

Oracle® Application Server

Release Notes and New Features

10g Release 3 (10.1.3.4)

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Preface

This preface includes the following topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Related Documents](#)
- [Conventions](#)

Audience

This document is intended for users of Oracle Application Server 10g.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible to all users, including users that are disabled. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at <http://www.oracle.com/accessibility/>.

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Related Documents

For more information, see these Oracle resources:

- Oracle Application Server Documentation on Oracle Application Server Disk 1
- Oracle Application Server Documentation Library 10g Release 3 (10.1.3.4)

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
<code>monospace</code>	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

What's New in the *Release Notes and New Features*?

This chapter provides a listing of new or updated topics introduced with this version of the *Release Notes and New Features*. The new topics are in the following chapters:

- [Chapter 3, "Installation Issues"](#)
- [Chapter 4, "General Management and Security Issues"](#)
- [Chapter 6, "Oracle Business Activity Monitoring"](#)
- [Chapter 15, "Oracle Content DB Issues"](#)

1.1 Chapter 3, "Installation Issues"

- [Section 3.1, "IPv6 Not Supported"](#)
- [Section 3.2, "DHCP Warning Message with Static IP Addresses \(Vista and Windows 2008\)"](#)
- [Section 3.3, "Installer Hangs When It Tries to Restart OPMN \(Vista and Windows 2008\)"](#)

1.2 Chapter 4, "General Management and Security Issues"

- [Section 4.3, "Starting and Stopping Requires Administrator Privileges \(Vista and Windows 2008\)"](#)

1.3 Chapter 6, "Oracle Business Activity Monitoring"

- [Section 8.8.3, "Microsoft Windows 2008 Supported"](#)

1.4 Chapter 15, "Oracle Content DB Issues"

- [Section 15.1, "Oracle Content DB Web Folders not Supported \(Vista and Windows 2008\)"](#)

Introduction

This chapter introduces Release Notes and New Features, 10g Release 3 (10.1.3.4). It includes the following topics:

- [Section 2.1, "Latest Release Information"](#)
- [Section 2.2, "Purpose of this Document"](#)
- [Section 2.3, "Operating System Requirements"](#)
- [Section 2.4, "Certification Information"](#)
- [Section 2.5, "Licensing Information"](#)

2.1 Latest Release Information

This document is accurate at the time of publication. Oracle updates the release notes periodically after the software release. You can access the latest information and additions to these release notes on the Oracle Technology Network at:

<http://www.oracle.com/technology/documentation/>

2.2 Purpose of this Document

This document contains the release information for Oracle Application Server 10g Release 3 (10.1.3.4). It describes differences between Oracle Application Server and its documented functionality.

Oracle recommends you review its contents before installing, or working with the product.

2.3 Operating System Requirements

Oracle Application Server installation and configuration will not complete successfully unless users meet the hardware and software pre-requisite requirements before installation. See the *Oracle Application Server Installation Guide* for a complete list of operating system requirements.

2.4 Certification Information

The latest certification information for Oracle Application Server 10g Release 3 (10.1.3.4) is available at:

<http://metalink.oracle.com>

2.5 Licensing Information

Licensing information for Oracle Application Server is available at:

<http://oraclestore.oracle.com>

Detailed information regarding license compliance for Oracle Application Server is available at:

<http://www.oracle.com/technology/products/ias/index.html>

Installation Issues

This chapter describes issues associated with *Installation*. It includes the following topics:

- [Section 3.1, "IPv6 Not Supported"](#)
- [Section 3.2, "DHCP Warning Message with Static IP Addresses \(Vista and Windows 2008\)"](#)
- [Section 3.3, "Installer Hangs When It Tries to Restart OPMN \(Vista and Windows 2008\)"](#)

3.1 IPv6 Not Supported

This release of Oracle Application Server is not certified to run on machines that are configured with IPv6. You have to install and run this release of Oracle Application Server on machines that are configured with IPv4.

3.2 DHCP Warning Message with Static IP Addresses (Vista and Windows 2008)

When installing on a Microsoft Vista or Windows 2008 system with a valid, DNS-registered static IP address, you may see the following error:

```
A DHCP configuration was detected on this host. The installer also detected
that the local hostname and the network hostname differ. Please resolve the
networking issues by referring the "Installing on DHCP Computers" section in
the installation guide.
```

This problem occurs if you have multiple network adapters with the same name and one of them is enabled for DHCP.

Workaround

1. Set a dummy static IP address on the network adapter that is enabled for DHCP.
2. Restart the installation.
3. Restore the original network adapter configuration information.

3.3 Installer Hangs When It Tries to Restart OPMN (Vista and Windows 2008)

On Microsoft Vista and Windows 2008 systems, when you perform the basic installation type, the installer may hang when it tries to restart OPMN (right before it runs the configuration assistants).

To work around this issue, check the following:

- Ensure that you are not running IPv6. By default, Vista and Windows 2008 run IPv6, which is not supported by this release of Oracle Application Server. To disable IPv6:
 1. Remove or comment out the following line in the
C:\Windows\System32\drivers\etc\hosts file:

::1 localhost
 2. Deselect IPv6 for all your connections and adapters, using the Network Connection Properties page. The page is available from Control Panel.
 3. Open the Registry Editor.
 4. Create the following registry entry as type DWORD, and set its value to 0xFF:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip6\Parameters\DisabledComponents
 5. Exit the Registry Editor.
 6. Restart the computer.
- Start up the installer from a command shell that was started with "run as Administrator". To do this, right click cmd.exe in Windows Explorer, and select "Run as Administrator".

General Management and Security Issues

This chapter describes issues associated with *general management and security*. It includes the following topics:

- [Section 4.1, "Windows Shortcut to createASInstance Command Ignores Input"](#)
- [Section 4.2, "Clarification on Output to opmnctl status Command"](#)
- [Section 4.3, "Starting and Stopping Requires Administrator Privileges \(Vista and Windows 2008\)"](#)
- [Section 4.4, "New Features"](#)

4.1 Windows Shortcut to createASInstance Command Ignores Input

On Windows, if you create a Windows shortcut to the createASInstance command and invoke the command through the shortcut, and you have an existing configuration in the ORACLE_CONFIG_HOME directory, the createASInstance command prompts for the user input. However, your response, y or n, is ignored.

To work around this problem, you must enter the "Enter" key first, then respond y for overriding the existing configuration, or n for not overriding the existing configuration.

4.2 Clarification on Output to opmnctl status Command

When you use the createInstance command with the -apacheRoot option to create an additional Application Server instance, the status displayed by opmnctl status -l shows two different ports with the same HTTP protocol.

The port starting with 79** is the Apache listening port. The other port is a diagnostic port. Please check the Apache configuration files, such as ohs/conf/httpd.conf and ohs/conf/dms.conf, in the instance home for more details.

4.3 Starting and Stopping Requires Administrator Privileges (Vista and Windows 2008)

On Microsoft Vista and Windows 2008 systems, you must have Administrator privileges when starting and stopping Oracle Application Server.

- To start and stop from the command line using opmnctl, open a DOS window by running cmd.exe as Administrator (right click on cmd.exe and select **Run as Administrator**).

- To start and stop using the Oracle Application Server shortcuts on the Start menu, right click on the shortcut and select **Run as Administrator**.

If you do not have Administrator privileges when starting and stopping, you will get an Access Denied error.

4.4 New Features

This section describes the 10.1.3.4 new features for Oracle Application Server. This section includes the following topics:

- [Section 4.4.1, "Multiple Application Server Instances"](#)

4.4.1 Multiple Application Server Instances

With Oracle Application Server 10.1.3.4, you can create multiple application server instances within a single Oracle Application Server installation (ORACLE_HOME.) The instances can be local to ORACLE_HOME, in a different directory on the same host as ORACLE_HOME, or distributed across hosts on the network. For more information, see "Using Multiple Application Server Instances" in the *Oracle Application Server Administrator's Guide*.

Oracle BPEL Process Manager

This chapter describes issues associated with Oracle BPEL Process Manager. It includes the following topics:

- [Section 5.1, "Installation, Deinstallation, and Upgrade Issues and Workarounds"](#)
- [Section 5.2, "Modeling and Design-Time Issues and Workarounds"](#)
- [Section 5.3, "Deployment and Run-Time Issues and Workarounds"](#)
- [Section 5.4, "Transformation Issues and Workarounds"](#)
- [Section 5.5, "Workflow and Worklist Issues and Workarounds"](#)
- [Section 5.6, "Notification Issues and Workarounds"](#)
- [Section 5.7, "Oracle BPEL Control, Oracle BPEL Server, and Oracle BPEL Admin Console Issues and Workarounds"](#)
- [Section 5.8, "Globalization and Multibyte Character Issues and Workarounds"](#)
- [Section 5.9, "Documentation Errata"](#)
- [Section 5.10, "New Features"](#)

See Also: [Chapter 8, "Oracle Business Activity Monitoring"](#)

5.1 Installation, Deinstallation, and Upgrade Issues and Workarounds

This section describes the following issues and workarounds:

- [Section 5.1.1, "Password Displays in Clear Text During Deinstallation"](#)
- [Section 5.1.2, "Passwords Appear in Clear Text in /tmp Directory After Running IRCA.SH"](#)
- [Section 5.1.3, "BPEL Process Instances Do Not Display in Oracle BPEL Control when Using Oracle Database Lite"](#)
- [Section 5.1.4, "Task Details Application Does Not Start in a Standalone, Middle Tier-Based Installation"](#)
- [Section 5.1.5, "Applications Sometimes Do Not Start After Applying Patch 10.1.3.4"](#)

5.1.1 Password Displays in Clear Text During Deinstallation

When deinstalling patch 10.1.3.4 on Windows and Linux, the following occurs:

- The password displays in clear text.
- You are prompted for the password three times.

- The password you enter is not validated and deinstallation continues.

5.1.2 Passwords Appear in Clear Text in /tmp Directory After Running IRCA.SH

After you run `IRCA.SH` to input the Oracle BPEL Process Manager schema into the database, the passwords for `orabpel`, `oraesb`, and `orawsm` display in clear text in the log files in the `/tmp` directory on Linux or UNIX or the temporary directory you have defined on Windows. Ensure that you delete the files in this directory.

5.1.3 BPEL Process Instances Do Not Display in Oracle BPEL Control when Using Oracle Database Lite

If you install Oracle BPEL Process Manager with the Basic Install option, Oracle Database Lite (Olite) is installed. If you then apply the 10.1.3.4 patch to this installation, BPEL process instances under the Instances tab in Oracle BPEL Control do not display.

As a workaround, use the Advanced Install option, which enables you to install a database other than Olite.

5.1.4 Task Details Application Does Not Start in a Standalone, Middle Tier-Based Installation

After upgrading a standalone Oracle BPEL Server installed on the middle tier, the task details application does not start.

As a workaround, log in to Oracle Enterprise Manager and manually start the task details application.

5.1.5 Applications Sometimes Do Not Start After Applying Patch 10.1.3.4

After applying patch 10.1.3.4, applications such as Oracle BPEL Worklist Application and others sometimes do not start. If this occurs, you must log in to Oracle Enterprise Manager and restart those applications.

1. Log into Oracle Enterprise Manager 10g Application Server Control Console:

`http://hostname:port/em`

2. Click **Applications**.
3. Select **Applications** in the **View** list.

View the list of applications to identify those that are currently not running.

4. Select applications requiring a restart and click **Restart**.

5.2 Modeling and Design-Time Issues and Workarounds

This section describes the following issues and workarounds:

- [Section 5.2.1, "Use an XA Data Source for the BPMPM_CONNECTION_POOL Setting"](#)
- [Section 5.2.2, "Associating Oracle Internet Directory with Oracle BPEL Process Manager"](#)
- [Section 5.2.3, "Do Not Enable Single Sign-On for deploy_service"](#)
- [Section 5.2.4, "Correlation Set Property Alias Gets Overwritten from the Designer"](#)

- [Section 5.2.5, "Configuring Oracle BPEL Process Manager to Invoke a Service in UDDI"](#)
- [Section 5.2.6, "Minimum List of JAR files Required when Using the BPEL Java Client API"](#)

5.2.1 Use an XA Data Source for the BPELPM_CONNECTION_POOL Setting

When using release 10.1.3.4 in either single instance database environments or with an Oracle Real Application Clusters database as a dehydration store, set BPELPM_CONNECTION_POOL to use an XA data source in the *SOA_Oracle_home\j2ee\oc4j_soa\config\data-sources.xml* file.

```
<connection-pool name="BPELPM_CONNECTION_POOL">
<connection-factory factory-class="oracle.jdbc.xa.client.OracleXADataSource"
. . .
. . .
</connection-pool>
```

5.2.2 Associating Oracle Internet Directory with Oracle BPEL Process Manager

Note: This section describes changes to the *hw_services.ear* file that impact section "Oracle Internet Directory is Associated with an Oracle Application Server Instance" of Chapter 2, "Service Configuration" of *Oracle BPEL Process Manager Administrator's Guide*.

The *hw_services.ear* file is now divided into *hw_services.ear* and a new enterprise archive (EAR) file named *deploy_service.ear* that:

- Is installed in *oc4j_soa* with *orabpel* as the parent
- Contains the deployment module

All BPEL process deployments now go through *deploy_service.ear* instead of *hw_services.ear*. Deployment fails if the security provider is configured to use Oracle Internet Directory for both **orabpel** and **hw_services** in Oracle Enterprise Manager. This is because the new **deploy_service** module is configured to use the file-based security provider by default.

To prevent deployment failure, change the security provider for **deploy_service** in Oracle Enterprise Manager from file-based to Oracle Internet Directory by performing the following steps:

1. Log into Oracle Enterprise Manager 10g Application Server Control Console:

`http://hostname:port/em`

2. Go to **oc4j_soa > Administration > Security > Security Providers**.

3. Expand **Security Providers**.

A new application named **deploy_service** appears with **orabpel** as the parent. The security provider is file-based by default.

4. Go to **orabpel > deploy_service > Administration > Security > Security Provider**.
5. Click **Change Security Provider**.
6. Select **Oracle Identity Management Security Provider**.

7. Click **OK**.
8. Restart Oracle Application Server:

```
opmnctl stopall  
opmnctl startall
```

5.2.3 Do Not Enable Single Sign-On for `deploy_service`

When enabling single-sign on (SSO) for **orabpel** and **hw_services** in Oracle Enterprise Manager 10g Application Server Control Console, ensure that you do *not* also enable SSO for the new `deploy_service`.

5.2.4 Correlation Set Property Alias Gets Overwritten from the Designer

If you create correlation set property aliases in the designer window of Oracle JDeveloper, and create multiple entries for the same property alias, the second entry overwrites the first one in the BPEL artifact files. This leads to problems during BPEL process compilation.

As a workaround, create the second property alias definition (referring to the same property) in the Structure window in the lower left corner of Oracle JDeveloper.

5.2.5 Configuring Oracle BPEL Process Manager to Invoke a Service in UDDI

Follow these steps to configure a BPEL process to invoke a UDDI service:

1. Select **Configuration > Domain** in Oracle BPEL Control.
2. Specify the UDDI inquiry URL in the **uddiLocaton** property.
3. Restart Oracle BPEL Server.
4. Create a UDDI connection with the Create UDDI Registry Connection Wizard in Oracle JDeveloper.
5. Drag and drop a partner link activity into the designer.
6. Select the **Service Explorer** icon in the Create Partner Link window.
7. Select a UDDI service under the **UDDI Registry** folder.
8. Click **OK**.
9. Add `registryServiceKey` to `bpel.xml`:

```
<partnerLinkBinding name="HelloBPELProcess">  
  <property name="wsdlLocation">wsdllocation</property>  
  <property name="registryServiceKey">uddi:6644</property>  
</partnerLinkBinding>
```

Note: HTTPS invocation of secured UDDI services is not supported in release 10.1.3.4.

5.2.6 Minimum List of JAR files Required when Using the BPEL Java Client API

The minimum list of JAR files required when using the BPEL Java Client API is based upon the environment in which you are using Oracle BPEL Process Manager.

[Table 5–1](#) lists the required files.

Table 5–1 Required JAR Files

Standalone Oracle BPEL Process Manager Installation	Full Oracle Application Server Installation
■ <code>ejb.jar</code> ■ <code>orabpel-common.jar</code> ■ <code>orabpel.jar</code> ■ <code>oc4jclient.jar</code> ■ <code>xmlparserv2.jar</code>	■ <code>ejb.jar</code> ■ <code>orabpel-common.jar</code> ■ <code>orabpel.jar</code> ■ <code>oc4jclient.jar</code> ■ <code>xmlparserv2.jar</code> ■ <code>optic.jar</code>

5.3 Deployment and Run-Time Issues and Workarounds

This section describes the following issues and workarounds.

- [Section 5.3.1, "Oracle BPEL Worklist Application Undeploy Option Not Supported in Oracle Enterprise Manager"](#)
- [Section 5.3.2, "Increasing the nonFatalConnectionMaxRetry Property Value to 5"](#)
- [Section 5.3.3, "BPEL Process Deployment Fails \(Vista and Windows 2008\)"](#)

5.3.1 Oracle BPEL Worklist Application Undeploy Option Not Supported in Oracle Enterprise Manager

The undeploy feature in Oracle Enterprise Manager for undeploying an Oracle BPEL Worklist Application is not supported. The undeployment of the worklist application does not undeploy the BPEL application, but it does undeploy the task application. This prevents you from seeing task details in the worklist application. There is no workaround for this issue.

5.3.2 Increasing the nonFatalConnectionMaxRetry Property Value to 5

When using an Oracle Real Application Clusters database as a dehydration store, Oracle recommends that you increase the `nonFatalConnectionMaxRetry` property value to 5 from the default value of 2 in the `SOA_Oracle_Home\bpel\system\config\collaxa-config.xml` file. This setting ensures that Oracle BPEL Process Manager performs enough connection retries in the case of Oracle Real Application Clusters instance failover.

5.3.3 BPEL Process Deployment Fails (Vista and Windows 2008)

If you use Oracle JDeveloper or obant to deploy BPEL processes on Microsoft Vista and Windows 2008 systems, you must change the following line in the `SOA_Oracle_Home\bpel\utilities\ant-orabpel.properties` file from:

```
hostname = hostname.us.oracle.com
```

to:

```
hostname = 127.0.0.1
```

Otherwise, process deployment fails.

5.4 Transformation Issues and Workarounds

This section describes the following issues and workarounds.

5.4.1 Parser Error When Opening the XSLT Mapper in Design Time

The XSLT Mapper may occasionally not open in design view due to an issue with the `xmlparserv2.jar` file. The error message indicates that the source or target schema cannot be opened:

Failed to open the source schema: Invalid value 'enumeration' specified for facet '{1}'.

