application template. Includes Classloading policies, Module start orders etc.
- Create an entire environment. Allows the selection of Applications to deploy, cluster creation/update, Multiple Database Providers and Data Sources, Url Providers and URLs, Work Managers, Object Caches, Application level security, custom TAI, Namespace Bindings, WebSphere Variables, Virtual Hosts, Shared Libraries, Core Groups, SIB Settings, PMI Settings etc.
- Cell Level template. Create cell level security, Users, Groups, Federated Repositories, LDAP configuration, Custom JAAS Entries And Login Modules, Custom TAI, SSL Key and trust stores, Dynamic SSL Configuration etc.

The template will also allow you to select from one of the standard orchestrations to use with this template, if you don't want to create the orchestration yourself through the project orchestration tab. You can use the provided template as a "starting point" and amend it later through the project orchestration tab.

On saving the panel once the fields are filled in, all necessary configuration is generated in the projects. The completed environment definition can be used to perform a deployment to the target, which will create or update the scoped WebSphere objects such as database providers, clusters, jms providers etc. This configuration can also be used as the basis to "clone" further downstream environments in the same or other cells.

The configuration is then packaged into a versioned "Deployment Archive" for later deployment to one or more target environments.

The configuration files can be amended over time and built into versioned packages (that mirror the tags or labels in your Scm system) to allow for a set of packages to be built up. The user may then deploy whichever package, at whichever version they require to any of the supported target environments, rolling forward or back as required.

10.1.3 Editing template values

If a project is created from a template, then all the "changing" properties are already stored in the data dictionary file.

In order to edit any of the template values you just need to go under the "Orchestration" tab to the "Data Dictionary" tab. Here you'll be able to modify any of the values you previously set when creating the project.

10.1.4 Restrictions

This is separately licensed plugin that is not shipped with the framework. Please contact MidVision sales to obtain a copy of this plugin. This plugin interacts with IBM software, which may require a separate license.

11 Jython issues

11.1 Jython issues and errors

11.1.1 Issue: You are not seeing an environment variables in wsadmin on Windows.

```
print os.environ.keys()
```

Returns nothing.

You see the following error in the logs:

```
---> Setting variable WAS_DM_HOME .....
Failed to get environment, environ will be empty: (0, 'Failed to execute command ([\sh', \'-c', \env\]):
java.io.IO
Exception: Cannot run program "sh": CreateProcess error=2, The system cannot find the file specified.')
===> WARNING - Failed to set WAS_DM_HOME exiting.
```

Resolution 1:

Explicitly set the OS for your WebSphere Jython installation:

- Cd to the following location:

```
c:\apps\WebSphere70\AppServer\optionalLibraries\jython
```

where *c:\apps\WebSphere70\AppServer* is your ND base install.

- Create file called 'registry'
- Add the following line:

```
python.os=nt
```

Resolution 2:

Edit the *javaos.py* file to add the specific OS to your WebSphere Jython installation:

- Execute the following commands in the *wsadmin* console:

```
wsadmin>java.lang.System.getProperty( "os.name" )
wsadmin>os._getOsType()
```

And compare both outputs.

If they are different then *wsadmin* is not recognizing the operating system. It is a known issue with *Jython 2.1* libraries. However IBM cannot fix the issue because the *Jython* libraries are from a third-party hence they cannot modify them. When the operating system is not recognized by *Jython* the default option is 'posix' and hence it looks to execute *sh* file.

- Backup the file:

```
C:\PATH_TO_WAS\optionalLibraries\jython\Lib\javaos.py
```

- Edit the file to have your operating system explicitly at *_osTypeMap*. For example:

```
_osTypeMap = (
( "nt", r"(nt)|(Windows NT)|(Windows NT 4.0)|(WindowsNT)|"
r"(Windows 2000)|(Windows XP)|(Windows CE)|(Windows
2003)|(Windows2008)" ),
```

- After adding it try the commands mentioned above and verify the operating system.

Source: [Global WebSphere Community](#)

11.1.2 You get a timeout or out-of-memory error when running a deployment via the Jython framework

Issue: Rapid Deploy deployments timing out when deploying large web apps, possibly with the following error:

Caused by:ADMN0034E: The service is unable to obtain a valid administrative client to connect process "nodeagent" from process "dmgr", because of exception:ConnectorException: java.net.SocketTimeoutException: Async

Resolution:

Perform the following steps to prepare the WebSphere Application Server Deployment Manager:

1. Use the following URL to launch the network deployment administrative console: `http://dmgr_hostname:9060/ibm/console`, where `dmgr_hostname` is the fully qualified host name for the WebSphere Application Server Network Deployment.
2. Log into the deployment manager administrative console.
3. Increase the HTTP connection timeouts for the deployment manager.

Note: See HTTP transport channel custom properties for additional information.

Click *System Administration > Deployment Manager > Web container transport chains*.

Increase the timeout values. For the `WCInboundAdmin` and `WCInboundAdminSecureentries` listed in the web container transport chains section, complete the following steps to increase the timeout values:

- a. Click HTTP Inbound Channel.
 - b. Change the Read timeout value to 0.
 - c. Change the Write timeout value to 0.
 - d. Save the configuration changes.
4. Change the timeout request period for the Java Management Extensions (JMX) connector.
 - a. Click *System administration > Deployment Manager > Administration Services > JMX connectors > SOAPConnector > Custom Properties*.
 - b. Select the `requestTimeout` property, and increase the value from 600 to 6000.
 - c. Save the configuration changes.
 5. Update the maximum Java heap size used by the deployment manager:

Update the heap size in the following two locations.

Set the `jvm max size` to 1024:

- a. Click *System administration > Deployment manager > Java and Process Management > Process Definition > Control > Java Virtual Machine*.
 - b. Click *System administration > Deployment manager > Java and Process Management > Process Definition > Server > Java Virtual Machine*.
 - c. Click OK and then save your changes.
6. Change the timeout request period for the Simple Object Access Protocol (SOAP) client.
 - a. Open a UNIX System Services (USS) command prompt.
 - b. Edit the `soap.client.props` file, located in `theDmgr_profile/properties` directory:
 - c. Change the line to: `com.ibm.SOAP.requestTimeout=0`.

Note: If you are instructed to open a properties file, please note that the files are ascii files and should be open using the appropriate tool. Stop and restart the deployment manager:

12 Jython advanced configuration

12.1 Jython framework: Advanced use

This section provides help when choosing to manually create or edit the deployment configuration jython files used for a WebSphere deployment.

A complete list of possible settings "in a page" is [provided](#). Please see the relevant menu items for each configurable object.

12.1.1 Specific configuration item help

- [Installing an application](#)
- [Application Edition Management](#)
- [Application Server Security](#)
- [Core Groups](#)
- [Classloader Policies](#)
- [Adding Cluster Members](#)
- [Cluster Members General Properties](#)
- [Cluster Members Topology](#)
- [Data Sources](#)
- [Force a full resynchronisation](#)
- [Health Management](#)
- [J2C Resource Adapter](#)
- [JAAS Login Modules](#)
- [JVM Classpath](#)
- [JVM General Properties](#)
- [JVM Generic Arguments](#)
- [JVM System Properties](#)
- [Log File Settings](#)
- [Message Listener Service](#)
- [Multiple Application Options](#)
- [Name Space Bindings](#)
- [Node Agent Checking](#)
- [Object Caches](#)
- [On Demand Routing](#)
- [OSGi Bundle Repositories](#)
- [PMI](#)
- [Process Definition Environment Entries](#)
- [Process Execution](#)
- [Resource Environment Provider](#)
- [Schedulers](#)
- [Security domains](#)
- [Server State](#)
- [Session Management](#)
- [Session Persistence and Session Replication](#)

- [Shared Library Associations](#)
- [SIB](#)
- [SIB Connection Pools](#)
- [SIB Foreign Bus](#)
- [SIB Messaging Engines](#)
- [SSL Configuration](#)
- [TAI Module](#)
- [Transaction Service Settings](#)
- [Transport Interfaces](#)
- [Uninstalling an application](#)
- [URL Endpoints](#)
- [Variables](#)
- [Virtual Hosts](#)
- [Web Container Properties](#)
- [Web Security Integration](#)
- [Web Servers](#)
- [WebSphere Identity Manager](#)
- [WebSphere MQ Servers](#)
- [Work Areas](#)
- [Work Managers](#)

12.1.2 JMS Resource specific help

- [Default provider JMS Resources Configuration](#)
- [Websphere MQ provider JMS Resources Configuration](#)
- [Scoping JMS Resources](#)

12.1.3 WebSphere Process Server Specific help

- [Process Server Prerequisites](#)
- [Mediation and Process Modules](#)

13 Installing an application

13.1 Setting Application Install Options

13.1.1 Overview

Parameters added to the `app_options` variable in your Jython file are passed to the `AdminApp.install wsadmin` function at deploy time. Any options supported by IBM are also supported by RapidDeploy our application release automation tool. Please see the IBM Documentation for a complete list of examples.

Also note all these configurations apply also for WAR files just by setting the location of the WAR file in the `earLocation` property and setting the proper `-MapWebModToVH` option.

13.1.2 Required Values in Jython

The following values are required for a deployment:

```
app_options = ["-server", serverName, "-cluster", clusterName, "-cell", cellName, "-node", nodeName, "-appname", appName ]
```

13.1.3 Optional Values

There are a large number of optional values. These are split into general values (some examples below), and Mapping values such as `MapResRefToEJB` and `MapWebModToVH` detailed in other articles.

13.1.4 Start an application after installation

In order to launch an application right after its installation you can use the following property ("false" by default):

```
startAppAfterInstall = "true"
```

13.1.5 Examples

13.1.5.1 Example with pre-compiling of JSPs and using Meta data from binaries

```
#-----
# Application install Related Variables
#-----
entAppName=appName
app_options = ["-server", serverName, "-cluster", clusterName, "-cell", cellName, "-node", nodeName, "-appname", appName ]
app_options.append([-preCompileJSPs])
app_options.append("-useMetaDataFromBinary")
```

13.1.5.2 Example setting file reload interval for an application

```
app_options.append("-reloadEnabled")
app_options.append(["-reloadInterval", "3"])
```

13.1.5.3 Example setting JSP Reload interval for a Web Module

```

#-----
# The following line Sets WEB module JSP reload interval.
#-----
app_options.append("-JspReloadForWebMod")
app_options.append([[ "IVT Application", "ivt_app.war,WEB-INF/ibm-web-
ext.xmi", "AppDeploymentOption.Yes", 5]])

```

13.1.5.4 Example setting mapping web modules to virtual hosts

```

#-----
# The following line maps the virtual host to use within the WEB module.
#-----
app_options.append("-MapWebModToVH")
app_options.append([[ "prweb.war", "prweb.war,WEB-INF/web.xml", "SIPCServer", ["prdbutil.war",
"prdbutil.war,WEB-INF/web.xml", "SIPCServer"], ["prsysmgmt.war", "prsysmgmt.war,WEB-INF/web.xml",
"SIPCServer"]])

```

13.1.5.5 Example mapping roles to users

```

app_options.append("-MapRolesToUsers")
app_options.append([[ "PegaAuthUser", "AppDeploymentOption.No", "AppDeploymentOption.No", "",
"GG_PEGASI_USERS" ]])

```

13.1.5.6 Example ordering post install options

In this example, the cellName is set after the other application install options have been applied. The cellName is applied post install of the application.

```

#-----
# Application edit (post install) Related Variables
#-----
app_options = ["-server", serverName, "-cluster", clusterName, "-node", nodeName, "-appname", appName ]
app_options.append([-preCompileJSPs])
app_options_1 = ["-cell", cellName]

```

13.1.6 Mapping Multiple Resources

Using the wsadmin AdminApp function, we can perform application mappings. However, sometimes we need to map multiple resources to a module, and the way of doing this using AdminApp is not always consistent.

Here are a couple of examples, and their syntax:

13.1.6.1 MapSharedLibForMod

```

#-----
# Resource 8: Map Modules to Shared Libraries
#-----
#
# Fields:- Web module:URI:Shared Library:
#
res8_1 = ["Default Web Application", "DefaultWebApplication.war,WEB-INF/web.xml",
"RDSharedLib1+RDSharedLib2" ]
res8_2 = ["Admin Web Application", "AdminWebApplication.war,WEB-INF/web.xml", "RDSharedLib3" ]

```

```
app_options.append("-MapSharedLibForMod")
app_options.append([res8_1,res8_2])
```

Here we map two libraries to the DefaultWebApplication, and one library to the AdminWebApplication. Note here the use of a "+" symbol to delimit the two libraries for the DefaultWebApplication mappings.

13.1.6.2 MapModulesToServers

This option specifies the application server or server cluster where you want to install modules that are contained in your application. You can install modules on the same server, or disperse them among several servers.

In the next example we map 2 different modules to the same server:

```
#-----
# Map Modules to Servers of Clusters
#-----
#
# Fields:- Module:URI:Target
#
res7_1=["UtilExt","UtilExt.war,WEB-INF/
web.xml","WebSphere:cell=c1_ebz_dev,node=mynode,server=server1"]
res7_2=["UtilInt","UtilInt.war,WEB-INF/
web.xml","WebSphere:cell=c1_ebz_dev,node=mynode,server=server1"]
app_options.append('-MapModulesToServers')
app_options.append([res7_1,res7_2])
```

And in the following example we map the same module to different clusters:

```
#-----
# Map Modules to Servers of Clusters
#-----
#
# Fields:- Module:URI:Target
#
res7_1a=["Util","Util.war,WEB-INF/web.xml","WebSphere:cell=c1_ebz_dev,cluster=k1_ebz_dev
+WebSphere:cell=c1_ebz_dev,cluster=k2_ebz_dev"]
app_options.append('-MapModulesToServers')
app_options.append([res7_1a])
```

Note here the use of a "+" symbol to delimit the 2 different clusters.

13.1.6.3 MapRolesToUsers

```
#-----
# Resource 9: Map Roles to Users
#-----
#
# Fields:- Role:Everyone :All authenticated :Mapped users:Mapped groups:
#
res9_1 = ["All Role", "AppDeploymentOption.Yes", "AppDeploymentOption.No", "", "LOGIN_AUTH|
FULL_AUTH"]
app_options.append("-MapRolesToUsers") app_options.append([res9_1])
```

Note here the use of a "|" (pipe) symbol to delimit the two mapped groups.

For both of the above examples, implementation is with AdminApp as follows:

```
AdminApp.install(earLocation, app_options )
```


13.1.7 Configure JSF implementation

You have to set the next variable to the 3 possibles values:

- **SunRI1.2:** for "Sun Reference Implementation 1.2".
- **MyFaces1.2:** for "MyFaces 1.2".
- **MyFaces:** for "MyFaces 2.0" (only for WAS 8.5).

By default "Sun Reference Implementation 1.2" is used:

```
appJSFImplementation = "SunRI1.2"
```

14 Application Edition Management

14.1 Application Edition Management

14.1.1 Overview

When you perform a rollout to an edition, you replace an active edition with a new edition. To provide interruption-free application upgrades, performing a rollout to an edition includes the following items:

- Fencing a server from receiving new requests.
- Quiescing requests for the application in a particular server.
- Stopping the currently active edition.
- Starting the new edition.
- Resuming the flow of requests to the edition.

Using *RapidDeploy*, our application release automation tool, you can deploy multiple editions of an enterprise application and perform a rollout to any of them. Please, check the IBM Documentation for further information on this matter.

14.1.2 Deploying different editions using the Jython framework

There is only one variable that needs to be set to manage the application editions, not setting this variable means you are deploying the "Base edition":

```
appEdition = "ApplicationEditionName"
```

NOTE: setting this variable means you want to deploy a certain edition, setting it to blank will throw an exception. If you don't want to use the application edition management just don't set it.

This variable gives you 2 different options:

- Setting it to the actual value of the edition name.
- Setting it to "default" which will use the name of the deployment package as the edition name.
- Using this option gives you the possibility not to have to change the *.py* configuration file every time you want to deploy a new edition.

Additionally, you can use the advantages of the *.dict* dictionary file generated with every environment. You can set a new property in the *.dict* file with an empty value, so when you want to execute a new job, the *Late configuration* option will warn you to set this value, giving you the possibility to set the edition name right before every execution. Let's see an example:

.dict file

```
...
# Leaving the next property value empty
@@appEditionName@@=
...
```

.py file

```
...
appEdition = "@@appEditionName@@"
...
```

14.1.3 Setting the maximum number of editions to be kept in the target server

It is as simple as setting the next variable to the number of editions we want to keep:

```
maxNumberOfEditions = 10
```

When this number of editions is exceeded in the target server, the oldest edition is uninstalled.

By default it is set to 0 with means no limit is applied.

14.1.4 Performing a rollout of a certain edition

To perform a rollout you need to configure an orchestration using the specific *RapidDeploy* task: *WebSphereEditionRolloutTask*.

Basically, what you need to specify as a resource for this task is the application edition to which you want to perform the rollout. To achieve this you have 4 different options:

- Leave this value as *default*, in which case the edition name will be the deployment package name (the version selected at deployment time).
- Set it to a certain string value, and this will be the edition name selected.
 - Setting it to *BASE* means you select the "Base edition".
- Set it to a dictionary item key (e.g. @@appRolloutEdition@@), and set this key with a blank value as part of the dictionary file, this way the edition name will be asked at deployment time as part of the *Late configuration* properties; the same way as in the previous section.
- Set it to the built in variable *\${ARCHIVE_NAME}*, that acts the same way as the option by default.

For more information about this task please refer to the "Task Help" section of *RapidDeploy*.

15 Application Server Security

15.1 Application Server Security

15.1.1 Overview

If global security is enabled for the WebSphere cell, you can override the global security settings for the cell on a per application server basis.

Variable	Description	Valid Values	Default Value
asSecurityEnabled	Override cell security settings	true, false	false
asSecurityAppEnabled	Set security on or off	true, false	false
asSecurityActiveProtocol	Security protocol.	CSI,SAS,BOTH	BOTH
asSecurityCacheTimeout	Time between forced cache reloads of data (sec)	Integer	60000
asSecurityEnforceJava2Sec	Use Java 2 security	true, false	false
asSecurityIssuePermission		true, false	false
asSecurityUseDomainQuali		true, false	false

15.1.2 Default Settings

The default settings in profile_defaults.py are as follows:

```
# Application Server - Security settings
asSecurityEnabled = "false"
asSecurityActiveProtocol = "BOTH"
asSecurityCacheTimeout = "600000"
asSecurityEnforceJava2Security = "false"
asSecurityIssuePermissionWarning = "false"
asSecurityUseDomainQualifiedUserNames = "false"
asSecurityAppEnabled = "false"
```

15.1.3 Enabling security

In order to enable security for your application server or cluster, set the following:

```
asSecurityEnabled = "true"
asSecurityAppEnabled = "true"
```

Where:

asSecurityEnabled - overrides the security for the cell

asSecurityAppEnabled - sets the security for this AppServer to #on#

15.1.4 Extended Security settings

Extended security for CSIv2

The following parameter, defaulted in the `profile_defaults.py` may be overridden in your `jython` file:

```
asExtendedSecurityEnable = "false"
asClaimsIdentityAssertionLayerSQOP_attrs = [{"enable", "false"}]
asClaimsMessageLayerRQOP_attrs = [{"enableOutOfSequenceDetection", "false"}, {"enableReplayDetection",
'false'}, {"establishTrustInClient", 'false'}]
asClaimsMessageLayerSQOP_attrs = [{"enableOutOfSequenceDetection", "false"}, {"enableReplayDetection",
'false'}, {"establishTrustInClient", 'false'}]
asClaimsTransportLayerRQOP_attrs = [{"confidentiality", "false"}, {"enableProtection", "false"},
{"establishTrustInClient", "false"}, {"integrity", "true"}]
asClaimsTransportLayerSQOP_attrs = [{"confidentiality", "false"}, {"enableProtection", "false"},
{"establishTrustInClient", "false"}, {"integrity", "true"}]
asPerformsIdentityAssertionLayerSQOP_attrs = [{"enable", "false"}]
asPerformsMessageLayerRQOP_attrs = [{"enableOutOfSequenceDetection", "false"}, {"enableReplayDetection",
'false'}, {"establishTrustInClient", 'false'}]
asPerformsMessageLayerSQOP_attrs = [{"enableOutOfSequenceDetection", "false"}, {"enableReplayDetection",
'false'}, {"establishTrustInClient", 'false'}]
asPerformsTransportLayerRQOP_attrs = [{"confidentiality", "false"}, {"enableProtection", "false"},
{"establishTrustInClient", "false"}, {"integrity", "true"}]
asPerformsTransportLayerSQOP_attrs = [{"confidentiality", "false"}, {"enableProtection", "false"},
{"establishTrustInClient", "false"}, {"integrity", "true"}]
```

15.1.5 Enabling extended security

15.2 Set the following in your Jython file.

```
asExtendedSecurityEnable = "true"
```

If you want to set all properties to TCP/IP only and set Authentication to 'never' then that's all you need to do.

16 Core Groups

16.1 Core Groups and Core Group Policies

To specify a specific Core Group for your Cluster you need to override the default parameter in your .py file and specify the name of the Core Group you wish your Cluster to be a part of, as shown below.

```
nonDefaultCoreGroup = "true"
coreGroupName = "SIPPECoreGroup"
```

The scripts will create the Core Group if it doesn't already exist and once all the members in your cluster have been created, move all the servers in the cluster to the specified Core Group.

16.1.1 Configuring Core Group Policies

To configure a custom Core Group policy to govern your messaging engines or anything else you need to override the default setting for non Default Core Group policies as below.

```
nonDefaultCGPolicy = "true"
```

There are five types of Policy which can be configured, OneOfNPolicy, MOFNPolicy, AllActivePolicy, StaticPolicy & NoOpPolicy.

The example below is for a OneOfNPolicy for governing a particular Messaging Engine. The specific Messaging Engine is identified using match criteria which specify the cluster name, bus name, and the ME Name as well as specifying that it is a SIB policy.

It is also possible to specify failback and the preferred servers for the Messaging Engine to failover to, as well as the order in which the ME will fail to different members of a Cluster.

```
coreGroupPolicyName_1 = "SIPPEBUS_ME000_Policy"
coreGroupPolicyType_1 = "OneOfNPolicy"
coreGroupPolicyDescription_1 = "Messaging Engine Policy"
coreGroupPolicyFailback_1 = "true"
coreGroupPolicyPreferredServersOnly_1 = "true"
coreGroupPolicyMCType_1 = "WSAF_SIB"
coreGroupPolicyMCCLuster_1 = clusterName
coreGroupPolicyMCSIBus_1 = "SIPPEBUS"
coreGroupPolicyMCMENAME_1 = "SIPPEBUSServerElab01.000-SIPPEBUS"
coreGroupPolicyPreferredServers_1 = ["SIPPEBUSServerElab01_clone1", "SIPPEBUSServerElab01_clone3",
"SIPPEBUSServerElab01_clone4", "SIPPEBUSServerElab01_clone2"]
```

17 Classloader Policies

17.1 Setting Classloader Policies

These can be overridden individually or entirely in your project.py or environment specific python file.

Parameter	Values	Default value if not set	Notes
modifyEntAppConfig	"true", "false"	"false"	Modify the enterprise application after install. Must be set to "true" to use the following settings
classloaderPolicyForAppSe	"SINGLE", "MULTIPLE"	"MULTIPLE"	Defines the application server clasloader policy
classloaderModeForAppSe	"PARENT_FIRST", "PARENT_LAST"	"PARENT_FIRST"	Defines the application server clasloader mode
classloaderForApplication	"PARENT_FIRST", "PARENT_LAST"	"PARENT_FIRST"	Defines the enterprise application clasloader mode
classloaderForWebModules	"PARENT_FIRST", "PARENT_LAST"	"PARENT_FIRST"	Defines the web module clasloader mode if not set specifically for a module
startingWeightForWebModu	Number	10000	Defines the web module default starting weight. Lower number is earlier in the startup order
startingWeightForEjbModul	Number	5000	Defines the ejb module default starting weight. Lower number is earlier in the startup order
classloaderPolicyForWar	"SINGLE", "MULTIPLE"	"MULTIPLE"	Set war classloader policy. Per war or a single classloader for all war modules

The following is an example from a jython file for enterprise application class loading:

```

modifyEntAppConfig = "true"
classloaderForApplication = "PARENT_FIRST"
classloaderForWebModules = "PARENT_FIRST"
classloaderForSharedLibrary = "PARENT_FIRST"
startingWeightForWebModule = "10000" # Default for all Modules, overridden below
startingWeightForEjbModule = "5000" # Default for all Modules, overridden below
classloaderPolicyForWar = "SINGLE"
webModuleClassLoaderURI_1 = "Advisor.war"
webModuleClassLoaderPolicy_1 = "PARENT_FIRST"
webModuleStartingWeight_1 = "10000" #webModuleStartingWeight_# is mandatory when setting
webModuleClassLoaderPolicy_#
webModuleClassLoaderURI_2 = "HelloWorld.war"

```

```
webModuleClassLoaderPolicy_2 = "PARENT_LAST"  
webModuleStartingWeight_2 = "10000"
```

The following is an example from a jython file for application server classloading:

```
# Application Server - classloader policy and mode  
classloaderPolicyForAppServer = "MULTIPLE"  
classloaderModeForAppServer = "PARENT_FIRST"
```


18 Adding Cluster Members

18.1 Incrementing Cluster Counts and Escaping Variables

This article explains the concepts of incrementing cluster variables per cluster member and how to set cluster specific numbering of cluster specific resources when using RapidDeploy for application release automation.

18.1.1 Example

We need a mechanism to update log4j.xml files in deployed environments so that each cluster member has its own log4j.xml file. In this way logging can be set on a per clone basis and the rolling file appender will work correctly.

18.1.2 Solution

To do this we use a system property as follows:

In the python file we set the clusterIncrementer:

```
clusterIncrementer = 0
```

The actual first usage of this value is one more than the value set initially.

We then set the log4j system property:

```
systemProperties.append(["name", "log4j.configuration"], ["value", "\/usr/websphere5/wassup5int/AppServer/installedApps/wassup5intNetwork/pandsapplicationInt.ear/config/lloydstsb/log4j/ICVALog_LiveSup\" + str(clusterIncrementer) + \\.xml\"]] )
```

(Standard system property):

```
systemProperties.append(["name", "com.ibm.CORBA.MaxOpenConnections"], ["value", "800"]])
```

Note how the string is entirely escaped using `"\" abc \" +str(clusterIncrementer)+ \" def \"`. This gets passed into wsadmin at runtime as `"abc"+clusterIncrementer+"def"`. The clusterIncrementer variable can then be changed per cluster member and is not evaluated until used.

For a non escaped string `"abc" +clusterIncrementer+ " def "` at runtime the value `"abc0def"` will get passed into wsadmin at runtime as the clusterIncrementer variable is evaluated immediately.