As a workaround, extract the `XMLDocument.class` file from the `xmlparserv2.jar` file with the following commands and create an `XMLDocument.jar` file in the patches directory with the `XMLDocument.class` file in it:

1. Ensure that your `jdk\bin` directory is in your path or provide the full path to `jar.exe`.
2. Enter the following commands:

```
cd jdev_home/lib
jar xvf xmlparserv2.jar oracle/xml/parser/v2/XMLDocument.class
jar cvf ../jdev/lib/patches/XMLDocument.jar
oracle/xml/parser/v2/XMLDocument.class
```

5.5 Workflow and Worklist Issues and Workarounds

This section describes the following issues and workarounds:

- [Section 5.5.1, "Using SSL with Oracle Internet Directory and the Oracle BPEL Worklist Application"](#)
- [Section 5.5.2, "Configuration Requirements for Active Directory or Other LDAP Servers Not Using the uid Attribute in the Schema"](#)
- [Section 5.5.3, "Standard Views in the Oracle BPEL Worklist Application Do Not Work when Human Workflow is Configured with Active Directory"](#)
- [Section 5.5.4, "Cannot Approve Workflow Instances After Upgrading to 10.1.3.4"](#)
- [Section 5.5.5, "Use the Default E-Mail Client for Actionable E-Mails"](#)
- [Section 5.5.6, "Workflow Updates for a Case Agnostic User Directory"](#)
- [Section 5.5.7, "Identity Service Configuration Properties are Case Sensitive"](#)
- [Section 5.5.8, "Use Different E-Mails for Human Workflow and Notification End Users"](#)
- [Section 5.5.9, "Case Sensitivity for E-Mail Protocols in the ns_emails.xml Files"](#)
- [Section 5.5.10, "Old Payload Mapping Remains After Re-editing the Task"](#)
- [Section 5.5.11, "Removing or Changing the Passwords of Default User Accounts"](#)

5.5.1 Using SSL with Oracle Internet Directory and the Oracle BPEL Worklist Application

If you use Oracle Internet Directory as the identity provider for the Oracle BPEL Worklist Application and want to use the Secure socket layer (SSL) connection mode after upgrading to 10.1.3.4, you must add the following elements under the

connection element in the *SOA_Oracle_Home\bpel\system\services\config\is_config.xml* file. Do not modify this file if you are using a non-SSL connection to Oracle Internet Directory.

```
<property name="SSLSocketFactoryImplClass"
@ value="oracle.tip.pc.services.identity.common.SSLSocketFactoryImpl"/>
<property name="securityProtocol" value="ssl"/>
<pool initSize="2" maxSize="25" prefSize="10" timeout="60"/>
```

5.5.2 Configuration Requirements for Active Directory or Other LDAP Servers Not Using the uid Attribute in the Schema

If you use human workflow with Active Directory or another LDAP server that does not use the `uid` schema attribute and upgrade to 10.1.3.4, you must add the `nicknameAttribute` property and `sAMAccountName` attribute to the *SOA_Oracle_Home\bpel\system\services\config\is_config.xml* file. This property and attribute are used for user login authentication.

Not adding these components causes authentication to fail. This is because Active Directory, unlike other LDAP servers such as Oracle Internet Directory, iPlanet, and openLDAP, does not use the `uid` attribute for user login authentication.

The `nicknameAttribute` property defines the name of the LDAP attribute used for identity service authentication (default value is `uid`). The value of that attribute is populated to the `name` attribute and uniquely identifies users in the identity service. The `nameAttribute` property stands for the `name` attribute that is used in the Users DN. For example, if the Users DN is the following:

```
cn=jcooper, cn=Users, dc=us, dc=oracle, dc=com
```

You define the `nameAttribute` as follows:

```
<property name="nameAttribute" value="cn"/>
```

The `nicknameAttribute` property is relevant to all LDAP servers in which the default `uid` value is used, unless it is overwritten in *is_config.xml*. Most LDAP servers support the `uid` attribute (refer to the `inetOrgPerson` object class for more details).

If a provider such as Active Directory does not support the `uid` attribute in the LDAP schema or you want to use a different attribute for authentication, you can overwrite the attribute name by using the `nicknameAttribute` property as follows:

```
<?xml version = '1.0' encoding = 'UTF-8'?>
<ISConfiguration xmlns="http://www.oracle.com/pcbpel/identityservice/isconfig">
  <configurations>
    <configuration realmName="AD" >
      <provider providerType="LDAP" name="Active Directory" service="Identity">
        <connection url="ldap://host:port"
          binddn="cn=administrator, cn=Users, dc=us, dc=oracle, dc=com"
          password="welcome1" encrypted="true">
          <pool initSize="2" maxSize="25" prefSize="10"
            timeout="300000"/>
        </connection>
      </provider>
    </configuration>
  </configurations>
  <userControls>
    <property name="nameAttribute" value="cn"/>
    <property name="nicknameAttribute" value="sAMAccountName"/>
    <property name="objectClass" value="user"/>
    <search searchbase="cn=Users, dc=us, dc=oracle, dc=com"
      scope="subtree" maxSizeLimit="1000" maxTimeLimit="120000"/>
  </userControls>
```

```
<roleControls>
  <property name="nameAttribute" value="cn"/>
  <property name="objectClass" value="group"/>
  <property name="membershipSearchScope" value="onelevel"/>
  <property name="memberAttribute" value="member"/>
  <search searchbase="cn=Users,dc=us,dc=oracle,dc=com"
    scope="subtree" maxSizeLimit="1000" maxTimeLimit="120000"/>
</roleControls>
</provider>
</configuration>
</configurations>
</ISConfiguration>
```

5.5.3 Standard Views in the Oracle BPEL Worklist Application Do Not Work when Human Workflow is Configured with Active Directory

If you use human workflow with Active Directory, standard views in the Oracle BPEL Worklist Application do not work.

1. Go to **My Tasks > My Work Queues > Standard Views** in the Oracle BPEL Worklist Application.
2. Click the standard views **High Priority Tasks**, **Tasks Due Soon**, and **New Tasks**.

An exception error similar to the following displays in the user interface:

```
Internal Error in Verification Service for user createContext. {1}.
If you need more information, please check with your administrator with the
following exception-identifier: "*2008/07/15_02:04:03:826_jstein"
```

5.5.4 Cannot Approve Workflow Instances After Upgrading to 10.1.3.4

Restart Oracle BPEL Server if you receive the following error messages when attempting to approve a task in the Oracle BPEL Worklist Application:

- The following message displays in the Oracle BPEL Worklist Application:

```
your request was not successful
```

- The following error message displays in the Oracle BPEL Server log file:

```
<2008-06-05 19:05:30,246> <ERROR> <oracle.bpel.services.workflow> <::> The
Scheduler has been shutdown.
org.quartz.SchedulerException: The Scheduler has been shutdown.
    at
org.quartz.core.QuartzScheduler.validateState(QuartzScheduler.java:502)
    at
org.quartz.core.QuartzScheduler.unscheduleJob(QuartzScheduler.java:678)
    at org.quartz.impl.StdScheduler.unscheduleJob(StdScheduler.java:268)
    at
oracle.bpel.services.workflow.task.impl.WorkflowTimerAgent.unscheduleExpiration(WorkflowTimerAgent.java:294)
    at
oracle.bpel.services.workflow.task.impl.WorkflowTimerAgent.unscheduleExpiration(WorkflowTimerAgent.java:282)
    at
oracle.bpel.services.workflow.task.impl.WorkflowTimerAgent.rescheduleExpiration(WorkflowTimerAgent.java:321)
    at
oracle.bpel.services.workflow.task.impl.WorkflowTimerAgent.scheduleTimers(WorkflowTimerAgent.java:115)
    at
```

```

oracle.bpel.services.workflow.task.impl.TaskService.performPostActionOperation
(TaskService.java:3062)
    at
oracle.bpel.services.workflow.task.impl.TaskService.performPostActionOperation
(TaskService.java:2918)

```

5.5.5 Use the Default E-Mail Client for Actionable E-Mails

If actionable e-mail responses are not being sent (for example, you cannot approve or reject a task using links provided in an actionable e-mail), ensure that the e-mail client being used is the default mail client for the system. For example, to set the default e-mail client on Microsoft Windows XP, perform the following steps:

1. Go to the **Start** menu.
2. Select **Control Panel > Network and Internet Connections > Internet Options > Programs**.
3. Select the e-mail client as the default e-mail client.

5.5.6 Workflow Updates for a Case Agnostic User Directory

The behavior of workflow services when case agnostic (case insensitive) is as follows:

- User names can be in different cases during login to the Oracle BPEL Worklist Application in the task metadata (the `.task` file).
- All user names in the database are in lower case.
- Case is agnostic only for user names. Group names must be identical to what is seeded in the user directory.
- Values for the following task attributes are always in lower case: `assigneeUsers`, `acquiredBy`, `updatedBy` (also for comments and attachments), `creator`, `ownerUser`, and `fromUser`.
- Creators that are not in the user directory are stored in lower case. The default behavior is case sensitive. This should ideally be used against a case-sensitive user directory.

Workflow configuration in both case-sensitive or case-agnostic cases *must* be consistent with the underlying user directory. When workflow services are configured to be case sensitive (default configuration), the workflow user names must exactly match what is seeded in the user directory.

If you want workflow services to be case agnostic for user names in a workflow and you have workflow data in the database, upgrade the data to make the user data consistent with 10.1.3.4 patch capabilities. Upgrade the data with the `SOA_Oracle_home\bpel\system\database\scripts\upgrade_WFUserIgnoreCase.sql` script. Task assignment rules stored in rule dictionaries are not upgraded and must be recreated.

If you want workflow services to operate in a case-agnostic manner, the `is_config.xml` and `wf_client_config.xml` files must be updated. In `is_config.xml`, add `<property name="caseSensitive" value="false"/>` inside the `ISConfiguration` element:

```

<?xml version = '1.0' encoding = 'UTF-8'?>
    <ISConfiguration
xmlns="http://www.oracle.com/pcbpel/identityservice/isconfig">
        <configurations>
            .....

```

```
</configurations>
  <property name="caseSensitive" value="false"/>
</ISConfiguration>
```

If workflow service client code is used by custom applications, the `wf_client_config.xml` file must be changed as follows:

```
<servicesClientConfigurations
xmlns="http://xmlns.oracle.com/bpel/services/client">
  .....
  <caseSensitive>false</caseSensitive>
</servicesClientConfigurations>
```

If the `is_config.xml` file is updated, you must restart Oracle BPEL Server.

These settings result in the following behavior on different identity providers:

- Case-sensitive identity provider
Setting `caseSensitive` to `false` has no impact. For example, assume `jcooper` is the seeded user in the identity provider. Logging in as `Jcooper` fails with this setting because the identity service provider is case sensitive.
- Case-agnostic identity provider
Until `caseSensitive` is set to `true`, a task assigned to `Jcooper`, which is the same as `jcooper`, does not appear in the `jcooper` inbox. However, after setting `caseSensitive` to `false`, the task assigned to `Jcooper` appears in the `jcooper` inbox.

5.5.7 Identity Service Configuration Properties are Case Sensitive

All identity service configuration properties are case sensitive and must follow the same CamelCase notation. This issue is relevant to all 10.1.3.x releases. If you do not use the correct case, the specified property value is ignored and a default property value is used by the BPEL identity service. The following properties must use the case sensitivity shown below:

- `usersPropertiesFile`
- `nicknameAttribute`
- `nameAttribute`
- `objectClass`
- `memberAttribute`
- `membershipSearchScope`
- `roleOwnerAttribute`
- `caseSensitive`

5.5.8 Use Different E-Mails for Human Workflow and Notification End Users

For actionable e-mails, ensure that you use different e-mail addresses for the human workflow system and for the notification of end users. If both e-mail addresses are the same, this can lead to unpredictable behavior. This is because an actionable notification sent to an end user (for example, `jstein`) can be accessed by the human workflow system (and deleted from the e-mail server) before `jstein` gets a chance to view it.

Create separate addresses as follows:

- If using JAZN file-based security, edit the `user-properties.xml` file and provide one address (for example, `jstein@example.com`) as the address for `jstein` (for this example, the end user).
- Edit the `ns_emails.xml` file and provide a different e-mail address for the human workflow (for example, `hwfaccount@example.com`).

In addition, in the `SOA_Oracle_Home\bpel\system\services\config\wf_config.xml` file, the value for the `actionableEmailAccountName` element must map to the `Name` element in the `SOA_Oracle_Home\bpel\system\services\config\ns_emails.xml` file.

For example, if `ns_emails.xml` uses `Default` as the e-mail address:

```
<EmailAccount>
  <Name>Default</Name>
  . . .
  . . .
  . . .
</EmailAccount>
```

The `actionableEmailAccountName` value must also be set to `Default` in `wf_config.xml`:

```
<actionableEmailAccountName>Default</actionableEmailAccountName>
```

5.5.9 Case Sensitivity for E-Mail Protocols in the `ns_emails.xml` Files

When enabling notifications for human workflow, do *not* specify IMAP or POP3 in upper case in the `SOA_Oracle_Home\bpel\system\services\config\ns_emails.xml` file. Only lower case is supported. Using upper case results in the following error:

```
Email protocol not supported
```

5.5.10 Old Payload Mapping Remains After Re-editing the Task

If you attempt to remap a payload in the Task Parameters dialog of a human task, the old payload still remains. For example, performing the following steps causes the old payload mappings to remain.

1. Create a BPEL project using default project settings.
2. Add a human task after the receive activity. This opens the Add a Human Task dialog.
3. Create a new task definition by clicking the second icon to the right of the **Task Definition** field. This opens the Human Task Editor.
4. Create a parameter string named `payload1` in the Add Task Parameter dialog of the Human Task Editor.
5. Save your changes and close the Human Task Editor.
6. Double-click the human task activity in the BPEL process to open the Human Task dialog.
7. Click the **Browse** icon in the **Task Parameters** table.
8. Map `payload1` to `inputVariable/client:input` in the Task Parameters dialog, and click **OK**.
9. Return to the Human Task Editor for this human task.

10. Change the parameter name from **payload1** to **payload2** in the Edit Task Parameter dialog.
11. Save your changes and close the Human Task Editor.
12. Open the Human Task dialog again.
13. Remap **payload2** to **inputVariable/client:input** in the Task Parameters dialog of the Human Task dialog, and click OK.
14. Switch to the source code mode and search for `payload1`. Note that `payload1` still remains in the code.

This causes a run-time error similar to the following:

```
Error in <assign> expression: <to> value is empty at line "123". The XPath
expression : "" returns zero node, when applied to document shown below:less
```

As a workaround, manually remove the copy operation of the old mapping (for `payload1`) from the source:

```
<copy>
  <from variable="inputVariable" part="payload"
    query="/client:BPELProcess1ProcessRequest/client:input"/>
  <to variable="initiateTaskInput" part="payload"
    query="/taskservice:initiateTask/task:task/task:payload/task:Payload1"/>
</copy>
```

5.5.11 Removing or Changing the Passwords of Default User Accounts

The default user accounts used for human workflow task assignments (for example, `wfaulk` or `jstein`) are included in the `j2ee/home/config/system-jazn-data.xml` file. For security reasons, you should consider changing the default passwords for these accounts or removing them completely if they are not needed.

1. Log into Oracle Enterprise Manager 10g Application Server Control Console:
`http://hostname:port/em`
2. Click **oc4j_soa** (or a different OC4J instance that you are using).
3. Click Administration.
4. Click the **Security Providers** link under **Security**.
5. Click **Instance Level Security**.
6. Click **Realms**.
7. Click the link under **Users** in the **jazn.com** realm.
8. Follow the instructions below based on the action you want to perform.

If You Want to...	Then...
Delete a user	1. Click Delete .
Change a user password	1. Click the appropriate user in the User Name column. 2. Change the password.

5.6 Notification Issues and Workarounds

This section describes the following issues and workarounds:

- [Section 5.6.1, "SSL Is Not Supported and the UseSSL element Is Not Used"](#)
- [Section 5.6.2, "Pager and Fax Channels Are Not Supported"](#)
- [Section 5.6.3, "Changes Needed for Demonstrating the Notification Service"](#)
- [Section 5.6.4, "Debugging the Notification Service"](#)

5.6.1 SSL Is Not Supported and the UseSSL element Is Not Used

SSL is not supported and the `UseSSL` element in `ns_emails.xml` is not used.

5.6.2 Pager and Fax Channels Are Not Supported

The pager and fax channels are desupported and deprecated in Oracle's hosted wireless service.

5.6.3 Changes Needed for Demonstrating the Notification Service

For demonstrating the notification service, one e-mail account is required (for this example, `hwfaccount` is used) in the e-mail server used by the notification service. Other e-mail accounts (for example, `jcooper`, `jstein`, and `wfaulk`) are to be used by end users.

Note: The value `example.com` shown below is only an example. Replace it with the name of your e-mail server or domain name.

5.6.3.1 To Demonstrate Outgoing Notifications Only

1. Edit the `Default EmailAccount` section in `ns_emails.xml` with values appropriate to your environment:

Number	Element/Attribute	Value	Note
1	<code>NotificationMode</code>	<code>ALL</code> or <code>EMAIL</code>	Channel for sending notifications
2	<code>FromAddress</code>	<code>hwfaccount@example.com</code>	From e-mail address
3	<code>SMTPHost</code>	<code>example.com</code>	SMTP server name
4	<code>SMTPPort</code>	<code>25</code>	Default SMTP port

2. Edit `users-properties.xml` and specify the e-mail IDs of users to receive e-mail (for example, `jcooper`, `jstein`, and any additional users you specify).

Number	User	Value
1	<code>jcooper</code>	<code>jcooper@example.com</code>
2	<code>jstein</code>	<code>jstein@example.com</code>

5.6.3.2 To Demonstrate Actionable Notifications

1. Make the changes described in [Section 5.6.3.1, "To Demonstrate Outgoing Notifications Only"](#).
2. Edit `ns_emails.xml` and make changes under the `Default EmailAccount` section that are appropriate to your environment.

Number	Element/Attribute	Value	Note
1	Server	example.com	IMAP or POP3 server name
2	Port	143/110	Default IMAP or POP3 server port
3	Protocol	imap or pop3	The IMAP or POP3 e-mail protocol
4	UserName	hwfaccount	User name for account
5	Password	hwfaccountpwd	Password for user name

3. Edit `wf_config.xml` and change the following:

```
<actionableEmailAccountName/>
```

to:

```
<actionableEmailAccountName>Default</actionableEmailAccountName>
```

The `actionableEmailAccountName` must match an account configured under `EmailAccount` in `ns_emails.xml`. In this example, `Default` is used.

5.6.4 Debugging the Notification Service

To debug the notification service, first check the Oracle Process Manager and Notification Server (OPMN) logs. The logs may contain exception, error, or warning messages that provide details about incorrect behavior. [Table 5-2](#) describes additional methods for debugging notification service problems.