Note: Even if we do not have any value/text following `"abc" +clusterIncrementer + "` we still need to escape the entire string and have empty escaped double quotes (`"`) at the end as shown below to ensure the setting is evaluated correctly.

```
systemProperties.append(["name", "estatemts.logs.dir"], ["value", "\/usr/websphere6/wassup61_15/AppServer/logs/MVServerUAT01_clone\" + str(clusterIncrementer) + \"\"]] )
```

18.1.3 SIB Endpoints

We need to set SIBproviderEndPoints as above if we have more than one cluster member on the same LPAR and the SIBJMSScopeType scope is set to "server":

Change:

```
SIBproviderEndPoints = "localhost:"+str(SIB_ENDPOINT_ADDRESS_port)+":BootstrapBasicMessaging"
```

to:

```
SIBproviderEndPoints = "\"localhost:\"+str(SIB_ENDPOINT_ADDRESS)+\":BootstrapBasicMessaging\""
```

Note: The `_port` has been removed in the above because now we are getting the `SIB_ENDPOINT_ADDRESS` for each cluster member in the cluster prior to setting this variable.

18.1.4 Getting A Unique Value For A Port

There can be a problem using the `clusterIncrementer` for port values if the number of clones exceeds 9. For example if you have an application that requires each clone to listen on a unique port you could use the `clusterIncrementer` like this:

```
systemProperties.append(["name", "chordiant.service.socketGatewayServicePort"], ["value", "\"2602\" + str(clusterIncrementer)"]])
```

If you have initially set `'clusterIncrementer = 0'` in the Jython file then this would set values of 26021, 26022, 26023 etc for the listener on each clone. The problem occurs on the 10th clone where the value would be set to 261210. The solution to this is to rescope the value are trying to set and then to set the `clusterIncrementer` value to one below the start of your range. So in this example we would set `'clusterIncrementer = 20'` in the Jython file, then the above example would become#

```
systemProperties.append(["name", "chordiant.service.socketGatewayServicePort"], ["value", "\"260\" + str(clusterIncrementer)"]])
```

Note that '2602' has become '260'. Now the range of values will be 26021 # 26099. The range of values will be increased and decreased depending on the initial value of `clusterIncrementer`. It should also be noted that your existing usage of the `clusterIncrementer` elsewhere in your configuration should also be able to accommodate the change of range.

19 Cluster Members Topology

19.1 Configure Cluster Members Topology

19.1.1 Vertical and Horizontal Scaling

In order to specify a number of cluster members on each node, set the following values:

```
#-----
# Install the cluster members
#-----
clusterName = serverName
createClusterMember = "true"
clusterCount = 3
clusterIncrementer = 3
removeOrigAppServer = "true"
```

This will create 3 cluster members on each node in the cell, subject to the specified nodes set in the following section.

removeOrigAppServer removes the original application server on which the cluster was based.

createClusterMember must be set to true, otherwise just a single application server is created in the cluster on the primary node specified with serverNode.

If you want to change the name that is appended to every cluster member, you can set the next value in the **websphere_profile_defaults.py** file:

```
memberNameAttribute = "_clone"
```

So that the name of the *n* cluster member would be YourClusterMember+ *memberNameAttribute*+*n* (Eg: YourClusterMember_clone7).

19.1.2 Specified Cluster Nodes

In your jython file, add the following in a clustered environment where your cluster members should only span some of the nodes in the cell:

```
#-----
# Install the cluster members, and application only
# on specified nodes in the cell.
#-----
useSpecifiedClusterNodes = "true"
specifiedNodes = ["p13104dtp029", "p13105dtp030"]
```

This entry specifies that in the current cell, only nodeagents p13104dtp029 and p13105dtp030 will be deployed to. If the clusterCount is 2, then two cluster members are created on each of these nodes.

19.1.3 Create Cluster Members in a specified order

You may have 4 nodes in your production environment, two nodes (Eg: p21807prg005, p22207prg037) in Production 1 Data Center and two nodes (Eg: p21907prg006, p22307prg038) in Production 2 Data Center.

You want the clones to be created in the order specified in the py file.

```
#-----
# Install the cluster members, and application only
```

```
# on specified nodes in the cell.
#-----
useSpecifiedClusterNodes = "true"
specifiedNodes = ["p21807prg005", "p22207prg037", "p21907prg006", "p22307prg038"]
```

So that for example

```
YourGreatServer_clone1 in p21807prg005
YourGreatServer_clone2 in p22207prg037
YourGreatServer_clone3 in p21907prg006
YourGreatServer_clone4 in p22307prg038
```

and so on ..

But you see that after deployment the clones created in different order than your expectation.

Eg:

```
YourGreatServer_clone1 in p21807prg005
YourGreatServer_clone2 in p21907prg006
YourGreatServer_clone3 in p22207prg037
YourGreatServer_clone4 in p22307prg038
```

Add a variable as shown below and you get the clones created precisely as you specified in the 'specifiedNodes' list.

```
#-----
# Install the cluster members, and application only
# on specified nodes in the cell.
#-----
useSpecifiedClusterNodes = "true"
specifiedNodes = ["p21807prg005", "p22207prg037", "p21907prg006", "p22307prg038"]
clonesInSpecifiedOrder = "true"
```

19.1.4 Map Cluster Members to certain Nodes

First of all, make sure you've set up the *Specified Cluster Nodes* section.

Then, add the next structure of variables:

```
useMappedNodes = "true"
wasNode1_mapping = ["abc1", "abc2", "abc3"]
...
wasNodeN_mapping = ["cba1", "cba2", "cba3"]
specifiedNodes = ["node1", "node2", ..., "nodeN"]
```

Where *useMappedNodes* enables this mode of Cluster creation.

And remember you need at least the same number of *wasNodeX_mapping* variables as Nodes declared in the *specifiedNodes* variable. Less will result in an exception, and more will only go until the total number of Nodes specified.

20 Data Sources

20.1 Configure Data Sources

Specifying JDBC Providers and Data Sources

20.1.1 Overview

There are two ways to configure Database Providers for deployment.

The first is to use Database Libraries from within the framework server. A Database Library contains one or more Data Sources, and is stored on the framework server as an XML file. On deployment, this file is read by the jython framework and Data Sources and Database Providers are configured in the target cell.

The second method allows you to add Database Providers and Data Sources directly into the jython file using properties (name/value pairs).

This page considers the second case only.

Each set of name/value pairs is terminated with `_n` where `n` is an integer, incrementing from 1 and referencing the next Provider and DataSource to be created or modified.

20.1.2 Provider and Datasource creation policy

By default the RapidDeploy Jython framework will create both the JDBC provider and the datasource in one step, if you want to omit any of these sub-steps you can do so by using the following variables:

```
omitProviderCreation_1 = "true"
omitDatasourceCreation_1 = "true"
```

Note that if you want to create only the datasource and omit the provider creation sub-step you still need to set the `jdbcname_1` variable in order to indicate the provider used by the datasource to be created.

20.1.3 Oracle

Configuring an Oracle Database Provider and Data Sources.

```
#-----
# JDBC Provider 1 and DataSource Related Variables
#-----
templateName_1 = ""
databaseURL_1 = "jdbc:oracle:thin:@lonora03:1526:stdb10g1"
dsj2eeAttr_1 = [[[ "name","connectionProperties" ], [ "type","java.lang.String" ],
[ "value","oracle.jdbc.V8Compatible=true" ]]]
jdbcmplclass_1 = "oracle.jdbc.xa.client.OracleXADataSource"
jdbcdesc_1 = "Oracle 10g2"
dsHelper_1 = "com.ibm.websphere.rsadapter.Oracle10gDataStoreHelper"
jdbcscope_1 = "cell"
jdbcname_1 = "PegaRULES"
driverPath_1 = "${ORACLE_JDBC_DRIVER_PATH}/ojdbc14.jar"
dsname_1 = "PegaRULES_SysTst00"
dsjndiname_1 = "jdbc/"+dsname_1
cfname_1 = "PegaRULES_SysTst00"
agedTimeout_1 = 1000
```

```

connectionTimeout_1 = 1000
maxConnections_1 = 50
minConnections_1 = 5
purgePolicy_1 = "EntirePool"
reapTime_1 = 2000
unusedTimeout_1 = 3000
stmentCacheSize_1 = 10
#-----
#----- Connection validation properties -----
#----- Validate existing pooled connections -----
#-----
dsPreTestConnection_1 = "false"
dsRetryInterval_1 = 0

```

20.1.4 SQL Server

Configuring SQL Server Database Provider and Data Source

```

#-----
# JDBC Provider 2 and DataSource Related Variables
#-----
templateName_2 = ""
databaseURL_2 = "jdbc:sqlserver:s01wp09A.ho.lloydstsb.co.uk:1433:FTArchiving"
dsj2eeAttr_2 = [[["name", "databaseName"], ["type", "java.lang.String"], ["value", "FTArchiving"]],
[["name", "serverName"], ["type", "java.lang.String"], ["value", "s01wp09A.ho.lloydstsb.co.uk"]], [["name",
"portNumber"], ["type", "java.lang.Integer"], ["value", "1433"]], [["name", "enable2Phase"], ["type",
"java.lang.Boolean"], ["value", "false"]]]
jdbcimplclass_2 = "com.ibm.websphere.jdbcx.sqlserver.SQLServerDataSource"
jdbcdesc_2 = "MS SQL Server"
dsHelper_2 = "com.ibm.websphere.rsadapter.WSConnectJDBCDataStoreHelper"
jdbcscope_2 = "cell"
jdbcname_2 = "FTArchiving"
driverPath_2 = "${WAS_LIBS_DIR}/sqlserver.jar;${WAS_LIBS_DIR}/base.jar;${WAS_LIBS_DIR}/util.jar;
${WAS_LIBS_DIR}/spy.jar"
dsname_2 = "FTArchiving_SysTst00"
dsjndiname_2 = "jdbc/" + dsname_2
cfname_2 = "FTArchiving_SysTst00"
agedTimeout_2 = 1000
connectionTimeout_2 = 1000
maxConnections_2 = 50
minConnections_2 = 5
purgePolicy_2 = "EntirePool"
reapTime_2 = 2000
unusedTimeout_2 = 3000
stmentCacheSize_2 = 500
#-----
#----- Connection validation properties -----
#----- Validate existing pooled connections -----
#-----
dsPreTestConnection_1 = "false"
dsRetryInterval_1 = 0

```

20.1.5 IBM DB2

Configuring an IBM DB2 Database Provider, Data Sources and authentication alias.

```
#-----
# JDBC Provider 1 and DataSource Related Variables
#-----
templateName_1 = ""
databaseURL_1 = ""
dsj2eeAttr_1 = [{"name", "databaseName"}, {"type", "java.lang.String"}, {"value", "STPFAPD1"}], [{"name",
"driverType"}, {"type", "java.lang.Integer"}, {"value", 2}]
jdbcimplclass_1 = "com.ibm.db2.jcc.DB2XADataSource"
jdbcdesc_1 = "XA DB2 JDBC Type 2 Driver"
dsHelper_1 = "com.ibm.websphere.rsadapter.DB2UniversalDataStoreHelper"
jdbcscope_1 = "cell"
jdbcname_1 = "DB2 Universal JDBC Driver Provider (XA)"
driverPath_1 = "/db2home/db3pfab1/sqllib/java/db2jcc.jar;/db2home/db3pfab1/sqllib/java/
db2jcc_license_cu.jar;/db2home/db3pfab1/sqllib/java/db2jcc_license_cisuz.jar"
dsname_1 = "STPFAPD1"
dsjndiname_1 = "jdbc/stpdatasource"
cfname_1 = "stpdatasource"
agedTimeout_1 = 0
connectionTimeout_1 = 30
maxConnections_1 = 500
minConnections_1 = 1
purgePolicy_1 = "EntirePool"
reapTime_1 = 180
unusedTimeout_1 = 1800
stmentCacheSize_1 = 10
#-----
#----- Connection validation properties -----
#----- Validate existing pooled connections -----
#-----
dsPreTestConnection_1 = "false"
dsRetryInterval_1 = 0
#-----
# Database 1 JAAS Authentication Related Variables
#-----
databasePasswordAlias_1 = "wasliveManager/"+appName+"_1_DatabaseAuthInfo"
databaseUserId_1 = "stp"
databasePassword_1 = "STPFAPD1PWD"
databaseDescription_1 = "STP Authentication Data for "+jdbcname_1
#-----
#----- Security settings -----
#-----
# These are the values by default, leave it blank ("") to set the value to "none".
dsMappingConfigAlias_1 = "DefaultPrincipalMapping"
dsMappingAuthDataAlias_1 = databasePasswordAlias_1
```

20.1.6 Data source properties

In order to create or modify data sources properties you need to declare the property with the prefix "dsProp_" and the suffix "_n", where *n* is the number of the data source being affected:

```
dsProp_propertyKey_1="propertyValue"
```

20.1.6.1 Advanced DB2 features

Here's an example of how to use the data source properties for the "Advanced DB2 features":

```
dsProp_optimizeDB2ForGetUseClose_1="true"
dsProp_retryIntervalForClientReroute_1="30"
dsProp_maxRetriesForClientReroute_1="5"
dsProp_clientRerouteAlternateServerName_1="serverName"
dsProp_clientRerouteAlternatePortNumber_1="2431"
dsProp_clientRerouteServerListJNDIName_1="jndiName"
dsProp_unbindClientRerouteListFromJndi_1="true"
```

20.1.7 Setting V8 Compatibility

```
dsj2eeAttr_1 = [[[ "name", "connectionProperties" ], ["type", "java.lang.String" ],
[ "value", "oracle.jdbc.V8Compatible=true" ]]]
```

20.1.8 SQL Server example

```
dsj2eeAttr_2 = [[["name", "databaseName"], ["type", "java.lang.String"], ["value", "FTArchiving"]],
[["name", "serverName"], ["type", "java.lang.String"], ["value", "s01wp09A.ho.midivision.co.uk"]], [["name",
"portNumber"], ["type", "java.lang.Integer"], ["value", "1433"]], [["name", "enable2Phase"], ["type",
"java.lang.Boolean"], ["value", "false"]]]
```

20.1.9 Pre-test Oracle connection with SQL pretest string

```
dsj2eeAttr_2 = [[["name", "preTestSQLString"], ["value", "SELECT COUNT(*) FROM pc_data_uniqueid"],
["type", "java.lang.String"], ["required", "false"]], [["name", "validateNewConnection"], ["value", "true"],
["type", "java.lang.Boolean"], ["required", "false"]], [["name", "validateNewConnectionRetryCount"], ["value",
"100"], ["type", "java.lang.String"], ["required", "false"]], [["name", "validateNewConnectionRetryInterval"],
["value", "3"], ["type", "java.lang.String"], ["required", "false"]]]
```

20.1.10 Additional attributes settable as above

Specifies whether to activate re-authentication of connections. This option requires implementation of the `doConnectionSetupPerTransaction` method on the data store helper class for the JDBC provider that supports this data source.

```
[["name", "reauthentication"], ["value", "true"], ["type", "java.lang.Boolean"], ["required", "false"]]
```


21 Force a full resynchronisation

21.1 Force Full Resync

Force WebSphere Full Resynchronise

21.1.1 Overview

In order to invoke a full resynchronization (Refresh the repository Epoch) following a deployment, the following property may be set in your environment jython file:

```
forceFullResync
```

By default the value is set to "false"

21.1.2 Example

```
forceFullResync = "true"
```

22 J2C Resource Adapter

22.1 Configure J2CResourceAdapters

To configure J2C Resource Adapters

1. Add an entry to install the resource Adapter:

```
#-----
# Resource Adapter install variables and associated J2CConnectionFactory
#-----
installResourceAdapter = "true"
```

2. Specify a list of the nodes where the J2C RA is to be installed; the environment specific name, the rar file relative to the tar file and any rar installation options. In this and all further examples *Name_1 variables should reference the environment identifier, e.g. DevTst01.

```
J2CResourceAdapterNodes_1 = ["localhost"]
J2CResourceAdapterName_1 = "Platform Messaging Component SPI Resource Adapter1"
J2CResourceAdapterFile_1 = "j2ee/ra.rar"
J2CResourceAdapterOptions_1 = ["-rar.name", J2CResourceAdapterName_1, "-rar.desc",
"IBMWebSphereAdapterforEmail", "-rar.archivePath", "${CONNECTOR_INSTALL_ROOT}/"]
```

3. Specify the J2C Connection Factory details that will utilise the function provide by the above RA. Here we specify two associated Connection Factories.

_1_1 specifies *Resource Adapter 1, Connection Factory 1*

_1_2 specifies *Resource Adapter 1, Connection Factory 2*

```
J2CConnectionFactoryName_1_1 = "EmailConnectionFactory1"
J2CConnectionFactoryJNDIName_1_1 = "eis/emailConnectionFactory1"
J2CConnectionFactoryClass_1_1 = "javax.resource.cci.ConnectionFactory"
J2CConnectionFactoryName_1_2 = "EmailConnectionFactory12"
J2CConnectionFactoryJNDIName_1_2 = "eis/emailConnectionFactory12"
J2CConnectionFactoryClass_1_2 = "javax.resource.cci.ConnectionFactory"
```

4. Specify the J2C Connection Factory custom property details that will utilise the function provided by the above RA. Here we specify two associated properties for Connection Factory 1 on RA 1 and two associated properties for Connection Factory 2 on RA 1 and

1_1_1 specifies *Resource Adapter 1, Connection Factory 1, Property 1*

1_1_2 specifies *Resource Adapter 1, Connection Factory 1, Property 1*

1_2_1 specifies *Resource Adapter 1, Connection Factory 2, Property 1*

1_2_2 specifies *Resource Adapter 1, Connection Factory 2, Property 1*

```
J2CCFRResourcePropertyName1_1_1 = "hosts"
J2CCFRResourcePropertyValue1_1_1 = "10.10.10.10"
J2CCFRResourcePropertyName1_1_2 = "envVariables"
J2CCFRResourcePropertyValue1_1_2 = "OFS_SOURCE=BROWSERTC"
J2CCFRResourcePropertyName1_2_1 = "hosts"
J2CCFRResourcePropertyValue1_2_1 = "10.10.10.10"
J2CCFRResourcePropertyName1_2_2 = "envVariables"
J2CCFRResourcePropertyValue1_2_2 = "OFS_SOURCE=BROWSERTC"
```

5. Specify the J2C Activation Specification details; the AS name, JNDI reference and the MessageListener class. Here we specify two associated J2C activation Specifications.

_1_1 specifies *Resource Adapter 1, J2C Activation Specification 1*

_1_2 specifies *Resource Adapter 1, J2C Activation Specification 2*

```
J2CActivationSpecName_1_1 = "EmailConnectionFactoryActSpec1"
J2CActivationSpecJNDIName_1_1 = "eis/emailConnectionFactoryActSpec1"
J2CActivationSpecListenerType_1_1 = "com.ibm.wsspi.sib.ra.SibRaMessageListener"
J2CActivationSpecName_1_2 = "EmailConnectionFactoryActSpec12"
J2CActivationSpecJNDIName_1_2 = "eis/emailConnectionFactoryActSpec12"
J2CActivationSpecListenerType_1_2 = "com.ibm.wsspi.sib.ra.SibRaMessageListener"
```

6. Specify any application specific connection pool settings, the rest will be defaulted by the *profile_defaults.py*: The following specifies Max Connections for Resource Adapter 1, Connection Pool 1

```
J2CCFCConnectionPoolmaxConnections_1_1 = 5
```

7. Specify any connection factory Resource properties that are required, anything unset will pick up the defaults as provided by the connection definition in the rar:

8. Specify if you want to install this resource adapter at a cluster scope:

```
# Specifies if the J2C resource adapter is going to be installed on the cluster.
J2CResourceAdapterClusterScope_1 = "true"
# If you set this parameter to true, all of the J2C connection factory, J2C activation specification, and
J2C administrative objects will be copied to the new J2C resource adapter (deep copy). If you set this
parameter to false, the objects are not created (shallow copy). The default is false.
J2CResourceAdapterDeepCopyClusterScope_1 = "false"
# Indicates the name of the new J2C resource adapter. This parameter is required.
J2CResourceAdapterNameClusterScope_1 = "Resource Adapter X at Cluster Level"
# Specifies the attributes to set for the J2C resource adapter.
J2CResourceAdapterOptionsClusterScope_1 = [{"threadPoolAlias", "Default"}, {"classpath",
"${CONNECTOR_INSTALL_ROOT}/ra.rar"}, {"name", J2CResourceAdapterNameClusterScope_1},
{"isolatedClassLoader", "false"}, {"nativepath", "${CONNECTOR_INSTALL_ROOT}/ra.rar"},
{"description", "IBMWebSphereAdapterforEmail"}]
```

9. Running a successful deployment should result in the following deploy log output:

```
---> Installing J2CResourceAdapterName_1 = TOCFT24ResourceAdapterDevTst01
---> Found existing J2CResourceAdapters
---> Removing J2CResourceAdapterName name:TOCFT24ResourceAdapterDevTst01
WASX7397I: The following J2CResourceAdapter objects are removed:
TOCFT24ResourceAdapterDevTst01(cells/was61DTa_A71Network/nodes/itsbjvtstas17|
resources.xml#J2CResourceAdapter_1289578334924)
---> Installing TOCFT24ResourceAdapterDevTst01 on node:itsbjvtstas17
---> Setting variable CONFIG_ROOT .....
Variable CONFIG_ROOT set to: /usr/websphere6/was61DTa_A71/DeploymentManager/config
---> Distributing rar file
---> Done.
---> Done.
---> Found existing J2CActivationSpecs
---> Installing TOCFT24ActivationSpecDevTst01
---> Found existing J2CConnectionFactories
---> Installing TOCFT24ConnectionFactoryDevTst01 for node:itsbjvtstas17
---> Installing JCA Connection Factory Resource Properties
---> Setting property: [hosts] to: [172.27.219.132]
---> Setting property: [ports] to: [20001]
---> Setting property: [envVariables] to: [OFS_SOURCE=BROWSERTC]
---> No more J2CConnectionFactory Resource Properties to install. Done.
---> Modifying J2C ConnectionPool settings .....
Modified.
---> No more Resource Adapters to install. Done.
```

23 JAAS Login Modules

23.1 Configuring JAAS Login Modules

23.1.1 Default setting in profile_defaults.py

```
installCustomJAASEntryAndLoginModules = "false"
```

23.1.2 Configuring a custom JAAS Entry and associated login modules

```
installCustomJAASEntryAndLoginModules = "true"
```

23.1.3 Example using multiple login entries

Firstly, we create as many Login Entries as desired. To create more than one we need to append the string "Add_n" to the variables, where "n" is an increasing number:

```
# JAAS Login Entries
jaasLoginType = "application"
jaasLoginEntryAlias = "MidVision_WEB_INBOUND"
jaasLoginTypeAdd_1 = "application"
jaasLoginEntryAliasAdd_1 = "MidVision_WEB_INBOUND_X1"
jaasLoginTypeAdd_2 = "application"
jaasLoginEntryAliasAdd_2 = "MidVision_WEB_INBOUND_Y2"
jaasLoginTypeAdd_3 = "system"
jaasLoginEntryAliasAdd_3 = "MidVision_WEB_INBOUND_T3"
```

23.1.4 Example using multiple login modules

Once the Login Entries are defined, we can reference them in the Login Modules. We can reference the Login Entry using the variable we used to declare them or simply the value:

```
# JAAS Login Modules
# Referencing the Login Entry using the variable name
jaasLoginType_1 = jaasLoginTypeAdd_1
jaasLoginEntryAlias_1 = jaasLoginEntryAliasAdd_1
jaasLoginModule_1 = "com.lloydstsb.ea.security.loginmodule.jaas.CustomLoginModule"
jaasUseLoginModuleProxy_1 = "false"
jaasAuthStrategy_1 = "REQUIRED"
jaasCustomProperties_1 = ""
# Referencing the Login Entry using the value
jaasLoginType_2 = "application"
jaasLoginEntryAlias_2 = "MidVision_WEB_INBOUND"
jaasLoginModule_2 = "com.ibm.ws.security.server.lm.ltpaLoginModule"
jaasUseLoginModuleProxy_2 = "false"
jaasAuthStrategy_2 = "REQUIRED"
jaasCustomProperties_2 = [{"name", "cookie"}, {"required", "false"}, {"value", "true"}]
jaasLoginType_3 = "application"
jaasLoginEntryAlias_3 = "MidVision_WEB_INBOUND"
jaasLoginModule_3 = "com.ibm.ws.security.server.lm.wsMapDefaultInboundLoginModule"
jaasUseLoginModuleProxy_3 = "false"
jaasAuthStrategy_3 = "REQUIRED"
jaasCustomProperties_3 = [{"name", "cookie"}, {"required", "false"}, {"value", "true"}]
```

24 JVM Classpath

24.1 JVM Classpath

Example syntax:

```
classpath = "${WAS_INSTALL_ROOT}/lib/servlet.jar;u01/app/oracle/product/10.2.0/jdbc/lib/ojdbc14.jar"
```

Individual classpath entries are separated using a ";".

25 JVM Generic Arguments

25.1 Generic JVM Arguments

Example syntax:

```
genericJVMArguments = "-DjvmName=ProjectServerSysTst11 -Xminf0.3 -Xmaxf0.6 -  
Dcom.ibm.ws.security.spnego.isEnabled=false"
```

26 JVM System Properties

26.1 JVM System Properties

Example syntax:

```
systemProperties = [{"name", "HotSpotOption"}, {"value", "client"}]
systemProperties.append(["name", "com.ibm.CORBA.iiop.noLocalCopies"], [{"value", "true"}])
systemProperties.append(["name", "com.ibm.CORBA.MaxOpenConnections"], [{"value", "800"}])
systemProperties.append(["name", "com.ibm.CORBA.numJNIReaders"], [{"value", "12"}])
systemProperties.append(["name", "com.ibm.CORBA.ReaderManagerImpl"], [{"value",
"com.ibm.CORBA.iiop.JNIReaderManager"}])
systemProperties.append(["name", "com.ibm.ws.classloader.J2EEApplicationMode"], [{"value", "true"}])
systemProperties.append(["name", "log4j.configuration"], [{"value", "file:/usr/websphere6/wasgp61_50/
AppServer/installedApps/wasgp61_50Network/applicationSysTst11.ear/config/log4j/integration-test-
log4j.xml"}])
systemProperties.append(["name", "etc"], [{"value", "/usr/websphere6/wasgp61_50/AppServer/installedApps/
wasgp61_50Network/applicationSysTst11.ear/config"}])
systemProperties.append(["name", "user.timezone"], [{"value", "Europe/London"}])
```

27 Log File Settings

27.1 JVM Log File Management

The following properties may be used to set JVM log file management.