Table 5–2 Debugging the Notification Service

No.	Symptom	Possible Causes	Possible Solutions
1	E-mail notification is not being sent.	- NotificationMode is set to NONE in ns_emails.xml. - The settings for OutgoingServerSettings in ns_emails.xml are incorrect. - The SMTP server requires authentication.	Change it to EMAIL. Check the settings for SMTPPort and SMTPHost. Note: Validate the values by using them in any e-mail client for connecting to the SMTP server. Add the following lines to OutgoingServerSettings in ns_emails.xml and modify the SMTP user name and SMTP password to match your environment. <pre><AuthenticationRequired>true </AuthenticationRequired> <UserName>SMTP_user_name</UserName> <Password ns0:encrypted="false"xmlns:ns0= "http://xmlns.oracle.com/ias/pcbpel/ NotificationService">'SMTP_password'</Password></pre>
2	The e-mail client inconsistently receives notifications.	The settings for IncomingServerSettings in ns_emails.xml are configured with the same e-mail account to which notification is being sent.	Use an exclusive e-mail account for IncomingServerSettings. If the notification is sent to the same account, the human workflow service may download and process the e-mail before the e-mail client can display it.
3	Notifications are sent, but are not actionable.	- The value for actionableEmailAccountName is not configured in wf_config.xml. - The human workflow task is not set to send actionable notifications.	Set actionableEmailAccountName with the name of one of the configured accounts in the EmailAccount section in ns_emails.xml. In the Human Task Editor (you can double-click the .task file in Oracle JDeveloper to invoke the editor), expand Notification Settings and select the Make email messages actionable check box.
4	Actionable notifications are sent, but no action is taken after responding.	- The settings for IncomingServerSettings are incorrect. - The protocol is incorrect. - The e-mail server is SSL-enabled. - The Folder value is incorrect. - A nondefault e-mail client is configured for receiving notifications.	Check the IMAP and POP3 settings for Server and Port. Note: Validate the values by using them in any e-mail client for connecting to the IMAP or POP3 server. Use either imap or pop3. Both are case sensitive. This feature is not currently supported. Note: The useSSL element in ns_emails.xml is not used. Some e-mail servers may expect the value inbox to be INBOX or Inbox. Based on your e-mail server, use an appropriate value for Folder in ns_emails.xml. When the user clicks the approval link, the default mail client page opens, which may send e-mails to a different e-mail server. Configure the default e-mail client to receive actionable notifications.

5.7 Oracle BPEL Control, Oracle BPEL Server, and Oracle BPEL Admin Console Issues and Workarounds

This section describes the following issues and workarounds.

- [Section 5.7.1, "Errors Display When Initiating Test Instances for a Deployed BPEL Process with JDK 6"](#)
- [Section 5.7.2, "Oracle BPEL Control Error Message Displays when 10.1.3.1 Completed Instances are Viewed in 10.1.3.4"](#)
- [Section 5.7.3, "Fault Policy Changes Do Not Require a Restart of Oracle BPEL Server"](#)
- [Section 5.7.4, "Using Oracle BPEL Process Manager When Oracle BPEL Server is SSL-Enabled"](#)
- [Section 5.7.5, "Back Up Domain Data Before Deleting Domains in Oracle BPEL Admin Console"](#)
- [Section 5.7.6, "Cannot Use Mozilla Firefox with Change All List for Setting Logging Levels in Oracle BPEL Admin Console"](#)
- [Section 5.7.7, "Cannot View Sensor Data in Oracle BPEL Control Activity Sensor Reports"](#)
- [Section 5.7.8, "Access to Oracle BPEL Control Can Fail the First Time With Single Sign-On"](#)
- [Section 5.7.9, "Oracle BPEL Control Shows Output Data Incorrectly for the toCDATA Function"](#)

5.7.1 Errors Display When Initiating Test Instances for a Deployed BPEL Process with JDK 6

The following JSP errors are displayed when trying to initiate a test instance for a deployed BPEL process using JDK 6:

```
500 Internal Server Error
OracleJSP: An error occurred. Consult your application/system administrator
for support. Programmers should consider setting the init-param debug_mode to
"true" to see the complete exception message
```

To resolve this issue, perform the following steps:

1. Visit the Oracle MetaLink site:
<http://metalink.oracle.com>
2. Download and install patch 7309482 by following the steps in the accompanying readme file.

5.7.2 Oracle BPEL Control Error Message Displays when 10.1.3.1 Completed Instances are Viewed in 10.1.3.4

If you perform the following procedures:

1. Install Oracle SOA Suite 10.1.3.1 through the Advanced installation option.
2. Deploy a sample such as vacation request and create several 10.1.3.1 instances.
3. Complete one instance from the Oracle BPEL Worklist Application.

4. Upgrade with the 10.1.3.4 patch.
5. Restart Oracle BPEL Server.
6. Complete another instance from the Oracle BPEL Worklist Application.

The instance completed in 10.1.3.4 displays the following error message in Oracle BPEL Control:

```
this.wi.state is null'
```

There is no loss of functionality and this message can be ignored. If you create new instances in 10.1.3.4, this message does not appear.

5.7.3 Fault Policy Changes Do Not Require a Restart of Oracle BPEL Server

Fault policies that have been changed can be reloaded from Oracle BPEL Control without having to restart Oracle BPEL Server.

1. Invoke the following JSP page:

```
http://host:port/BPELConsole/domain_name/doReloadFaultPolicy.jsp
```

2. Log into Oracle BPEL Control when prompted.

The following message appears:

Fault Policy and Fault Bindings file is reloaded

All Fault Policy and Fault Binding cached for the BPEL domain *your_domain_name* have been reloaded.

5.7.4 Using Oracle BPEL Process Manager When Oracle BPEL Server is SSL-Enabled

If Oracle BPEL Server is SSL-enabled, do the following to use Oracle BPEL Process Manager.

1. Open the Oracle BPEL Admin Console (<http://soaSuiteServerHostName:port/BPELAdmin>).
2. For the `SoapServerUrl` and `SoapCallbackUrl` properties, do the following:
 - Change `http` to `https`, with the hostname and full domain name in the URL.
 - Ensure that the correct SSL port is specified.
3. Test and verify that certificate-based HTTPS is now available. Substitute the host name and `httpsPort` with the target Oracle SOA Suite installation information:
`https://hostname:httpsPort/BPELConsole`

5.7.5 Back Up Domain Data Before Deleting Domains in Oracle BPEL Admin Console

When you attempt to delete a domain in Oracle BPEL Admin Console, the following message appears:

To preserve deployed processes and data logs associated with the BPEL Domain, check the **keep directory** box (the old domain directory will be moved to `home/domains/.deleted` where *home* is the BPEL server installation directory).

There is no **keep directory** check box to select on this page if you want to preserve the data in this domain.

As a workaround, manually back up the domain data before deleting the domain. For example, perform the following steps on UNIX or Linux operating systems:

1. Change directories to the following location:

```
cd $ORACLE_HOME/bpel/domains
```
2. Copy the underlying directory that represents the domain to a backup location.

5.7.6 Cannot Use Mozilla Firefox with Change All List for Setting Logging Levels in Oracle BPEL Admin Console

If you use Mozilla Firefox to set a logging level in the **Change All** list of the **Logging** tab of Oracle BPEL Admin Console, the logging level is not changed for all logging components.

As a workaround, use Microsoft Internet Explorer.

5.7.7 Cannot View Sensor Data in Oracle BPEL Control Activity Sensor Reports

You cannot view sensor data in activity sensor reports in Oracle BPEL Control. For example, if you perform the following steps:

1. Create database sensors on activities in a BPEL process in Oracle JDeveloper.
2. Deploy the BPEL process.
3. Create an instance of the BPEL process in Oracle BPEL Control.
4. Go to **Processes > Deployed_BPEL_Process > Reports**, and select **Activity Sensor** from the **Report Type** list.
5. Specify a query that includes the time interval in which the instance was completed, and click **Go**.

The following message appears, even though activity sensor data exists:

No Data Found

As a workaround, you can view sensor data for the activities of the BPEL process by selecting **Instances > BPEL_Process_Name > Sensors** in Oracle BPEL Control.

5.7.8 Access to Oracle BPEL Control Can Fail the First Time With Single Sign-On

Access to Oracle BPEL Control can fail the first time under the following conditions:

1. Configure single sign-on (SSO) for Oracle BPEL Control.
2. Log in first through the generic Java single sign-on (JSSO) page. For example:

```
http://myhost.us.mycompany.com:47804/jssso/
```
3. Click the **BPEL Control** link in the **Manage Your SOA Suite** section of the JSSO page.

Access is not provided to Oracle BPEL Control.

As a workaround, click the **BPEL Control** link a second time. This causes Oracle BPEL Control to appear. Or, bypass the JSSO page and log in directly to Oracle BPEL Control.

5.7.9 Oracle BPEL Control Shows Output Data Incorrectly for the toCDATA Function

When you use the `toCDATA` function in an assign activity of a BPEL process, Oracle BPEL Control shows the output data in the audit trail incorrectly.

```
[2008/05/01 16:20:33] Updated variable "output"less
322 GE 12.3 750 true Hello 322 <![CDATA[322 ]]>
```

This problem only occurs with Oracle BPEL Control; the `toCDATA` function works correctly. Note that the `toCDATA` function displays correctly in the raw XML data.

5.8 Globalization and Multibyte Character Issues and Workarounds

This section describes the following issues and workarounds.

5.8.1 Configuring HTTP GET and POST for Multibyte Data

For HTTP GET and POST to work with multibyte data, you must perform the following steps:

1. Add the following lines to `SOA_Oracle_Home\opmn\conf\opmn.xml` as the `oc4j_soa` startup option:

```
<process-type id="oc4j_soa" module-id="OC4J" status="enabled">
  <module-data>
    <category id="start-parameters">
      <data id="java-options" value="-server
-XX:MaxPermSize=128M
-ms512M -mx1024M -XX:AppendRatio=3 -Djava.security.policy=$ORACLE_
HOME/j2ee/oc4j_
soa/config/java2.policy -Djava.awt.headless=true -Dhttp.webdir.enable=false
-Doraesb.home=/home/zhua/product/10.1.3.1/OracleAS_1/integration/esb
-Dhttp.proxySet=false -Doc4j.userThreads=true -Doracle.mdb.fastUndeploy=60
-Dorabpel.home=/home/zhua/product/10.1.3.1/OracleAS_1/bpel
-Xbootclasspath^/p:/home/zhua/product/10.1.3.1/OracleAS_
1/bpel/lib/orabpel-boot.jar -Dhttp.proxySet=false -Dfile.encoding=UTF8"/>
    </category>
    . . .
    . . .
  </module-data>
  . . .
  . . .
</process-type>
```

2. Restart `oc4j_soa` through one of the following methods:
 - From Oracle Enterprise Manager, log in as a user with the administrator role, select `oc4j_soa` on the Cluster Topology page, and click **Restart**.
 - With the `opmnctl` utility, enter the following command:


```
opmnctl restartproc process-type=oc4j_soa
```

5.9 Documentation Errata

This section describes the following issues and workarounds:

- [Section 5.9.1, "Passwords in Samples Directory Documentation"](#)
- [Section 5.9.2, "Resilient Flow Sample Documentation is Incomplete"](#)
- [Section 5.9.3, "Reassign To Action Description in Oracle BPEL Process Manager Developer's Guide"](#)
- [Section 5.9.4, "Incorrect Syntax for Configuring the TCP Listener for Synchronous Services"](#)

- [Section 5.9.5, "BPEL Test Suite OnMessage Event Does Not Support Synchronous Operations"](#)
- [Section 5.9.6, "Changing the HTTP Port for Oracle BPEL Process Manager"](#)
- [Section 5.9.7, "Messages in an Operation"](#)
- [Section 5.9.8, "Property serviceProperties is Missing a Description"](#)

5.9.1 Passwords in Samples Directory Documentation

Some samples and tutorials included in the `SOA_Oracle_Home\bpel\samples` directory mention passwords.

If you are concerned about hosting samples, then remove the entire `samples` directory. This is especially true of any production servers on which you have installed SOA. This applies to all 10.1.3.x releases.

5.9.2 Resilient Flow Sample Documentation is Incomplete

The section in the PDF documentation in `SOA_Oracle_Home\bpel\samples\demos\ResilientDemo\ResilientFlow` that describes how to run the Resilient Flow sample is incomplete. You must also perform the following steps:

- Download and copy the Apache AXIS service to the `$TOMCAT_HOME/webapps` folder.
- Explicitly run the compilation target under `ResilientDemo/AxisServices`. Only after performing this step is the `classes` folder created.

5.9.3 Reassign To Action Description in Oracle BPEL Process Manager Developer's Guide

Section "Group Rules" of Chapter 16, "Worklist Application" of the *Oracle BPEL Process Manager Developer's Guide* includes the following description for the Reassign to action:

- **Reassign to** - As with user rules, you can reassign tasks to subordinates or groups you directly manage. If you have been granted the `BPMWorkflowReassign` role, then you can reassign tasks to any user or group (outside your management hierarchy).

This implies that reassignment permissions are determined by the user creating the rule, rather than the group for which the rule is being created. This description should read as follows:

- **Reassign to** - As with user rules, a group can reassign tasks to subordinates or groups the group directly manages. If the group has been granted the `BPMWorkflowReassign` role, then the group can reassign tasks to any user or group (outside its management hierarchy).

5.9.4 Incorrect Syntax for Configuring the TCP Listener for Synchronous Services

Section "Setting up a TCP Listener for Synchronous Services" of Chapter 5, "Invoking an Asynchronous Web Service" of the *Oracle BPEL Process Manager Developer's Guide* incorrectly mentions to use `orabpel.apache.axis.utils.tcpmon` when configuring the TCP tunnel included with Apache Axis. Instead, use `org.collaxa.thirdparty.apache.axis.utils.tcpmon`.

5.9.5 BPEL Test Suite OnMessage Event Does Not Support Synchronous Operations

When reading section "Asynchronous Event Emulation" of Chapter 20, "Testing BPEL Processes" of the *Oracle BPEL Process Manager Developer's Guide*, note that the `onMessage` event does not support *synchronous* (that is, two way) operations.

5.9.6 Changing the HTTP Port for Oracle BPEL Process Manager

Changing the HTTP port on Oracle Application Server is documented in Chapter 4, "Managing Ports" of the *Oracle Application Server Administrator's Guide*. If you are using Oracle BPEL Process Manager, you must make the following additional changes to the HTTP port:

1. Update the `soapServerUrl` and `soapCallbackUrl` properties in Oracle BPEL Admin Console or in the `SOA_Oracle_Home\bpel\system\config\collaxa-config.xml` file.
2. If you are using the Oracle BPEL Worklist Application or a customized worklist application, update `identityService`, `identityConfigService`, `taskService`, `taskMetadataService`, `taskQueryService`, `userMetadataService`, and `runtimeConfigService` `soapEndPoint` URL HTTP ports in the `SOA_Oracle_Home\bpel\system\services\config\wf_client_config.xml` file.
3. If you are using a customized worklist application, ensure that you have also modified `wf_client_config.xml` in the client code.
4. If you are using e-mail notifications with task updates, update `worklistApplicationURL` in the `SOA_Oracle_Home\bpel\system\services\wf_config.xml` file.

Note: Note that some tutorials, demos, utilities, and references in the `SOA_Oracle_Home\bpel\samples` directory also use hardcoded HTTP ports.

5.9.7 Messages in an Operation

Section "Manipulating SOAP Headers in BPEL" of Chapter 3, "Manipulating XML Data in BPEL" of *Oracle BPEL Process Manager Developer's Guide* includes the following two paragraphs:

These default activities permit one variable to operate in each direction. For example, the `invoke` activity has `inputVariable` and `outputVariable` attributes. You can specify one variable for each of the two attributes. This is enough if the particular operation involved uses only one payload message in each direction.

However, WSDL supports more than one message in an operation. In the case of SOAP, multiple messages can be sent along the main payload message as SOAP headers. However, BPEL's default communication activities cannot accommodate the additional header messages.

These two paragraphs give the impression that WSDL supports multiple payload messages in an operation. This is incorrect. Message payload and headers are different entities. Headers are not meant to transmit message payloads.

The second paragraph states that WSDL supports more than one message in an operation. SOAP, and not WSDL, supports passing message headers as part of invoking the operation.

5.9.8 Property serviceProperties is Missing a Description

The property `serviceProperties` listed in Appendix C, "Deployment Descriptor Properties" of *Oracle BPEL Process Manager Developer's Guide* does not have a description. This property is an XML element that is passed to a WSIF provider.

5.10 New Features

This section describes new features for 10.1.3.4.

- [Section 5.10.1, "Changes to Locations of Functionality in Oracle BPEL Control"](#)
- [Section 5.10.2, "Configuration Properties in Oracle BPEL Control"](#)
- [Section 5.10.3, "Threads Tab Removed from Oracle BPEL Admin Console"](#)
- [Section 5.10.4, "Dispatcher Queue Visibility and Usability Improvements"](#)
- [Section 5.10.5, "Statistic Collection and Instance Level Viewing Improvements"](#)
- [Section 5.10.6, "Automatic Recovery of Messages"](#)
- [Section 5.10.7, "Statistics Collection for Diagnostic Purposes"](#)
- [Section 5.10.8, "XML Validation of Input Payloads"](#)
- [Section 5.10.9, "Encryption and Decryption Properties for BPEL Payloads"](#)
- [Section 5.10.10, "Automatically Changing URLs and Properties for Development, Test, and Production Environments"](#)
- [Section 5.10.11, "Changes Made to Deployment Descriptor Properties in 10.1.3.3 and 10.1.3.4"](#)
- [Section 5.10.12, "Fault Management Behavior When the Number of Instance Retries is Exceeded"](#)
- [Section 5.10.13, "Asynchronous Audit Trail"](#)

5.10.1 Changes to Locations of Functionality in Oracle BPEL Control

There have been several changes to the locations of functionality in Oracle BPEL Control in 10.1.3.4.

- Several main tabs of Oracle BPEL Control are either new or have changed names. [Table 5–3](#) describes these changes.

Table 5–3 Changes to Main Tabs of Oracle BPEL Control

Tab Names in Releases Prior to 10.1.3.4	Tab Names in Release 10.1.3.4
■ Dashboard	■ Dashboard
■ BPEL Process	■ Processes
■ Instances	■ Instances
■ Activities	■ Activities
	■ Configuration
	■ Administration

- The functionality available under the **Manage BPEL Domain** pages in releases prior to 10.1.3.4 has been moved to the **Configuration** and **Administration** tabs. Some of the functionality available in the **BPEL Processes** and **Instances** tabs in

releases prior to 10.1.3.4 has also been moved. [Table 5–4](#) describes the new and old locations of this functionality in Oracle BPEL Control.

Table 5–4 Changes to Tabs in Oracle BPEL Control

Tab Name Locations in Oracle BPEL Control for Releases Prior to 10.1.3.4	Tab Name Locations in Oracle BPEL Control for Release 10.1.3.4
Manage BPEL Domain > Configuration	Configuration > Domain
Manage BPEL Domain > Logging	Configuration > Logging
Manage BPEL Domain > XPath Library	Configuration > XPath Library
Manage BPEL Domain > Threads	Administration > Threads
Manage BPEL Domain > Statistics	Administration > Statistics
Manage BPEL Domain > Adapter Stats	Administration > Adapter Stats
BPEL Processes > View Process Log	Administration > Process Log
BPEL Processes > Clear WSDL Cache	Administration > Actions > Clear WSDL Cache
BPEL Processes > Refresh Alarm Table	Administration > Actions > Refresh Alarm Table
BPEL Processes > Deploy New Process	Processes > Deploy New Process
BPEL Processes > Perform Manual Recovery	Administration > Recover (Invokes) Administration > Recover (Callbacks) Administration > Recover (Activity)
Instances > Purge All Instances	Administration > Action > Purge All Instances
Instances > Purge Sensor Data	Administration > Action > Purge Sensor Data

5.10.2 Configuration Properties in Oracle BPEL Control

This section describes configuration property changes in Oracle BPEL Control.

5.10.2.1 New Properties

The properties shown in [Table 5–5](#) are new in 10.1.3.4. To access these properties, select **Configuration > Domain** in Oracle BPEL Control.