These ones for the *System.out* file:

Variable	Description	Default Value	Required
maxLogFileCountOut	The maximum number of historical log files to keep	30	N
logRolloverTypeOut	The type of rollover that the log will be based on. Possible values are: TIME, SIZE, BOTH, or NONE.	"TIME"	N
logRolloverSizeOut	The size (in Mbytes) after which the log file will roll over. Default of 0 means never roll over the log on size basis.	0	N
logRolloverHourOut	Initially roll the logs at 07:00 am.	7	N
logRolloverPeriodOut	After the initial rollover roll over every 12 hours thereafter.	12	N

And these ones for the *System.err* file:

Variable	Description	Default Value	Required
maxLogFileCountErr	The maximum number of historical log files to keep	30	N
logRolloverTypeErr	The type of rollover that the log will be based on. Possible values are: TIME, SIZE, BOTH, or NONE.	"TIME"	N
logRolloverSizeErr	The size (in Mbytes) after which the log file will roll over. Default of 0 means never roll over the log on size basis.	0	N
logRolloverHourErr	Initially roll the logs at 07:00 am.	7	N
logRolloverPeriodErr	After the initial rollover roll over every 12 hours thereafter.	12	N

28 Message Listener Service

28.1 Configure Message Listener Service

28.1.1 Thread pool settings for all Message Listener Ports

Variable	Description	Default Value
mlsInactivityTimeout	Inactivity Timeout of the Listener Port	3500
mlsIsGrowable	Can the thread pool grow beyond mlsMaximumSize	FALSE
mlsMaximumSize	Total Maximum number of threads for all listener ports in this JVM	50
mlsMinimumSize	Total Minimum number of threads for all listener ports in this JVM	10

28.1.2 Specific Listener Port configuration settings

Each listen port is configured as below, using `_1`, for the first Listen Port, and `_2`, `_3` etc for additional Listen ports.

Variable	Description	Example Value
mlsListPortName_	Listener Port Name	MVMsgInboundQLsnr
mlsListJndiName_	Listener Port JNDI Name. Maps to a JMS Queue resource JNDI name	MVCHTQ1/ Q.Mv.com_mv_jxe_InboundQueue
mlsListCfJndiName_	Listener Port Connection Factory JNDI Name. should map to a JMS Connection Factory resource JNDI name	MVCHTQ1/QCF.MV1
mlsListInitialState_	Initial state of START or STOP	START
mlsListMaxSessions_	Maximum concurrent session (threads)	3
mlsListMaxRetry_	Maximum retries on failed read of message off the queue	0
mlsListMaxMessages_	Maximum messages per session	1

29 Multiple Application Options

29.1 Configure Multiple Applications

Deploy multiple applications with one Jython file.

29.1.1 Overview

When using RapidDeploy for application release automation for WebSphere Process Server, and some other applications, we deploy multiple EAR files in the same deployment package. Whilst this is not recommended, in some scenarios with third party applications, it is mandated.

The default behaviour is to require one Jython file per EAR file. However, this can become unwieldy when there are many EAR files, such as is the case for WebSphere process server. The two cases below explain how to reduce this overhead to a single set of config files.

In this case the property *earLocation* becomes the folder where the EAR files will be held.

Along this documentation page we always refer to EAR files, but all this configuration applies to WAR files in the same way although keeping always in mind to set the *-MapWebModToVH* option for the specific WAR application.

29.1.2 Simple case: No specific application bindings to set.

In this case we can specify in a single py file all of the EAR files in the deployment. We can also set a python file for some of the simple applications, and separate files for more complex ones. We can mix and match as we see fit.

You will need to choose an application to name the python file. This must be one of the encompassed applications. E.g. **dmsserver01.wasenv01.PROJECT1ServerIntTst02.A1_MRApp.py**

Then set:

```
installMultipleApps = "true"
```

Then insert the list of applications as follows. An EAR file must exist for each of the named applications:

```
enterpriseApplicationList = ["MM_IN_IBGTW_ArrangementSetup",
"MM_IN_IBGTW_ProductCustomerMatching", "MM_OUT_IBGTW_ArrangementSetup",
"MM_OUT_OCIS", "MM_OUT_WPSRefDataMarketing", "MM_OUT_WPSRefDataProduct",
"MM_OUT_WPSRefData_Instruction", "PM_ActivateProductArrangement",
"PM_DetermineCustomerProductConditions", "PM_DetermineEligibleCustomerInstructions",
"PM_DeterminePromotionalCustomerInstructions", "PM_EligibilityRules", "PM_MarketingRules"]
```

In this case, appname is set automatically to the enterprise application name.

29.1.3 Complex case 1: Some or all EAR files need their own bindings specified.

In the following example we set up bindings information from one of the applications, then set it in the enterpriseApplicationList:

```
PM_MarketingRules_res7_1 = ["PM_MarketingRulesWeb", "PM_MarketingRulesWeb.war,WEB-INF/
web.xml", "MVServerIntTst02APP"]
PM_MarketingRules_app_options = ["-appname"]
PM_MarketingRules_app_options.append("PM_MarketingRules")
PM_MarketingRules_app_options.append("-MapWebModToVH")
PM_MarketingRules_app_options.append([PM_MarketingRules_res7_1])
```

```
installMultipleApps = "true"
enterpriseApplicationList = [{"PM_MarketingRules", PM_MarketingRules_app_options},
"MM_IN_IBGTW_ArrangementSetup", "MM_IN_IBGTW_ProductCustomer
Matching", "MM_OUT_IBGTW_ArrangementSetup", "MM_OUT_OCIS",
"MM_OUT_WPSRefDataMarketing", "MM_OUT_WPSRefDataProduct", "MM_OUT_WPSRefData_Instruc
tion", "PM_ActivateProductArrangement", "PM_DetermineCustomerProductConditions",
"PM_DetermineEligibleCustomerInstructions", "PM_DeterminePromo
tionalCustomerInstructions", "PM_EligibilityRules"]
```

Note in the above example that **-appName** is set. This must be set for any application adding its own `app_options`.

29.1.4 Complex case 2: Each application EAR file needs a different starting weight.

You can specify, for each enterprise application, its starting weight and other options as the following example demonstrates:

```
EntpAppName_startingWeightForApplication="1000"
EntpAppName_classloaderForApplication="PARENT_FIRST"
EntpAppName_classloaderPolicyForWar="PARENT_FIRST"
EntpAppName_appAutoStart="true"
```

Where `EntpAppName` is the name of the enterprise application. This must match a name in the `enterpriseApplicationList`. Multiple such entries may be added to the `py` file.

Other settings may also be added for any of the modules within any of the individual EAR files. Please see additional help to configure these settings.

29.1.5 Non-Process server and using EnvIdentifier

Where the deployed EAR has a different name to the EAR file name in the tar file (most WAS applications), you need to do a further mapping as follows:

```
enterpriseApplicationList = [{"csdcapplication", csdcapplication_app_options, "csdcapplicationIntTst00"},
["csdcmdbapplication", csdcmdbapplication_app_options, "csdcmdbapplicationIntTst00"]]
```

Each entry has 3 sub-entries, EAR file name, `app_options` followed by EAR file name in the target environment.

30 Name Space Bindings

30.1 Name Space Bindings

There are four types Name Space Binding, String, Ejb, CORBAObject and IndirectLookup , all of which are handled by the framework. It is essential that as well as Universal NSBinding settings, which are mandatory, you also specify the settings specific to the type of Binding you wish to configure, as the script will fail if any of these parameters are missing.

```
#-----
# Name Space Binding settings
# Each Name Space Binding should have settings with an _1, _2 suffix etc
# All Universal settings are Mandatory, as are the Type Specific Settings for each nsType
# Examples of Universal settings:
# nsBinding_1 = "ESB Operation Mode (Normal or Print)"
# nsScope_1 = "cell" (or node, server) # Exception is Ejb which should always be Cluster.
# nsType_1 "String" (or Ejb, CORBAObject, IndirectLookup)
# nameInNS_1 "sip/string/esbMode"
#
# Example of Type Specific Settings
# String - nsString_1 = "Normal"
# Ejb - nsEJBJndiName_1 = "ejb/myEJB"
# CORBAObject - nsCORBANameURL_1 = "corbaname:iiop:somehost.somecompany.com:2809#stuff/MyCORBAObject"
# - nsFedContext_1 = "false"
# IndirectLookup - nsProviderURL_1 = "corbaloc::myCompany.com:9809/NameServiceServerRoot"
# - nsJNDIName_1 = "jndi/name/for/EJB"
#-----
installNSBinding = "true"
#-----
# NS Binding 1 (String) - Example
#-----
nsBinding_1 = "ESB Operation Mode"
nsScope_1 = "cell"
nsType_1 = "String"
nameInNS_1 = "sip/string/esbMode"
nsString_1 = "Normal"
#-----
# NS Binding 1 (Ejb) - Example
#-----
nsBinding_1 = "EJB Name Space Binding"
nsScope_1 = "cluster"
nsType_1 = "Ejb"
nameInNS_1 = "myBindings/myEJB"
nsEJBJndiName_1 = "ejb/myEJB"
#-----
# NS Binding 1 (CORBAObject) - Example
#-----
nsBinding_1 = "CORBA Name Space Binding"
nsScope_1 = "cell"
nsType_1 = "CORBAObject"
nameInNS_1 = "myBindings/myCORBA"
nsCORBANameURL_1 = "corbaname:iiop:p09528gens28:12070#stuff/MyCORBAObject"
```

```
nsFedContext_1 = "false"
#-----
# NS Binding 1 (IndirectLookup) - Example
#-----
nsBinding_1 = "Indirect Name Space Binding"
nsScope_1 = "cell"
nsType_1 = "IndirectLookup"
nameInNS_1 = "myBindings/myIndirect"
nsProviderURL_1 = "corbaloc::p09528gens28:28002/NameServiceServerRoot"
nsJNDIName_1 = "jndi/name/for/EJB"
```

31 Node Agent Checking

31.1 Override Node Agent Checking

By default, the deployment framework will only allow a deployment to proceed if all nodeagents in the cell are online. In order to override the **checkNodeAgentsOnline** functionality in the deployment framework, you can set the following value in your python file:

```
overrideCheckNodeAgentsOnline = "true"
```

This will override the default behaviour and allow deployments to proceed even if one or more of the target cell's nodeagents are not online.

32 Object Caches

32.1 Defining Object Cache Instances

32.1.1 Overview

When performing application release automation, some applications require the availability of objects across multiple clones. This can be achieved by creating Object Cache Instances and associating them with a Replication Domain.

32.1.2 Example

This is an example of a configuration section from a Jython file.

```
#-----
# Object Cache Instance 1 settings
#-----
# To enable the Object Cache installation
installObjectCache = "true"
objcScope_1 = 'cell'
objcName_1 = "nwp_FD_IntTst02"
objcJndiName_1 = "cache/"+objcName_1
objcDescription_1 = "Network Presence"
objcCacheSize_1 = "2000"
objcDefaultPriority_1 = "1"
objcEnableDiskOffload_1 = "false"
objcDiskOffloadLocation_1 = "/cache"
objcFlushToDiskOnStop_1 = "false"
objcDiskCacheSizeInGB_1 = "2"
objcDiskCacheSizeInEntries_1 = "0"
objcDiskCacheEntrySizeInMB_1 = "0"
objcDiskCacheCleanupFrequency_1 = "0" # If 0 then only at midnight
objcDiskCachePerformanceLevel = "BALANCED"
objcDisableDependencyId_1 = "true"
objcUseListenerContext_1 = "false"
objcReplicationType_1 = "PUSH"
objcPushFrequency_1 = "1"
objcEnableCacheReplication_1 = "true"
objcMessageBrokerDomainName_1 = serverName
objcMemoryCacheSizeInMB_1 = 512 # Disabled if set to 0
objcMemoryCacheHighThreshold_1 = 95
objcMemoryCacheLowThreshold_1 = 80
```

Mapping the cache in the MapResRefToEjb section:

```
res1_1 = ["ChordiantEJB", "EJBGatewayServiceCMT", "ChordiantEJB.jar,META-INF/ejb-jar.xml", "cache/nwp", "com.ibm.websphere.cache.DistributedMap", "cache/nwp_FD_IntTst02", "", ""]
res1_6 = ["ChordiantEJB", "EJBGatewayServiceBMT", "ChordiantEJB.jar,META-INF/ejb-jar.xml", "cache/nwp", "com.ibm.websphere.cache.DistributedMap", "cache/nwp_FD_IntTst02", "", ""]
```

32.1.3 Description

Any number of object cache instances can be created. Each parameter is appended with `_n` where `n` is an integer.

- **objcScope** Indicates the scope in which the Object Cache is going to be installed. Possible values are: 'cell', 'node' or 'cluster'.
- **objcName** A unique name in the format cache_name_app_name_instance, e.g. nwp_fd_IntTst02
- **objcJndiName** JNDI name as defined by the developers. Usually of the format cache/objcName, e.g. cache/nwp_fd_IntTst02
- **objcDescription** Free text field containing description of the cache
- **objcCacheSize** Number of cache objects
- **objcDefaultPriority** This parameter is related to eviction. It is the number of passes an object that is a candidate for eviction can have before it is evicted. The higher the value the lower the change of eviction. The default value is 1 for each object cache.
- **objcEnableDiskOffload** If a cache becomes full you can elect to overflow the cache onto disk. Selection of this option should be considered carefully. There are considerations of disk sharing that need to be taken care of if you wish your objects to be visible to all caches. The value is either true or false. The default value is false.
 - **objcDiskOffloadLocation** Path to disk overflow cache if selected. The default value for this is \$ WAS_TEMP_DIR.
 - **objcFlushToDiskOnStop** With this value set to true and disk offload has been enabled all objects will be written to disk when the environment is stopped.
 - **objcDiskCacheSizeInGB** The maximum size of disk cache in Gigabytes. The console suggests that the minimum value the can be set to is 2Gb but it appears that (for 6.1.0.13 at the time of writing) the minimum value actually set is 3Gb. The default value is 0 which indicates unlimited size.
 - **objcDiskCacheSizeInEntries** The maximum number of entries allowed in a disk cache. The default value is 0 which indicates unlimited size.
 - **objcDiskCacheEntrySizeInMB** The maximum size of an individual cache object in Megabytes that can be written to the disk cache. The default value is 0 which indicates unlimited size.
 - **objcDiskCacheCleanupFrequency** The disk cache cleanup frequency in minutes. This setting applies only when the Disk Offload Performance Level is low, balanced, or custom. The default value is 0 which indicates that cleanup only occurs at midnight.
 - **objcDiskCachePerformanceLevel** Offload performance level. Valid values are HIGH, LOW, BALANCED. Default is BALANCED.
- **objcDisableDependencyId** This value specifies that the dynamic cache service, supports cache entry dependency IDs. Disable this option if you do not need to use dependency IDs. Dependency IDs specify additional cache group identifiers that associate multiple cache entries to the same group identifier in your cache policy. The default value for this is true.
- **objcUseListenerContext** If this is set to true then invalidation events are sent to invalidations listeners using the J2EE context of the listener for callback. If use of the caller thread context for callback is required it should be set to false.
- **objcEnableCacheReplication** Setting this to true enables replication of cache IDs, cache entries and cache invalidations with other servers in the replication domain.
 - **objcMessageBrokerDomainName** This is a selection from previously or co-configured replication domains
 - **objcReplicationType** There are several types of replication type values that can be set:

<p>NOT_SHARED: Objects are not replicated. This is the default value.</p> <p>PUSH: The object id and contents are are pushed to all clones as per the push frequency</p> <p>PULL: This setting causes a clone to send out requests to other clones for an object if it does not exist in the local cache.</p>

PUSH_PULL: This setting causes the object id to be pushed out only, when a clone requires that object it pulls it from the clone that is holding it in its local cache.

- **objcPushFrequency** This is a value in seconds for how frequently new or modified objects in a local cache are pushed out to other caches. A value of 0 means that objects are pushed out immediately. All object invalidations are sent immediately regardless of this setting.
- **objcMemoryCacheSizeInMB** Specifies a value for the maximum memory cache size in megabytes (MB). If set to 0, the "Limit memory cache size" will be disabled.
- **objcMemoryCacheHighThreshold** Specifies when the memory cache eviction policy starts. The threshold is expressed in terms of the percentage of the memory cache size in megabytes (MB).
- **objcMemoryCacheLowThreshold** Specifies when the memory cache eviction policy ends. The threshold is expressed in terms of the percentage of the memory cache size in megabytes (MB).

33 PMI

33.1 Configure PMI v6.0+

33.2 Configuring WebSphere PMI

To enable the PMI configuration:

```
setPmi = "true"
```

The following PMI settings are set by default. To override them, add the required values to your python file and set as appropriate.

In order to set monitoring to 'on', please set **pmiStartMonitor** to 'true'

Valid "pmiLevel" settings are:

- none
- basic
- extended
- custom
- all

33.2.1 PMI settings for WAS

```
pmiStartMonitor = "false"
pmiStopMonitor = "false"
pmiGetMonitorState = "false"
pmiMonitor = com.ibm.ws.tpv.engine.UserPreferences()
pmiMonitor.setServerName("server1")
pmiMonitor.setNodeName("localhost")
pmiMonitor.setUserId("jxadmin")
pmiMonitor.setRefreshRate(10)
pmiMonitor.setBufferSize(100)
pmiMonitor.setLoggingDuration(86400)
pmiMonitor.setLogFileSize(5242880)
pmiMonitor.setNumLogFiles(7)
pmiMonitor.setLogFileName("/tmp/tpv")
pmiLevel = "none"
pmiMetricArray = []
pmiSetCustom_AlarmManager_AlarmLatencyDuration = "false"
pmiSetCustom_AlarmManager_AlarmRate = "false"
pmiSetCustom_AlarmManager_AlarmsCancelledCount = "false"
pmiSetCustom_AlarmManager_AlarmsCreatedCount = "false"
pmiSetCustom_AlarmManager_AlarmsFiredCount = "false"
pmiSetCustom_AlarmManager_AlarmsPendingSiz = "false"
pmiSetCustom_EnterpriseBeans_ActivateCount = "false"
pmiSetCustom_EnterpriseBeans_ActivationTime = "false"
pmiSetCustom_EnterpriseBeans_ActiveMethodCount = "false"
pmiSetCustom_EnterpriseBeans_CreateCount = "true"
pmiSetCustom_EnterpriseBeans_CreateTime = "false"
pmiSetCustom_EnterpriseBeans_DrainSize = "false"
pmiSetCustom_EnterpriseBeans_DrainsFromPoolCount = "false"
pmiSetCustom_EnterpriseBeans_FreedCount = "false"
```

```
pmiSetCustom_EnterpriseBeans_InstantiateCount = "false"  
pmiSetCustom_EnterpriseBeans_LiveCount = "false"  
pmiSetCustom_EnterpriseBeans_LoadCount = "false"  
pmiSetCustom_EnterpriseBeans_LoadTime = "false"  
pmiSetCustom_EnterpriseBeans_MessageBackoutCount = "false"  
pmiSetCustom_EnterpriseBeans_MessageCount = "true"  
pmiSetCustom_EnterpriseBeans_MethodCallCount = "true"  
pmiSetCustom_EnterpriseBeans_MethodReadyCount = "true"  
pmiSetCustom_EnterpriseBeans_MethodResponseTime = "true"  
pmiSetCustom_EnterpriseBeans_PassivateCount = "false"  
pmiSetCustom_EnterpriseBeans_PassivationTime = "false"  
pmiSetCustom_EnterpriseBeans_PassiveCount = "true"  
pmiSetCustom_EnterpriseBeans_PooledCount = "true"  
pmiSetCustom_EnterpriseBeans_ReadyCount = "true"  
pmiSetCustom_EnterpriseBeans_RemoveCount = "true"  
pmiSetCustom_EnterpriseBeans_RemoveTime = "false"  
pmiSetCustom_EnterpriseBeans_RetrieveFromPoolCount = "false"  
pmiSetCustom_EnterpriseBeans_RetrieveFromPoolSuccessCount = "false"  
pmiSetCustom_EnterpriseBeans>ReturnsDiscardCount = "false"  
pmiSetCustom_EnterpriseBeans>ReturnsToPoolCount = "false"  
pmiSetCustom_EnterpriseBeans_ServerSessionPoolUsage = "false"  
pmiSetCustom_EnterpriseBeans_StoreCount = "false"  
pmiSetCustom_EnterpriseBeans_StoreTime = "false"  
pmiSetCustom_EnterpriseBeans_WaitTime = "false"  
pmiSetCustom_DynamicCaching_ClientRequestCount = "false"  
pmiSetCustom_DynamicCaching_DistributedRequestCount = "false"  
pmiSetCustom_DynamicCaching_ExplicitDiskInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_ExplicitInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_ExplicitMemoryInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_HitsInMemoryCount = "false"  
pmiSetCustom_DynamicCaching_HitsOnDiskCount = "false"  
pmiSetCustom_DynamicCaching_InMemoryAndDiskCacheEntryCount = "false"  
pmiSetCustom_DynamicCaching_InMemoryCacheEntryCount = "false"  
pmiSetCustom_DynamicCaching_LocalExplicitInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_LruInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_MaxInMemoryCacheEntryCount = "false"  
pmiSetCustom_DynamicCaching_MissCount = "false"  
pmiSetCustom_DynamicCaching_RemoteCreationCount = "false"  
pmiSetCustom_DynamicCaching_RemoteExplicitInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_RemoteHitCount = "false"  
pmiSetCustom_DynamicCaching_TimeoutInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_InMemoryCacheEntryCount = "false"  
pmiSetCustom_DynamicCaching_X_MaxInMemoryCacheEntryCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_ClientRequestCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_DistributedRequestCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_ExplicitDiskInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_ExplicitInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_ExplicitMemoryInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_HitsInMemoryCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_HitsOnDiskCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_InMemoryAndDiskCacheEntryCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_LocalExplicitInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_LruInvalidationCount = "false"
```

```
pmiSetCustom_DynamicCaching_X_Templates_MissCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_RemoteCreationCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_RemoteExplicitInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_RemoteHitCount = "false"  
pmiSetCustom_DynamicCaching_X_Templates_TimeoutInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_ClientRequestCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_DistributedRequestCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_ExplicitDiskInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_ExplicitInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_ExplicitMemoryInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_HitsInMemoryCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_HitsOnDiskCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_InMemoryAndDiskCacheEntryCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_LocalExplicitInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_LruInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_MissCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_RemoteCreationCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_RemoteExplicitInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_RemoteHitCount = "false"  
pmiSetCustom_DynamicCaching_X_ObjectCache_TimeoutInvalidationCount = "false"  
pmiSetCustom_DynamicCaching_X_Disk_DependencyIDBasedInvalidationsFromDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_DependencyIDsBufferedForDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_DependencyIDsOffloadedToDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_DependencyIDsOnDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_ExplicitInvalidationsFromDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_GarbageCollectorInvalidationsFromDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_HitsOnDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_ObjectsOnDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_OverflowInvalidationsFromDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_PendingRemovalFromDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_TemplateBasedInvalidationsFromDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_TemplatesBufferedForDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_TemplatesOffloadedToDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_TemplatesOnDisk = "false"  
pmiSetCustom_DynamicCaching_X_Disk_TimeoutInvalidationsFromDisk = "false"  
pmiSetCustom_JDBCConnectionPools_AllocateCount = "false"  
pmiSetCustom_JDBCConnectionPools_CloseCount = "true"  
pmiSetCustom_JDBCConnectionPools_ConnectionHandleCount = "false"  
pmiSetCustom_JDBCConnectionPools_CreateCount = "true"  
pmiSetCustom_JDBCConnectionPools_FaultCount = "false"  
pmiSetCustom_JDBCConnectionPools_FreePoolSize = "true"  
pmiSetCustom_JDBCConnectionPools_JDBCTime = "false"  
pmiSetCustom_JDBCConnectionPools_ManagedConnectionCount = "false"  
pmiSetCustom_JDBCConnectionPools_PercentMaxed = "false"  
pmiSetCustom_JDBCConnectionPools_PercentUsed = "true"  
pmiSetCustom_JDBCConnectionPools_PoolSize = "true"  
pmiSetCustom_JDBCConnectionPools_PrepStmtCacheDiscardCount = "false"  
pmiSetCustom_JDBCConnectionPools_ReturnCount = "false"  
pmiSetCustom_JDBCConnectionPools_UseTime = "true"  
pmiSetCustom_JDBCConnectionPools_WaitTime = "true"  
pmiSetCustom_JDBCConnectionPools_WaitingThreadCount = "true"  
pmiSetCustom_DCSStatistics_CoalesceTime = "false"  
pmiSetCustom_DCSStatistics_HighSeverityCongestionEventCount = "false"
```

```
pmiSetCustom_DCSStatistics_IncomingMessageSize = "false"  
pmiSetCustom_DCSStatistics_JoinViewChangeTime = "false"  
pmiSetCustom_DCSStatistics_LocalMemberMessageRetransmissionCount = "false"  
pmiSetCustom_DCSStatistics_MessageBufferReallocationCount = "false"  
pmiSetCustom_DCSStatistics_OutgoingMessageSize = "false"  
pmiSetCustom_DCSStatistics_ReceivedMessageCount = "false"  
pmiSetCustom_DCSStatistics_RemoveViewChangeTime = "false"  
pmiSetCustom_DCSStatistics_SentMessageCount = "false"  
pmiSetCustom_DCSStatistics_SuspicionCount = "false"  
pmiSetCustom_DCSStatistics_SynchronizationCompleteTime = "false"  
pmiSetCustom_DCSStatistics_SynchronizationTimeoutCount = "false"  
pmiSetCustom_DCSStatistics_ViewChangeCount = "false"  
pmiSetCustom_DCSStatistics_ViewChangeTimeoutCount = "false"  
pmiSetCustom_DCSStatistics_ViewGroupSize = "false"  
pmiSetCustom_HAManager_BulletinBoardRebuildTime = "false"  
pmiSetCustom_HAManager_BulletinBoardSubscriptionCount = "false"  
pmiSetCustom_HAManager_BulletinBoardSubjectCount = "false"  
pmiSetCustom_HAManager_GroupStateRebuildTime = "false"  
pmiSetCustom_HAManager_LocalBulletinBoardSubscriptionCount = "false"  
pmiSetCustom_HAManager_LocalBulletinBoardSubjectCount = "false"  
pmiSetCustom_HAManager_LocalGroupCount = "false"  
pmiSetCustom_JVMRuntime_FreeMemory = "false"  
pmiSetCustom_JVMRuntime_HeapSize = "true"  
pmiSetCustom_JVMRuntime_ProcessCpuUsage = "true"  
pmiSetCustom_JVMRuntime_UpTime = "true"  
pmiSetCustom_JVMRuntime_UsedMemory = "true"  
pmiSetCustom_JVMRuntime_GarbageCollection_GCCount = "false"  
pmiSetCustom_JVMRuntime_GarbageCollection_GCIntervalTime = "false"  
pmiSetCustom_JVMRuntime_GarbageCollection_GCTime = "false"  
pmiSetCustom_JVMRuntime_Object_ObjectAllocateCount = "false"  
pmiSetCustom_JVMRuntime_Object_ObjectFreedCount = "false"  
pmiSetCustom_JVMRuntime_Object_ObjectMovedCount = "false"  
pmiSetCustom_JVMRuntime_Thread_ThreadEndedCount = "false"  
pmiSetCustom_JVMRuntime_Thread_ThreadStartedCount = "false"  
pmiSetCustom_JVMRuntime_Monitor_WaitForLockTime = "false"  
pmiSetCustom_JVMRuntime_Monitor_WaitsForLockCount = "false"  
pmiSetCustom_JCAConnectionPools_AllocateCount = "false"  
pmiSetCustom_JCAConnectionPools_CloseCount = "true"  
pmiSetCustom_JCAConnectionPools_ConnectionHandleCount = "false"  
pmiSetCustom_JCAConnectionPools_CreateCount = "true"  
pmiSetCustom_JCAConnectionPools_FaultCount = "false"  
pmiSetCustom_JCAConnectionPools_FreePoolSize = "true"  
pmiSetCustom_JCAConnectionPools_FreedCount = "false"  
pmiSetCustom_JCAConnectionPools_ManagedConnectionCount = "false"  
pmiSetCustom_JCAConnectionPools_PercentMaxed = "false"  
pmiSetCustom_JCAConnectionPools_PercentUsed = "false"  
pmiSetCustom_JCAConnectionPools_PoolSize = "true"  
pmiSetCustom_JCAConnectionPools_UseTime = "true"  
pmiSetCustom_JCAConnectionPools_WaitTime = "true"  
pmiSetCustom_JCAConnectionPools_WaitingThreadCount = "true"  
pmiSetCustom_ObjectPool_IdleObjectsSize = "false"  
pmiSetCustom_ObjectPool_ObjectsAllocatedCount = "false"  
pmiSetCustom_ObjectPool_ObjectsCreatedCount = "false"
```

```
pmiSetCustom_ObjectPool_ObjectsReturnedCount = "false"
pmiSetCustom_ORB_ConcurrentRequestCount = "false"
pmiSetCustom_ORB_LookupTime = "false"
pmiSetCustom_ORB_RequestCount = "false"
pmiSetCustom_ORB_Interceptors_ProcessingTime = "false"
pmiSetCustom_Schedulers_PollCount = "false"
pmiSetCustom_Schedulers_PollDuration = "false"
pmiSetCustom_Schedulers_PollQueryDuration = "false"
pmiSetCustom_Schedulers_RunDuration = "false"
pmiSetCustom_Schedulers_TaskCollisionRate = "false"
pmiSetCustom_Schedulers_TaskDelayDuration = "false"
pmiSetCustom_Schedulers_TaskExpirationRate = "false"
pmiSetCustom_Schedulers_TaskFailureCount = "false"
pmiSetCustom_Schedulers_TaskFinishCount = "false"
pmiSetCustom_Schedulers_TaskFinishRate = "false"
pmiSetCustom_Schedulers_TaskRunRate = "false"
pmiSetCustom_ServletSessionManager_ActivateNonExistSessionCount = "false"
pmiSetCustom_ServletSessionManager_ActiveCount = "false"
pmiSetCustom_ServletSessionManager_AffinityBreakCount = "false"
pmiSetCustom_ServletSessionManager_CacheDiscardCount = "false"
pmiSetCustom_ServletSessionManager_CreateCount = "false"
pmiSetCustom_ServletSessionManager_ExternalReadSize = "false"
pmiSetCustom_ServletSessionManager_ExternalReadTime = "false"
pmiSetCustom_ServletSessionManager_ExternalWriteSize = "false"
pmiSetCustom_ServletSessionManager_ExternalWriteTime = "false"
pmiSetCustom_ServletSessionManager_InvalidateCount = "false"
pmiSetCustom_ServletSessionManager_LifeTime = "true"
pmiSetCustom_ServletSessionManager_LiveCount = "false"
pmiSetCustom_ServletSessionManager_NoRoomForNewSessionCount = "false"
pmiSetCustom_ServletSessionManager_SessionObjectSize = "false"
pmiSetCustom_ServletSessionManager_TimeSinceLastActivated = "false"
pmiSetCustom_ServletSessionManager_TimeoutInvalidationCount = "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_AggregateMessageWaitTime =
"false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_AssuredPersistentMessagesConsumedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_AssuredPersistentMessagesProducedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_AvailableMessageCount = "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_BestEffortNonPersistentMessagesConsumedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_BestEffortNonPersistentMessagesProducedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ExpressNonPersistentMessagesConsumedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ExpressNonPersistentMessagesProducedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalConsumerAttachesCount =
"false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalConsumerCount = "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalMessageWaitTime = "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalOldestMessageAge =
"false"
```

```
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalProducerAttachesCount =
"false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalProducerCount = "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ReliableNonPersistentMessagesConsumedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ReliableNonPersistentMessagesProducedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ReliablePersistentMessagesConsumedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ReliablePersistentMessagesProducedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ReportEnabledMessagesExpiredCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_TotalMessagesConsumedCount =
"false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_TotalMessagesProducedCount =
"false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_UnavailableMessageCount =
"false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_AssuredPersistentLocalSubscriptionHitCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_AssuredPersistentMessagesPublishedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_BestEffortNonPersistentLocalSubscriptionHitC
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_BestEffortNonPersistentMessagesPublishedCou
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_DurableLocalSubscriptionCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_ExpressNonPersistentLocalSubscriptionHitCou
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_ExpressNonPersistentMessagesPublishedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_IncompletePublicationCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_LocalOldestPublicationAge
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_LocalPublisherAttachesCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_LocalPublisherCount =
"false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_NonDurableLocalSubscriptionCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_ReliableNonPersistentLocalSubscriptionHitCou
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_ReliableNonPersistentMessagesPublishedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_ReliablePersistentLocalSubscriptionHitCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_ReliablePersistentMessagesPublishedCount
= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_ReportEnabledPublicationsExpiredCount
= "false"
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pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_TotalLocalSubscriptionCount
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= "false"
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= "false"
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= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_X_AssuredPersistentMessagesPublishedCount
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pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_X_BestEffortNonPersistentLocalSubscriptionHitCount
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pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_X_DurableLocalSubscriptionCount
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pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_X_IncompletePublicationCount
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pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_X_DurableSubscriptions_AssuredPersistentMessagesPublishedCount
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pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_X_DurableSubscriptions_AvailableMessageCount
= "false"
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pmiSetCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_X_DurableSubscriptions_BestEffortNonPersistent
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= "false"
pmiSetCustom_SIBService_SIBMessagingEngines_X_StorageManagement_Cache_CacheStreamSpillingCount
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pmiSetCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_Cache_CacheTotalNotStoredByteCount
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pmiSetCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_DataStore_SpillDispatcherAvoidanceCount
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pmiSetCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_DataStore_SpillDispatcherAvoidanceSize
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pmiSetCustom_SIBService_SIBCommunication_Clients_DetailedStatistics_BytesReceivedAtJMS0PriorityCount
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= "false"
pmiSetCustom_SIBService_SIBCommunication_MessagingEngine_DetailedStatistics_MessagesReceivedAtJMS8PriorityCount
= "false"
pmiSetCustom_SIBService_SIBCommunication_MessagingEngine_DetailedStatistics_MessagesReceivedAtJMS9PriorityCount
= "false"
pmiSetCustom_SIBService_SIBCommunication_MessagingEngine_DetailedStatistics_MessagesSentAtJMS0PriorityCount
= "false"
pmiSetCustom_SIBService_SIBCommunication_MessagingEngine_DetailedStatistics_MessagesSentAtJMS1PriorityCount
= "false"
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pmiSetCustom_SIBService_SIBCommunication_MessagingEngines_DetailedStatistics_MessagesSentAtJMS2PriorityCount
= "false"
pmiSetCustom_SIBService_SIBCommunication_MessagingEngines_DetailedStatistics_MessagesSentAtJMS3PriorityCount
= "false"
pmiSetCustom_SIBService_SIBCommunication_MessagingEngines_DetailedStatistics_MessagesSentAtJMS4PriorityCount
= "false"
pmiSetCustom_SIBService_SIBCommunication_MessagingEngines_DetailedStatistics_MessagesSentAtJMS5PriorityCount
= "false"
pmiSetCustom_SIBService_SIBCommunication_MessagingEngines_DetailedStatistics_MessagesSentAtJMS6PriorityCount
= "false"
pmiSetCustom_SIBService_SIBCommunication_MessagingEngines_DetailedStatistics_MessagesSentAtJMS7PriorityCount
= "false"
pmiSetCustom_SIBService_SIBCommunication_MessagingEngines_DetailedStatistics_MessagesSentAtJMS8PriorityCount
= "false"
pmiSetCustom_SIBService_SIBCommunication_MessagingEngines_DetailedStatistics_MessagesSentAtJMS9PriorityCount
= "false"
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pmiSetCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_BufferedReadBytesCount =
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pmiSetCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_APICallsServicedCount =
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pmiSetCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_BatchesSentCount =
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pmiSetCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_BytesReceivedCount =
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pmiSetCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_BytesSentCount =
"false"
pmiSetCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_ClientsAttachedCount
= "false"
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pmiSetCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_CommsErrorsCount = "false"
pmiSetCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_MessagesReceivedCount = "false"
pmiSetCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_MessagesSentCount = "false"
pmiSetCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_ReadsBlockedCount = "false"
pmiSetCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_WritesBlockedCount = "false"
pmiSetCustom_SipContainerModule_Incomingtraffic = "false"
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pmiSetCustom_SipContainerModule_QueueSize = "false"
pmiSetCustom_SipContainerModule_ResponseTime = "false"
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pmiSetCustom_SystemData_FreeMemory = "false"
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pmiSetCustom_ThreadPools_ActiveTime = "false"
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pmiSetCustom_ThreadPools_ConcurrentHungThreadCount = "false"
pmiSetCustom_ThreadPools_CreateCount = "false"
pmiSetCustom_ThreadPools_DeclaredThreadHungCount = "false"
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pmiSetCustom_TransactionManager_LocalBeforeCompletionTime = "false"
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pmiSetCustom_WebApplications_ReloadCount = "false"
pmiSetCustom_WebApplications_RequestCount = "true"
pmiSetCustom_WebApplications_ServiceTime = "true"
pmiSetCustom_WebApplications_URICurrentRequests = "false"
pmiSetCustom_WebApplications_URIRequestCount = "true"
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pmiSetCustom_WebApplications_URIServiceTime = "true"
pmiSetCustom_PortletApplication_NumberOfConcurrentPortletRequests = "false"
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pmiSetCustom_PortletApplication_NumberOfPortletErrors = "false"
pmiSetCustom_PortletApplication_NumberOfPortletRequests = "false"
pmiSetCustom_PortletApplication_ResponseTimeOfPortletAction = "false"
pmiSetCustom_PortletApplication_ResponseTimeOfPortletRender = "false"
pmiSetCustom_WebServices_DispatchResponseTime = "false"
pmiSetCustom_WebServices_DispatchedRequestCount = "false"
pmiSetCustom_WebServices_LoadedWebServiceCount = "false"
pmiSetCustom_WebServices_PayloadSize = "false"
pmiSetCustom_WebServices_ProcessedRequestCount = "false"
pmiSetCustom_WebServices_ReceivedRequestCount = "false"
pmiSetCustom_WebServices_ReplyPayloadSize = "false"
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pmiSetCustom_WebServices_RequestPayloadSize = "false"
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pmiSetCustom_WorkloadManagement_Client_ClientClusterUpdateCount = "false"
pmiSetCustom_WorkloadManagement_Client_ClientResponseTime = "false"
pmiSetCustom_WorkloadManagement_Client_OutgoingIOPRequestCount = "false"
pmiSetCustom_WorkloadManagement_Server_ConcurrentRequestCount = "false"
pmiSetCustom_WorkloadManagement_Server_IOPRequestCount = "false"
pmiSetCustom_WorkloadManagement_Server_NoAffinityIOPRequestCount = "false"
pmiSetCustom_WorkloadManagement_Server_NonWLMEnabledIOPRequestCount = "false"
pmiSetCustom_WorkloadManagement_Server_ServerClusterUpdateCount = "false"
pmiSetCustom_WorkloadManagement_Server_ServerResponseTime = "false"
pmiSetCustom_WorkloadManagement_Server_StrongAffinityIOPRequestCount = "false"
pmiSetCustom_WorkloadManagement_Server_WLMClientsServicedCount = "false"
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pmiValCustom_AlarmManager_AlarmLatencyDuration = "101.4"
pmiValCustom_AlarmManager_AlarmRate = "101.6"
pmiValCustom_AlarmManager_AlarmsCancelledCount = "101.2"
pmiValCustom_AlarmManager_AlarmsCreatedCount = "101.1"
pmiValCustom_AlarmManager_AlarmsFiredCount = "101.3"
pmiValCustom_AlarmManager_AlarmsPendingSiz = "101.5"
pmiValCustom_EnterpriseBeans_ActivateCount = "102.3"
pmiValCustom_EnterpriseBeans_ActivationTime = "102.30"
pmiValCustom_EnterpriseBeans_ActiveMethodCount = "102.18"
pmiValCustom_EnterpriseBeans_CreateCount = "102.1"
pmiValCustom_EnterpriseBeans_CreateTime = "102.14"
pmiValCustom_EnterpriseBeans_DrainSize = "102.24"
pmiValCustom_EnterpriseBeans_DrainsFromPoolCount = "102.23"
pmiValCustom_EnterpriseBeans_FreedCount = "102.6"
pmiValCustom_EnterpriseBeans_InstantiateCount = "102.5"
pmiValCustom_EnterpriseBeans_LiveCount = "102.10"
pmiValCustom_EnterpriseBeans_LoadCount = "102.7"
pmiValCustom_EnterpriseBeans_LoadTime = "102.32"
pmiValCustom_EnterpriseBeans_MessageBackoutCount = "102.27"
pmiValCustom_EnterpriseBeans_MessageCount = "102.26"
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pmiValCustom_EnterpriseBeans_MethodCallCount = "102.11"  
pmiValCustom_EnterpriseBeans_MethodReadyCount = "102.35"  
pmiValCustom_EnterpriseBeans_MethodResponseTime = "102.12"  
pmiValCustom_EnterpriseBeans_PassivateCount = "102.4"  
pmiValCustom_EnterpriseBeans_PassivationTime = "102.31"  
pmiValCustom_EnterpriseBeans_PassiveCount = "102.34"  
pmiValCustom_EnterpriseBeans_PooledCount = "102.25"  
pmiValCustom_EnterpriseBeans_ReadyCount = "102.9"  
pmiValCustom_EnterpriseBeans_RemoveCount = "102.2"  
pmiValCustom_EnterpriseBeans_RemoveTime = "102.15"  
pmiValCustom_EnterpriseBeans_RetrieveFromPoolCount = "102.19"  
pmiValCustom_EnterpriseBeans_RetrieveFromPoolSuccessCount = "102.20"  
pmiValCustom_EnterpriseBeans>ReturnsDiscardCount = "102.22"  
pmiValCustom_EnterpriseBeans>ReturnsToPoolCount = "102.21"  
pmiValCustom_EnterpriseBeans_ServerSessionPoolUsage = "102.29"  
pmiValCustom_EnterpriseBeans_StoreCount = "102.8"  
pmiValCustom_EnterpriseBeans_StoreTime = "102.33"  
pmiValCustom_EnterpriseBeans_WaitTime = "102.28"  
pmiValCustom_DynamicCaching_ClientRequestCount = "103.29"  
pmiValCustom_DynamicCaching_DistributedRequestCount = "103.30"  
pmiValCustom_DynamicCaching_ExplicitDiskInvalidationCount = "103.32"  
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pmiValCustom_DynamicCaching_ExplicitMemoryInvalidationCount = "103.31"  
pmiValCustom_DynamicCaching_HitsInMemoryCount = "103.21"  
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pmiValCustom_DynamicCaching_InMemoryAndDiskCacheEntryCount = "103.26"  
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pmiValCustom_DynamicCaching_MissCount = "103.28"  
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pmiValCustom_DynamicCaching_X_Templates_ClientRequestCount = "1032.29"  
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pmiValCustom_DynamicCaching_X_Templates_ExplicitInvalidationCount = "1032.23"  
pmiValCustom_DynamicCaching_X_Templates_ExplicitMemoryInvalidationCount = "1032.31"  
pmiValCustom_DynamicCaching_X_Templates_HitsInMemoryCount = "1032.21"  
pmiValCustom_DynamicCaching_X_Templates_HitsOnDiskCount = "1032.22"  
pmiValCustom_DynamicCaching_X_Templates_InMemoryAndDiskCacheEntryCount = "1032.26"  
pmiValCustom_DynamicCaching_X_Templates_LocalExplicitInvalidationCount = "1032.34"  
pmiValCustom_DynamicCaching_X_Templates_LruInvalidationCount = "1032.24"  
pmiValCustom_DynamicCaching_X_Templates_MissCount = "1032.28"  
pmiValCustom_DynamicCaching_X_Templates_RemoteCreationCount = "1032.36"  
pmiValCustom_DynamicCaching_X_Templates_RemoteExplicitInvalidationCount = "1032.35"  
pmiValCustom_DynamicCaching_X_Templates_RemoteHitCount = "1032.27"  
pmiValCustom_DynamicCaching_X_Templates_TimeoutInvalidationCount = "1032.25"  
pmiValCustom_DynamicCaching_X_ObjectCache_ClientRequestCount = "1033.29"
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pmiValCustom_DynamicCaching_X_ObjectCache_ExplicitInvalidationCount = "1033.23"  
pmiValCustom_DynamicCaching_X_ObjectCache_ExplicitMemoryInvalidationCount = "1033.31"  
pmiValCustom_DynamicCaching_X_ObjectCache_HitsInMemoryCount = "1033.21"  
pmiValCustom_DynamicCaching_X_ObjectCache_HitsOnDiskCount = "1033.22"  
pmiValCustom_DynamicCaching_X_ObjectCache_InMemoryAndDiskCacheEntryCount = "1033.26"  
pmiValCustom_DynamicCaching_X_ObjectCache_LocalExplicitInvalidationCount = "1033.34"  
pmiValCustom_DynamicCaching_X_ObjectCache_LruInvalidationCount = "1033.24"  
pmiValCustom_DynamicCaching_X_ObjectCache_MissCount = "1033.28"  
pmiValCustom_DynamicCaching_X_ObjectCache_RemoteCreationCount = "1033.36"  
pmiValCustom_DynamicCaching_X_ObjectCache_RemoteExplicitInvalidationCount = "1033.35"  
pmiValCustom_DynamicCaching_X_ObjectCache_RemoteHitCount = "1033.27"  
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pmiValCustom_DynamicCaching_X_Disk_DependencyIDsBufferedForDisk = "1034.10"  
pmiValCustom_DynamicCaching_X_Disk_DependencyIDsOffloadedToDisk = "1034.11"  
pmiValCustom_DynamicCaching_X_Disk_DependencyIDsOnDisk = "1034.9"  
pmiValCustom_DynamicCaching_X_Disk_ExplicitInvalidationsFromDisk = "1034.6"  
pmiValCustom_DynamicCaching_X_Disk_GarbageCollectorInvalidationsFromDisk = "1034.17"  
pmiValCustom_DynamicCaching_X_Disk_HitsOnDisk = "1034.5"  
pmiValCustom_DynamicCaching_X_Disk_ObjectsOnDisk = "1034.4"  
pmiValCustom_DynamicCaching_X_Disk_OverflowInvalidationsFromDisk = "1034.18"  
pmiValCustom_DynamicCaching_X_Disk_PendingRemovalFromDisk = "1034.8"  
pmiValCustom_DynamicCaching_X_Disk_TemplateBasedInvalidationsFromDisk = "1034.16"  
pmiValCustom_DynamicCaching_X_Disk_TemplatesBufferedForDisk = "1034.14"  
pmiValCustom_DynamicCaching_X_Disk_TemplatesOffloadedToDisk = "1034.15"  
pmiValCustom_DynamicCaching_X_Disk_TemplatesOnDisk = "1034.13"  
pmiValCustom_DynamicCaching_X_Disk_TimeoutInvalidationsFromDisk = "1034.7"  
pmiValCustom_JDBCConnectionPools_AllocateCount = "104.3"  
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pmiValCustom_JDBCConnectionPools_ConnectionHandleCount = "104.15"  
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pmiValCustom_JDBCConnectionPools_FaultCount = "104.8"  
pmiValCustom_JDBCConnectionPools_FreePoolSize = "104.6"  
pmiValCustom_JDBCConnectionPools_JDBCTime = "104.22"  
pmiValCustom_JDBCConnectionPools_ManagedConnectionCount = "104.14"  
pmiValCustom_JDBCConnectionPools_PercentMaxed = "104.10"  
pmiValCustom_JDBCConnectionPools_PercentUsed = "104.9"  
pmiValCustom_JDBCConnectionPools_PoolSize = "104.5"  
pmiValCustom_JDBCConnectionPools_PrepStmtCacheDiscardCount = "104.21"  
pmiValCustom_JDBCConnectionPools_ReturnCount = "104.4"  
pmiValCustom_JDBCConnectionPools_UseTime = "104.12"  
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pmiValCustom_JDBCConnectionPools_WaitingThreadCount = "104.7"  
pmiValCustom_DCSStatistics_CoalesceTime = "105.11"  
pmiValCustom_DCSStatistics_HighSeverityCongestionEventCount = "105.9"  
pmiValCustom_DCSStatistics_IncomingMessageSize = "105.4"  
pmiValCustom_DCSStatistics_JoinViewChangeTime = "105.12"  
pmiValCustom_DCSStatistics_LocalMemberMessageRetransmissionCount = "105.7"  
pmiValCustom_DCSStatistics_MessageBufferReallocationCount = "105.1"  
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pmiValCustom_DCSStatistics_ReceivedMessageCount = "105.5"
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pmiValCustom_DCSStatistics_RemoveViewChangeTime = "105.13"  
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pmiValCustom_DCSStatistics_SynchronizationCompleteTime = "105.6"  
pmiValCustom_DCSStatistics_SynchronizationTimeoutCount = "105.8"  
pmiValCustom_DCSStatistics_ViewChangeCount = "105.15"  
pmiValCustom_DCSStatistics_ViewChangeTimeoutCount = "105.10"  
pmiValCustom_DCSStatistics_ViewGroupSize = "105.16"  
pmiValCustom_HAManager_BulletinBoardRebuildTime = "127.5"  
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pmiValCustom_HAManager_GroupStateRebuildTime = "127.2"  
pmiValCustom_HAManager_LocalBulletinBoardSubscriptionCount = "127.7"  
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pmiValCustom_JVMRuntime_UsedMemory = "106.3"  
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pmiValCustom_JVMRuntime_GarbageCollection_GCTime = "1061.13"  
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pmiValCustom_JVMRuntime_Object_ObjectMovedCount = "1062.16"  
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pmiValCustom_JCAConnectionPools_PercentUsed = "111.9"  
pmiValCustom_JCAConnectionPools_PoolSize = "111.5"  
pmiValCustom_JCAConnectionPools_UseTime = "111.12"  
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pmiValCustom_JCAConnectionPools_WaitingThreadCount = "111.7"  
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pmiValCustom_Schedulers_PollCount = "116.11"
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pmiValCustom_Schedulers_TaskFailureCount = "116.1"  
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pmiValCustom_Schedulers_TaskRunRate = "116.10"  
pmiValCustom_ServletSessionManager_ActivateNonExistSessionCount = "117.17"  
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pmiValCustom_ServletSessionManager_AffinityBreakCount = "117.14"  
pmiValCustom_ServletSessionManager_CacheDiscardCount = "117.9"  
pmiValCustom_ServletSessionManager_CreateCount = "117.1"  
pmiValCustom_ServletSessionManager_ExternalReadSize = "117.11"  
pmiValCustom_ServletSessionManager_ExternalReadTime = "117.10"  
pmiValCustom_ServletSessionManager_ExternalWriteSize = "117.13"  
pmiValCustom_ServletSessionManager_ExternalWriteTime = "117.12"  
pmiValCustom_ServletSessionManager_InvalidateCount = "117.2"  
pmiValCustom_ServletSessionManager_LifeTime = "117.4"  
pmiValCustom_ServletSessionManager_LiveCount = "117.7"  
pmiValCustom_ServletSessionManager_NoRoomForNewSessionCount = "117.8"  
pmiValCustom_ServletSessionManager_SessionObjectSize = "117.18"  
pmiValCustom_ServletSessionManager_TimeSinceLastActivated = "117.15"  
pmiValCustom_ServletSessionManager_TimeoutInvalidationCount = "117.16"  
pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_AggregateMessageWaitTime =  
"128121.18"  
pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_AssuredPersistentMessagesConsumedCount  
= "128121.5"  
pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_AssuredPersistentMessagesProducedCount  
= "128121.22"  
pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_AvailableMessageCount =  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_BestEffortNonPersistentMessagesConsumedCount  
= "128121.10"  
pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_BestEffortNonPersistentMessagesProducedCount  
= "128121.21"  
pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ExpressNonPersistentMessagesConsumedCount  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ExpressNonPersistentMessagesProducedCount  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalConsumerAttachesCount =  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalConsumerCount =  
"128121.7"  
pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalMessageWaitTime =  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalOldestMessageAge =  
"128121.4"  
pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalProducerAttachesCount =  
"128121.19"
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_LocalProducerCount =  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ReliableNonPersistentMessagesConsumedCount  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ReliableNonPersistentMessagesProducedCount  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ReliablePersistentMessagesProducedCount  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Queues_ReportEnabledMessagesExpiredCount  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_AssuredPersistentLocalSubscriptionHitCount  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_AssuredPersistentMessagesPublishedCount  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_ReliableNonPersistentLocalSubscriptionHitCou  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_ReliableNonPersistentMessagesPublishedCount  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_ReliablePersistentMessagesPublishedCount  
= "128122.109"  
pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_ReportEnabledPublicationsExpiredCount  
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_TotalLocalSubscriptionCount
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_TotalMessagesPublishedCount
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_X_AssuredPersistentLocalSubscriptionHitCount
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_X_AssuredPersistentMessagesPublishedCount
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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_X_DurableSubscriptions_AssuredPersistentMe
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= "128124.209"

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pmiValCustom_SIBService_SIBMessagingEngines_X_Destinations_Topicspaces_X_DurableSubscriptions_ExpressNonPersisten
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pmiValCustom_SIBService_SIBMessagingEngines_X_StorageManagement_Cache_CacheCurrentStoredByteCount
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pmiValCustom_SIBService_SIBMessagingEngines_X_StorageManagement_Cache_CacheStoredRefusalCount
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pmiValCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_Cache_CacheUpdateStoredCount = "128141.1503"
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pmiValCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_DataStore_JDBCItemUpdateCount = "128143.1546"
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pmiValCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_DataStore_JDBCTransactionCompleteCount = "128143.1541"
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pmiValCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_DataStore_JDBCTransactionInsertCount = "128143.1550"
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pmiValCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_DataStore_PersistentDispatcherAvoidanceSize = "128143.1531"
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pmiValCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_DataStore_PersistentDispatcherRequestSize = "128143.1527"
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pmiValCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_DataStore_TransactionInsertBatchCount = "128143.1553"
pmiValCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_DataStore_TransactionUpdateBatchCount = "128143.1555"
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pmiValCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_FileStore_FileStoreTemporaryObjectStoreSpace = "128144.1558"
pmiValCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_Transactions_GlobalTransactionAbortCount = "128145.1538"
pmiValCustom_SIBService_SIBMessagingEnginess_X_StorageManagement_Transactions_GlobalTransactionCommitCount = "128145.1539"
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pmiValCustom_SIBService_SIBCommunication_MessagingEngness_StandardStatistics_BufferedWriteBytesCount
= "128221.510"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_StandardStatistics_ErrorsCount =
"128221.503"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_StandardStatistics_MEAttachedCount =
"128221.501"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_StandardStatistics_MessageBytesReadCount
= "128221.513"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_StandardStatistics_MessageBytesWrittenCount
= "128221.512"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_StandardStatistics_ReadsBlockedCount =
"128221.507"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_StandardStatistics_ReadsCount =
"128221.505"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_StandardStatistics_TotalBytesReadCount
= "128221.515"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_StandardStatistics_TotalBytesWrittenCount
= "128221.514"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_StandardStatistics_WritesBlockedCount =
"128221.506"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_StandardStatistics_WritesCount =
"128221.504"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtHighestPriorityCount
= "128222.717"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtJMS0PriorityCount
= "128222.729"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtJMS1PriorityCount
= "128222.728"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtJMS2PriorityCount
= "128222.727"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtJMS3PriorityCount
= "128222.726"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtJMS4PriorityCount
= "128222.725"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtJMS5PriorityCount
= "128222.724"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtJMS6PriorityCount
= "128222.723"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtJMS7PriorityCount
= "128222.722"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtJMS8PriorityCount
= "128222.721"
```

pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtJMS9PriorityCount
= "128222.720"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtLowPriorityCount
= "128222.730"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtLowestPriorityCount
= "128222.732"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtVeryHighPriorityCount
= "128222.718"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesReceivedAtVeryLowPriorityCount
= "128222.731"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtHighPriorityCount
= "128222.703"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtHighestPriorityCount
= "128222.701"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtJMS0PriorityCount
= "128222.713"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtJMS1PriorityCount
= "128222.712"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtJMS2PriorityCount
= "128222.711"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtJMS3PriorityCount
= "128222.710"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtJMS4PriorityCount
= "128222.709"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtJMS5PriorityCount
= "128222.708"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtJMS6PriorityCount
= "128222.707"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtJMS7PriorityCount
= "128222.706"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtJMS8PriorityCount
= "128222.705"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtJMS9PriorityCount
= "128222.704"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtLowPriorityCount
= "128222.714"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtLowestPriorityCount
= "128222.716"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtVeryHighPriorityCount
= "128222.702"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_BytesSentAtVeryLowPriorityCount
= "128222.715"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesReceivedAtJMS0PriorityCount
= "128222.752"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesReceivedAtJMS1PriorityCount
= "128222.751"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesReceivedAtJMS2PriorityCount
= "128222.750"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesReceivedAtJMS3PriorityCount
= "128222.749"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesReceivedAtJMS4PriorityCount
= "128222.748"

pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesReceivedAtJMS5PriorityCount = "128222.747"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesReceivedAtJMS6PriorityCount = "128222.746"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesReceivedAtJMS7PriorityCount = "128222.745"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesReceivedAtJMS8PriorityCount = "128222.744"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesReceivedAtJMS9PriorityCount = "128222.743"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesSentAtJMS0PriorityCount = "128222.742"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesSentAtJMS1PriorityCount = "128222.741"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesSentAtJMS2PriorityCount = "128222.740"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesSentAtJMS3PriorityCount = "128222.739"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesSentAtJMS4PriorityCount = "128222.738"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesSentAtJMS5PriorityCount = "128222.737"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesSentAtJMS6PriorityCount = "128222.736"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesSentAtJMS7PriorityCount = "128222.735"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesSentAtJMS8PriorityCount = "128222.734"
pmiValCustom_SIBService_SIBCommunication_MessagingEngness_DetailedStatistics_MessagesSentAtJMS9PriorityCount = "128222.733"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_APIConnectionsCount = "128231.552"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_BufferedReadBytesCount = "128231.561"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_BufferedWriteBytesCount = "128231.560"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_ClientsAttachedCount = "128231.551"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_ErrorsCount = "128231.553"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_MessageBytesReadCount = "128231.563"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_MessagesBytesWrittenCount = "128231.562"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_MulticastSendMessageCount = "128231.559"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_MulticastWriteBytesCount = "128231.558"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_ReadsBlockedCount = "128231.557"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_ReadsCount = "128231.555"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_TotalBytesReadCount = "128231.565"


```
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_TotalBytesWrittenCount =
"128231.564"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_WritesBlockedCount =
"128231.556"
pmiValCustom_SIBService_SIBCommunication_WMQLinks_StandardStatistics_WritesCount = "128231.554"
pmiValCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_APICallsServicedCount
= "128241.906"
pmiValCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_BatchesSentCount =
"128241.901"
pmiValCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_BytesReceivedCount =
"128241.905"
pmiValCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_BytesSentCount =
"128241.904"
pmiValCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_ClientsAttachedCount
= "128241.908"
pmiValCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_CommsErrorsCount =
"128241.907"
pmiValCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_MessagesReceivedCount
= "128241.903"
pmiValCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_MessagesSentCount =
"128241.902"
pmiValCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_ReadsBlockedCount =
"128241.910"
pmiValCustom_SIBService_SIBCommunication_WMQClientLinks_StandardStatistics_WritesBlockedCount =
"128241.909"
pmiValCustom_SipContainerModule_Incomingtraffic = "129.3"
pmiValCustom_SipContainerModule_NewSIPApplicationSessions = "129.4"
pmiValCustom_SipContainerModule_QueueSize = "129.6"
pmiValCustom_SipContainerModule_ResponseTime = "129.5"
pmiValCustom_SystemData_CPUUsageSinceLastMeasurement = "118.1"
pmiValCustom_SystemData_CPUUsageSinceServerStarted = "118.2"
pmiValCustom_SystemData_FreeMemory = "118.3"
pmiValCustom_ThreadPools_ActiveCount = "119.3"
pmiValCustom_ThreadPools_ActiveTime = "119.9"
pmiValCustom_ThreadPools_ClearedThreadHangCount = "119.7"
pmiValCustom_ThreadPools_ConcurrentHungThreadCount = "119.8"
pmiValCustom_ThreadPools_CreateCount = "119.1"
pmiValCustom_ThreadPools_DeclaredThreadHungCount = "119.6"
pmiValCustom_ThreadPools_DestroyCount = "119.2"
pmiValCustom_ThreadPools_PercentMaxed = "119.5"
pmiValCustom_ThreadPools_PoolSize = "119.4"
pmiValCustom_TransactionManager_ActiveCount = "120.4"
pmiValCustom_TransactionManager_CommittedCount = "120.14"
pmiValCustom_TransactionManager_GlobalBeforeCompletionTime = "120.8"
pmiValCustom_TransactionManager_GlobalBegunCount = "120.1"
pmiValCustom_TransactionManager_GlobalCommitTime = "120.10"
pmiValCustom_TransactionManager_GlobalInvolvedCount = "120.2"
pmiValCustom_TransactionManager_GlobalPrepareTime = "120.9"
pmiValCustom_TransactionManager_GlobalTimeoutCount = "120.18"
pmiValCustom_TransactionManager_GlobalTranTime = "120.6"
pmiValCustom_TransactionManager_LocalActiveCount = "120.5"
pmiValCustom_TransactionManager_LocalBeforeCompletionTime = "120.11"
pmiValCustom_TransactionManager_LocalBegunCount = "120.3"
```

```
pmiValCustom_TransactionManager_LocalCommitTime = "120.12"  
pmiValCustom_TransactionManager_LocalCommittedCount = "120.15"  
pmiValCustom_TransactionManager_LocalRolledbackCount = "120.17"  
pmiValCustom_TransactionManager_LocalTimeoutCount = "120.19"  
pmiValCustom_TransactionManager_LocalTranTime = "120.7"  
pmiValCustom_TransactionManager_OptimizationCount = "120.13"  
pmiValCustom_TransactionManager_RolledbackCount = "120.16"  
pmiValCustom_WebApplications_ConcurrentRequests = "121.12"  
pmiValCustom_WebApplications_ErrorCount = "121.14"  
pmiValCustom_WebApplications_LoadedServletCount = "121.1"  
pmiValCustom_WebApplications_ReloadCount = "121.2"  
pmiValCustom_WebApplications_RequestCount = "121.11"  
pmiValCustom_WebApplications_ServiceTime = "121.13"  
pmiValCustom_WebApplications_URIConcurrentRequests = "121.16"  
pmiValCustom_WebApplications_URIRequestCount = "121.15"  
pmiValCustom_WebApplications_URIServiceTime = "121.17"  
pmiValCustom_PortletApplication_NumberOfConcurrentPortletRequests = "122.116"  
pmiValCustom_PortletApplication_NumberOfLoadedPortlets = "122.110"  
pmiValCustom_PortletApplication_NumberOfPortletErrors = "122.119"  
pmiValCustom_PortletApplication_NumberOfPortletRequests = "122.115"  
pmiValCustom_PortletApplication_ResponseTimeOfPortletAction = "122.118"  
pmiValCustom_PortletApplication_ResponseTimeOfPortletRender = "122.117"  
pmiValCustom_WebServices_DispatchResponseTime = "123.16"  
pmiValCustom_WebServices_DispatchedRequestCount = "123.12"  
pmiValCustom_WebServices_LoadedWebServiceCount = "123.1"  
pmiValCustom_WebServices_PayloadSize = "123.18"  
pmiValCustom_WebServices_ProcessedRequestCount = "123.13"  
pmiValCustom_WebServices_ReceivedRequestCount = "123.11"  
pmiValCustom_WebServices_ReplyPayloadSize = "123.20"  
pmiValCustom_WebServices_ReplyResponseTime = "123.17"  
pmiValCustom_WebServices_RequestPayloadSize = "123.19"  
pmiValCustom_WebServices_RequestResponseTime = "123.15"  
pmiValCustom_WebServices_ResponseTime = "123.14"  
pmiValCustom_WorkloadManagement_Client_ClientClusterUpdateCount = "1241.52"  
pmiValCustom_WorkloadManagement_Client_ClientResponseTime = "1241.53"  
pmiValCustom_WorkloadManagement_Client_OutgoingIIOPRequestCount = "1241.51"  
pmiValCustom_WorkloadManagement_Server_ConcurrentRequestCount = "1242.18"  
pmiValCustom_WorkloadManagement_Server_IIOPRequestCount = "1242.11"  
pmiValCustom_WorkloadManagement_Server_NoAffinityIIOPRequestCount = "1242.14"  
pmiValCustom_WorkloadManagement_Server_NonWLMEnabledIIOPRequestCount = "1242.15"  
pmiValCustom_WorkloadManagement_Server_ServerClusterUpdateCount = "1242.16"  
pmiValCustom_WorkloadManagement_Server_ServerResponseTime = "1242.19"  
pmiValCustom_WorkloadManagement_Server_StrongAffinityIIOPRequestCount = "1242.12"  
pmiValCustom_WorkloadManagement_Server_WLMClientsServicedCount = "1242.17"  
pmiValCustom_WebServicesGateway_AsynchronousRequestCount = "126.3"  
pmiValCustom_WebServicesGateway_AsynchronousResponseCount = "126.4"  
pmiValCustom_WebServicesGateway_SynchronousRequestCount = "126.1"  
pmiValCustom_WebServicesGateway_SynchronousResponseCount = "126.2"
```

34 Process Definition Environment Entries

34.1 Create Process Definition Environment Entries

34.1.1 Introduction

A requirement of a Project may be to place java cores and heap dump to a specific (e.g. /dump) file-system. This can be achieved by adding the following environment entries in the servers process definition (Application servers #> Application_server #> Process Definition #> Environment Entries):

```
IBM_HEAPDUMP true
IBM_HEAPDUMPPDIR /dump
IBM_HEAPDUMP_OUTOFMEMORY true
IBM_HEAP_DUMP true
IBM_JAVACOREDIRE /dump
IBM_JAVADUMP_OUTOFMEMORY true
IBM_JAVA_HEAPDUMP_TEXT true
JAVA_DUMP_OPTS ONANYSIGNAL(JAVADUMP[5],HEAPDUMP[5])
```

By default, all deployments will have the entries above created apart from IBM_HEAPDUMPPDIR and IBM_JAVACOREDIRE. This is because other projects may want to keep java cores and heap dumps in the WAS profile root directory or another location. See Step 3 for specifying a different location. Omission of step 3 will create java cores and heap dumps in the WAS profile root directory.

34.1.2 Step 1

This feature is turned ON by default and adds the following entries (which can be found in profile_defaults.py) to the WDM, nodeagents and application servers. If useSpecifiedClusterNodes = 'true' in you py file, the entries will only be added to nodes and application servers listed in 'specifiedNodes'.

```
# Process Definition Environment Entries
installProcDefEnvEntries = "true"
envEntries = [['name', 'IBM_HEAPDUMP'], ['value', 'true']], [['name',
'IBM_HEAPDUMP_OUTOFMEMORY'], ['value', 'true']], [['name', 'IBM_HEAP_DUMP'],
['value', 'true']], [['name', 'IBM_JAVADUMP_OUTOFMEMORY'], ['value', 'true']], [['name',
'IBM_JAVA_HEAPDUMP_TEXT'], ['value', 'true']], [['name', 'JAVA_DUMP_OPTS'], ['value',
'ONANYSIGNAL(JAVADUMP[5],HEAPDUMP[5])']]]
```

To turn off creation of Environment Entries, add the following to either your project.py or application py file.

```
installProcDefEnvEntries = "false"
```

34.1.3 Step 2

To add more Process Definition Environment Entries, edit your py file with your name/value pair using the syntax shown in the example below.

```
envEntries.append(['name', 'IBM_JAVACOREDIRE'], ['value', '/dump'])
envEntries.append(['name', 'IBM_HEAPDUMPPDIR'], ['value', '/dump'])
```

Please Note: Do not use 'envEntries =' in the py file unless you want to override the default values set in profile_defaults.py.

34.1.4 Step 3

Build and deploy as usual. Alternatively use latest config and deploy as usual.

35 Process Execution

35.1 Process Execution Properties

Example syntax (default values):

```
# Process Execution settings
runAsUser=""
runAsGroup=""
runInProcessGroup="0"
umask="022"
processPriority="20"
```

36 Resource Environment Provider

36.1 Create Resource Environment Provider and associated entries

36.1.1 Step 1

Get the details of the Resource Environment Provider(REP), references, associated Resource Environment Entries (REE) and custom properties from the developers via ERF.

36.1.2 Step 2

This feature is turned-off by default. Turn it on in your deployment scripts by adding the following line in the project.py (if you have one) or in your usual environment py file.

```
installREProvider = "true"
```

36.1.3 Step 3

Add the Resource Environment Provider and associated Entries and custom properties in your usual py file using the syntax shown in the example below. In the example below shows.

- One Resource Environment Provider defined at cell scope.
- One referencible defined for this provider.
- Two Resource Environment Entries created.
- The first Resource Environment Entry has 10 custom properties defined.
- The second Resource Environment Entry has 1 custom property defined.

Edit your jython file according to your need.

```
#-----
# Resource Environment Variables
#-----
#
#----- Resource Env Provider 1 -----
#
ResEnvProviderName_1 = "mvproject_ResEnvProvider"
ResEnvProviderScope_1 = "cell"
#----- Referenceable 1 -----
ResRefFactoryClass_1 = "com.ibm.issw.util.websphere.ResourceEnvEntryMap"
ResRefClass_1 = "com.ibm.issw.util.websphere.ResourceEnvEntryMap"
#----- Referenceable 2 -----
ResRefFactoryClass_2 = "com.midvision.rapiddeploy.PropertiesFactory"
ResRefClass_2 = "com.midvision.rapiddeploy.Properties"
#----- Resource Env Entry 1 -----
# Resource Env Entry 1
ResEnvEntName_1 = "FuseResourceRef"
ResEnvEntJndiName_1 = "rep/MV/mvproject/FuseResourceRef"
# Separate ResRefFactoryClass and ResRefClass with a forward slash ("/")
ResEnvEntReferenceable_1 = ResRefFactoryClass_2 + "/" + ResRefClass_2
# Custom property 1 for Resource Env Entry 1
ResEnvEntCustPropName_1_1 = "LeadsService_responseTimeMax"
ResEnvEntCustPropValue_1_1 = "5000"
ResEnvEntCustPropDesc_1_1 = "Description"
ResEnvEntCustPropType_1_1 = "java.lang.Long"
```

```

ResEnvEntCustPropRequired_1_1 = "false"
# Custom property 2 for Resource Env Entry 1
ResEnvEntCustPropName_1_2 = "LeadsService_concurrencyMax"
ResEnvEntCustPropValue_1_2 = "30"
ResEnvEntCustPropDesc_1_2 = "Description"
ResEnvEntCustPropType_1_2 = "java.lang.Long"
ResEnvEntCustPropRequired_1_2 = "false"
# Custom property 3 for Resource Env Entry 1
ResEnvEntCustPropName_1_3 = "LeadsService_failInterval"
ResEnvEntCustPropValue_1_3 = "5000"
ResEnvEntCustPropDesc_1_3 = "Description"
ResEnvEntCustPropType_1_3 = "java.lang.Long"
ResEnvEntCustPropRequired_1_3 = "false"
# Custom property 4 for Resource Env Entry 1
ResEnvEntCustPropName_1_4 = "LeadsService_failCountMax"
ResEnvEntCustPropValue_1_4 = "10"
ResEnvEntCustPropDesc_1_4 = "Description"
ResEnvEntCustPropType_1_4 = "java.lang.Integer"
ResEnvEntCustPropRequired_1_4 = "false"
# Custom property 5 for Resource Env Entry 1
ResEnvEntCustPropName_1_5 = "LeadsService_fuseResetTime"
ResEnvEntCustPropValue_1_5 = "3600000"
ResEnvEntCustPropDesc_1_5 = "Description"
ResEnvEntCustPropType_1_5 = "java.lang.Long"
ResEnvEntCustPropRequired_1_5 = "false"
# Custom property 6 for Resource Env Entry 1
ResEnvEntCustPropName_1_6 = "LoansService_responseTimeMax"
ResEnvEntCustPropValue_1_6 = "3000"
ResEnvEntCustPropDesc_1_6 = "Description"
ResEnvEntCustPropType_1_6 = "java.lang.Long"
ResEnvEntCustPropRequired_1_6 = "false"
# Custom property 7 for Resource Env Entry 1
ResEnvEntCustPropName_1_7 = "LoansService_concurrencyMax"
ResEnvEntCustPropValue_1_7 = "30"
ResEnvEntCustPropDesc_1_7 = "Description"
ResEnvEntCustPropType_1_7 = "java.lang.Long"
ResEnvEntCustPropRequired_1_7 = "false"
# Custom property 8 for Resource Env Entry 1
ResEnvEntCustPropName_1_8 = "LoansService_failInterval"
ResEnvEntCustPropValue_1_8 = "1000"
ResEnvEntCustPropDesc_1_8 = "Description"
ResEnvEntCustPropType_1_8 = "java.lang.Long"
ResEnvEntCustPropRequired_1_8 = "false"
# Custom property 9 for Resource Env Entry 1
ResEnvEntCustPropName_1_9 = "LoansService_failCountMax"
ResEnvEntCustPropValue_1_9 = "1"
ResEnvEntCustPropDesc_1_9 = "Description"
ResEnvEntCustPropType_1_9 = "java.lang.Integer"
ResEnvEntCustPropRequired_1_9 = "false"
# Custom property 10 for Resource Env Entry 1
ResEnvEntCustPropName_1_10 = "LeadsService_fuseResetTime"
ResEnvEntCustPropValue_1_10 = "3600000"
ResEnvEntCustPropDesc_1_10 = "Description"

```

```
ResEnvEntCustPropType_1_10 = "java.lang.Long"
ResEnvEntCustPropRequired_1_10 = "false"
#----- Resource Env Entry 2 -----
ResEnvEntName_2 = "LogResourceRef"
ResEnvEntJndiName_2 = "rep/MV/myproject/LogResourceRef"
# Custom property 1 for Resource Env Entry 2
ResEnvEntCustPropName_2_1 = "EALoggingEnabled"
ResEnvEntCustPropValue_2_1 = "true"
ResEnvEntCustPropDesc_2_1 = "Description"
ResEnvEntCustPropType_2_1 = "java.lang.Boolean"
ResEnvEntCustPropRequired_2_1 = "false"
```

36.1.4 Step 4

Build and deploy as usual. Alternatively use latest config and deploy as usual.

36.1.4.1 FYI-1: What is Resource Environment Provider?

[InfoCenter Article](#)

36.1.4.2 FYI-2:

The Resource Environment Providers (REP) are treated as a whole in the deployment. It means that the REP and associated REE and custom properties defined in the script will be deleted first (if already exists) and recreated afresh in full during deployment. It will not just update the existing one. (The reason being the complexity associated with the nested referencibles which can not be updated due to lack of their uniqueness in the object structure).

37 Server State

37.1 Setting Server State

Setting server state during an install

37.1.1 Overview

There are a number of ways to set server state during and post install. These fall into two categories:

- Those managed from within the WebSphere part of the install, including rolling updates, stop/start server etc
- Those managed by the deploy process orchestration scripts. Include post-install stop/start/ripple

37.1.2 Controlled from deployment orchestration scripts

Please see the WebSphere specific tasks documentation for starting/stopping servers and clusters.

37.1.3 Controlled from the Jython deploy process

By default, during an install, all cluster members on all nodes are stopped at the start of the deployment and will not be restarted again at the end of the deployment. The following parameters may be used to modify this behavior.

The following variables may be set:

Variable	Description	Default Value
restartServerAfterInstall	Restart a server following an installation. Note that the server will only be restarted if it was running prior to the install. If set to false it will never be restarted after an install.	false
requirePreInstallClusterRunning	Requires that, to perform an install the cluster must be running before the deploy is started. If this is set to 'true', deployments to environments where the cluster is stopped will fail Set to 'true' for WebSphere Process Server	false
disableRestarts	By default, a cluster is always stopped prior to a deployment. Setting this parameter prevents that stop from occurring and disables restarts of the cluster. This is set by the performRollingUpdate if the performRollingUpdate pre checks are successful. It can also be set in the Jython file explicitly and must be set for WebSphere Process server.	false

performRollingUpdate	Perform rolling updates. You should set restartServerAfterInstall to 'false'. This will update code on each node in the cluster in turn, and restart the servers on that node only after the install. This ensures that the service is always active. Should consider setting session replication to allow seamless session failover during the deployment.	false
----------------------	---	-------

38 Session Persistence and Session Replication

38.1 Session persistence and session replication

The default values below may be overridden in your project jython file:

```
# - Web Container properties
# Following may be one of: DATABASE, DATA_REPLICATION, NONE
# Set to DATA_REPLICATION to enable memory-to-memory replication
webContainerSessionPersistenceMode = "NONE"
# Following may be one of: BOTH, SERVER, CLIENT
webContainerDataReplicationMode = "BOTH"
```

You will need to set up data replication in order to use the above settings. Override the default settings below:

```
# Memory-to-Memory session replication
# - Replication Domain
installReplicationDomain = "false"
replNumberOfReplicas = 1
replRequestTimeout = 5
replUseSSL = "false"
```

If you want to configure a client/server mode replication you will need to set the Replication Domain to point to for the client cluster:

```
# If webContainerDataReplicationMode="CLIENT" and this value is set,
# it will be taken instead of clusterName
clientModeReplicationDomainName = "SessionCluster"
```

38.1.1 Example 1: Use of Data replication:

```
# Memory-to-Memory session replication
webContainerSessionPersistenceMode = "DATA_REPLICATION"
webContainerDataReplicationMode = "BOTH"
installReplicationDomain = "true"
replNumberOfReplicas = 1
replRequestTimeout = 5
replUseSSL = "false"
```

38.1.2 Example 2: Node level replication domain

```
# Memory-to-Memory session replication
webContainerSessionPersistenceMode = "DATA_REPLICATION"
webContainerDataReplicationMode = "BOTH"
installReplicationDomain = "true"
nodeLevelReplicationDomain = "true"
replNumberOfReplicas = 1
replRequestTimeout = 5
replUseSSL = "false"
```

38.1.3 Example 3: memory-to-memory replication for the client/server mode

```
# For the cluster of session manager replication servers
clusterName = "SessionCluster"
```

```
...
webContainerSessionPersistenceMode = "DATA_REPLICATION"
webContainerDataReplicationMode = "SERVER"
installReplicationDomain = "true"
replNumberOfReplicas = 1
replRequestTimeout = 5
replUseSSL = "false"
#####
# For the application cluster (different deployment)
clusterName = "ClientCluster"
...
webContainerSessionPersistenceMode = "DATA_REPLICATION"
webContainerDataReplicationMode = "CLIENT"
installReplicationDomain = "true"
replNumberOfReplicas = 1
replRequestTimeout = 5
replUseSSL = "false"
clientModeReplicationDomainName = "SessionCluster"
```

39 Shared Library Associations

39.1 Shared Libraries

39.1.1 Example shared library setting - Static shared library not updated at deploy time

```

#-----
# Shared Libraries
#-----
installSharedLibs="true"
sharedLibsScope = "SERVER"
sharedLibName_1="MidVision WPS Libraries SysTst01APP"
sharedLibClassPath_1="/usr/websphere6/MVProdEnv/AppServer/optionalLibraries/jdom-1.0.jar"
sharedLibNativePath_1=""
classloaderForSharedLibrary = "PARENT_FIRST"
    
```

Note that this points to a shared library in optionalLibraries. This is the simplest case.

Variable	Description	Default Value	Required
sharedLibsScope	The scope at which the shared libraries will be created. Possible values: CELL, NODE, CLUSTER, or SERVER.	SERVER	N

39.1.2 Mapping Web Module shared libraries at deploy time

In this case you need to use the AdminApp function exposed by app_options in the Jython properties file:

```

#####
# Resource 7: Map Shared Libraries to Modules
#####
#
# Fields:- module:URI:SharedLibrary:
#
res7_1 = ["InternetBankingWEB", "InternetBankingWEB.war,WEB-INF/web.xml", sharedLibName_1]
res7_2 = ["myyear", "META-INF/application.xml", sharedLibName_2]
app_options.append("-MapSharedLibForMod")
app_options.append([res7_1, res7_2])
    
```

The above shows a mapping for Web Module (7_1) and application (7_2).