Table 5–5 New Properties

Property	Description	Values
<code>dspEngineThreads</code>	The total number of threads allocated to process engine dispatcher messages. Engine dispatch messages are generated whenever an activity must be processed asynchronously by Oracle BPEL Server. If the majority of processes deployed on Oracle BPEL Server are durable with a large number of dehydration points (midprocess receive, onMessage, onAlarm, and wait activities), greater performance may be achieved by increasing the number of engine threads. Note that higher thread counts can cause greater CPU utilization due to higher context switching costs.	The default value is 60 threads. Any value less than 1 thread is changed to the default.

Table 5–5 (Cont.) New Properties

Property	Description	Values
<code>dspInvokeThreads</code>	The total number of threads allocated to process invocation dispatcher messages. Invocation dispatch messages are generated for each payload received by Oracle BPEL Server and are meant to instantiate a new instance. If the majority of requests processed by the engine are instance invocations (as opposed to instance callbacks), greater performance may be achieved by increasing the number of invocation threads. Higher thread counts may cause greater CPU utilization due to higher context switching costs.	The default value is 40 threads. Any value less than 1 thread is changed to the default.
<code>dspSystemThreads</code>	The total number of threads allocated to process system dispatcher messages. System dispatch messages are general clean-up tasks that are typically processed quickly by the server (for example, releasing stateful message beans back to the pool). Typically, only a small number of threads are required to handle the number of system dispatch messages generated during run time.	The default value is 2 threads. Any value less than 1 thread is changed to the default.

5.10.2.2 Reintroduced Properties

The properties shown in [Table 5–6](#) were removed in a release prior to 10.1.3.4, but have been reintroduced in 10.1.3.4.

Table 5–6 Reintroduced Properties

Property	Description	Values
<code>completionPersistLevel</code>	This property controls the type (and amount) of data to save after instance completion. When process instances complete, Oracle BPEL Server by default saves the final state (for example, the variable values) of the process. If you do not need to save these values after completion, you can set this property to save only instance metadata (completion state, start and end dates, and so on). This property is applicable to transient BPEL processes. This property is used only when the <code>inMemoryOptimization</code> performance property is set to <code>true</code>. Use the <code>completionPersistLevel</code> property in conjunction with the <code>completionPersistPolicy</code> property. This property can greatly impact database growth (in particular, the <code>cube_instance</code>, <code>cube_scope</code>, and <code>work_item</code> tables). It can also impact throughput (due to reduced I/O).	■ <code>all</code> (default): Oracle BPEL Server saves the complete instance, including the final variable values, work item data, and audit data. This setting causes the database to grow in size. ■ <code>instanceHeader</code>: Oracle BPEL Process Manager saves only the instance metadata.

Table 5–6 (Cont.) Reintroduced Properties

Property	Description	Values
<code>completionPersistPolicy</code>	This property controls if and when to persist instances. If an instance is not saved, it does not appear in Oracle BPEL Control. This property is applicable to transient BPEL processes. This property is only used when <code>inMemoryOptimization</code> is set to <code>true</code>. If you set <code>completionPersistPolicy</code> to a value other than <code>off</code>, you can then set <code>completionPersistLevel</code> to more finely tune the persistence data to save. This parameter strongly impacts the amount of data stored in the database (in particular, the <code>cube_instance</code>, <code>cube_scope</code>, and <code>work_item</code> tables). It can also impact throughput.	■ <code>on</code>: (default): Completed instances are saved normally. ■ <code>deferred</code>: Completed instances are saved with a different thread and in another transaction. If a server fails, some instances may not be saved. ■ <code>faulted</code>: Only faulted instances are saved. ■ <code>off</code>: No instances (and their data) are saved.

See Also: *Oracle Application Server Performance Guide* for additional information about `completionPersistLevel` and `completionPersistPolicy`

5.10.2.3 `validateXML` and `dspMaxRequestDepth` Properties

The `validateXML` property validates incoming and outgoing XML documents. This property has the following values:

- `warning`: You receive warning messages if there are validation errors.
- `none` (default): Schema validation is not applied to the XML documents. But, the XML documents must still be well-formed and have correct XML namespace usage. You may consider using this value for performance reasons in a production environment, if you can safely assume the XML documents received by the processes are valid.
- `strict`: Schema validation is applied to incoming and outgoing XML documents. Consider using this value during BPEL process development to detect errors in XML documents.

The `dspMaxRequestDepth` property sets the maximum number of in-memory activities to process within the same request. After processing an activity request, Oracle BPEL Process Manager attempts to process as many subsequent activities as possible without jeopardizing the transactionality of the request. Once the activity processing chain has reached this depth, the instance is dehydrated and the next activity is performed in a separate transaction. If the request depth is too large, the total request time can exceed the application server transaction timeout limit. This property is applicable to durable processes.

The default value is 600.

5.10.2.4 Obsolete Properties

The following properties have been removed in 10.1.3.4:

- `dspInvokeAllocFactor`
- `dspMaxThreads`

- dspMinThreads

See Also: Appendix C, "Deployment Descriptor Properties" of *Oracle BPEL Process Manager Developer's Guide* for additional details about Oracle BPEL Process Manager deployment descriptor properties

5.10.3 Threads Tab Removed from Oracle BPEL Admin Console

The **Threads** tab of Oracle BPEL Admin Console has been removed. Threads functionality is available in Oracle BPEL Control. Select **Administration > Threads** to view details.

See Also: [Section 5.10.4, "Dispatcher Queue Visibility and Usability Improvements"](#) on page 5-26 for thread details

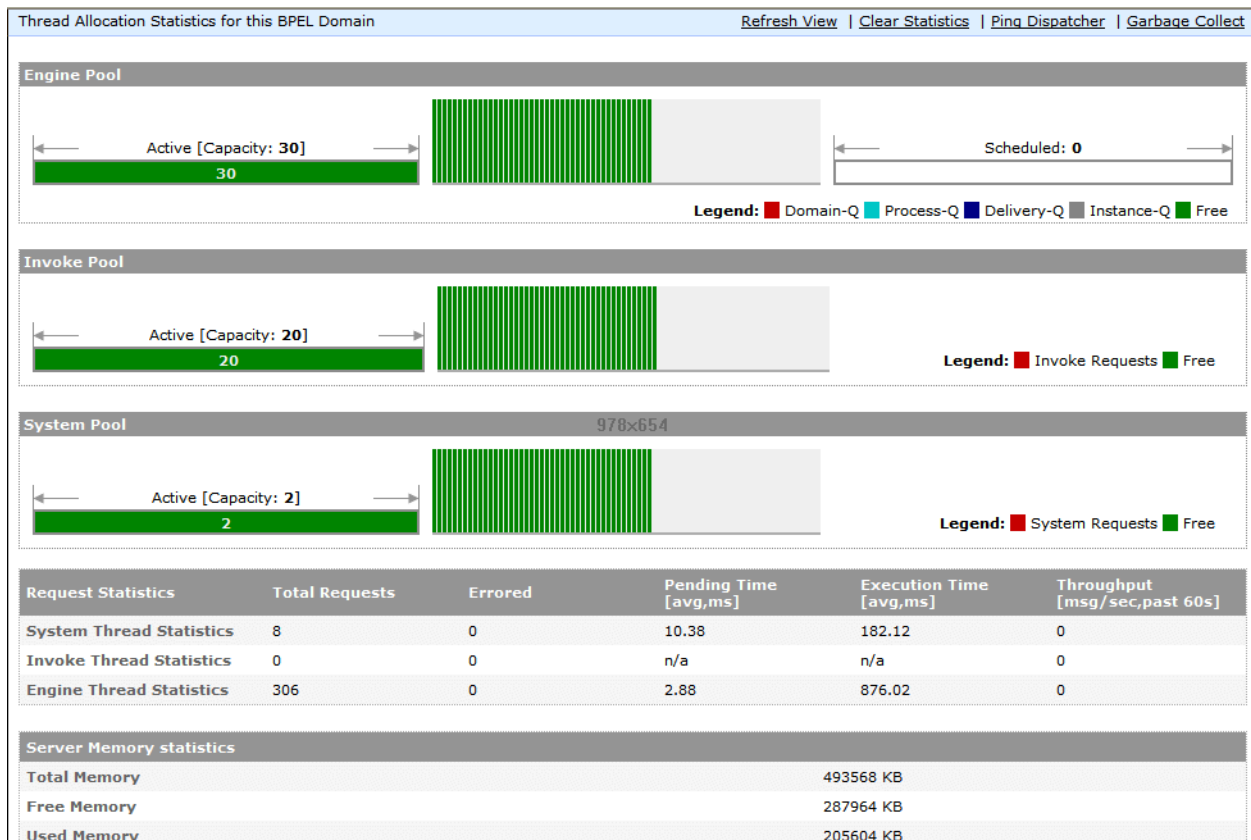
5.10.4 Dispatcher Queue Visibility and Usability Improvements

The Thread Allocation Statistics for this BPEL Domain page of Oracle BPEL Control includes the following enhancements:

- Improved visibility into BPEL dispatcher queues by displaying details on both pending and scheduled messages.
- Improved usability with a graph-like visualization tool that refreshes to minimize the number of clicks you must perform while monitoring Oracle BPEL Server performance.

Follow these steps to view dispatcher queue details in Oracle BPEL Control.

1. Select **Administration > Threads**.



2. View details about pending and scheduled messages and Oracle BPEL Server performance.

5.10.5 Statistic Collection and Instance Level Viewing Improvements

The Analytics page of Oracle BPEL Control enables you to analyze the source code in a flow chart and monitor activity execution CPU time in a BPEL process.

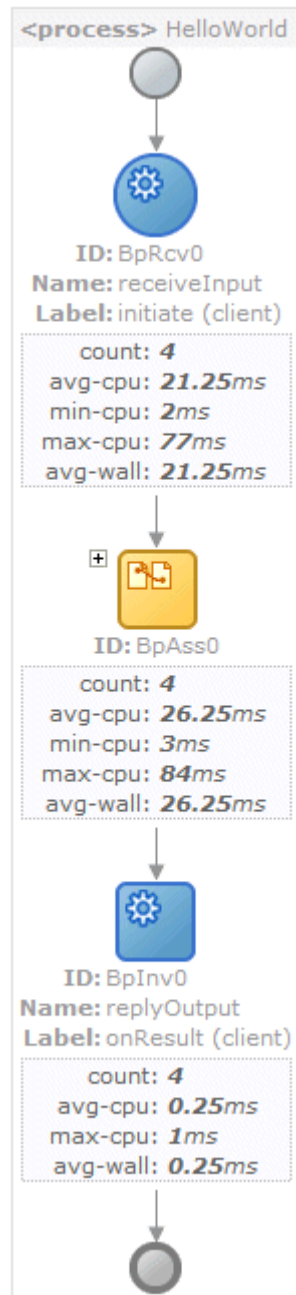
The Analytics page collects statistics at the process level and allows viewing at the instance level (for the last n requests). This enables you to send a request and see where the problem activities are within that BPEL flow rather than having to determine from the aggregated statistics.

Perform the following steps to view instance level statistics in Oracle BPEL Control:

1. Click the **Dashboard** tab.
2. Select a deployed BPEL process for which to create a new instance. The **Initiate** tab appears.
3. Create a new instance, and click **Post XML Message**.
4. Click the **Analytics** tab.
5. Click **Refresh Process Analytics Data** or wait several seconds for the page to refresh.

Details similar to the following appear:

Note: If you restart Oracle BPEL Server, analytic statistics are not persisted because they are not saved to the dehydration store database.



5.10.6 Automatic Recovery of Messages

You can perform automatic recovery of BPEL process messages when situations such as an Oracle BPEL Server crash occur.

Follow these steps to configure the automatic recovery properties in Oracle BPEL Control.

1. Select **Configuration > Auto-Recovery**. The page is divided into two sets of configuration properties:
 - Startup schedule

Recovery occurs immediately after Oracle BPEL Server is started. By default, startup recovery is disabled because `startupRecoveryDuration` is set to 0. Setting `maxMessageRaiseSize` to 0 also disables startup recovery.

- **Recurring schedule**

Recovery can be configured to occur once per day. By default, recurring recovery is disabled because `startWindowTime` and `stopWindowTime` are set to the same value. Setting `maxMessageRaiseSize` to 0 also disables recurring recovery.

Startup Schedule Properties

Property	Name	Value	Comment
<code>maxMessageRaiseSize</code>	Maximum startup recovery raise size	50	The maximum number of messages to submit for each startup recovery attempt. This property can be used to limit the impact of recovery on the server. Note that this value specifies the maximum number of messages to filter from activity, invoke and callback queries; that is, 50 messages from each of the activity, invoke and callback tables. The default value is 50. A negative value will cause all messages selected from the database to be submitted for recovery. A zero value will cause no messages to be selected from the database (effectively disabling recovery).
<code>startupRecoveryDuration</code>	Startup recovery duration period	0	Specifies the number of seconds that the startup recovery period will last. After the server starts up, it will go into a startup recovery period. During this period, pending activities, undelivered callback and invocation messages will be resubmitted for processing. The default value is 0 (0 minutes). A negative or zero value will disable startup recovery.
<code>subsequentTriggerDelay</code>	Startup recovery trigger delay	300	The number of seconds between recovery attempts during the server startup recovery period. If the next recovery trigger falls outside of the server startup period, that trigger will not be scheduled and the server will move into the recurring recovery period. The default value is 300 (5 minutes). A negative value will cause the default to be selected.

The startup schedule properties are described below.

Property	Description	Values
<code>maxMessageRaiseSize</code>	Specifies the maximum number of messages to submit for each startup recovery attempt. This property can limit the impact of recovery on Oracle BPEL Server. This value specifies the maximum number of messages to filter from activity, invoke, and callback queries; that is, 50 messages from each of the activity, invoke, and callback tables. The default value is 50. A negative value causes all messages selected from the database to be submitted for recovery. A zero value causes no messages to be selected from the database (effectively disabling recovery).	The default value is 50.
<code>startupRecoveryDuration</code>	Specifies the number of seconds for which the startup recovery period lasts. After Oracle BPEL Server starts, it goes into a startup recovery period. During this period, pending activities and undelivered callback and invocation messages are resubmitted for processing. The default value is 0 (0 minutes). A negative or zero value disables startup recovery.	The default value is 0.

Property	Description	Values
subsequentTriggerDelay	Specifies the number of seconds between recovery attempts during the Oracle BPEL Server startup recovery period. If the next recovery trigger falls outside the server startup period, that trigger is not scheduled and Oracle BPEL Server moves into the recurring recovery period. The default value is 300 (5 minutes). A negative value causes the default to be selected.	The default value is 300.

Recurring Schedule Properties

Property	Name	Value	Comment
maxMessageRaiseSize	Maximum recurring recovery raise size	50	The maximum number of messages to submit for each recurring recovery attempt. This property can be used to limit the impact of recovery on the server. Note that this value specifies the maximum number of messages to filter from activity, invoke and callback queries; that is, 50 messages from each of the activity, invoke and callback tables. The default value is 50. A negative value will cause all messages selected from the database to be submitted for recovery. A zero value will cause no messages to be selected from the database (effectively disabling recovery).
startWindowTime	Daily recurring recovery start time	00:00	Start time for daily recovery window, specified in 24-hour notation. Hence, 2:00pm would be specified as 14:00. The leading zero does not need to be specified for single digit hour values (1:00-9:00). The default value is midnight (00:00). Any invalid parsed time values will be defaulted to midnight.
stopWindowTime	Daily recurring recovery stop time	00:00	Stop time for daily recovery window, specified in 24-hour notation. Hence, 2:00pm would be specified as 14:00. The leading zero does not need to be specified for single digit hour values (1:00-9:00). If daily recovery is not desired, set the start and stop window times to be the same value. If the stop window time is earlier than the start window time, both the start and stop window times will be changed to their respective default values. The default value is midnight (00:00), effectively disabling recurring recovery. Any invalid parsed time values will be defaulted to 00:00.
subsequentTriggerDelay	Recurring recovery trigger delay	300	The number of seconds between recovery attempts during daily recurring startup recovery periods. If the next recovery trigger falls outside of the current recovery period, that trigger will not be scheduled until the next the recurring recovery period (tomorrow). The default value is 300 (5 minutes). A negative value will cause the default to be selected.

The recurring schedule properties are described below.

Property	Description	Values
maxMessageRaiseSize	Specifies the maximum number of messages to submit for each recurring recovery attempt. This property can limit the impact of recovery on Oracle BPEL Server. This value specifies the maximum number of messages to filter from activity, invoke, and callback queries; that is, 50 messages from each of the activity, invoke, and callback tables. The default value is 50. A negative value causes all messages selected from the database to be submitted for recovery. A zero value causes no messages to be selected from the database (effectively disabling recovery).	The default value is 50.

Property	Description	Values
startWindowTime	Specifies the start time for the daily recovery window, specified in 24-hour notations. Therefore, 2:00 pm is specified as 14:00. The leading zero does not need to be specified for single digit hour values (1:00-9:00). The default value is midnight (00:00). Any invalid, parsed time values default to midnight.	The default value is 00:00.
stopWindowTime	Specifies the stop time for the daily recovery window, specified in 24-hour notations. Therefore, 2:00 pm is specified as 14:00. The leading zero does not need to be specified for single digit hour values (1:00-9:00). If daily recovery is not required, set the start and stop window times to be the same value. If the stop window time is earlier than the start window time, both the start and stop window times are changed to their respective default values. The default value is midnight (00:00). Any invalid, parsed time values are defaulted to 00:00.	The default value is 00:00.
subsequentTriggerDelay	Specifies the number of seconds between recovery attempts during daily, recurring startup recovery periods. If the next recovery trigger falls outside of the current recovery period, that trigger is not scheduled until the next recurring recovery period (tomorrow). The default value is 300 (5 minutes). A negative value causes the default to be selected.	The default value is 300.

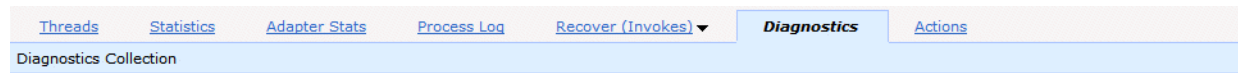
2. Edit these properties with values appropriate to your environment.

5.10.7 Statistics Collection for Diagnostic Purposes

You can collect logs, thread dumps, and run-time statistics over a short time period for diagnostic purposes. For example, if an instance fails, you can begin collecting statistics, invoke the failed instance again, and complete collection of statistics for the failed instance. These statistics can then be used for debugging the failed instance or attached to a bug report. This reduces the number of round trip interactions between you and support to debug the issue.

Follow these steps to start collecting statistics for diagnostic purposes on a failed instance in Oracle BPEL Control.

1. Select **Administration > Diagnostics**. The Diagnostics Collection page appears.



This feature allows administrators to easily collect logs, thread dumps and runtime statistics over a small time period for diagnosability purposes.

Step 1

Click the *Start Collection* button. This will:

- sets all loggers to DEBUG,
- starts collecting thread dumps every 10 seconds until 5 minutes is reached or the *Stop Collection* button is clicked,
- and resets the statistics collection.

Start Collection

Step 2

Click the *Stop Collection* button. This will:

- collect all domain logs,
- collect all generated thread dumps,
- resets statistics collection,
- resets all loggers to their previous state prior to *step 1*,
- and generate a zip file that you will be prompted to download.