39.1.3 Shared Library Jvm association

By default, the created shared libraries are bound to the jvm. This can be switched off by setting:

```
bindLibraryToJvm = "false"
```

40 SIB

40.1 Configure SIB Objects

Configure SIB Objects at Node or Server Scope

40.1.1 Prerequisites

When defining Node scope JMS SIB objects you must ensure that the specifiedNodes variable is set in your python file even if you are only deploying to a single Node.

```
specifiedNodes = ["mvcloud22"]
```

Also ensure that you have both SIBScopeType and SIBJMSScopeType specified in your py files.

```
installSIB = "true"
SIBScopeType = "server"
SIBJMSScopeType = "server"
```

Failure to set SIBJMSScopeType correctly will see your deployment fail with the following error:

```
---> Installing SIB QCF SIBQCFName_1 = PRAsyncQCF
SIBproviderEndPoints is set to: "localhost:"+str(SIB_ENDPOINT_ADDRESS)+":BootstrapBasicMessaging"
Creating SIBJMSConnectionFactory PRAsyncQCF .....
clusterOrServerOrNode: MVCServerUAT01(cells/MVProdEnvNetwork/clusters/MVCServerUAT01|
cluster.xml#ServerCluster_1244627792446) busNameNew PRPC_Bus
com.ibm.ws.scripting.ScriptingException: java.lang.IllegalArgumentException: WASX7122E: Expected "-" not
found.
[-name "PRAsyncQCF" -jndiName "jms/PRAsyncQCF" -type "queue" -authDataAlias
"MVCCorrespondenceUAT01_SIBAuthInfo" -category -description -xaRecoveryAuthAlias
"MVCCorrespondenceUAT01_SIBAuthInfo" -busName "PRPC_Bus" -nonPersistentMapping
"ExpressNonPersistent" -persistentMapping "ReliablePersistent" -readAhead "Def
ault" -target "" -targetType "BusMember" -targetSignificance "Preferred" -targetTransportChain
"InboundBasicMessaging" -providerEndPoints ""localhost:"+str(S
IB_ENDPOINT_ADDRESS)+":BootstrapBasicMessaging"" -connectionProximity "Bus" -
tempQueueNamePrefix -shareDataSourceWithCMP "false" ]
^
SIBJMSConnectionFactory Exists. Modifying SIBJMSConnectionFactory PRAsyncQCF .....
WASX7017E: Exception received while running file "/software_install/working/builds/TeamSite/
TeamSite_working/864316_MVC_DEV_OTHER_BUILD_1_0_236_deploy/scrip
ts/bin/./py/genericWAS5Functions.py"; exception information: java.lang.IllegalArgumentException:
java.lang.IllegalArgumentException: WASX7122E: Expected "-"
not found.
[-name "PRAsyncQCF" -jndiName "jms/PRAsyncQCF" -authDataAlias
"MVCCorrespondenceUAT01_SIBAuthInfo" -category -description -xaRecoveryAuthAlias "MVCCorrespond
enceUAT01_SIBAuthInfo" -busName "PRPC_Bus" -nonPersistentMapping "ExpressNonPersistent" -
persistentMapping "ReliablePersistent" -readAhead "Default" -target
"" -targetType "BusMember" -targetSignificance "Preferred" -targetTransportChain "InboundBasicMessaging" -
providerEndPoints ""localhost:"+str(SIB_ENDPOINT_AD
DRESS)+":BootstrapBasicMessaging"" -connectionProximity "Bus" -tempQueueNamePrefix -
shareDataSourceWithCMP "false" ]
WASX7341W: No "save" was performed before the interactive scripting session exited; configuration changes
will not be saved.
====> ERROR!!! The following command: /usr/websphere6/MVProdEnv/DeploymentManager/bin/wsadmin.sh
-username jxadmin -password jxadmin -lang jython -f /so
```

```

ftware_install/working/builds/TeamSite/
TeamSite_working/864316_MVC_DEV_OTHER_BUILD_1_0_236_deploy/scripts/bin/./py/
genericWAS5Functions.py -profile /softwa
re_install/working/builds/TeamSite/
TeamSite_working/864316_MVC_DEV_OTHER_BUILD_1_0_236_deploy/scripts/bin/./py/
profile_defaults.py -profile /tmp/profile_16
34340_converted_bindings_file.py -profile /tmp/1634340_profile.py -profile /usr/websphere6/config/
MVProdEnv/MVCServerUAT01/project_env.py -profile /usr/we
bsphere6/config/MVProdEnv/MVCServerUAT01/MVCServerUAT01_env.py
Returned error code: 105.
ERROR occurred in command "chmod 755 /tmp/1654794_doInstall.sh; /tmp/1654794_doInstall.sh", script
exiting. -- A file or directory in the path name does not
exist.
ERROR occurred in command ". ~/.profile; /software_install/working/builds/TeamSite/
TeamSite_working/864316_MVC_DEV_OTHER_BUILD_1_0_236_deploy/scripts/bin/
./scripts/websphere/install_was.pl -mq -install -wasenv MVProdEnv -wasapp MVCServerUAT01", script
exiting. -- A file or directory in the path name doe
s not exist.

```

40.1.2 Important notes on SIBJMSScopeType

If SIBJMSScopeType is set to 'server', you must set the **SIBproviderEndpoints** as follows:

```
SIBproviderEndpoints = "\"localhost:\"+str(SIB_ENDPOINT_ADDRESS)+\":BootstrapBasicMessaging\""
```

This ensures that each server points to its own EndPoint. Note that the **SIB_ENDPOINT_ADDRESS** variable is NOT set in your jython file but is dynamically incremented at deployment time to match the **SIB_ENDPOINT_ADDRESS** that is actually set on the cluster member. Failure to do this will mean all cluster members on a node will point to the same port. If SIBJMSScopeType is set to 'cluster' or 'node', set **SIBproviderEndpoints** as follows:

```
SIBproviderEndpoints = "localhost:\"+str(SIB_ENDPOINT_ADDRESS_port)+\":BootstrapBasicMessaging"
```

40.1.3 Custom properties

In order to create custom properties for a certain SIB you must declare the following variable where "_n" is the number of the bus you want to create the properties for (i.e. busName_n):

```

busCustomProperties_n = [{"name", "prop1"}, {"value", "val1"}]
busCustomProperties_n.append(["name", "prop2"}, {"value", "val2"}])
busCustomProperties_n.append(["name", "prop3"}, {"value", "val3"}])
busCustomProperties_n.append(["name", "prop4"}, {"value", "val4"}])

```

40.1.4 SIB members "Messaging engine policy assistance"

In order to configure the "Messaging engine policy assistance" for a certain SIB member you must declare the following variable where "_n" is the number of the bus you want to create the properties for (i.e. busName_n). Possible values: "HA", "SCALABILITY" or "SCALABILITY_HA"

```

busMemberPolicy_n = "SCALABILITY_HA" # Possible values: "HA", "SCALABILITY" or
"SCALABILITY_HA"

```

41 SIB Connection Pools

41.1 Specify SIB QCF or TCF Connection Pool Settings

The following default parameters may be overridden in your py file, to customise SIB connection pool settings:

```
# SIB Connection pool settings
SIBagedTimeout = 0
SIBconnectionTimeout = 180
SIBmaxConnections = 10
SIBminConnections = 1
SIBpurgePolicy = "EntirePool"
SIBreapTime = 180
SIBunusedTimeout = 1800
```


42 SIB Foreign Bus

42.1 Configure SIB Foreign Buses

Configuring SIB Foreign Buses

Example SIB Foreign Bus settings for MQ Foreign Bus

```
SIBFBusName_1 = "SIPPEZQ1"  
SIBMECluster_1 = clusterName  
SIBMENum_1 = "000"  
SIBFBusType_1 = "MQ"  
SIBFBusRouting_1 = "Direct"  
SIBFBusLnkName_1 = "TO."+SIBFBusName_1  
SIBFBusMqHost_1 = "p14716dtp155"  
SIBFBusMqListPort_1 = "1414"  
SIBFBusMqLnkAdoptable_1 = "true"
```

43 SIB Messaging Engines

43.1 Configure Messaging Engines

The default setting in `profile_defaults.py` is:

Each set of name/value pairs is terminated with `_n` where `n` is an integer, incrementing from 1 and referencing the next SIB Messaging Engine to be created or modified.

43.1.1 Configuring Messaging Engines to use File Stores

```
SIBMESToreType_1 = "file"
SIBLogDirectory_1 = "/usr/websphere6/wastst61_10/AppServer/"+busName_1
SIBTemporaryStoreDirectory_1 = "/usr/websphere6/wastst61_10/AppServer/"+busName_1
SIBPermanentStoreDirectory_1 = "/usr/websphere6/wastst61_10/AppServer/"+busName_1
SIBMECustomProperties_1 = [{"name", "sib.msgstore.jdbcAllowSynonymUse"}, {"value", "true"}]]
SIBMECustomProperties_1.append(["name", "sib.msgstore.jdbcUseDeleteInsteadOfTruncateAtStartup"],
["value", "true"]])
```

These directories are the filestores used by the messaging engine created by adding a Server to the SIBus. File Stores are only suitable for Test environments as when the Messaging Engines fails over, potentially to another Data Centre, the FileStore may no longer be accessible. If you require multiple messaging engines, you should look to use data stores to ensure the queues are accessible wherever the ME is activated.

43.1.2 Configuring Messaging Engines to use Data Stores

```
SIBMESToreType_1 = "data"
SIBMEdsSchemaName_1 = "sipilrms_owner_ME000"
SIBMEdsJNDIName_1 = dsjndiname_2
SIBMEdsAuthAlias_1 = databasePasswordAlias_2
SIBMEdsCreateTables_1 = "false" # By default if not set
SIBMECustomProperties_1 = [{"name", "sib.msgstore.jdbcAllowSynonymUse"}, {"value", "true"}]]
SIBMECustomProperties_1.append(["name", "sib.msgstore.jdbcUseDeleteInsteadOfTruncateAtStartup"],
["value", "true"]])
```

The Database variables specified for JNDIName and AuthAlias relate to variables in the DataSources configured in the normal way elsewhere in the python file.

43.1.3 Configuring Additional Messaging Engines

```
SIBaddMEbusName_1 = busName_1
SIBaddMESToreType_1 = "data"
SIBaddMEdsSchemaName_1 = "sipilrms_owner_ME001"
SIBaddMEdsJNDIName_1 = dsjndiname_3
SIBaddMEdsAuthAlias_1 = databasePasswordAlias_3
SIBaddMEdsCreateTables_1 = "false" # By default if not set
SIBaddMECustomProperties_1 = [{"name", "sib.msgstore.jdbcAllowSynonymUse"}, {"value", "true"}]]
SIBaddMECustomProperties_1.append(["name", "sib.msgstore.jdbcUseDeleteInsteadOfTruncateAtStartup"],
["value", "true"]])
```

43.1.4 Configuring Policies to Manage Messaging Engine

See the Core Groups and Core Group Policies article

43.1.5 Configuring Foreign Buses

See the SIB Foreign Buses article

44 TAI Module

44.1 Configure TAI Settings

The following example may be set in your applications jython file:

```
installCustomTAI = "true"  
customTAIInterceptorClass = "com.midvision.mv.security.loginmodule.tai.CustomTAIModule"  
customTAIInterceptorProperties = ""
```

Replace the classname with the custom TAI class you wish to use. Optionally, additional custom properties may also be configured.

45 Transaction Service Settings

45.1 Application Server Transaction Related Variables

Values set by default (in profile_defaults.py) are:

```
# Application Server - Transaction settings
asTransactionLifetimeTimeout = 120
asTransactionClientInactivityTimeout = 60
asTransactionLogDirectory = ";4M"
asPropogatedOrBMTTranLifetimeTimeout = 300
asAcceptHeuristicHazard = "false"
asLPSHeuristicCompletion = "ROLLBACK" # Possible values: COMMIT, ROLLBACK (default) and
MANUAL
```

This indicates that the total maximum transaction lifetime timeout is 120 seconds. The tranlogs will be allowed to grow to 4Megabytes in the default directory \$WAS_PROFILE_HOME/tranlogs/Server_Name

Note this is a change to the Out-Of-The-Box WebSphere settings where the tranlogs are allowed to grow to only 1Mb.

Any transaction started remotely will be timed out after 300 seconds, and a client request that remains inactive for 60 seconds will be timed out.

45.1.1 Overriding the above values

This may be done by overriding the above values in the project.py or server specific jython file for the project.

46 Transport Interfaces

46.1 Configure Interfaces

46.1.1 Specify different host interfaces to the default one

In order to specify that the application servers internal HTTP transport (WAS 5.x) or transport chain (WAS 6.1) listens on a different host interface to the default one, use the following in your Jython file.

This will often apply in a firewalled environment where the application LAN interface is different from the default interface and only requests on the application LAN will be allowed through the firewall. In this case the plugin configuration needs to point to the application LAN.

46.1.2 WebSphere 6.1+ and transport chains

In this case each port can be given a specified host interface if required. If an interface is omitted, the default interface is used for that port. An example follows:

```
#-----
# WAS Port settings
# These will be the underlying WAS port name suffixed
# with _port. They should be mapped as follows:
# WC_defaulthost_port = 10NNN
# WC_defaulthost_secure_port = 11NNN
# BOOTSTRAP_ADDRESS_port = 12NNN
# SOAP_CONNECTOR_ADDRESS_port = 13NNN
# SIB_ENDPOINT_ADDRESS_port = 14NNN
# SIB_ENDPOINT_SECURE_ADDRESS_port = 15NNN
# SIB_MQ_ENDPOINT_ADDRESS_port = 16NNN
# SIB_MQ_ENDPOINT_SECURE_ADDRESS_port = 17NNN
# SIP_DEFAULTHOST_port = 18NNN
# SIP_DEFAULTHOST_SECURE_port = 19NNN
#
# where NNN is unique for this server (in increments
# of 50 between servers)
#-----
WC_defaulthost_port = 10900
WC_defaulthost_secure_port = 11900
BOOTSTRAP_ADDRESS_port = 12900
SOAP_CONNECTOR_ADDRESS_port = 13900
SIB_ENDPOINT_ADDRESS_port = 14900
SIB_ENDPOINT_SECURE_ADDRESS_port = 15900
SIB_MQ_ENDPOINT_ADDRESS_port = 16900
SIB_MQ_ENDPOINT_SECURE_ADDRESS_port = 17900
SIP_DEFAULTHOST_port = 18900
SIP_DEFAULTHOST_SECURE_port = 19900
#-----
# Specified Host Interface
# This is for multiple NIC cards in a firewalled environment for
# correct plugin generation
# Values:
# host: THE name of the specified host - as in the name of the hostname known to WAS
# interface: The specified interface to listen on
```

```
#
# These details will be used by WAS to populate the plugin-cfg.xml
#
# This replaces nsecureTransportHostname and secureTransportHostname in a multi-server
# clustered environment where "*" cannot be used due to a specified LAN being required
# that is different to the default host.
#-----
useSpecifiedHostInterface = "true"
WC_defaulthost_interface=[[["host", "p12504dtp002"],["interface", "p12504dtp002-usr"]]]
WC_defaulthost_interface.append([[["host", "p12503dtp001"], ["interface", "p12503dtp001-usr"]]])
```

In the above example, numerous port names are specified. This is done by using the WAS port name with '_port' appended onto it. Any WAS ports not specified in this way will either be given default values by WAS or will use ephemeral ports.

Only the WC_defaulthost port is specified with a host interface by appending '_interface' to the port name. Any ports without an associated interface will use the default interface (usually the hostname).

From the above example we can concisely show the relevant entries for the **WC_defaulthost** as follows:

```
useSpecifiedHostInterface = "true"
WC_defaulthost_port = 10900
WC_defaulthost_interface=[[["host", "p12504dtp002"],["interface", "p12504dtp002-usr"]]]
WC_defaulthost_interface.append([[["host", "p12503dtp001"], ["interface", "p12503dtp001-usr"]]])
```

We can see that during the deployment, these Jython entries will configure WC_defaulthost (WAS defined name) to listen on port 10900. Cluster members deployed to host p12504dtp002 will have WC_defaulthost listen on the p12504dtp002-usr interface and cluster members deployed to host p12503dtp001 will listen on the p12503dtp001-usr interface.

46.1.3 WebSphere 5.0 interfaces

In order to specify that the application servers internal HTTP transport or transport chain (WAS 6.1) listens on a different host interface to the default one, use the following in your Jython file.

This will often apply in a firewalled environment where the application LAN interface is different from the default interface and only requests on the application LAN will be allowed through the firewall. In this case the plugin configuration needs to point to the application LAN.

```
#-----
# Specified Host Interface
# This is for multiple NIC cards in a firewalled environment for
# correct plugin generation
# Values:
# host: The name of the specified host - as in the name of the hostname known to WAS
# interface: The specified interface to listen on
#
# These details will be used by WAS to populate the plugin-cfg.xml
#
# This replaces nsecureTransportHostname and secureTransportHostname in a multi-server
# clustered environment where "*" cannot be used due to a specified LAN being required
# that is different to the default host.
#-----
useSpecifiedHostInterface = "true"
specifiedHostInterface = [[["host", "p10002ecmt02"], ["interface", "10.254.168.71"]]]
specifiedHostInterface.append([[["host", "p10003ecmt03"], ["interface", "10.254.168.72"]]])
```

In the above example, on host p10002ecmt02, the application will start listening on the 10.254.168.71 interface, which is on the application LAN.

47 Uninstalling an application

47.1 Application uninstall options

By default, enterprise applications are uninstalled before a new enterprise application of the same name is installed.

47.1.1 Ignore Application Uninstall Errors

To ignore uninstallation errors on enterprise application deployment set the following value in your Jython file:

```
ignoreEntAppUninstallErrors = "true"
```

The default value is 'false', i.e. not to ignore uninstallation errors.

This MUST be set to 'true' for WebSphere Process server Jython files.

48 URL Endpoints

48.1 Configure URL Endpoints

48.1.1 Overview

There are two ways to configure URL endpoints for deployment.

The first is to use URL Libraries from within the framework server. This creates URL A URL Library contains one or more URLs, and is stored on the framework server as an XML file. On deployment, this file is read by the jython framework and URL endpoints are configured in the target cell.

The second method allows you to add URL Libraries and endpoints directly into the jython file using properties (name/value pairs).

This page considers the second case only.

Each set of name/value pairs is terminated with `_n` where `n` is an integer, incrementing from 1 and referencing the next Provider and URL to be created or modified.

48.1.2 Standard URLs at 'Cell' Scope: Single URL shared between all cluster members in a cluster

The following is an example of a standard URL definition, subsequently mapped to the application as described in other articles. This is the usual scenario where the cluster points to a single 'service'. How the service handles its own load balancing is up to that service to decide.

```
#-----
# URL Provider 1 and URL Resource Related Variables
#-----
urlpName_1 = "urlProvider_MV_SysTst11"
urlpStreamHandlerClassName_1 = "unused"
urlpProtocol_1 = "unused"
urlpScope_1 = "cell"
urlName_1 = "FinancialTransactionProcessingWS_MV_SysTst11"
urlJNDIName_1 = "url/"+urlName_1
urlDestination_1 = "http://10.254.112.25:42505/MvPaymentProcessingService"
```

The cluster is mapped to `url/FinancialTransactionProcessingWS_MV_SysTst11`. If other WebSphere clusters map to this JNDI name, they will use the same endpoint. This is not recommended. Normally they would map to their own (named according to cluster) JNDI name.

48.1.3 Mapped URLs at 'Server' Scope: Each cluster member maps to its own URL

In this scenario, we decide how to load balance the target service at the WebSphere cluster member level. We can specify each server instance to point to a backend instance.

```
#-----
# URL Provider 1 and URL Resource Related Variables
#-----
urlpName_1 = "urlProvider_MV_SysTst11"
urlpStreamHandlerClassName_1 = "unused"
urlpProtocol_1 = "unused"
urlpScope_1 = "server"
urlName_1 = "FinancialTransactionProcessingWS_MV_SysTst11"
urlJNDIName_1 = "url/"+urlName_1
urlDestination_1 = "http://10.254.112.25:42505/MvPaymentProcessingService"
```

```
specifiedUrlDestinationMapping_1 = [[["targetNode", "dpp01"], ["targetURL", "http://10.254.112.25:42505/MvPaymentProcessingService"]]
specifiedUrlDestinationMapping_1.append(["targetNode", "dpp02"], ["targetURL",
"http://10.254.112.25:42506/MvPaymentProcessingService"]])
```

Here we see that `urlpScope_1 = 'server'` denoting that the resource will be created at server scope for all cluster members. We can create/append `specifiedUrlDestinationMapping`, which will map each cluster member in turn to the specified destination. Once all destinations have been used, if there are cluster members remaining, these will start again from the beginning of the list.

In the above example, if there are 4 cluster members, the mapping will be as follows:

- ClusterMember 1 `http://10.254.112.25:42505/MvPaymentProcessingService`
- ClusterMember 2 `http://10.254.112.25:42506/MvPaymentProcessingService`
- ClusterMember 3 `http://10.254.112.25:42505/MvPaymentProcessingService`
- ClusterMember 4 `http://10.254.112.25:42506/MvPaymentProcessingService`

and so on

48.1.4 Mapped URLs at 'Node' Scope: Each WebSphere node is mapped to a URL.

In this scenario, we decide how to load balance the target service at the WebSphere node level. We can specify each node and all cluster members installed on that node to point to a backend instance.

```
#-----
# URL Provider 1 and URL Resource Related Variables
#-----
urlpName_1 = "urlProvider_MV_SysTst11"
urlpStreamHandlerClassName_1 = "unused"
urlpProtocol_1 = "unused"
urlpScope_1 = "node"
urlName_1 = "FinancialTransactionProcessingWS_MV_SysTst11"
urlJNDIName_1 = "url/"+urlName_1
urlDestination_1 = "http://10.254.112.25:42505/MvPaymentProcessingService"
specifiedUrlDestinationMapping_1 = [[["sourceNode", "wasNode1"], ["targetURL",
"http://10.254.112.25:42505/MvPaymentProcessingService"]]
specifiedUrlDestinationMapping_1.append(["sourceNode", "wasNode1"], ["targetURL",
"http://10.254.112.25:42506/MvPaymentProcessingService"]])
```

Here we see that `urlpScope_1 = 'node'` denoting that the resource will be created at node scope for all nodes. We can create/append `specifiedUrlDestinationMapping`, which will map each WebSphere node in turn to the specified destination. There must be a mapping specified for each WebSphere node, even if multiple nodes point to the same backend URL

In the above example, if there are 4 cluster members, the mapping will be as follows:

- wasNode1 `http://10.254.112.25:42505/MvPaymentProcessingService`
- wasNode2 `http://10.254.112.25:42506/MvPaymentProcessingService`

and so on

49 Variables

49.1 WebSphere Variables

49.1.1 Overview

WebSphere variables may be set at cell, cluster or node scope.

- varname : Variable Name
- vardesc : Variable Description
- varval : The value of the variable
- varscope : The scope, One of node, cluster, cell
- varnode : The node(s) to set the variable on if node scope. Optional parameter at node scope. If not set the variable is set on all nodes. If set to a subset of nodes, comma separated, sets the variable on only the specified node

49.1.2 Default Settings

The default settings in profile_defaults.py are as follows:

```
# Variable Defaults
varname_1 = "MQ_INSTALL_ROOT"
vardesc_1 = "MQ_install_root_dir"
varval_1 = "/usr/mqm"
varscope_1 = "node"
```

Therefore you need to start your variables at '_2'.

Setting variable example

```
varname_2 = "MY_FILE_LOCATION"
vardesc_2 = "Location of Filesystem file"
varval_2 = "/home/jxadmin/userfile.props"
varscope_2 = "node"
varnode_2 = "mvcloud01 "
```

Sets the MY_FILE_LOCATION to "/home/jxadmin/userfile.props" on mvcloud01 only.

50 Virtual Hosts

50.1 Virtual Host Settings

A virtual host is a unique combination of an address and port. The *virtualHostList* is a list of these combinations (virtualHosts)

If the URL or IP is omitted the system inserts '*' Which means any IP or URL.

Format:

```
[ "vHostName" , "PortNumber", "URL_Or_IP_of_HTTP_sender(May be omitted)"]
```

If a web server listens on 30034. The Web server url and port must be in the virtualhost list and hence the Plugin.

It is not uncommon to replace the Web server url with '*'. Any Web server listening on a given port will then be accepted by the Plugin. If an Edge Server listens on 443 and feeds a web server listening on 30034 both the edge server url and port, and the Web server url and port must be in the virtualhost list.

The Application server Default HTTP virtual hosts must also be declared in the virtual host list.

Example:-

```
virtualHostList = [[ vHostName, WC_defaulthost_port ],
[ vHostName ,WC_defaulthost_secure_port ],
[ vHostName , WebServerNonSecurePortNo ],
[ vHostName, edgeServerPortNumber, edgeServerURL_Or_IP]]
```

Where:-

- **vHostName** is normally mapped to the name of the server/cluster to give a unique virtual host name
- **WebServerNonSecurePortNo** is the non-secure port that all the Web servers are listening on for the given application.

An example python file fragment is shown below.

```
#-----
# http ports
#-----
# Web Server ports
httpServerNosecureTransportPortNo = 30011
#-----
# Edge Server
#-----
cssSprayerName = "mvcloud01.midvision.co.uk"
httpsCSSSprayerSecureTransportPort = 443
#-----
# Virtual Host Related Variables
#-----
vHostName = serverName
#-----
# virtualHostList
#-----
virtualHostList = [[ vHostName, WC_defaulthost_port ],[ vHostName ,WC_defaulthost_secure_port ],
[ vHostName, httpServerNosecureTransportPortNo ],
[ vHostName, httpsCSSSprayerNoSecureTransportPort, cssSprayerName ]]
```

50.1.1 Virtual host MIME Types

If you set the following parameter in your python file:

```
addVirtualHostMimeTypes = "true"
```

Then you can add a list of MIME types to your virtual host.

```
vHostMimeTypes = [{"Type1", "Extensions1"}, {"Type2", "Extensions2"}, ...]
```

The following example serves to illustrate:

```
vHostMimeTypes = [{"application/x-pcl", "pcl"}, {"application/x-rtf", "rtf"}]
```

51 Web Container Properties

51.1 Web Container Settings

51.1.1 Session timeout

Default Web Container timeout may be overridden in jython file:

```
# Web Container defaults
webContainerSessionTimeout = 30
```

Set to "-1" to disable session timeout:

```
webContainerSessionTimeout = -1
```

51.1.2 Web Container inbound custom properties

You can set web container inbound custom properties. The example below is illustrative.

```
#-----
# Web Container Custom Properties
#-----
webContainerInboundCustomProps = [{"name", "CookiesConfigureNoCache"}, {"required", "false"}, {"value", "false"}]
webContainerSessionTimeout = 35
```

You can also set web container inbound custom properties for secure transport chains. The example below is illustrative.

```
#-----
# Web Container Custom Properties for Secure Transport Chains
#-----
webContainerInboundSSLCustomProps = [{"name", "CookiesConfigureNoCache"}, {"required", "false"}, {"value", "false"}]
```

51.1.3 Web Container properties:

You can set web container properties. The example below is illustrative.

```
#-----
# Web Container Related Variables
#-----
webContainerSessionTimeout = 20
webContainerProperties = [{"name", "fileServingEnabled"}, {"value", "false"}]
webContainerProperties.append({"name", "ConnectionIOTimeOut"}, {"value", "60"})
webContainerProperties.append({"name", "PROPERTY_NAME"}, {"value", "PROPERTY_VALUE"})
```

The ConnectionIOTimeOut value can help if the HTTP socket might time out before the Web service engine completely reads the SOAP request. To solve the problem, increase the ConnectionIOTimeOut parameter for the Web container HTTP transport using this web container property.