Stop Collection

2. Click **Start Collection** to begin the collection of statistics. A message appears stating that diagnostics are being collected. All loggers are set to `DEBUG` mode. Statistics are collected every 10 seconds until five minutes is reached or **Stop Collection** is selected.
3. Return to the **Dashboard** tab to invoke an instance of a BPEL process that previously failed.
4. Return to the Diagnostics Collection page and note that statistics collection is continuing.
5. Wait five minutes or click **Stop Collection** when you want to stop the collection of statistics. A message appears stating that logs are being gathered.
6. When prompted, select to open or save the ZIP file containing the collected statistics, logs, and thread dumps. These statistics can be used to debug a failed instance or attached to a bug report.

Note: You can export a ZIP file of a BPEL process by clicking **Export Process** under **Dashboard** > *BPEL_process_name* > **Manage** in Oracle BPEL Control.

5.10.8 XML Validation of Input Payloads

You can validate an XML input payload against the input message types for a BPEL process. This enables you to validate a payload before invoking an instance. This helps to prevent incorrect and invalid XML payloads from being delivered to a process and XPath errors from appearing in subsequent assign activities.

Follow these steps to validate XML payloads:

1. Select **Dashboard** > *BPEL_process_name* > **Validate XML**.
2. Enter the payload schema to validate. The payload can be either the entire SOAP envelope or the element type (without the `soap:Body` tag).

Manage	Initiate	Descriptor	WSDL	Sensors	Source	Analytics	Validate XML	Test
Validate XML Against BPEL Process Input Schemas								

How to use this page

This page allows an XML input payload to be validated against the input message types for the BPEL process. Many times incorrect/invalid delivered to a process; the consequence of this is many XPath errors in subsequent assign activities.

The input payload may either be the entire SOAP envelope or the element type itself (without the soap:Body tag).

Note: Do not forget to include namespace declarations.

```
<?xml version="1.0" encoding="windows-1252"?>
<PurchaseOrder xmlns="http://www.globalcompany.com/ns/sales">
  <CustID>Antilla Electronics</CustID>

  <ID>A5-0193</ID>
  <ShipTo>
    <Name>
      <First>DeGossaa</First>
      <Last>Calro</Last>
    </Name>
    <Address>
      <Street>12, Burhon Street</Street>
      <City>Danzig</City>
      <State>Godanzk</State>
      <Zip>P0-20398</Zip>
      <Country>Poland</Country>
    </Address>
  </ShipTo>
  <BillTo>
```

3. Click **Validate XML**.

A message indicating whether validation was successful or unsuccessful appears. If validation was unsuccessful, the errors are described.

5.10.9 Encryption and Decryption Properties for BPEL Payloads

You can encrypt and decrypt sensitive payload data for a BPEL process being passed from boundary to boundary. In addition, this data is not visible in the audit and debug logs.

Follow these steps to encrypt and decrypt data.

1. Create properties and property aliases for the data elements to be encrypted in Oracle JDeveloper.
 - To create properties, right-click in the BPEL designer and select **View > Properties**, then highlight the **Properties** folder and click the **Create** icon. For this example, the properties **ssn** and **rating** are created.
 - To create property aliases, right-click and select **View > Property Aliases**, then highlight the **Property Aliases** folder and click the **Create** icon.

When complete, the updates are reflected in the WSDL file of the BPEL process:

```
<bpws:property name="ssn" type="xsd:string" xmlns:ssnns="http://a" />
<bpws:property name="rating" type="xsd:string" xmlns:rating="http://b" />
<bpws:propertyAlias xmlns:services="http://services.otn.com"
  xmlns:rating="http://b"
  propertyName="rating:creditRating"
  messageType="services:LoanServiceRequestMessage"
  part="payload"
  query="/s1:loanApplication/s1:creditRating"/>

<bpws:propertyAlias xmlns:services="http://services.otn.com"
  xmlns:rating="http://b"
```

```

        propertyName="rating:rating"
messageType="services:CreditRatingServiceResponseMessage"
        part="payload"
        query="/services:rating"/>

<bpws:propertyAlias xmlns:ssnns="http://a"
        xmlns:services="http://services.otn.com"
        propertyName="ssnns:ssn"
messageType="services:CreditRatingServiceRequestMessage"
        part="payload"
        query="/services:ssn"/>

<bpws:propertyAlias xmlns:ssnns="http://a"
        xmlns:services="http://services.otn.com"
        propertyName="ssnns:ssn"
messageType="services:LoanServiceRequestMessage"
        part="payload"
        query="/s1:loanApplication/s1:SSN"/>

<bpws:propertyAlias xmlns:ssnns="http://a"
        propertyName="ssnns:ssn"
messageType="tns:LoanFlowRequestMessage"
        part="payload"
        query="/s1:loanApplication/s1:SSN"/>

```

2. Open the `bpel.xml` file.
3. Add the `encryptProperties` and `decryptProperties` properties under the configurations section:

```

<configurations>
    <property name="encryptProperties">{http://a}ssn
        {http://b}rating</property>
    <property name="decryptProperties">{http://a}ssn
        {http://b}creditrating</property>
</configurations>

```

All partner links now perform the following tasks:

- Encrypt `/s1:loanApplication/s1:SSN` and `/services:rating` (based on the message type)
- Decrypt `/s1:loanApplication/s1:SSN` and `/s1:loanApplication/s1:creditRating` (based on the message type)

5.10.10 Automatically Changing URLs and Properties for Development, Test, and Production Environments

In previous releases, when moving a BPEL process to and from development, test, and production server environments, you needed to modify several URLs and properties in the `bpel.xml`, WSDL, and schema files of the BPEL process. With release 10.1.3.4, you can create a BPEL deployment plan in an XML file in which you define the URL and property values to use for different environments. During process deployment, the deployment plan is used to search for files in the BPEL suitcase JAR file and replace them with files that include the URLs and properties appropriate to the environment.

5.10.10.1 Overview of a BPEL Deployment Plan

This section provides an overview of how a deployment plan works.

- You create and edit a deployment plan file in which you can replace the following attributes and properties:
 - Configuration properties in the BPEL deployment descriptor file (`bpel.xml`)
 - Partner link binding property in the `bpel.xml` file
 - `schemaLocation` attribute of an import in a WSDL file
 - `location` attribute of an include in a WSDL file
 - `schemaLocation` attribute of an include, import, and redefine in an XSD file

Note: You cannot change references in XSL using the deployment plan file. Instead, they must be changed manually in the XSLT Mapper in Oracle JDeveloper when moving to and from test, development, and production environments. This ensures that the XSLT Mapper opens without any issues in design time. However, leaving the references unchanged does not impact run-time behavior.

The following example shows the `bpel.xml` portion of the deployment plan file. In this section, the following search and replacement rules are specified for the partner link binding `CreditRatingAgentPL`:

- Search for and replace `myhost.us.oracle.com` with `myhost17`.
- Search for and replace `${domain_id}` with `orabpel`.

You can also specify asterisks instead of specific values. For example, replacing the following:

```
BPELProcess id="AutoLoanFlow"
```

with:

```
BPELProcess id="**"
```

This makes the search and replacement options specified in this deployment plan applicable to all processes. This enables you to share a deployment plan file across processes.

```
. . .
. . .
<BPELProcess id="AutoLoanFlow">
. . .
. . .
    <partnerLinkBindings>
        <partnerLinkBinding name="CreditRatingAgentPL">
            <property name="**">
                <searchReplace>
                    <search>myhost17.us.oracle.com</search>
                    <replace>myhost17</replace>
                </searchReplace>
            </property>
        </partnerLinkBinding>
    </partnerLinkBindings>
</BPELProcess>
<BPELProcess id="**">
    <partnerLinkBindings>
        <partnerLinkBinding name="**">
            <property name="**">
                <searchReplace>
```

```
        <search>${domain_id}</search>
        <replace>orabpel</replace>
    </searchReplace>
</property>
</partnerLinkBinding>
</partnerLinkBindings>
</BPELProcess>
```

. . .
. . .

- You attach the deployment plan file to a BPEL suitcase JAR file.
- During deployment, the deployment plan file is used to search and replace the `bpel.xml`, WSDL, and XSD files in the BPEL suitcase JAR file with files that include the URLs and properties appropriate to the environment; the server side has no change as it receives the modified artifacts.

5.10.10.2 Overview of Use Cases for a Deployment Plan

The following steps provide an overview of how to use a deployment plan when moving from development to testing environments:

1. User A creates BPEL process Foo.
2. User A deploys process Foo to a development server, fixes bugs, and refines the process until it is ready to test in the staging area.
3. User A creates and edits a deployment plan for Foo, which enables the URLs and properties in the process to be modified to match the testing environment.
4. User A deploys Foo to the testing server using Oracle JDeveloper or a series of command-line scripts (can be `ant`-based). The deployment plan created in Step 3 modifies the URLs and properties in Foo.
5. User A deploys process Bar in the future and applies the same plan during deployment. The URLs and properties are also modified.

The following steps provide an overview of how to use a deployment plan when creating environment-independent processes:

Note: This use case is useful for users that have their own development server and a common development and testing server if they share development of the same process. Users that share the same deployment environment (that is, the same development server) may not find this use case as useful.

1. User A creates BPEL process Foo.
2. User A deploys process Foo to their development server, fixes bugs, and refines the process until it is ready to test in the staging area.
3. User A creates a deployment plan for Foo, which enables the URLs and properties in the process to be modified to match the settings for User A's environment.
4. User A checks in process Foo and the deployment plan created in Step 3 to a source control system.
5. User B checks out process Foo from source control.
6. User B makes a copy of the deployment plan to match their environment and applies the new deployment plan onto process Foo's artifacts.
7. User B imports the process into Oracle JDeveloper and makes several changes.

8. User B checks in both process Foo and deployment plan B (which matches user B's environment).
9. User A checks out process Foo again, along with both deployment plans.

5.10.10.3 Creating and Using a Deployment Plan

This section describes how to create and use a deployment plan. In particular, this section describes the following:

- Creating and editing a deployment plan
- Attaching the deployment plan to a suitcase JAR file
- Validating the deployment plan
- Deploying the suitcase JAR file in which the deployment plan is included

This section describes how to use Oracle JDeveloper to perform these tasks. In addition, the ant commands for performing these tasks from the operating system command prompt are listed.

1. Add the following ant commands to the `build.xml` file. This file is located in the **Resources** folder of Oracle JDeveloper for the BPEL process in which to create a deployment plan. If you do not intend to use a specific ant command (for example, `validateplan` or `extractplan`), you do not need to include that syntax in the file.

```
<target name="generateplan1">
    <generateplan planfile="genSOAB2.xml" verbose="true" overwrite="true"
        descfile="${process.dir}/bpel/bpel.xml" />
</target>
<target name="generateplan2">
    <generateplan planfile="genSOAB2.xml" verbose="true" overwrite="true"
        suitcase="${process.dir}/output/bpel_SOAOrderBooking_
1.0.jar" />
</target>
<target name="attachplan">
    <attachplan planfile="genSOAB2.xml" verbose="true" overwrite="true"
        suitcase="${process.dir}/output/bpel_SOAOrderBooking_
1.0.jar" />
</target>
<target name="validateplan">
    <validateplan planfile="genSOAB2.xml" verbose="true" overwrite="true"
        suitcase="${process.dir}/output/bpel_SOAOrderBooking_
1.0.jar"
        reportfile="${process.dir}/output/aa.txt" />
</target>
<target name="extractplan">
    <extractplan planfile="genSOB1.xml" verbose="true" overwrite="true"
        suitcase="${process.dir}/output/bpel_SOAOrderBooking_1.0.jar" />
</target>
```

These ant commands perform the following tasks:

Element	Description
generateplan	This option creates a deployment plan file for editing that includes all partner links, configuration properties, and WSDL imports in the BPEL process. The <code>planfile</code> attribute indicates the name to use for the deployment plan file. You can create a plan from either of two sources. ■ <code>bpel.xml</code> deployment descriptor file Specify a value with the <code>descfile</code> attribute. For example, <code>descfile="\${process.dir}/bpel/bpel.xml"</code>. This source is for developers who want to generate a plan without compiling the project. After development is complete, you copy the deployment plan file to the <code>build</code> folder and create the JAR file. ■ BPEL suitcase JAR file Specify a value with the <code>suitcase</code> attribute. For example, <code>suitcase="\${process.dir}/output/bpel_SOAOrderBooking_1.0.jar"</code>. This source is for administrators who do not want to review code. Instead, you take the JAR file, generate a deployment plan file, attach the file to the JAR file, and deploy it. Note: The content of the deployment plan is the same with either source.
attachplan	This option packages a deployment plan file with the suitcase JAR file. The deployment plan file is automatically renamed to <code>bpeldeployplan.xml</code> in the suitcase JAR file. If this file already exists in the suitcase JAR file, it is overwritten with the new plan.
validatePlan	This option validates the deployment plan and identifies all search and replacement changes to be made on the server side during BPEL process deployment. Use this option for debugging only. The <code>reportfile</code> attribute indicates the file name in which the results of this test are written. For example, <code>reportfile="\${process.dir}/output/aa.txt"</code>
extractplan	This option extracts the existing deployment plan packaged with the suitcase JAR file for editing. If no plan file exists, this is the same as creating a new file with <code>generateplan</code>.

2. Provide values appropriate to your environment (the values provided in the example above for `target name`, `planfile`, `descfile`, `reportfile`, and `suitcase` are only examples).
3. Save your changes when editing is complete.
4. Right-click `build.xml` and select **Run Ant**.
5. Move **deploy (Default)** from the **Selected Targets** section to the **Available Targets** section.
6. Move the target name you entered in Step 2 (for this example, **generateplan1** or **generateplan2**) from the **Available Targets** section to the **Selected Targets** section.
7. Click **OK**.

Note: Steps 6 and 7 can also be performed with the following `ant` syntax from the folder in which `build.xml` is located:

```
command prompt> ant generateplan1
```

where `generateplan1` is the value defined for the target name.

This runs `generateplan` and creates a single deployment plan file in which you can modify URLs and properties for the `bpel.xml`, WSDL, and schema files of the BPEL process. This file is created by default in the `JDeveloper_Home\JDev\bin` directory, unless you explicitly specified a path with the `planfile` property, such as `c:\temp\genSOAB2.xml`.

8. If you generated a deployment plan file using the `bpel.xml` deployment descriptor file option described in Step 1, you must move the deployment plan file to the same directory as the `build.xml` file. If you used the BPEL suitcase JAR file option described in Step 1, you do not need to move this file.
9. Open the deployment plan file with an editor and manually add search and replacement syntax. You can also copy the existing search and replacement syntax from the bottom of the deployment plan file to appropriate sections of the file for insertion and editing. Use this syntax to replace values for server names, port numbers, and so on. You can also add replacement-only syntax when providing a new value. You can add multiple search and replacement commands in each section (as shown in the `partnerLinkBindings` section). Make schema file changes in the `wsdlAndSchema` section at the bottom of the file.

A sample deployment plan file is shown below:

Note: The deployment plan file does not automatically include the JCA syntax shown below. If you want to search for and replace JCA values, you must manually add the syntax shown below to the deployment plan file for editing.

```
<?xml version="1.0" encoding="UTF-8"?>
<!--BPELDeploymentPlan for a suitcase, the file is re usable across
suitcases-->
<BPELDeplomentPlan xmlns="http://schemas.oracle.com/bpel/deployplan"
xmlns:jca="http://xmlns.oracle.com/pcbpel/wsdl/jca/">
  <!-- BPELProcess tag indicates the rules apply to a specific process or all
processes in the suitcase.
        A '*' indicates all processes. -->

  <BPELProcess id="Process1|Process2|Process3">
    <!-- this section applies to the configurations in bpel.xml file -->

    <configurations>
      <!-- a '*' in name indicates all properties -->
      <property name="defaultInput|myproperty">
        <!-- Use this section to provide a search and replace string -->
        <searchReplace>
          <search>http://my.globalcompany.com:9700</search>
          <replace>http://my.oracle.com:1234</replace>
        </searchReplace>
        <searchReplace>
          <search>/autoloan/mybank</search>
          <replace>/allloans//boa/</replace>
        </searchReplace>
      </property>
      <property name="property4">
        <!-- Use this to replace the value of the property4 -->
        <replace>![CDATA[This demo showcases the integration of synchronous and
asynchronous services into an end-to-end business process. This sample
application.  ]]
        </replace>
```

```

    </property>
</configurations>

<partnerLinkBindings>
  <!-- this section applies to the partnerlink bindings in bpel.xml file.
       Give '*' to apply for all partner link bindings.-->
  <partnerLinkBinding name="LoanService1|StarLoan">
    <property name="*">
      <!-- Use this section to provide a search and replace string -->
      <searchReplace>
        <search>http://mydevserver:9700</search>
        <replace>http://mytestserver:9500</replace>
      </searchReplace>
    </property>
  </partnerLinkBinding>
  <partnerLinkBinding name="AutoLoanService">
    <!-- a '*' in name indicates all properties -->
    <property name="wsdlRuntimeLocation">
      <!-- in this case we are providing a new value for the property,
           there is no search and replace -->
      <replace>
        <value>http://autoloan_test_server:1234/AutoLoan?wsdl</value>
      </replace>
    </property>
  </partnerLinkBinding>
  <!-- Note: we gave specific search and replace rules for some partner
       link bindings and this is the rule for all other partner link bindings-->
  <partnerLinkBinding name="*">
    <property name="*">
      <!-- Use this section to provide a search and replace string -->
      <searchReplace>
        <search>9700</search>
        <replace>9500</replace>
      </searchReplace>
    </property>
  </partnerLinkBinding>
</partnerLinkBindings>
</BPELProcess>

<!-- This section applies to all wsdl and xsd files in the suitecase, give
       specific names separated by '|' is need specific replacement-->

<wsdlAndSchema name="FlatStructureOutbound.wsdl"|Loademo.xsd>
  <!-- Remember to add xmlns:jca="http://xmlns.oracle.com/pcbpel/wsdl/jca/"
       in BPELDeploymentPlan if you want to replace jca properties as shown below.
  -->

  <jca:property name="PhysicalDirectory">
    <searchReplace>
      <search>/tmp/dev/inbound</search>
      <replace>/tmp/test/inbound</replace>
    </jca:property>
  <jca:property name="FileNamingConvention">
    <searchReplace>
      <search>.txt</search>
      <replace>.doc</replace>
    </searchReplace>
  </jca:property>

  <!-- Note: any searchReplace should always be added after jca properties

```

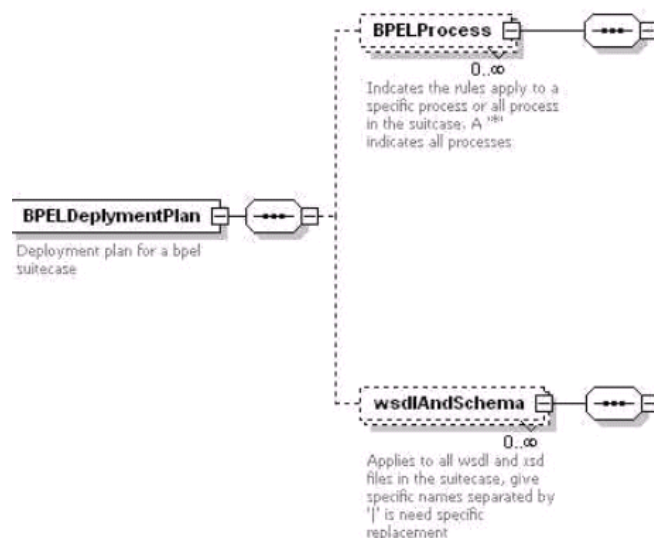
```

        section. -->
        <searchReplace>
          <search>http://mydevserver:9700</search>
          <replace>http://mytestserver:9500</replace>
        </searchReplace>

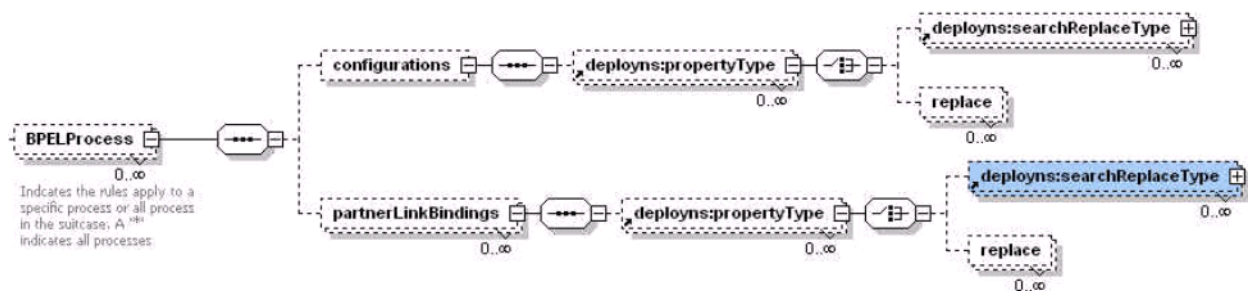
        <searchReplace>
          <search>dev.xsd</search>
          <replace>test.xsd</replace>
        </searchReplace>
      </wsdlAndSchema>
    </BPELDeploymentPlan>

```

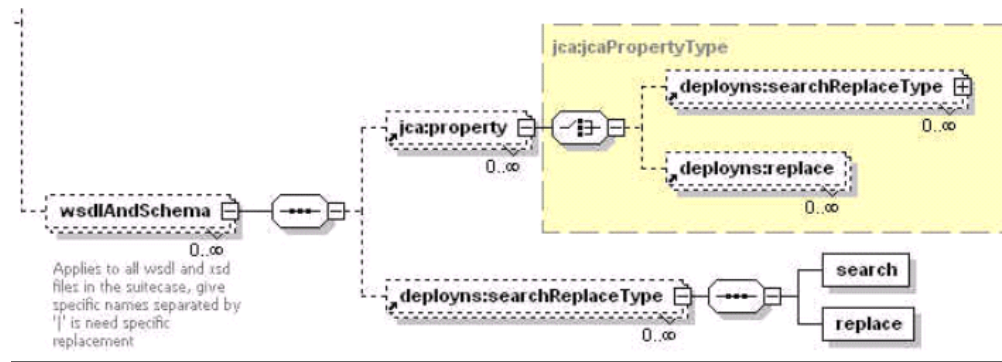
The BPEL deployment plan schema is shown in the following graphics. The first graphic shows the root configuration, BPELDeploymentPlan, which includes the BPELProcess and wsdlAndSchema configurations.



The BPELProcess configuration consists of the following:



The wsdlAndSchema configuration consists of the following:



10. Return to Oracle JDeveloper.
11. Right-click inside the `build.xml` file again and select **Run Ant**.
12. Move **attachplan** from the **Selected Targets** section to the **Available Targets** section.
13. Click **OK**.

Note: Steps 12 and 13 can also be performed with the following ant syntax:

```
command prompt> ant attachplan
```

This packages the new deployment plan file with the BPEL suitcase JAR file. The file is renamed to `bpeldeployplan.xml`. The suitcase JAR file is created in the output directory of the BPEL process.

Note: The `attachplan` command does *not* replace the old `bpel.xml`, WSDL, and XSD files with files containing the new values. Replacement occurs only when the BPEL process is deployed in Step 20.

14. Right-click inside the `build.xml` file again and select **Run Ant**.
15. Move **validateplan** from the **Selected Targets** section to the **Available Targets** section. This is an optional command.
16. Click **OK**.

Note: Steps 15 and 16 can also be performed with the following ant syntax:

```
command prompt> ant validateplan
```

The Log window in Oracle JDeveloper indicates if validation succeeded and lists all search and replacement commands to perform during BPEL process deployment. This information is also written to the file you specified with the `reportfile` attribute in the `build.xml` file in Step 2.

17. Review the information to ensure that all search and replacement syntax is correct.
18. Right-click inside the `build.xml` file again and select **Run Ant**.

19. Move **deploy (Default)** from the **Selected Targets** section to the **Available Targets** section.

Note: In addition to specifying these commands separately, you can also move **attachplan**, **validateplan**, and **deploy (Default)** to the **Available Targets** section together and click **OK**. This runs all three commands as a batch process.

20. Click **OK**.

The files in the BPEL suitcase JAR file are replaced with files that include the URLs and properties appropriate to the next environment.

5.10.11 Changes Made to Deployment Descriptor Properties in 10.1.3.3 and 10.1.3.4

Table 5–7 describes deployment descriptor property changes.

Table 5–7 Deployment Descriptor Property Changes

Name	Type	Status	Description
transaction	configuration	Removed in 10.1.3.4	When set to participate, the process produces a fault that is not handled by fault handlers, which calls the transaction to be rolled back.
deliveryPersistPolicy	configuration	Active since 10.1.3.3	This is the setting for persisting policy of this process in the delivery layer. This setting overrides the same value in <code>domain.xml</code>. The possible values are: - on: The message sent into the system is saved in the delivery store before being picked up by Oracle BPEL Server. - off: The message sent into the system is saved in memory before being picked up by Oracle BPEL Server. - off.immediate: The instance-initiating message is not temporarily saved in the delivery layer. Oracle BPEL Server uses the saved thread for initiation.
keepGlobalVariables	configuration	Active since 10.1.3.3	When the instance is completed, Oracle BPEL Server keeps the global variable values in the instance store. The possible values are: - false (default): Global variable values are deleted when the instance completes. - true: Global variable values are kept in the instance store.
preferredPort	partnerLinkBinding	Active since 10.1.3.3	The preferred port to use in case there are multiple WSDL ports available. The value is the NCName of the WSDL port.

Table 5–7 (Cont.) Deployment Descriptor Property Changes

Name	Type	Status	Description
fullWSAddressing	partnerLinkBinding	Active since 10.1.3.3	The possible values are: ■ false (default) ■ true: The WSDL is generated to include full WSA headers in the binding: From, Action, To, and FaultTo.
transaction	partnerLinkBinding	Active since 10.1.2	The possible values are: ■ participate (default): When performing a local sync all call, the call occurs in the same transaction. ■ notParticipate: A new transaction is created for the call.

Note: In 10.1.3.4, the `transaction=participate` property is not supported in the configuration property section of `bpel.xml`. If you do not want to produce the fault, modify your BPEL process to use a `catchAll` branch in the process level scope.

5.10.12 Fault Management Behavior When the Number of Instance Retries is Exceeded

With release 10.1.3.4, the behavior of the fault management framework has been changed for when you configure a fault policy to recover instances with the `ora-retry` action and the number of specified instance retries is exceeded. This change is described in [Table 5–8](#).

Table 5–8 Fault Management Framework Changes

In Release 10.1.3.3.0...	In Release 10.1.3.4...
The instance is marked as <code>closed.faulted</code> once the number of instance retries is exceeded. No more retries are attempted.	The instance is marked as <code>open.faulted</code> (in-flight state) once the number of instance retries is exceeded. The instance remains active.

Marking instances as `open.faulted` ensures that no instances are lost. You can then configure another fault handling action following the `ora-retry` action in the fault policy file, such as the following:

- Configure an `ora-human-intervention` action to manually perform instance recovery from Oracle BPEL Control
- Configure an `ora-terminate` action to close the instance (mark it as `closed.faulted`) and never retry again

However, if you do *not* set an action to be performed after an `ora-retry` action in the fault policy file and the number of instance retries is exceeded, the instance *remains* marked as `open.faulted`, and recovery attempts to handle the instance.

For example, if no action is defined in the following fault policy file after `ora-retry`:

```
<Action id="ora-retry">
  <retry>
    <retryCount>2</retryCount>
    <retryInterval>2</retryInterval>
```

```

        <exponentialBackoff/>
    </retry>
</Action>

```

Oracle BPEL Server performs the following actions:

- Attempts the invoke activity (using the above-mentioned fault policy code to handle the fault)
- Retries two times at increasing intervals (after two seconds, then after four seconds)
- If all retry attempts fail, Oracle BPEL Server performs the following actions:
 - Logs a detailed fault error message in the audit trail
 - Marks the instance as `open.faulted` (in-flight state)
 - Picks up the instance and re-attempts the invoke activity
- Oracle BPEL Server recovery may also fail. In that case, the invoke activity is re-executed. Additional audit messages are logged.

See Also: *Oracle SOA Suite New Features* for 10.1.3.3.0 for details about the fault management framework. This document is available at the following URL:

<http://www.oracle.com/technology/products/ias/bpel/index.html>

5.10.13 Asynchronous Audit Trail

Prior to release 10.1.3.4, the audit trail and the BPEL process participated in the same transaction. Under certain circumstances, instances of a BPEL process did not appear in Oracle BPEL Control. This gave the impression that the process did not run. In fact, the process did run, but for whatever reason, the transaction was rolled back. This also rolled back the audit trail. Therefore, no evidence of the instance appeared in Oracle BPEL Control.

Oracle BPEL Server behaved correctly; that is, no data was committed that should not have been and no messages were lost. The last dehydrated message was available under the **Perform Manual Recovery** link in Oracle BPEL Control and the BPEL process was retrievable. However, there were some circumstances under which instances whose transactions were rolled back did not appear in Oracle BPEL Control.

In release 10.1.3.4, the audit trail participates in its own separate transaction. If a BPEL instance is rolled back, all behavior is the same. The only difference is that you can now see the instance in Oracle BPEL Control. In addition, the audit trail thread is asynchronous so the BPEL instance is not blocked while waiting for the audit trail to be saved to the dehydration store.

Oracle Enterprise Service Bus

This chapter describes issues associated with Oracle Enterprise Service Bus (ESB). It includes the following topics:

- [Section 6.1, "Configuring ESB for Invoking UDDI Service"](#)
- [Section 6.2, "JMS Exception Thrown While Increasing the Number of Deferred Listeners"](#)
- [Section 6.3, "Space in ESB System Name Results in Invalid Web Service URL"](#)
- [Section 6.4, "Wrong Service Endpoint Opens While Testing ESB Web Service"](#)
- [Section 6.5, "BPEL Process Fails to Load After Upgrade to 10.1.3.4"](#)
- [Section 6.6, "Support for Streaming Attachment and RPC Encoded Web Service"](#)
- [Section 6.7, "Deploying ESB Repository Using Ant Script Does Not Create Correct Oracle RAC Data Source"](#)
- [Section 6.8, "ESB Logging Enhancement"](#)
- [Section 6.9, "ESB Enabled to Pick Run-Time Protocol"](#)
- [Section 6.10, "ESB Server Does Not Load After Applying the 10.1.3.4 Patch"](#)
- [Section 6.11, "10.1.3.4 OC4J_SOA Container Never Shuts Down Gracefully"](#)
- [Section 6.12, "ESB Points to Incorrect Instance and Throws Exceptions"](#)
- [Section 6.13, "Direct Invocation from ESB Routing Service Fails When BPEL Process Is Called"](#)
- [Section 6.14, "Resetting of ESB Repository Not Supported"](#)
- [Section 6.15, "Unable to Register ESB Project Having SOAP Attachment Web Service"](#)
- [Section 6.16, "Running SOA Stress Test Throws OutOfMemory Exception"](#)
- [Section 6.17, "Instances Are Not Seen Immediately After Processing"](#)
- [Section 6.18, "Reset Script Drops ESB Repository Tables"](#)
- [Section 6.19, "ESB Service Calling Secured Web Service Fails After Upgrading to 10.1.3.4"](#)
- [Section 6.20, "ESB Run-Time Throws Exception While Enabling Synchronous Error Handling"](#)
- [Section 6.21, "Disabling One Service Affects Other Routing Rules in the Project"](#)
- [Section 6.22, "XRef Functions with Double Quotation Marks Do Not Work"](#)

- [Section 6.23, "HTTPS Invocation of WSDL Using UDDI Throws Exception"](#)
- [Section 6.24, "ESB Processes Same File Twice When Run Against Oracle RAC Planned Outages"](#)
- [Section 6.25, "Login to ESB Control Fails for Oracle Lite Database with Windows Basic Installation"](#)
- [Section 6.26, "Imported Domain Value Maps Are Not Displayed in ESB Control"](#)
- [Section 6.27, "Failed Instance Gets Retried Indefinitely in an ESB Synchronous Scenario"](#)
- [Section 6.28, "SOAP Headers Are Not Passed Through by ESB When XSL Transformation Is Present"](#)
- [Section 6.29, "Server Continuously Throws Error Messages"](#)
- [Section 6.30, "Inability to Override Transaction=Participate Property in ESB"](#)
- [Section 6.31, "ESB Error Handling Enhancement"](#)
- [Section 6.32, "Issues Solved in This Release"](#)
- [Section 6.33, "New Features"](#)

6.1 Configuring ESB for Invoking UDDI Service

Perform the following steps to configure ESB for invoking UDDI service:

1. Edit the `esb_config.ini` file and add the following line:

```
uddiInquiryURL=http://<host>:<port>/registry/uddi/inquiry
```
2. Restart the server.
3. In JDeveloper, select a UDDI service from SOAP Service.
4. In endpoint service, add endpoint property `registryServicekey` as `registryServiceKey=uddikey`.

This will be visible in the ESB control when the project is deployed.

Note: HTTPS invocation of secured UDDI is not supported in this release.

For more information about this issue, refer to Oracle bug 7122328.

6.2 JMS Exception Thrown While Increasing the Number of Deferred Listeners

If you increase the number of deferred message listeners to more than one, then ESB fails throwing JMS exception because JMS does not support more than one subscriber with the same name. This is a known issue.

To solve this issue, the following enhancements have been made in Oracle Application Server release 10.1.3.4:

- Now, deferred listeners are named with a suffix to the message selector. For example:

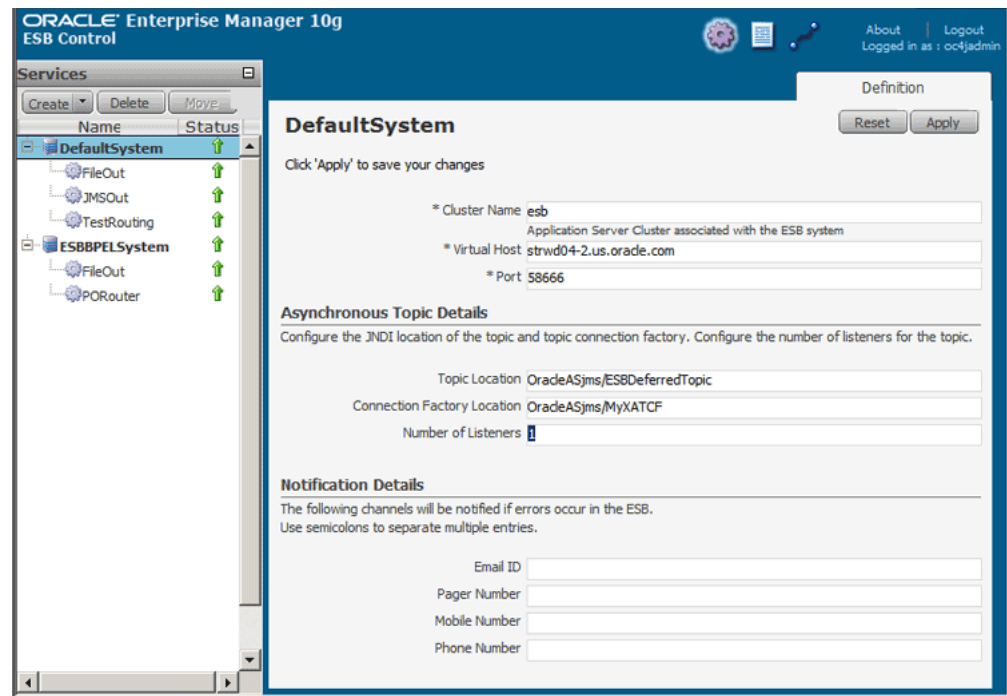
```
n_systemname
```

where, n is the number of listeners for the system.

- Now, increasing the listener value using ESB control automatically affects the number of listeners, but decreasing the value still requires restarting the server.

You can set the listener number by opening the ESB control and setting the number of listeners as shown in Figure 6–1:

Figure 6–1 Setting Number of Listeners from ESB Control



- Enqueuers now enqueue the recipient name in the following way:

`n_systemname`

where, n is a random number between one and the number of listeners for the system.

- A new parameter `enqueueer_number` is introduced in the `$ORACLE_HOME/integration/esb/config/esb_config.ini` file to set the size of the enqueueer pool.

Note: You must restart the server after increasing the number of listeners or enqueueers.

Set the `enqueueer_number` parameter in the `$ORACLE_HOME/integration/esb/esb_config.ini` file. If you want to set the enqueueer cache size for all systems to any particular value, then you can do it by setting the `enqueueer_number` property. For example:

```
enqueueer_number = number
```

where, `number` is the required enqueueer cache size for all systems.

If you want to set the enqueueer cache size of a particular system to a particular value, then you can do it by setting the `<SYSTEM_NAME>_enqueueer_number` property. For example:

```
DefaultSystem_enqueueer_number = number
```

where, `number` is the required enqueueer cache size for the particular system.

Note: This optional parameter setting helps to optimize throughput when inbound services get messages in multiple threads simultaneously. Ideally, this parameter should be set to the maximum possible number of inbound threads.

For higher number of systems, caching the enqueueer may exceed the number of connections available. So, caching the enqueueer for performance is enabled only when the `cache_enqueueer` property is set to `true` in the `esb_config.ini` file.

For increasing the number of connections of OC4JJMS, you must set the `maxConnections` property of connector-factory `MyTCF` and `MyXATCF` in the `j2ee/<instance>/connectors/OracleASjms/OracleASjms/META-INF/oc4j.ra.xml` file to some higher value. For example:

```
<connector-factory location="OracleASjms/MyTCF"
connector-name="OracleASjms">
  <config-property name="jndiLocation" value="jms/TopicConnectionFactory"/>
  <connection-pooling use="private">
    <property name="waitTimeout" value="300" />
    <property name="scheme" value="fixed_wait" />
    <property name="maxConnections" value="200" />
    <property name="minConnections" value="0" />
  </connection-pooling>
</connector-factory>
```

For more information about this issue, refer to Oracle bug 6489703.

6.3 Space in ESB System Name Results in Invalid Web Service URL

Creating an ESB system with any space in the system name results in an invalid Web service URL.

For more information about this issue, refer to Oracle bug 7016982.

6.4 Wrong Service Endpoint Opens While Testing ESB Web Service

After upgrading to SOA 10.1.3.3.1, when you test ESB Web service in the server console for details of property and usage information, then a wrong service endpoint opens.