52 Web Security Integration

52.1 Web Container Security Integration

52.1.1 Default Security integration (profile_defaults.py)

By default, security integration is disabled:

```
webContainerEnableSecurityIntegration = "false"
webContainerMaxWaitTime = "5"
webContainerAllowSerializedSessionAccess = "false"
webContainerEnableProtocolSwitchRewriting = "false"
webContainerEnableUrlRewriting = "false"
webContainerAccessSessionOnTimeout = "true"
webContainerEnable = "true"
webContainerEnableSSLTracking = "false"
webContainerEnableCookies = "true"
webContainerCookieHttpOnly = "true"
```

52.1.2 Enabling security integration

To enable security integration, the following property must be set in your jython file:

```
webContainerEnableSecurityIntegration = "true"
```


53 IBM MQ Servers

53.1 WebSphere MQ Servers

53.1.1 Creation of a *WebSphere MQ Server*

To create a WebSphere MQ Server, the first thing is to set to *true* the variable *installMQServer*:

```
installMQServer = "true"
```

Once enabled this variable, it is necessary to set some properties:

```
mqServerName # Mandatory
mqServerChanel # Mandatory
mqServerDescription = ""
mqServerType = "MQ_QUEUE_MANAGER"
mqServerBindingsMode = "false"
mqServerHost = "localhost"
mqServerPort = 1414
mqServerTransportChain = "OutboundBasicWMQClient"
mqServerTrustUserIds = "true"
```

Note that the variables without value are mandatory, and the rest are set to their default value.

53.1.2 Adding a *WebSphere MQ Server* as a *Service Integration Bus* member

The procedure to add a WebSphere MQ Server as a SIB member is the same as for adding any other SIB member, but setting the *SIBMemeberScopeType_n* (specifically) or the *SIBScopeType* (by default) to "*mqserver*" and the *SIBMESToreType* to "*file*" (by default), and setting the mandatory *mqServerName_n* variable:

```
# SIBScopeType = "mqserver"
SIBMESToreType = "file"
SIBMemeberScopeType_n = "mqserver"
mqServerMemberName_n # Mandatory
```

Additionally, the "Virtual queue manager name" can be set as follows:

```
mqServerVirtualQueueManagerName_n = "Test_Bus_DevTst"
```

By default it will take the name of the bus.

53.1.3 Creating a *Service Integration Bus* destination

The procedure to create a new SIB destination of type *QUEUE* is the same as for creating any other SIB destination of type *QUEUE*, but setting the *SIBMemeberScopeType_n* (specifically) or the *SIBScopeType* (by default) to "*mqserver*", and setting the mandatory *mqServerName_n* and *mqServerDestinationQueueName_n* variables:

```
# SIBScopeType = "mqserver"
SIBQueueScopeType_n = "mqserver"
mqServerDestinationName_n # Mandatory
mqServerDestinationQueueName_n # Mandatory
```

Additionally, the "inclusion of an RFH2 message header when sending messages to WebSphere MQ" can be set:

```
mqServerDestinationUserRFH2_n = "false"
```

By default it will be set to *false*.

53.1.4 Example

An example would be:

```
installMQServer = "true"
mqServerName = "TEST"
mqServerChanel = "test.T24"
mqServerDescription = "Backend MQ Server"
mqServerType = "MQ_QUEUE_MANAGER"
mqServerBindingsMode = "false"
mqServerHost = "test.machine.group"
mqServerPort = 1153
mqServerTransportChain = "OutboundBasicWMQClient"
mqServerTrustUserIds = "true"
installSIB = "true"
SIBScopeType = "mqserver"
SIBMESToreType = "file"
busName_1 = "Test_Bus_DevTst"
SIBQueueName_1 = "QueueJMS"
SIBQueueJNDIName_1 = "java/QueueJMS"
SIBQueueTargetBusName_1 = "Test_Bus_DevTst"
mqServerMemberName_1 = "TEST"
mqServerVirtualQueueManagerName_1 = "VirtualMQTest"
mqServerDestinationName_1 = "TEST"
mqServerDestinationQueueName_1 = "REPLY.TEST"
mqServerDestinationUserRFH2_1 = "false"
```

54 Work Areas

54.1 Configure Work Areas

Override the default settings below in your py file to enable work areas.

```
# Application Server - Work Area
asWorkAreaEnable = "false"
asWorkAreaEnableWebServicePropagation = "false"
asWorkAreaMaxReceiveSize = 10000
asWorkAreaMaxSendSize = 10000
```

Enabling Application Server work areas

Set the following values (as required) in your Jython file to enable work areas:

```
asWorkAreaEnable = "true" # Allow WAS 6.1 work areas to be started
asWorkAreaEnableWebServicePropagation = "true"
asWorkAreaMaxReceiveSize = 10000
asWorkAreaMaxSendSize = 10000
```

55 Work Managers

55.1 Defining Work Manager Instances

55.1.1 Overview

Asynchronous bean work managers can be configured in the python configuration files.

The coding changes that were made to the automated deployment process have only been verified for WAS 6.1.

55.1.2 Example

Here is an example configuration section from a jython file:

```
#-----
# Work Manager settings
#-----
installWorkManager = "true"
#-----
# Work Manager Instance 1 settings
#-----
workmgrName_1 = "AccountOverviewWorkManager_GALAXY_IntTst01"
workmgrJndiName_1 = "wm/"+workmgrName_1
workmgrDescription_1 = "Account Overview Work Manager"
workmgrWorkTimeout_1 = 0 # Milliseconds
workmgrReqQSize_1 = 0
workmgrCategory_1 = "Default"
workmgrWorkReqQFullAction_1 = 1
workmgrMaxThreads_1 = 10
workmgrMinThreads_1 = 1
workmgrNumAlarmThreads_1 = 5
workmgrThreadPriority_1 = 5
workmgrIsDistributable_1 = "false"
workmgrIsGrowable_1 = "false"
workmgrServiceNames_1 = ""
```

Here is the mapping in the MapResRefToEjb section of the same file:

```
res1_5 = ["GalaxyPortalWeb", "", "GalaxyPortalWeb.war,WEB-INF/web.xml",
"AccountOverviewWorkManager", "com.ibm.websphere.asynchbeans.WorkManager", "wm/
AccountOverviewWorkManager_GALAXY_IntTst01", "", ""]
```

56 JMS Resource Configuration

56.1 JMS Resource configuration

Below you can see the list of possible configurable variables and their default values in order to configure JMS resources.

When the variable has a "_1" it means you can set different values for more than 1 object creation (increasing the numeric value), while when that suffix is missing it means the value is shared with the rest of the resources.

56.1.1 For Generic Connection Factories

```
SIBJMSScopeType = "cluster"
SIBCFName_1
SIBCFJNDIName_1
SIBCFAuthAlias_1 = ""
SIBCFxaAuthAlias_1 = ""
SIBCFTargetBusName_1
SIBCFTarget_1 = ""
SIBCFTargetType_1 = "BusMember"
SIBCFTargetSignificance_1 = "Preferred"
SIBCFTargetTransportChain_1 = "InboundBasicMessaging"
SIBnonPersistentMapping = "ExpressNonPersistent"
SIBpersistentMapping = "ReliablePersistent"
SIBreadAhead = "Default"
SIBproviderEndpoints = ""
SIBconnectionProximity = "Bus"
SIBshareDataSourceWithCMP = "false"
```

56.1.2 For Queue Connection Factories

```
SIBJMSScopeType = "cluster"
SIBQCFName_1
SIBQCFJNDIName_1
SIBQCFAuthAlias_1 = ""
SIBQCFxaAuthAlias_1 = ""
SIBQCFTargetBusName_1
SIBQCFTarget_1 = ""
SIBQCFTargetType_1 = "BusMember"
SIBQCFTargetSignificance_1 = "Preferred"
SIBQCFTargetTransportChain_1 = "InboundBasicMessaging"
SIBnonPersistentMapping = "ExpressNonPersistent"
SIBpersistentMapping = "ReliablePersistent"
SIBreadAhead = "Default"
SIBproviderEndpoints = ""
SIBconnectionProximity = "Bus"
SIBshareDataSourceWithCMP = "false"
```

56.1.3 For Topic Connection Factories

```
SIBJMSScopeType = "cluster"
SIBTCFName_1
```

```
SIBTCFJNDIName_1
SIBTCFAuthAlias_1 = ""
SIBTCFxaAuthAlias_1 = ""
SIBTCFTargetBusName_1
SIBTCFTarget_1 = ""
SIBTCFTargetType_1 = "BusMember"
SIBTCFTargetSignificance_1 = "Preferred"
SIBTCFTargetTransportChain_1 = "InboundBasicMessaging"
SIBnonPersistentMapping = "ExpressNonPersistent"
SIBpersistentMapping = "ReliablePersistent"
SIBreadAhead = "Default"
SIBproviderEndpoints = ""
SIBconnectionProximity = "Bus"
SIBshareDataSourceWithCMP = "false"
```

56.1.4 For Queues

```
SIBQueueName_1
SIBQueueJNDIName_1
SIBQueueTargetBusName_1
SIBQueuePointHighMessageThreshold_1 = 50000 # Value by default if not set
SIBdeliveryMode = "Application"
SIBQueuereadAhead = "AsConnection"
```

56.1.5 For Topics

```
SIBTopicName_1
SIBTopicJNDIName_1
SIBTopicTargetBusName_1
SIBTopicSpace_1 = "Default.Topic.Space"
SIBdeliveryMode = "Application"
SIBTopicreadAhead = "AsConnection"
```

57 Scoping JMS Resources

57.1 Default position

57.1.1 The default values for jmsscope and mqNode are:

```
# mqNode may be one of "default", "mapped", or a single node name.
# This is only of interest for node scope.
# default - use the node name from serverNode
# mapped - Map nodes to a QMGRs
# A list of mappings is required e.g.:
# specifiedMQNodes=[[["host", "p12701prd002"],["QMGR","CRMCHPQ1"]]
# specifiedMQNodes.append([[["host", "p12601prd001"], ["QMGR","CRMCHPQ2"]])
# or you can enter any hostname where the QMGR resides.
mqNode = "default"
jmsscope = "node"
```

If you have not set mqNode it will be default, which means jmsscope will default to node, where node is the currently specified nodeName in the deployment process (this could be multiple nodes in succession if deploying to a cluster). JMS resources will be created or updated at node scope on the current node.

57.1.2 Server Scope

```
mqNode = "default"
jmsscope = "server"
```

Installs JMS resources on the server on the "current" node.

57.1.3 Cell Scope

If you set:

```
jmsscope = "cell"
```

JMS Resources are created at cell scope, mqNode is ignored.

57.1.4 Mapped Node scope

```
mqNode = "mapped"
specifiedMQNodes=[[["host", "p12701prd002"],["QMGR","CRMCHPQ1"]]
specifiedMQNodes.append([[["host", "p12601prd001"], ["QMGR","CRMCHPQ2"]])
```

Will set up the queue managers on the specified nodes with the specified names (at node scope).

57.1.5 Specified node

```
mqNode = "p12701prd002"
```

Set the queue managers at the given node, at node scope.

If jmsscope is also set to server, as follows:

```
mqNode = "p12701prd002"
jmsscope = "server"
```

Set the queue managers at the given node, at server scope.

58 Process Server Prerequisites

58.1 IBM WebSphere Process Server Specific Configuration

When installing ear files into a WebSphere Process Server Application cluster, ensure the following are set:

1. Ensure all AppServers in the APP cluster are running prior to install.

```
requirePreInstallClusterRunning = "true"
```

2. If any cluster members are offline, the install will be stopped. Ensure the cluster keeps running during the install.

```
restartServerAfterInstall = "false"
disableRestarts = "true"
```

3. Ensure security is applied

```
asSecurityEnabled = "true"
asSecurityAppEnabled = "true"
```

4. Set MQ INSTALL ROOT (exactly as follows)

```
varname_1 = "MQ_INSTALL_ROOT"
vardesc_1 = "MQ_install_root_dir"
varval_1 = "${WAS_INSTALL_ROOT}/lib/WMQ"
varscope_1 = "node"
```

5. Set the deployment process to ignore enterprise application uninstallation errors

```
ignoreEntAppUninstallErrors = "true"
```

58.1.1 Example

```
# The state of the cluster or appserver after a restart of WebSphere
nodeRestartState = "running"
sleepForInstallDuration = 600
restartServerAfterInstall = "false"
forceSleepForInstall = "false"
disableRestarts = "true"
requirePreInstallClusterRunning = "true"
# Logging related settings
maxLogFileCount = 5
logRolloverSize = 2
# Server security settings
asSecurityEnabled = "true"
asSecurityAppEnabled = "true"
```

58.1.2 WebSphere Process server important notes.

When deploying, all application servers being deployed to must be online. If not, the deployment may fail.

When deploying, all applications being deployed to must be online. If not, the deployment may fail.

If the deployment fails because the uninstall fails, firstly satisfy the above 2 conditions and ensure ignoreEntAppUninstallErrors is set to #true#. If you still have problems, try an unistall through the admin console. If that fails, log on to the server and run:

```
wsadmin -f ${WAS_HOME}/ProcessChoreographer/admin/bpcTemplates.jacl -uninstall <app_name> [-force]
```


59 Mediation and Process Modules

59.1 IBM WebSphere Process Server Mediation and Process Modules

In this example file we see the configuration required to deploy a number of modules to a target application server.

59.1.1 Example

First set the general app options:

```
app_options = [ "-server", serverName, "-cluster", clusterName, "-cell", cellName, "-node", nodeName ]
```

Then define the bindings for each application. Here we show the bindings for the **MV_IN_IBGTW_ArrangementSetup** application

```
#-----
# Bindings per application
#-----
# MV_IN_IBGTW_ArrangementSetup
MV_IN_IBGTW_ArrangementSetup_res7_1 = ["MV_IN_IBGTW_ArrangementSetupWeb",
"MV_IN_IBGTW_ArrangementSetupWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
MV_IN_IBGTW_ArrangementSetup_app_options = ["-appname"]
MV_IN_IBGTW_ArrangementSetup_app_options.append("MV_IN_IBGTW_ArrangementSetup")
MV_IN_IBGTW_ArrangementSetup_app_options.append("-MapWebModToVH")
MV_IN_IBGTW_ArrangementSetup_app_options.append([MV_IN_IBGTW_ArrangementSetup_res7_1])
```

Then map all the applications to their respective bindings. Here we show **MV_IN_IBGTW_ArrangementSetup** with just the previous and next bindings for example.

```
enterpriseApplicationList = [ ... ["MV_OUT_IBGTW_ProductCustomerMatching",
MV_OUT_IBGTW_ProductCustomerMatching_app_options], ["MV_IN_IBGTW_ArrangementSetup",
MV_IN_IBGTW_ArrangementSetup_app_options],
["MV_IN_IBGTW_CommunicationAcceptance",
MV_IN_IBGTW_CommunicationAcceptance_app_options] ... ]
```

Once the first two sets of stanzas have been completed, these will never need changing. You can alter which modules are deployed by simply amending the `enterpriseApplicationList` to add or remove modules.

59.1.2 Full py file

The full py file from which the above example was taken:

```
#-----
# The following file contains environment variables that will be used to create
# WAS applicaton server and install Enterprise Apps
#-----
#-----
# General Variables
#-----
appName = "RM_MarketingRules"
appVersion = "1"
envIdentifier = "SysTst04APP"
portIdentifier = "100"
#-----
```

```

# Application Server Related Variables
#-----
serverName = "RDServerSysTst04APP"
serverNode = "rdcloud01"
cookieName = "JSESSIONID"
threadPoolMinSize = 10
threadPoolMaxSize = 50
minJVMHeapSize = 768
#maxJVMHeapSize = 1536
maxJVMHeapSize = 1280
forceFullResync = "true"
# Note: This need to match the node name given during installation of Deployment Manager.
sslTransportSettingNodeName = nodeName
# Can be removed at a later point of time. Is not used at this moment #
# stop removing here
#-----
# WAS Port settings
# These will be the underlying WAS port name suffixed
# with _port. They should be mapped as follws:
# WC_defaulthost_port = 10NNN
# WC_defaulthost_secure_port = 11NNN
# BOOTSTRAP_ADDRESS_port = 12NNN
# SOAP_CONNECTOR_ADDRESS_port = 13NNN
# SIB_ENDPOINT_ADDRESS_port = 14NNN
# SIB_ENDPOINT_SECURE_ADDRESS_port = 15NNN
# SIB_MQ_ENDPOINT_ADDRESS_port = 16NNN
# SIB_MQ_ENDPOINT_SECURE_ADDRESS_port = 17NNN
# SIP_DEFAULTHOST_port = 18NNN
# SIP_DEFAULTHOST_SECURE_port = 19NNN
#
# where NNN is unique for this server (in increments
# of 50 between servers)
#-----
WC_defaulthost_port = 10100
WC_defaulthost_secure_port = 11100
BOOTSTRAP_ADDRESS_port = 12100
SOAP_CONNECTOR_ADDRESS_port = 13100
#SIB_ENDPOINT_ADDRESS_port = 14100
#SIB_ENDPOINT_SECURE_ADDRESS_port = 15100
#SIB_MQ_ENDPOINT_ADDRESS_port = 16100
#SIB_MQ_ENDPOINT_SECURE_ADDRESS_port = 17100
#SIP_DEFAULTHOST_port = 18100
#SIP_DEFAULTHOST_SECURE_port = 19100
#-----
# HTTP Server Port settings for the virtual host
# Ports defined as follows:
#
# httpServerNosecureTransportPortNo = 30NNN
# httpServerSecureTransportPortNo = 31NNN
# httpsCSSSprayerSecureTransportPort = 443
# cssSprayerName
#
# where NNN is unique for this server

```

```

# cssSprayerName Matches the DNS name of the service
# Additional virtual host parameters may also be added.
#-----
httpServerNosecureTransportPortNo = 30000
httpServerSecureTransportPortNo = 31000
httpsCSSSprayerSecureTransportPort = 443
#cssSprayerName = ifasales.midvision.co.uk
#-----
# Virtual Host Related Variables
#-----
vHostName = serverName
vHostPort = WC_defaulthost_port
virtualHostList = [[ vHostName, httpServerNosecureTransportPortNo],
[vHostName ,WC_defaulthost_secure_port ] , [ vHostName, WC_defaulthost_port ]]
#-----
# Cluster Related Variables
#-----
clusterName = serverName
clusterCount = 2
clusterIncrementer = 0
#-----
# Install the cluster members, and application only
# on specified nodes in the cell.
#-----
useSpecifiedClusterNodes = "false"
#specifiedNodes = ["rdcloud01", "rdcloud02"]
#-----
# Application Server JVM properties
#-----
systemProperties = [{"name", "user.timezone"}, {"value", "Europe/London"}]]
#-----
# genericJVMArguments
#-----
# Uncomment For SPNEGO SSO Security
#genericJVMArguments = "-DjvmName=RDServerSysTst04APP -
Dcom.ibm.ws.security.spnego.isEnabled=true"
# Uncomment For No SPNEGO SSO Security
#genericJVMArguments = "-verbose:gc -DjvmName=RDServerSysTst04APP -Xminf0.3 -Xmaxf0.6 -
Dcom.ibm.ws.security.spnego.isEnabled=false -XX:MaxPermSize=256m -Xgcpolicy:gencon -Xverbosegclog:
${SERVER_LOG_ROOT}/verbosegc.log,5,5000"
#genericJVMArguments = "-verbose:gc -DjvmName=RDServerSysTst04APP"
genericJVMArguments = "-verbose:gc -DjvmName=RDServerSysTst04APP -Xgcpolicy:gencon -Xmn512m"
#-----
# Shared Libraries
#-----
installSharedLibs = "true"
sharedLibName_1 = "MVPROJ_WPS_EAComponentLib_SysTst04APP"
sharedLibClassPath_1 = "/usr/websphere6/wpsge_57/AppServer/SharedLibraries/EAComponentLib"
sharedLibNativePath_1 = ""
classloaderForSharedLibrary = "PARENT_FIRST"
sharedLibName_2 = "MVPROJ_WPS_CustomPrimitives_SysTst04APP"
sharedLibClassPath_2 = "/usr/websphere6/wpsge_57/AppServer/SharedLibraries/CustomPrimitives"
sharedLibNativePath_2 = ""