You can fix this issue by performing any one of the following methods:

Method 1

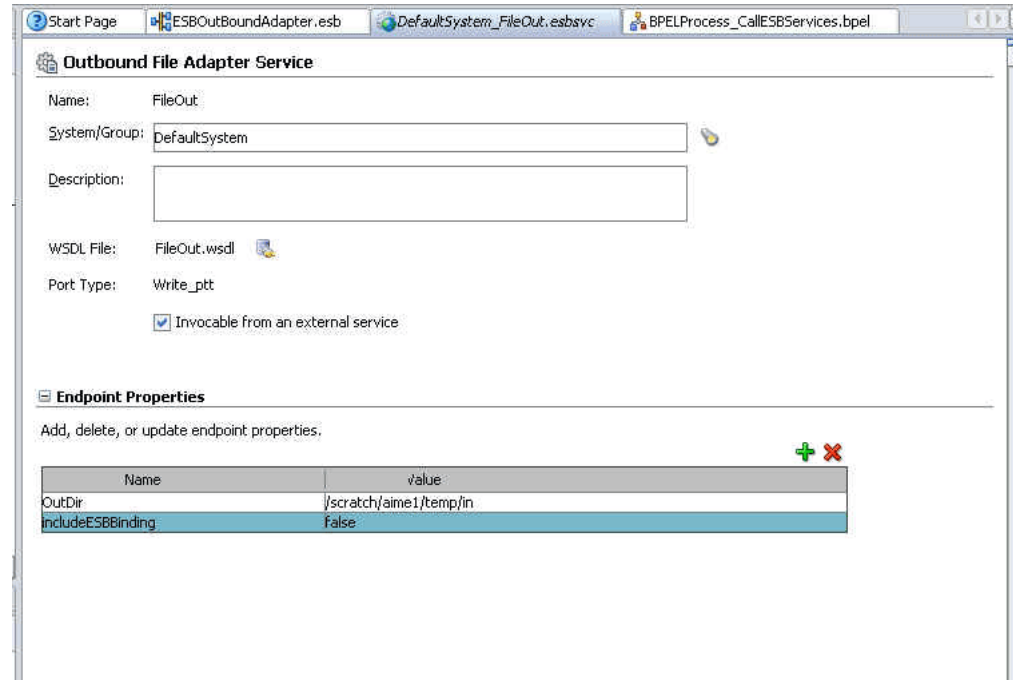
Add the following property manually to your project `esbsvc` file and then redeploy the project:

```
<endpointProperties>
<property name="includeESBBinding" value="false"/>
</endpointProperties>
```

Method 2

Open the Service Designer and set the `includeESBBinding` property to `false` as shown in [Figure 6–2](#):

Figure 6–2 Setting the Endpoint Property `includeESBBinding`



For more information about this issue, refer to Oracle bug 6753524.

6.5 BPEL Process Fails to Load After Upgrade to 10.1.3.4

After you upgrade to 10.1.3.4 release, the BPEL process fails to load. This is because the BPEL process loads before the ESB process and tries to access the ESB WSDL files, which are not available until that point.

You can work around this issue by changing the sequence of applications in the `server.xml` file in the following way and then restarting the container:

1. ESB-DT
2. ORABPEL
3. ESB-RT

The following example provides a sample snippet of the `server.xml` file:

```
<application name="javasso" path="../../home/applications/javasso.ear"
parent="default" start="false" />
<application name="ascontrol" path="../../home/applications/ascontrol.ear"
parent="system" start="false" />
<application name="datatags"
path="../../home/applications/datatags.ear"parent="default" start="true" />
<application name="orainfra" path="../../applications/orainfra.ear" parent="default"
start="true" />
<application name="esb-dt" path="../../applications/esb-dt.ear" parent="default"
start="true" />
<application name="orabpel" path="../../applications/orabpel.ear" parent="default"
```

```
start="true" />
<application name="hw_services" path="../applications\hw_services.ear"
parent="orabpel" start="true" />
<application name="ruleauthor" path="../applications\ruleauthor.ear"
parent="default" start="true" />
<application name="rulehelp" path="../applications\rulehelp.ear" parent="default"
start="true" />
<application name="esb-rt" path="../applications\esb-rt.ear" parent="esb-dt"
start="true" />
<application name="gateway" path="../applications\gateway.ear" parent="default"
start="true" />
<application name="ccore" path="../applications\ccore.ear"
parent="default" start="true" />
<application name="policymanager" path="../applications\policymanager.ear"
parent="default" start="true" />
<application name="coreman" path="../applications\coreman.ear" parent="default"
start="true" />
```

For more information about this issue, refer to Oracle bug 6965309.

6.6 Support for Streaming Attachment and RPC Encoded Web Service

Release 10.1.3.4 introduces support for streaming attachment and RPC encoded Web service.

For more information about this issue, refer to Oracle bug 6607987.

6.7 Deploying ESB Repository Using Ant Script Does Not Create Correct Oracle RAC Data Source

If you try deploying an ESB repository using the Ant script, then a correct Oracle RAC data source does not get created in the \$ORACLE_HOME/j2ee/oc4j_esbdt/config/data-sources.xml file. Here, oc4j_esbdt is the name of the OC4J container where the ESB repository was deployed using the Ant scripts.

Note: This bug is applicable *only* if you use an Oracle RAC database to store schemas for ESB.

To work around this issue you should manually edit the data-sources.xml file, to configure the connection pool for both ESBPpool and ESBAQJMSpool in the following way, after the Ant script is complete:

```
<connection-factory factory-class="oracle.jdbc.pool.OracleDataSource"
url="jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=
(LOAD_
BALANCE=on) (ADDRESS=(PROTOCOL=tcp) (HOST=abc1.us.oracle.com) (PORT=1521)) (ADDRESS=(P
ROTOCOL=tcp) (HOST=
abc2.us.oracle.com) (PORT=1521))) (CONNECT_DATA=(SERVICE_NAME=ORCL.us.oracle.com))) "
user="oraesb" password="passwordfororaesb">
```

For more information about this issue, refer to Oracle bug 7030056.

6.8 ESB Logging Enhancement

Starting from Oracle Application Server release 10.1.3.4, ESB logging capability has been enhanced. To take advantage of this enhanced logging feature, you should perform the following steps after you install the patch:

- Implement the `oracle.tip.esb.server.common.interceptor.IEsbMessageInterceptor` or interface.
- Add the implementation class into the ESB classpath, for example, `server.xml/esb.common`.
- Add the following configuration variables in the `esb_config.ini` file:


```
inboundMessageInterceptor =
oracle.tip.esb.server.common.interceptor.test.TestInterceptor
outboundMessageInterceptor =
oracle.tip.esb.server.common.interceptor.test.TestInterceptor
```

For more information about this issue, refer to Oracle bug 6995195.

6.9 ESB Enabled to Pick Run-Time Protocol

Starting from release 10.1.3.4, ESB is enabled to pick a run-time protocol by adding the `DT_OC4J_PROTOCOL` parameter to the `ESB_PARAMETER` table. The default value of this parameter is `http`. You must change the value of this parameter to the prefix of the protocol in use. For example, if you are using HTTP Secure Socket Layer (SSL) communication, then the value of this parameter should be `https`. You can achieve this by performing the following steps:

1. Connect to the `ORAESB` schema.
2. Update the `ESB_PARAMETER` table in the following way:

```
SQL> Update ESB_PARAMETER set param_value="https_port_number" where param_
name=' DT_OC4J_HTTP_PORT';
SQL> insert into ESB_PARAMETER values('DT_OC4J_PROTOCOL','https');
Commit;
```

3. Restart the `opmn` process.

For more information about this issue, refer to Oracle bug 7027470.

6.10 ESB Server Does Not Load After Applying the 10.1.3.4 Patch

After applying the 10.1.3.4 patch, the ESB server does not load because the number of pings gets over before the OC4J container finishes initializing. This prevents the ESB server from starting properly, when the application server is restarted with the `opmnctl startall` option.

You can fix this issue by setting the following design-time servlet ping control attributes to appropriate values in the `esb_config.ini` and `orion-application.xml` files:

```
PingCount = <desired_value>
PingInterval = <desired_value>
```

For more information about this issue, refer to Oracle bug 7115442.

6.11 10.1.3.4 OC4J_SOA Container Never Shuts Down Gracefully

The OC4J_SOA container never stops gracefully and the stop log from the `default_group~<OC4J_Container_Name>~default_group~1.log` file shows that it always stops on deactivation of the endpoint for ESB adapters.

This is due to the fact that the default stop timeout for OC4J, as specified in the `opmn.xml` file, is 120, out of which most of the time is consumed by the initial process, that is, BPEL shutdown. So, ESB does not have much time for the shutdown, so the Oracle Process Management Notification (OPMN) shuts it down forcibly. You can solve this problem by increasing the stop timeout for OC4J in the `opmn.xml` file.

For more information about this issue, refer to Oracle bug 6930111.

6.12 ESB Points to Incorrect Instance and Throws Exceptions

After upgrading SOA from 10.1.3.1 to 10.1.3.3, if you invoke a BPEL process from an ESB service, then it points to an incorrect instance and throws exceptions. This is because, to find the correct instance name in a clustered environment, the `cluster` and the `local.oc4jinstancename` parameters need to be set in the `$ORACLE_HOME/bpel/utilities/ant-orabpel.properties` file in the following way:

- Set the `cluster` attribute

```
cluster = true
```
- Set the `local.oc4jinstancename` parameter

```
local.oc4jinstancename = <oc4jinstance_name>
```

For more information about this issue, refer to Oracle bug 6487856.

6.13 Direct Invocation from ESB Routing Service Fails When BPEL Process Is Called

You can directly invoke a BPEL process from an ESB routing service, instead of from an SOAP adapter, to enhance the performance of RMI connection and two-phase commit. But if you redeploy the BPEL process, then ESB stops recognizing the linked BPEL process, and the ESB flow calls the BPEL process in an unexpected manner.

Specify the following property in the `<SOA_HOME>/integration/esb/config/esb_config.ini` file to fix this issue:

```
bpelSvcAutoDeletion=false
```

For more information about this issue, refer to Oracle bug 6455812.

6.14 Resetting of ESB Repository Not Supported

For releases prior to 10.1.3.4, reset of repository is supported only for Oracle Database Lite. Starting from Oracle Application Server release 10.1.3.4, reset of repository is supported for Oracle Database.

For more information about this issue, refer to Oracle bug 6336442.

6.15 Unable to Register ESB Project Having SOAP Attachment Web Service

Starting from Oracle Application Server release 10.1.3.4, you can create a routing service or an SOAP service using a WSDL file that has a multipart message.

For more information about this issue, refer to Oracle bug 7029422.

See Also: [Enabling Import of Multipart WSDL in JDeveloper ESB Designer](#)

6.16 Running SOA Stress Test Throws OutOfMemory Exception

If you run SOA stress test on your deployed projects, with instance tracking on, for more than an hour, then you will get `OutOfMemory` Exception. This issue can be solved by updating the `TrackingMessageFlushInterval` and the `MaxPersistentMessages` parameters of the `ESB_PARAMETER` table, using either of the following methods:

Note:

- The default value of the `TrackingMessageFlushInterval` parameter is 5000 milliseconds. This value can be decreased in high message in-flow scenario. Like in the following example, the value set for the parameter is 150 milliseconds.
 - The default value of the `MaxPersistentMessages` parameter is 100. This value can be increased in high message in-flow scenario. Like in the following example, the value set for the parameter is 200.
-
-

Method 1: Updating the Table Using URL

- Use the following URL to update the value of the `TrackingMessageFlushInterval` parameter:

```
http://abc.us.oracle.com:8888/esb/esbConfiguration/executeCommand?action=UpdateProperty&name=TrackingMessageFlushInterval=150
```

- Use the following URL to update the value of the `MaxPersistentMessages` parameter:

```
http://abc.us.oracle.com:8888/esb/esbConfiguration/executeCommand?action=UpdateProperty&name=MaxPersistentMessages&value=200
```

Method 2: Updating the Table from the Command Line

Note: If you update the `ESB_PARAMETER` table, then you must restart the ESB DT and RT servers for the changes to take effect.

- Use the following command to update the value of the `TrackingMessageFlushInterval` parameter:

```
SQL> insert into ESB_PARAMETER (param_name, param_value) values
('TrackingMessageFlushInterval', '150');
```

- Use the following command to update the value of the `MaxPersistentMessages` parameter:

```
SQL> insert into ESB_PARAMETER (param_name, param_value) values
('MaxPersistentMessages', '200');
```

For more information about this issue, refer to Oracle bug 7026575.

6.17 Instances Are Not Seen Immediately After Processing

If you run SOA stress test on your deployed projects, with instance tracking on, then you will see a delay in instance monitoring and instances will not be seen immediately after successful processing.

You can fix this issue by following either of these methods:

Method 1

Update the `ActivityMessageReceiverCount` property by using the following URL:

```
http://abc.us.oracle.com:8888/esb/esbConfiguration/executeCommand?action=UpdateProperty&name=ActivityMessageReceiverCount&value=5
```

Method 2

Note: If you update the `ESB_PARAMETER` table, then you must restart the ESB DT and RT servers for the changes to take effect.

Update the `ActivityMessageReceiverCount` property by directly manipulating the `ESB_PARAMETER` table:

```
SQL> insert into ESB_PARAMETER (param_name, param_value) values
('ActivityMessageReceiverCount', '5');
```

For more information about this issue, refer to Oracle bug 6130734.

Note: Currently, the `ActivityMessageReceiverCount` property is supported only with Oracle Advanced Queuing (AQ).

6.18 Reset Script Drops ESB Repository Tables

As part of resetting the ESB repository, the reset script drops and re-creates the `XREF_DATA` table along with other ESB repository tables. You must back up the data in the `XREF_DATA` table before running the reset script.

For more information about this issue, refer to Oracle bug 7131202.

6.19 ESB Service Calling Secured Web Service Fails After Upgrading to 10.1.3.4

If you have an ESB service that calls a secured Web service, then the ESB service fails to call the Web service successfully, after you upgrade your environment to 10.1.3.4.

You can workaround this issue by performing the following steps:

1. Open the original project in JDeveloper.
2. Synchronize the project with the server.
3. Open the .xsl file, where the header is assigned to the outbound SOAP message.

The existing header XPath looks like the following:

```
<xsl:variable name="UserName"
select="ehdr:setOutboundHeader('/wssel:Security/wssel:UsernameToken/
wssel:Username',$UserName,'wssel=http://docs.oasis-open.org/wss/2004/01/oasis-2
00401-wss-wssecurity-secext-1.0.xsd;')"/>
```

4. Modify this XPath to add /Header in the beginning. The XPath now looks like the following:

```
<xsl:variable name="UserName"
select="ehdr:setOutboundHeader('/Header/wssel:Security/wssel:UsernameToken/
wssel:Username',$UserName,'wssel=http://docs.oasis-open.org/wss/2004/01/oasis-2
00401-wss-wssecurity-secext-1.0.xsd;')"/>
```

5. Modify the routing service in the comment to indicate that the service is changed.
6. Save all artifacts in JDeveloper.
7. Redeploy the project from JDeveloper.

For more information about this issue, refer to Oracle bug 7172146.

6.20 ESB Run-Time Throws Exception While Enabling Synchronous Error Handling

If you try to enable synchronous error handling, then ESB run-time will throw an exception.

You can fix this issue by starting the ESB run-time with the `userthreads` option. For this, you need to add `-Doc4j.userThreads=true` under `<category id="start-parameters">` in the `$ORACLE_HOME/opmn/conf/opmn.xml` file for the OC4J server that hosts ESB processes and uses ESB synchronous error handling. For more information about synchronous error handling, refer to *Oracle Enterprise Service Bus Developer's Guide*.

For more information about this issue, refer to Oracle bug 7194096.

6.21 Disabling One Service Affects Other Routing Rules in the Project

If there are multiple routing rules in your project that use different services and if one of the services is disabled, then the routing rules for other services also stop working.

To fix this issue, you must redefine the project by removing the routing rule corresponding to the disabled service and then redeploying the project.

For more information about this issue, refer to Oracle bug 7176595.

6.22 XRef Functions with Double Quotation Marks Do Not Work

If you have XRef functions with double quotation marks in ESB filter expressions, then the functions do not have the desired effect. For example, the following function works fine:

```
{xref:lookupXRef('apps_
intg','common','common-12345',/impl:Root-Element/impl:Root-Element/impl:appname,tru
e()) = 'sap_01-678910'};
{namespace
xref=http://www.oracle.com/XSL/Transform/java/oracle.tip.xref.xpath.XRefXPathFunct
ions namespace impl=http://TargetNamespace.com/readFile}
```

Now, modify the same function, using double quotation marks, to the following:

```
{xref:lookupXRef("apps_
intg","common","common-12345",/impl:Root-Element/impl:Root-Element/impl:appname,tru
e()) = 'sap_01-678910'};
{namespace
xref=http://www.oracle.com/XSL/Transform/java/oracle.tip.xref.xpath.XRefXPathFunct
ions namespace impl=http://TargetNamespace.com/readFile}
```

This modified function does not work properly and is not even seen fully in the ESB control. If you navigate to the Routing Rule diagram and click the Routing Rules tab, then you will see only '{xref:lookupXref('.

For more information about this issue, refer to Oracle bug 7211022.

6.23 HTTPS Invocation of WSDL Using UDDI Throws Exception

If you set up the HTTPS UDDI server and try to invoke a WSDL file, then an exception is thrown.

For more information about this issue, refer to Oracle bug 7199163.

6.24 ESB Processes Same File Twice When Run Against Oracle RAC Planned Outages

ESB may process the same file twice when run against Oracle RAC planned outages. This is because a File adapter is a non-XA compliant adapter. So, when it participates in a global transaction, it may not follow the XA interface specification of processing each file once and only once.

For more information about this issue, refer to Oracle bug 7131998.

6.25 Login to ESB Control Fails for Oracle Lite Database with Windows Basic Installation

For Oracle Database Lite, if you perform Windows basic installations in the following order, then you will not be able to log in to the ESB control:

```
10.1.3.1 --> 10.1.3.3 --> 10.1.3.4
```

You can work around this issue by updating the java option

```
-Doc4j.formauth.redirect=true to -Doc4j.formauth.redirect=false in
the $ORACLE_HOME/opmn/conf/opmn.xml file.
```

For more information about this issue, refer to Oracle bug 7190190.

6.26 Imported Domain Value Maps Are Not Displayed in ESB Control

If you import domain value maps from the command line, then you will not see the imported maps in the ESB control until you restart the SOA server.

For more information about this issue, refer to Oracle bug 7211441.

6.27 Failed Instance Gets Retried Indefinitely in an ESB Synchronous Scenario

A failed instance in an ESB synchronous scenario may get retried indefinitely. For example, while routing data from Database to File, if the Database Adapter does not listen to a signal from ESB that a particular message is repeatedly undeliverable, then this issue may arise.

Perform any of the following to avoid this issue:

- Configure ESB to asynchronous scenario.
- Prevent situations where message is undeliverable. For example, for file outbound operations, have file write permissions configured.

For more information about this issue, refer to Oracle bug 7203558.

6.28 SOAP Headers Are Not Passed Through by ESB When XSL Transformation Is Present

For ESB routing services, SOAP headers are not passed through by ESB when XSL transformation is present. You can fix this issue by adding the following endpoint property to the corresponding ESB routing service:

```
<service>
.....
<endpointProperties>
  <property name="passThruHeaders" value="true"/>
</endpointProperties>
</service>
```

For more information about this issue, refer to Oracle bug 6877702.