```

```

classloaderForSharedLibrary = "PARENT_FIRST"
#-----
# Datasource settings.
# Each datasource should have settings with an _1, _2 suffix etc
# Note that if templateName is "" then no template is used.
# Examples of settings:
# ORACLE:
# set jdbcimplclass_1 "oracle.jdbc.pool.OracleConnectionPoolDataSource"
# set dsHelper_1 "com.ibm.websphere.rsadapter.OracleDataStoreHelper"
# (with databaseURL "jdbc:oracle:thin:@p09604gens04:1526:jxtst06")
# DB2:
# set jdbcimplclass_1 "COM.ibm.db2.jdbc.DB2XADataSource"
# set dsHelper_1 "com.ibm.websphere.rsadapter.DB2DataStoreHelper"
# SQL:
# set jdbcimplclass_1 "com.ibm.websphere.jdbcx.sqlserver.SQLServerDataSource"
# set dsHelper_1 "com.ibm.websphere.rsadapter.WSConnectJDBCDataStoreHelper"
#-----
#-----
# JDBC Provider 1 and DataSource Related Variables
#-----
templateName_1 = ""
databaseURL_1 = "jdbc:oracle:thin:@mvcloud04:1526:poulhbj"
dsj2eeAttr_1 = [[[ "name","connectionProperties" ], [ "type","java.lang.String" ],
[ "value","oracle.jdbc.V8Compatible=true" ]]]
jdbcimplclass_1 = "oracle.jdbc.xa.client.OracleXADataSource"
jdbcdesc_1 = "Oracle JDBC Driver XA"
dsHelper_1 = "com.ibm.websphere.rsadapter.Oracle10gDataStoreHelper"
jdbcscope_1 = "cell"
jdbcname_1 = "RefData"
driverPath_1 = "/u01/app/oracle/product/10.2.0/jdbc/lib/ojdbc14.jar"
dsname_1 = "RefDataDS"
dsjndiname_1 = "jdbc/ref_data"
cfname_1 = "RefDataDS"
#agedTimeout_1 = 1000
agedTimeout_1 = 0
#connectionTimeout_1 = 1000
connectionTimeout_1 = 180
maxConnections_1 = 50
#minConnections_1 = 5
minConnections_1 = 10
purgePolicy_1 = "EntirePool"
#reapTime_1 = 2000
reapTime_1 = 180
#unusedTimeout_1 = 3000
unusedTimeout_1 = 1800
#stmentCacheSize_1 = 10
stmentCacheSize_1 = 50
#-----
# Database 1 JAAS Authentication Related Variables
#-----
databasePasswordAlias_1 = appName+"_1_DatabaseAuthInfo"
databaseUserId_1 = "user"
databasePassword_1 = "password"

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databaseDescription_1 = "Database Authentication Data for " + jdbcname_1
#-----
# Resource Environment Variables
#-----
#
#----- Resource Env Provider 1 -----
#
ResEnvProviderName_1 = "RapidDeploy_ResEnvProvider"
ResEnvProviderScope_1 = "cell"
ResRefFactoryClass_1 = "com.ibm.issw.util.websphere.ResourceEnvEntryMap"
ResRefClass_1 = "com.ibm.issw.util.websphere.ResourceEnvEntryMap"
#----- Resource Env Entry 1 -----
# Resource Env Entry 1
ResEnvEntName_1 = "FuseResourceRef"
ResEnvEntIndiName_1 = "rep/MV/MVPROJ/FuseResourceRef"
# Custom property 1 for Resource Env Entry 1
ResEnvEntCustPropName_1_1 = "MvService_responseTimeMax"
ResEnvEntCustPropValue_1_1 = "5000"
ResEnvEntCustPropDesc_1_1 = "Description"
ResEnvEntCustPropType_1_1 = "java.lang.Long"
ResEnvEntCustPropRequired_1_1 = "false"
# Custom property 2 for Resource Env Entry 1
ResEnvEntCustPropName_1_2 = "MvService_concurrencyMax"
ResEnvEntCustPropValue_1_2 = "30"
ResEnvEntCustPropDesc_1_2 = "Description"
ResEnvEntCustPropType_1_2 = "java.lang.Long"
ResEnvEntCustPropRequired_1_2 = "false"
# Custom property 3 for Resource Env Entry 1
ResEnvEntCustPropName_1_3 = "MvService_failInterval"
ResEnvEntCustPropValue_1_3 = "5000"
ResEnvEntCustPropDesc_1_3 = "Description"
ResEnvEntCustPropType_1_3 = "java.lang.Long"
ResEnvEntCustPropRequired_1_3 = "false"
# Custom property 4 for Resource Env Entry 1
ResEnvEntCustPropName_1_4 = "MvService_failCountMax"
ResEnvEntCustPropValue_1_4 = "10"
ResEnvEntCustPropDesc_1_4 = "Description"
ResEnvEntCustPropType_1_4 = "java.lang.Integer"
ResEnvEntCustPropRequired_1_4 = "false"
# Custom property 5 for Resource Env Entry 1
ResEnvEntCustPropName_1_5 = "MvService_fuseResetTime"
ResEnvEntCustPropValue_1_5 = "3600000"
ResEnvEntCustPropDesc_1_5 = "Description"
ResEnvEntCustPropType_1_5 = "java.lang.Long"
ResEnvEntCustPropRequired_1_5 = "false"
# Custom property 6 for Resource Env Entry 1
ResEnvEntCustPropName_1_6 = "LoansService_responseTimeMax"
ResEnvEntCustPropValue_1_6 = "3000"
ResEnvEntCustPropDesc_1_6 = "Description"
ResEnvEntCustPropType_1_6 = "java.lang.Long"
ResEnvEntCustPropRequired_1_6 = "false"
# Custom property 7 for Resource Env Entry 1
ResEnvEntCustPropName_1_7 = "LoansService_concurrencyMax"

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ResEnvEntCustPropValue_1_7 = "30"
ResEnvEntCustPropDesc_1_7 = "Description"
ResEnvEntCustPropType_1_7 = "java.lang.Long"
ResEnvEntCustPropRequired_1_7 = "false"
# Custom property 8 for Resource Env Entry 1
ResEnvEntCustPropName_1_8 = "LoansService_failInterval"
ResEnvEntCustPropValue_1_8 = "1000"
ResEnvEntCustPropDesc_1_8 = "Description"
ResEnvEntCustPropType_1_8 = "java.lang.Long"
ResEnvEntCustPropRequired_1_8 = "false"
# Custom property 9 for Resource Env Entry 1
ResEnvEntCustPropName_1_9 = "LoansService_failCountMax"
ResEnvEntCustPropValue_1_9 = "1"
ResEnvEntCustPropDesc_1_9 = "Description"
ResEnvEntCustPropType_1_9 = "java.lang.Integer"
ResEnvEntCustPropRequired_1_9 = "false"
# Custom property 10 for Resource Env Entry 1
ResEnvEntCustPropName_1_10 = "MvService_fuseResetTime"
ResEnvEntCustPropValue_1_10 = "3600000"
ResEnvEntCustPropDesc_1_10 = "Description"
ResEnvEntCustPropType_1_10 = "java.lang.Long"
ResEnvEntCustPropRequired_1_10 = "false"
#----- Resource Env Entry 2 -----
ResEnvEntName_2 = "LogResourceRef"
ResEnvEntJndiName_2 = "rep/MV/MVPROJ/LogResourceRef"
# Custom property 1 for Resource Env Entry 2
ResEnvEntCustPropName_2_1 = "EALoggingEnabled"
ResEnvEntCustPropValue_2_1 = "true"
ResEnvEntCustPropDesc_2_1 = "Description"
ResEnvEntCustPropType_2_1 = "java.lang.Boolean"
ResEnvEntCustPropRequired_2_1 = "false"
#-----
# Replication Domain Settings
#-----
installReplicationDomain = "true"
replNumberOfReplicas = -1
replRequestTimeout = 5
replUseSSL = "false"
#-----
# Object Cache settings
#-----
installObjectCache = "true"
#-----
# Object Cache Instance 1 settings
#-----
objcName_1 = "ReferenceDataCache"
objcJndiName_1 = "services/cache/referencedata"
objcDescription_1 = "Reference Data Cache"
objcCacheSize_1 = "1500"
objcDefaultPriority_1 = "1"
objcEnableDiskOffload_1 = "false"
objcDiskOffloadLocation_1 = "/cache"
objcFlushToDiskOnStop_1 = "false"

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objcDiskCacheSizeInGB_1 = "2"
objcDiskCacheSizeInEntries_1 = "0"
objcDiskCacheEntrySizeInMB_1 = "0"
objcDiskCacheCleanupFrequency_1 = "2592000" # If 0 then only at midnight
objcDisableDependencyId_1 = "true"
objcUseListenerContext_1 = "false"
objcReplicationType_1 = "PUSH"
objcPushFrequency_1 = "1"
objcEnableCacheReplication_1 = "true"
objcMessageBrokerDomainName_1 = serverName
#-----
# Application install Related Variables
#-----
installMultipleApps = "true"
entAppName = appName
app_options = [ "-server", serverName, "-cluster", clusterName, "-cell", cellName, "-node", nodeName ]
#-----
# Bindings per application
#-----
# MV_IN_IBGTW_ArrangementSetup
MV_IN_IBGTW_ArrangementSetup_res7_1 = ["MV_IN_IBGTW_ArrangementSetupWeb",
"MV_IN_IBGTW_ArrangementSetupWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
MV_IN_IBGTW_ArrangementSetup_app_options = ["-appname"]
MV_IN_IBGTW_ArrangementSetup_app_options.append("MV_IN_IBGTW_ArrangementSetup")
MV_IN_IBGTW_ArrangementSetup_app_options.append("-MapWebModToVH")
MV_IN_IBGTW_ArrangementSetup_app_options.append([MV_IN_IBGTW_ArrangementSetup_res7_1])
# MV_IN_IBGTW_CommunicationAcceptance
MV_IN_IBGTW_CommunicationAcceptance_res7_1 = ["MV_IN_IBGTW_CommunicationAcceptanceWeb",
"MV_IN_IBGTW_CommunicationAcceptanceWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
MV_IN_IBGTW_CommunicationAcceptance_app_options = ["-appname"]
MV_IN_IBGTW_CommunicationAcceptance_app_options.append("MV_IN_IBGTW_CommunicationAcceptance")
MV_IN_IBGTW_CommunicationAcceptance_app_options.append("-MapWebModToVH")
MV_IN_IBGTW_CommunicationAcceptance_app_options.append([MV_IN_IBGTW_CommunicationAcceptance_res7_1])
# MV_IN_IBGTW_ProductCustomerMatching
MV_IN_IBGTW_ProductCustomerMatching_res7_1 = ["MV_IN_IBGTW_ProductCustomerMatchingWeb",
"MV_IN_IBGTW_ProductCustomerMatchingWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
MV_IN_IBGTW_ProductCustomerMatching_app_options = ["-appname"]
MV_IN_IBGTW_ProductCustomerMatching_app_options.append("MV_IN_IBGTW_ProductCustomerMatching")
MV_IN_IBGTW_ProductCustomerMatching_app_options.append("-MapWebModToVH")
MV_IN_IBGTW_ProductCustomerMatching_app_options.append([MV_IN_IBGTW_ProductCustomerMatching_res7_1])
# MV_OUT_CBS -
MV_OUT_CBS_res7_1 = ["MV_OUT_CBSWeb", "MV_OUT_CBSWeb.war,WEB-INF/web.xml",
"RDServerSysTst04APP"]
MV_OUT_CBS_app_options = ["-appname"]
MV_OUT_CBS_app_options.append("MV_OUT_CBS")
MV_OUT_CBS_app_options.append("-MapWebModToVH")
MV_OUT_CBS_app_options.append([MV_OUT_CBS_res7_1])
MV_OUT_CBS_res9_1 = ["MV_OUT_CBSEJB.jar", "Module", "sca/import/
Imp_E141_EnqCBSBasicAcDetail", "E141_EnqCBSBasicAcDetail", "", "", "", "", "http://
mvsg1.midvision.co.uk:60000/RICCICS/E141/SSPHTPI2", ""]
MV_OUT_CBS_app_options.append("-WebServicesClientBindPortInfo")
MV_OUT_CBS_app_options.append([MV_OUT_CBS_res9_1])
# MV_OUT_CIA

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MV_OUT_CIA_res7_1 = ["MV_OUT_CIAWeb", "MV_OUT_CIAWeb.war,WEB-INF/web.xml",
"RDServerSysTst04APP"]
MV_OUT_CIA_app_options = ["-appname"]
MV_OUT_CIA_app_options.append("MV_OUT_CIA")
MV_OUT_CIA_app_options.append("-MapWebModToVH")
MV_OUT_CIA_app_options.append([MV_OUT_CIA_res7_1])
MV_OUT_CIA_res9_1 = ["MV_OUT_CIAEJB.jar", "Module", "sca/import/
Imp_Parallel_F139_AddCLPLoanIllustration", "F139_AddCLPLoanIllustration", "", "", "", "", "http://
mvsgl.MidVision.co.uk:60288/CICS/F139/VU0015CE", ""]
MV_OUT_CIA_res9_2 = ["MV_OUT_CIAEJB.jar", "Module", "sca/import/
Imp_F139_AddCLPLoanIllustration", "F139_AddCLPLoanIllustration", "", "", "", "", "http://
mvsgl.MidVision.co.uk:60288/CICS/F139/VU0015CE", ""]
MV_OUT_CIA_app_options.append("-WebServicesClientBindPortInfo")
MV_OUT_CIA_app_options.append([MV_OUT_CIA_res9_1, MV_OUT_CIA_res9_2])
# MV_OUT_CINS
MV_OUT_CINS_res7_1 = ["MV_OUT_CINSWeb", "MV_OUT_CINSWeb.war,WEB-INF/web.xml",
"RDServerSysTst04APP"]
MV_OUT_CINS_app_options = ["-appname"]
MV_OUT_CINS_app_options.append("MV_OUT_CINS")
MV_OUT_CINS_app_options.append("-MapWebModToVH")
MV_OUT_CINS_app_options.append([MV_OUT_CINS_res7_1])
MV_OUT_CINS_res9_1 = ["MV_OUT_CINSEJB.jar", "Module", "sca/import/
X758_GetRiskLoanScoresImport", "X758_GetRiskLoanScores", "", "", "", "", "http://
mvsgl.MidVision.co.uk:60038/CICS/X758/VU0015CE", ""]
MV_OUT_CINS_app_options.append("-WebServicesClientBindPortInfo")
MV_OUT_CINS_app_options.append([MV_OUT_CINS_res9_1])
# MV_OUT_IBGTW_ArrangementSetup
MV_OUT_IBGTW_ArrangementSetup_res7_1 = ["MV_OUT_IBGTW_ArrangementSetupWeb",
"MV_OUT_IBGTW_ArrangementSetupWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
MV_OUT_IBGTW_ArrangementSetup_app_options = ["-appname"]
MV_OUT_IBGTW_ArrangementSetup_app_options.append("MV_OUT_IBGTW_ArrangementSetup")
MV_OUT_IBGTW_ArrangementSetup_app_options.append("-MapWebModToVH")
MV_OUT_IBGTW_ArrangementSetup_app_options.append([MV_OUT_IBGTW_ArrangementSetup_res7_1])
MV_OUT_IBGTW_ArrangementSetup_res9_1 = ["MV_OUT_IBGTW_ArrangementSetupEJB.jar", "Module",
"sca/import/Imp_ArrangementAccountProcessing", "ArrangementAccountProcessingSOAPPor", "", "", "", "",
"http://10.162.73.231:22503/ArrangementAccountProcessingService", ""]
MV_OUT_IBGTW_ArrangementSetup_res9_2 = ["MV_OUT_IBGTW_ArrangementSetupEJB.jar",
"Module", "sca/import/Imp_ArrangementSetup", "ArrangementSetupSOAPPor", "", "", "", "",
"http://10.162.73.231:22503/ArrangementSetupService", ""]
MV_OUT_IBGTW_ArrangementSetup_app_options.append("-WebServicesClientBindPortInfo")
MV_OUT_IBGTW_ArrangementSetup_app_options.append([MV_OUT_IBGTW_ArrangementSetup_res9_1,
MV_OUT_IBGTW_ArrangementSetup_res9_2])
# MV_OUT_IBGTW_InvolvedPartyAuthorization
MV_OUT_IBGTW_InvolvedPartyAuthorization_res7_1 =
["MV_OUT_IBGTW_InvolvedPartyAuthorizationWeb",
"MV_OUT_IBGTW_InvolvedPartyAuthorizationWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
MV_OUT_IBGTW_InvolvedPartyAuthorization_app_options = ["-appname"]
MV_OUT_IBGTW_InvolvedPartyAuthorization_app_options.append("MV_OUT_IBGTW_InvolvedPartyAuthorization")
MV_OUT_IBGTW_InvolvedPartyAuthorization_app_options.append("-MapWebModToVH")
MV_OUT_IBGTW_InvolvedPartyAuthorization_app_options.append([MV_OUT_IBGTW_InvolvedPartyAuthorization_res7_1])
MV_OUT_IBGTW_InvolvedPartyAuthorization_res9_1 =
["MV_OUT_IBGTW_InvolvedPartyAuthorizationEJB.jar", "Module", "sca/import/

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Imp_InvolvedParty", "InvolvedPartyAuthorisationSOAPPor", "", "", "", "", "http://10.162.73.231:22503/
InvolvedPartyAuthorisationService", ""]
MV_OUT_IBGTW_InvolvedPartyAuthorization_app_options.append("-WebServicesClientBindPortInfo")
MV_OUT_IBGTW_InvolvedPartyAuthorization_app_options.append([MV_OUT_IBGTW_InvolvedPartyAuthorization_res9_1])
# MV_OUT_IBGTW_ProductCustomerMatching
MV_OUT_IBGTW_ProductCustomerMatching_res7_1 =
["MV_OUT_IBGTW_ProductCustomerMatchingWeb",
"MV_OUT_IBGTW_ProductCustomerMatchingWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
MV_OUT_IBGTW_ProductCustomerMatching_app_options = ["-appname"]
MV_OUT_IBGTW_ProductCustomerMatching_app_options.append("MV_OUT_IBGTW_ProductCustomerMatching")
MV_OUT_IBGTW_ProductCustomerMatching_app_options.append("-MapWebModToVH")
MV_OUT_IBGTW_ProductCustomerMatching_app_options.append([MV_OUT_IBGTW_ProductCustomerMatching_res7_1])
MV_OUT_IBGTW_ProductCustomerMatching_res9_1 =
["MV_OUT_IBGTW_ProductCustomerMatchingEJB.jar", "Module", "sca/import/
Imp_ProductCustomerMatching", "ProductCustomerMatchingSOAPPor", "", "", "", "",
"http://10.162.73.231:22503/ProductCustomerMatchingService", ""]
MV_OUT_IBGTW_ProductCustomerMatching_app_options.append("-WebServicesClientBindPortInfo")
MV_OUT_IBGTW_ProductCustomerMatching_app_options.append([MV_OUT_IBGTW_ProductCustomerMatching_res9_1])
# The below module no longer needs to be deployed, the WPS GBO to 'Leads message type' transformation will
be done in DP
# MV_OUT_LeadsRepository
# MV_OUT_LeadsRepository_res7_1 = ["MV_OUT_LeadsRepositoryWeb",
"MV_OUT_LeadsRepositoryWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
# MV_OUT_LeadsRepository_app_options = ["-appname"]
# MV_OUT_LeadsRepository_app_options.append("MV_OUT_LeadsRepository")
# MV_OUT_LeadsRepository_app_options.append("-MapWebModToVH")
# MV_OUT_LeadsRepository_app_options.append([MV_OUT_LeadsRepository_res7_1])
# MV_OUT_LeadsRepository_res9_1 = ["MV_OUT_LeadsRepositoryEJB.jar", "Module", "sca/import/
Imp_X714717_LeadsRepository", "MvService", "", "", "", "", "http://b101s09.test.MidVision.co.uk:30034/
LeadWebService/services/MvService", ""]
# MV_OUT_LeadsRepository_app_options.append("-WebServicesClientBindPortInfo")
# MV_OUT_LeadsRepository_app_options.append([MV_OUT_LeadsRepository_res9_1])
# MV_OUT_OCIS
MV_OUT_OCIS_res7_1 = ["MV_OUT_OCISWeb", "MV_OUT_OCISWeb.war,WEB-INF/web.xml",
"RDServerSysTst04APP"]
MV_OUT_OCIS_app_options = ["-appname"]
MV_OUT_OCIS_app_options.append("MV_OUT_OCIS")
MV_OUT_OCIS_app_options.append("-MapWebModToVH")
MV_OUT_OCIS_app_options.append([MV_OUT_OCIS_res7_1])
MV_OUT_OCIS_res9_1 = ["MV_OUT_OCISEJB.jar", "Module", "sca/import/Imp_F061_EnqPtyDetails",
"F061_EnqPtyDetails", "", "", "", "", "http://mvsg1.MidVision.co.uk:60620/CICS/F061/VU0015CE", ""]
MV_OUT_OCIS_app_options.append("-WebServicesClientBindPortInfo")
MV_OUT_OCIS_app_options.append([MV_OUT_OCIS_res9_1])
# MV_OUT_WPSRefDataMarketing
MV_OUT_WPSRefDataMarketing_res7_1 = ["MV_OUT_WPSRefDataMarketingWeb",
"MV_OUT_WPSRefDataMarketingWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
MV_OUT_WPSRefDataMarketing_app_options = ["-appname"]
MV_OUT_WPSRefDataMarketing_app_options.append("MV_OUT_WPSRefDataMarketing")
MV_OUT_WPSRefDataMarketing_app_options.append("-MapWebModToVH")
MV_OUT_WPSRefDataMarketing_app_options.append([MV_OUT_WPSRefDataMarketing_res7_1])
# MV_OUT_WPSRefDataProduct
MV_OUT_WPSRefDataProduct_res7_1 = ["MV_OUT_WPSRefDataProductWeb",
"MV_OUT_WPSRefDataProductWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]

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MV_OUT_WPSRefDataProduct_app_options = ["-appname"]
MV_OUT_WPSRefDataProduct_app_options.append("MV_OUT_WPSRefDataProduct")
MV_OUT_WPSRefDataProduct_app_options.append("-MapWebModToVH")
MV_OUT_WPSRefDataProduct_app_options.append([MV_OUT_WPSRefDataProduct_res7_1])
# MV_OUT_WPSRefData_Instruction
MV_OUT_WPSRefData_Instruction_res7_1 = ["MV_OUT_WPSRefData_InstructionWeb",
"MV_OUT_WPSRefData_InstructionWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
MV_OUT_WPSRefData_Instruction_app_options = ["-appname"]
MV_OUT_WPSRefData_Instruction_app_options.append("MV_OUT_WPSRefData_Instruction")
MV_OUT_WPSRefData_Instruction_app_options.append("-MapWebModToVH")
MV_OUT_WPSRefData_Instruction_app_options.append([MV_OUT_WPSRefData_Instruction_res7_1])
# RM_ActivateProductArrangement
RM_ActivateProductArrangement_res7_1 = ["RM_ActivateProductArrangementWeb",
"RM_ActivateProductArrangementWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
RM_ActivateProductArrangement_app_options = ["-appname"]
RM_ActivateProductArrangement_app_options.append("RM_ActivateProductArrangement")
RM_ActivateProductArrangement_app_options.append("-MapWebModToVH")
RM_ActivateProductArrangement_app_options.append([RM_ActivateProductArrangement_res7_1])
# RM_DetermineCustomerProductConditions
RM_DetermineCustomerProductConditions_res7_1 = ["RM_DetermineCustomerProductConditionsWeb",
"RM_DetermineCustomerProductConditionsWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
RM_DetermineCustomerProductConditions_app_options = ["-appname"]
RM_DetermineCustomerProductConditions_app_options.append("RM_DetermineCustomerProductConditions")
RM_DetermineCustomerProductConditions_app_options.append("-MapWebModToVH")
RM_DetermineCustomerProductConditions_app_options.append([RM_DetermineCustomerProductConditions_res7_1])
# RM_DetermineEligibleCustomerInstructions
RM_DetermineEligibleCustomerInstructions_res7_1 = ["RM_DetermineEligibleCustomerInstructionsWeb",
"RM_DetermineEligibleCustomerInstructionsWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
RM_DetermineEligibleCustomerInstructions_app_options = ["-appname"]
RM_DetermineEligibleCustomerInstructions_app_options.append("RM_DetermineEligibleCustomerInstructions")
RM_DetermineEligibleCustomerInstructions_app_options.append("-MapWebModToVH")
RM_DetermineEligibleCustomerInstructions_app_options.append([RM_DetermineEligibleCustomerInstructions_res7_1])
# RM_DeterminePromotionalCustomerInstructions
RM_DeterminePromotionalCustomerInstructions_res7_1 =
["RM_DeterminePromotionalCustomerInstructionsWeb",
"RM_DeterminePromotionalCustomerInstructionsWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
RM_DeterminePromotionalCustomerInstructions_app_options = ["-appname"]
RM_DeterminePromotionalCustomerInstructions_app_options.append("RM_DeterminePromotionalCustomerInstructions")
RM_DeterminePromotionalCustomerInstructions_app_options.append("-MapWebModToVH")
RM_DeterminePromotionalCustomerInstructions_app_options.append([RM_DeterminePromotionalCustomerInstructions_res7_1])
# RM_DownsellRules
RM_DownsellRules_res7_1 = ["RM_DownsellRulesWeb", "RM_DownsellRulesWeb.war,WEB-INF/web.xml",
"RDServerSysTst04APP"]
RM_DownsellRules_app_options = ["-appname"]
RM_DownsellRules_app_options.append("RM_DownsellRules")
RM_DownsellRules_app_options.append("-MapWebModToVH")
RM_DownsellRules_app_options.append([RM_DownsellRules_res7_1])
# RM_EligibilityRules
RM_EligibilityRules_res7_1 = ["RM_EligibilityRulesWeb", "RM_EligibilityRulesWeb.war,WEB-INF/
web.xml", "RDServerSysTst04APP"]
RM_EligibilityRules_app_options = ["-appname"]
RM_EligibilityRules_app_options.append("RM_EligibilityRules")
RM_EligibilityRules_app_options.append("-MapWebModToVH")

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RM_EligibilityRules_app_options.append([RM_EligibilityRules_res7_1])
# RM_LoanRules
RM_LoanRules_res7_1 = ["RM_LoanRulesWeb", "RM_LoanRulesWeb.war,WEB-INF/web.xml",
"RDServerSysTst04APP"]
RM_LoanRules_app_options = ["-appname"]
RM_LoanRules_app_options.append("RM_LoanRules")
RM_LoanRules_app_options.append("-MapWebModToVH")
RM_LoanRules_app_options.append([RM_LoanRules_res7_1])
# RM_MarketingRules
RM_MarketingRules_res7_1 = ["RM_MarketingRulesWeb", "RM_MarketingRulesWeb.war,WEB-INF/
web.xml", "RDServerSysTst04APP"]
RM_MarketingRules_app_options = ["-appname"]
RM_MarketingRules_app_options.append("RM_MarketingRules")
RM_MarketingRules_app_options.append("-MapWebModToVH")
RM_MarketingRules_app_options.append([RM_MarketingRules_res7_1])
# RM_ModifyFinanceServiceArrangement
RM_ModifyFinanceServiceArrangement_res7_1 = ["RM_ModifyFinanceServiceArrangementWeb",
"RM_ModifyFinanceServiceArrangementWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
RM_ModifyFinanceServiceArrangement_app_options = ["-appname"]
RM_ModifyFinanceServiceArrangement_app_options.append("RM_ModifyFinanceServiceArrangement")
RM_ModifyFinanceServiceArrangement_app_options.append("-MapWebModToVH")
RM_ModifyFinanceServiceArrangement_app_options.append([RM_ModifyFinanceServiceArrangement_res7_1])
# RM_PrepareFinanceServiceArrangementProposals
RM_PrepareFinanceServiceArrangementProposals_res7_1 =
["RM_PrepareFinanceServiceArrangementProposalsWeb",
"RM_PrepareFinanceServiceArrangementProposalsWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
RM_PrepareFinanceServiceArrangementProposals_app_options = ["-appname"]
RM_PrepareFinanceServiceArrangementProposals_app_options.append("RM_PrepareFinanceServiceArrangementProposals")
RM_PrepareFinanceServiceArrangementProposals_app_options.append("-MapWebModToVH")
RM_PrepareFinanceServiceArrangementProposals_app_options.append([RM_PrepareFinanceServiceArrangementProposals_res7_1])
# RM_RetrievePromotionalCommunications
RM_RetrievePromotionalCommunications_res7_1 = ["RM_RetrievePromotionalCommunicationsWeb",
"RM_RetrievePromotionalCommunicationsWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
RM_RetrievePromotionalCommunications_app_options = ["-appname"]
RM_RetrievePromotionalCommunications_app_options.append("RM_RetrievePromotionalCommunications")
RM_RetrievePromotionalCommunications_app_options.append("-MapWebModToVH")
RM_RetrievePromotionalCommunications_app_options.append([RM_RetrievePromotionalCommunications_res7_1])
RM_RetrievePromotionalCommunications_res9_1 = ["RM_RetrievePromotionalCommunicationsEJB.jar",
"Module", "sca/import/ID_LeadServiceWeb", "Export1_ID_LeadServiceHttpPort", "", "", "", "",
"http://10.162.73.231:22503/RM_LeadServiceWeb/sca/ID_LeadServiceExport1", ""]
RM_RetrievePromotionalCommunications_app_options.append("-WebServicesClientBindPortInfo")
RM_RetrievePromotionalCommunications_app_options.append([RM_RetrievePromotionalCommunications_res9_1])
# RM_VerifyProductArrangementDetails
RM_VerifyProductArrangementDetails_res7_1 = ["RM_VerifyProductArrangementDetailsWeb",
"RM_VerifyProductArrangementDetailsWeb.war,WEB-INF/web.xml", "RDServerSysTst04APP"]
RM_VerifyProductArrangementDetails_app_options = ["-appname"]
RM_VerifyProductArrangementDetails_app_options.append("RM_VerifyProductArrangementDetails")
RM_VerifyProductArrangementDetails_app_options.append("-MapWebModToVH")
RM_VerifyProductArrangementDetails_app_options.append([RM_VerifyProductArrangementDetails_res7_1])
#enterpriseApplicationList = [{"RM_MarketingRules", RM_MarketingRules_app_options},
["MV_IN_IBGTW_ArrangementSetup", MV_IN_IBGTW_ArrangementSetup_app_options],
["MV_IN_IBGTW_CommunicationAcceptance", MV_IN_IBGTW_CommunicationAcceptance_app_options],
["MV_IN_IBGTW_ProductCustomerMatching", MV_IN_IBGTW_ProductCustomerMatching_app_options],

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["MV_OUT_CBS", MV_OUT_CBS_app_options], ["MV_OUT_CIA", MV_OUT_CIA_app_options],  
["MV_OUT_CINS", MV_OUT_CINS_app_options], ["MV_OUT_IBGTW_ArrangementSetup",  
MV_OUT_IBGTW_ArrangementSetup_app_options], ["MV_OUT_IBGTW_InvolvedPartyAuthorization",  
MV_OUT_IBGTW_InvolvedPartyAuthorization_app_options], ["MV_OUT_LeadsRepository",  
MV_OUT_LeadsRepository_app_options], ["MV_OUT_OCIS", MV_OUT_OCIS_app_options],  
["MV_OUT_WPSRefDataMarketing", MV_OUT_WPSRefDataMarketing_app_options],  
["MV_OUT_WPSRefDataProduct", MV_OUT_WPSRefDataProduct_app_options],  
["MV_OUT_WPSRefData_Instruction", MV_OUT_WPSRefData_Instruction_app_options],  
["RM_ActivateProductArrangement", RM_ActivateProductArrangement_app_options],  
["RM_DetermineCustomerProductConditions", RM_DetermineCustomerProductConditions_app_options],  
["RM_DetermineEligibleCustomerInstructions", RM_DetermineEligibleCustomerInstructions_app_options],  
["RM_DeterminePromotionalCustomerInstructions",  
RM_DeterminePromotionalCustomerInstructions_app_options], ["RM_DownsellRules",  
RM_DownsellRules_app_options], ["RM_EligibilityRules", RM_EligibilityRules_app_options],  
["RM_LoanRules", RM_LoanRules_app_options], ["RM_ModifyFinanceServiceArrangement",  
RM_ModifyFinanceServiceArrangement_app_options], ["RM_PrepareFinanceServiceArrangementProposals",  
RM_PrepareFinanceServiceArrangementProposals_app_options],  
["RM_RetrievePromotionalCommunications", RM_RetrievePromotionalCommunications_app_options],  
["RM_VerifyProductArrangementDetails", RM_VerifyProductArrangementDetails_app_options]]  
enterpriseApplicationList =
```