6.29 Server Continuously Throws Error Messages

JMS blocks or waits to dequeue the messages in the message queue for the time specified in the `jms_receive_timeout` parameter. If the value of the `jms_receive_timeout` parameter is greater than the value of the `xa_timeout` parameter in the `Oracle_Home/integration/esb/esb_config.ini` file and the `transaction-timeout` parameter in the `Oracle_Home/j2ee/home/config/transaction-manager.xml` file, then you will get an exception. This is because, if there is no message on the JMS Topic for the duration specified in the `jms_receive_timeout` parameter, then it will come out of the wait or block state and the transaction will be over by that time.

For more information about this issue, refer to Oracle bug 7257928.

6.30 Inability to Override Transaction=Participate Property in ESB

Inability to override the `transaction=participate` property is a known issue while invoking BPEL from ESB.

You can work around this issue by following either of the following methods:

Method 1

1. Log in to the ESB control.
2. Select the BPEL service corresponding to the BPEL process for which you want to override the `transaction` property in the Services list.
3. Go to the **Properties** tab of the selected BPEL service, and add the `TransactionMode` endpoint property with the value as `notParticipate`.
4. Click **OK**.

Method 2

Redeploy the BPEL process for which you want to override the `transaction` property by specifying a property named `TransactionMode` in `bpel.xml` as shown in the following snippet:

```
<?xml version = '1.0' encoding = 'UTF-8'?>
<BPELSuitcase>
  <BPELProcess id="TestingVersioning" src="TestingVersioning.bpel">
    .....
    <property name="TransactionMode">notParticipate</property>
  </BPELProcess>
</BPELSuitcase>
```

For more information about this issue, refer to Oracle bug 6367355.

6.31 ESB Error Handling Enhancement

Oracle Application Server release 10.1.3.4 provides additional support for error handling in ESB. For more information, refer to *Oracle Enterprise Service Bus Developer's Guide* and Oracle bug 6878979.

6.32 Issues Solved in This Release

This section describes the issues that have been solved in this release of Oracle Application Server. This section includes the following topics:

- [Section 6.32.1, "lookupPopulatedColumns\(\) Function Does Not Return Empty Nodeset"](#)
- [Section 6.32.2, "BPEL Not Able to Invoke Multioperational ESB Service"](#)
- [Section 6.32.3, "Invoking an EJB from ESB Throws ClassCastException"](#)
- [Section 6.32.4, "Invoking a .Net 3.0 SOAP Service Exposed by an ESB Endpoint Throws Exception"](#)
- [Section 6.32.5, "Request Headers Are Not Passed Through to the Outbound Header"](#)

6.32.1 lookupPopulatedColumns() Function Does Not Return Empty Nodeset

If the `lookupPopulatedColumns()` function does not find any data, then it should return an empty nodeset, provided the `needAnException` flag is set to `false`. For releases prior to 10.1.3.4, the `lookupPopulatedColumns()` function used to return `<column name=" " />` in such a scenario.

For more information about this issue, refer to Oracle bug 6445370.

6.32.2 BPEL Not Able to Invoke Multioperational ESB Service

BPEL to ESB interactions, where target ESB service is multioperational and BPEL calls all the operations through different partner links in the same process, resulted in error for releases prior to 10.1.3.4.

For more information about this issue, refer to Oracle bug 6367285.

6.32.3 Invoking an EJB from ESB Throws ClassCastException

For releases prior to 10.1.3.4, if you call an EJB from an ESB service, then `java.lang.ClassCastException` shows up.

For more information about this issue, refer to Oracle bug 6314009.

6.32.4 Invoking a .Net 3.0 SOAP Service Exposed by an ESB Endpoint Throws Exception

For releases prior to 10.1.3.4, if you invoke a .Net 3.0 SOAP service exposed by an ESB endpoint, then it will throw a `NullPointerException`.

For more information about this issue, refer to Oracle bug 6473280.

6.32.5 Request Headers Are Not Passed Through to the Outbound Header

For releases prior to 10.1.3.4, ESB provides limited support for header-based transformation and routing. Request headers are not passed through to the outbound header.

For more information about this issue, refer to Oracle bug 6638648.

6.33 New Features

This section describes the new features in Oracle ESB in release 10.1.3.4. This section includes the following topics:

- [Section 6.33.1, "Support for User-Defined Extension Functions in ESB"](#)
- [Section 6.33.2, "Endpoint Property Allows Any User to Enter Any Name"](#)
- [Section 6.33.3, "Support for Resequencing in ESB"](#)
- [Section 6.33.4, "Enabling Import of Multipart WSDL in JDeveloper ESB Designer"](#)
- [Section 6.33.5, "ESB Ant Deployment Feature"](#)

6.33.1 Support for User-Defined Extension Functions in ESB

Oracle Application Server release 10.1.3.4 includes support for creating user-defined extension functions in ESB. The user-defined extension functions are like any other function. You can import your own set of Java functions, which appear in the function

palette under the User-defined Extension Functions category. For more information, refer to *Oracle Enterprise Service Bus Developer's Guide* and bug 5880920.

6.33.2 Endpoint Property Allows Any User to Enter Any Name

Oracle Application Server 10.1.3.4 release includes support for modifying the endpoint properties in the UI. This feature enables you to manually enter any property name in the UI, thus enabling you to modify the properties on all ESB services.

6.33.3 Support for Resequencing in ESB

Oracle Application Server 10.1.3.4 release includes support for implementing the resequencer in ESB. A resequencer is used to rearrange a stream of related but out-of-sequence messages back into order. For more information, refer to *Oracle Enterprise Service Bus Developer's Guide* and Oracle bug 6856169.

Important: The resequencer is available in preview mode and is disabled by default. When disabled, it does not affect the existing product functionality. If you want to use the resequencer, then you must enable it by setting the value of the ESB configuration parameter `EnableResequencer` to `true`. For more information, refer to *Oracle Enterprise Service Bus Developer's Guide*.

6.33.4 Enabling Import of Multipart WSDL in JDeveloper ESB Designer

Oracle Application Server 10.1.3.4 release includes support for importing multipart WSDL in the JDeveloper ESB Designer.

You can create a routing service or an SOAP service using a WSDL file that has a multipart message. This throws a warning that the message is a multipart message or has a type that is not supported by ESB. A multipart message is supported *only* for an RPC-encoded SOAP service, and no transformation or filtering may be used on any part.

It is your responsibility to ensure that the routing targets' input and output payloads are identical to the SOAP service's input and output payloads. This option is available only if JDeveloper is started in the `-J"-Dpreview_mode=true"` mode.

For more information about this issue, refer to Oracle bug 6621183.

6.33.5 ESB Ant Deployment Feature

Oracle Application Server 10.1.3.4 release includes support for the ESB Ant deployment feature. The Ant deployment feature includes a set of custom Ant tasks that are used for ESB service deployment automation. For more information, refer to *Oracle Enterprise Service Bus Developer's Guide*.

Oracle Web Services Manager

This chapter describes issues associated with *Oracle Web Services Manager*. It includes the following topics:

- [Section 7.1, "Support for SOAP 1.2"](#)
- [Section 7.2, "Limit Increased for Importing Web Services from a UDDI Registry"](#)
- [Section 7.3, "Registering Web Services with the Oracle WSM Gateway Whose WSDL Imports Other WSDLs or XSDs"](#)
- [Section 7.4, "Registering Web Services with the Oracle WSM Gateway Whose WSDL Includes Other WSDLs and XSDs Using <include> Statements"](#)
- [Section 7.5, "Cannot Display Some Languages in Web Browsers"](#)
- [Section 7.6, "Accessing a SOAP-Based Web Service as a Non-SOAP XML-Based Web Service Using Oracle WSM Gateway"](#)
- [Section 7.7, "Command-Line Interface for Purging Policies"](#)
- [Section 7.8, "Command-Line Interface for Exporting Oracle Web Services Policies"](#)
- [Section 7.9, "Using Microsoft Active Directory for Web Services Manager Control Authentication"](#)
- [Section 7.10, "Namespace Optimization Causes Message Verification to Fail with AXIS 1.1 and 1.4 Clients"](#)
- [Section 7.11, "Correction to Documentation of Extract Credentials Policy Step"](#)
- [Section 7.12, "New Features"](#)

7.1 Support for SOAP 1.2

Support for SOAP 1.2 has been added in this patch set for the following Oracle Web Services Manager agents:

- Server agent for Oracle Web services, including BPEL and ESB (OC4J Server Interceptor)
- Client agent for Oracle J2SE clients
- Client agent for Oracle J2EE clients, including BPEL and ESB (OC4J Client Interceptor)

The following Oracle Web Services Manager components continue to support only SOAP 1.1:

- Oracle Web Services Manager Gateway
- Third-party agents, including AXIS, IBM WebSphere, and BEA WebLogic agents

7.2 Limit Increased for Importing Web Services from a UDDI Registry

The maximum number of Web services that can be imported at one time from a UDDI Registry has been increased to 500 Web services.

7.3 Registering Web Services with the Oracle WSM Gateway Whose WSDL Imports Other WSDLs or XSDs

WSDLs may include other WSDLs or XSDs. During registration of a Web service or while accessing a virtualized Web service through Oracle Web Service Manager Gateway, Oracle Web Services Manager converts the URL of any imported WSDLs or XSDs into absolute virtualized URLs. This corrects an earlier problem where imported WSDLs and XSDs were converted to session-dependent URLs.

7.4 Registering Web Services with the Oracle WSM Gateway Whose WSDL Includes Other WSDLs and XSDs Using <include> Statements

WSDLs may include other WSDLs or XSDs through use of either an <import> or <include> element. Prior to this patch set, Oracle Web Services Manager only supported the <import> element. Support for the <include> element has been added in this patch set.

The <include> and <import> elements may specify a URL with a query parameter. For example:

```
<import location="http://HRBenefits:7493/MySchemaStore.asmx?schema=Document"/>
```

Oracle Web Services Manager fetches the imported WSDL or XSD and converts it so that it has the correct extension.

7.5 Cannot Display Some Languages in Web Browsers

If you use Internet Explorer 7.x as your Web browser for the Web Services Manager Control application, you may not be able to display the following locales:

- ko-KR – Korean (Korea)
- ja-JP – Japanese (Japan)
- de-DE – German (Germany)
- fr-FR – French (France)
- es-ES – Spanish (Spain)
- it-IT – Italian (Italy)

With Firefox 2.x as your Web browser, you may not be able to display the ko-KR locale, Korean (Korea).

The workaround is to remove all other languages from the Web browser language settings, except the language in which you want the Web browser to display content. For example, if you want to display content in Japanese, then the only entry that you should have in your language settings is ja-JP.

7.6 Accessing a SOAP-Based Web Service as a Non-SOAP XML-Based Web Service Using Oracle WSM Gateway

The Oracle Web Services Manager User and Administrator Guide 10g (10.1.3.3.0) does not document how to access a SOAP-based Web service as a non-SOAP XML-based Web service through Oracle WSM Gateway. All Web services registered with an Oracle WSM Gateway are virtualized as both a SOAP and non-SOAP Web service. However, the service registration details page only displays the virtualized SOAP URL.

The non-SOAP virtualized URL can be determined from the virtualized SOAP URL by replacing the `services` keyword in the URL with the `xml` keyword.

For example, if the SOAP virtualized endpoint is:

```
http://host:port/gateway/services/SID0003001
```

then, the non-SOAP XML service endpoint is:

```
http://host:port/gateway/xml/SID0003001
```

7.7 Command-Line Interface for Purging Policies

The following command purges old versions of policies from Oracle Web Services Manager Policy Manager. Use this command to permanently delete old versions of policies that you no longer need.

Syntax

```
wsmadmin purgePolicies component_ID policy_version
```

Parameter	Description
<i>component_ID</i>	ID of the Web Services Manager Agent or Gateway
<i>policy_version</i>	Version number of the policy. Policies whose version number is less than <i>policy_version</i> are purged.

Usage Notes

If the version number specified with *policy_version* is greater than the current active policy, then all policies except the current active policy are purged. For example, if the current active policy has a version number of 5, and the `wsmadmin purgePolicies` is executed with *policy_version* set to 6, then versions 1 through 4 are purged. Version 5 is not purged and remains as the active policy.

Policy version numbers are positive numbers. If a negative number is specified for the *policy_version*, no policies are purged.

7.8 Command-Line Interface for Exporting Oracle Web Services Policies

The Web Services Manager Control application provides a way to export a policy set to an XML file. Beginning with Oracle Application Server 10g Release 3 (10.1.3.4), there is an equivalent command-line interface for this feature. The command allows you to export policies for one component at a time. You can then package the policies with the policy enforcement point so that the Oracle WSM Agent or Gateway does not have to communicate with the Oracle WSM Policy Manager to get the policies.

Note: Do not use the command to move policies between your Test, Staging, and Production environments. Instead use the set of commands to export and import Oracle WSM objects. See [Section 7.12.3, "Migrating Oracle Web Services Components and Policies"](#) for more information on migrating policies between environments.

To export policies for a component

1. Add or edit the following properties in the `ORACLE_HOME/owsm/bin/coresv.properties` file.

Property	Description
<code>pm.server.httpScheme</code>	Transport on which Policy Manager is running. The valid values are <code>http</code> and <code>https</code> .
<code>pm.server.httpHost</code>	Name of the host on which Policy Manager is running
<code>pm.server.httpPort</code>	Port on which Policy Manager listens for requests.

2. Make sure the Oracle Web Services Manager instance is up and running.
3. On Microsoft Windows, execute the following command from the `ORACLE_HOME\owsm\bin` directory to export the policy:

```
wsmadmin exportPolicySet component_ID
```

The variable, `component_ID`, is the component ID of the Oracle Web Services Gateway or Agent whose policies are being exported.

The policy is exported to the directory defined by the `db.export.dir` property which is set in the `ORACLE_HOME/owsm/bin/coresv.properties` file. The name of the file is generated dynamically as `PolicySet-component_ID-timestamp.xml`. The variable, `component_ID` is the component ID specified in the `wsmadmin exportPolicySet` command. The timestamp of the export is appended to the file name to further identify the exported policy.

7.9 Using Microsoft Active Directory for Web Services Manager Control Authentication

You can now authenticate administrators logging in to Web Services Manager Control using Microsoft Active Directory.

To authenticate users with Microsoft Active Directory, edit the properties in the `ORACLE_HOME/owsm/config/ui-config-installer.properties` file.

The following is an example of a portion of the `ui-config-installer.properties` file:

```
. . .
ui.authentication.provider=com.cfluent.accessprovider.ldap.ActiveDirectoryAuthProvider
ui.authentication.provider.properties=\
ldapHost=139.185.17.7|\
ldapPort=389|\
ldapSSLEnabled=false|\
ldapSSLPort=636|\
ldapDN=dc=vanadium,dc=us,dc=oracle,dc=com|\
```

```

roleAttribute=testgroup|\
ldapDNSDomainName=vanadium.us.oracle.com|\
ldapUidAttribute=sAMAccountName|\
. . .

```

[Table 7–1](#) describes the properties in the `ui-config-installer.properties` file.

Table 7–1 *ui-config-installer.properties* File Properties

Property	Description
<code>ui.authentication.provider</code>	Name of the class that authenticates users using Active Directory. This must be set to <code>com.cfluent.accessprovider.ldap.ActiveDirectoryAuthProvider</code>
<code>ldapHost</code>	Host name of the machine where the Active Directory Server is running.
<code>ldapPort</code>	Port on which the Active Directory Server listens for requests.
<code>ldapDN</code>	LDAP domain name
<code>ldapSSLEnabled</code>	Specifies whether SSL is enabled for the Active Directory Server.
<code>ldapSSLPort</code>	Port on which Active Directory listens for requests if SSL is enabled.
<code>roleAttribute</code>	LDAP attribute name that identifies the user in the LDAP group.
<code>ldapDNSDomainName</code>	Fully qualified domain name of the Active Directory Server.
<code>ldapUidAttribute</code>	Unique identifier used when searching through Active Directory Server. This must be set to <code>sAMAccountName</code> .

7.10 Namespace Optimization Causes Message Verification to Fail with AXIS 1.1 and 1.4 Clients

This section contains the following subsections:

- [Section 7.10.1, "Description of the Limitation"](#)
- [Section 7.10.2, "Workaround for AXIS 1.1 Agents"](#)
- [Section 7.10.3, "Workaround for AXIS 1.4 Agents"](#)

7.10.1 Description of the Limitation

There is a known limitation with AXIS 1.1 and 1.4 agents with namespace prefix optimization. If two or more namespace prefixes, including the default namespace prefix, point to the same URN or URI, then it strips the prefix from the namespace. In the following example of a SOAP message, the prefix `n` points to the default namespace `urn:Test:GetTime`. (The XML code being referred to is shown in bold.)

```

<?xml version="1.0" encoding="UTF-8"?>
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
<soap:Body>
  <n:getTimeResponse xmlns:n="urn:Test:GetTime" xmlns="urn:Test:GetTime">
    <Result xmlns="urn:Test:GetTime" xsi:type="xsd:string">03:59 PM</Result>
  </n:getTimeResponse>

```

```
</soap:Body>
</soap:Envelope>
```

The following shows the same SOAP message after the message has been optimized. The `n` prefix has been removed from the `getTimeResponse` element. If this prefix optimization occurs on a signed message, then when an agent attempts to verify the signature, the verification fails because the message has changed.

```
<?xml version="1.0" encoding="UTF-8"?>
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/">
<soap:Body>
  <getTimeResponse xmlns:n="urn:Test:GetTime" xmlns="urn:Test:GetTime">
    <Result xmlns="urn:Test:GetTime" xsi:type="xsd:string">03:59 PM</Result>
  </n:getTimeResponse>
</soap:Body>
</soap:Envelope>
```

This limitation applies to any AXIS 1.1 or 1.4 client agent policy or server agent policy that uses one of the following policy steps:

- Verify Signature
- Decrypt and Verify Signature

Namespace optimization does not cause a problem with any other Oracle WSM policy steps.

The following describes one scenario where this limitation applies. An AXIS 1.4 client agent policy has a Sign Message policy step. After the client agent applies the policy and signs the message, this message is returned to the client application. The client application then uses the AXIS 1.4 libraries to serialize the message so that it can be sent to the Web service. It is during this conversion that the namespace prefixes are stripped from the message. This transformed message is then passed to the Web service and intercepted by the AXIS 1.4 server agent. The server agent policy has a Verify Signature policy step. When the server agent applies the policy step to the message, verification fails.

7.10.2 Workaround for AXIS 1.1 Agents

The workaround for AXIS 1.1 server agents and client agents is to replace the `axis.jar` file in the `APPLICATION_HOME\WEB_INF\lib` directory with the `ORACLE_HOME\owsm\lib\extlib\axis.jar` file.

7.10.3 Workaround for AXIS 1.4 Agents

The workaround for this limitation is to add a custom step to the policy that reverses the change caused by the optimization. This custom step, Generic Message Update, must be added to any policy that includes either a Verify Signature or a Decrypt and Verify Signature step. The custom step does a search and replace, and looks for the specified string and adds the specified namespace prefix to it.

7.10.3.1 Making the Custom Step Available to the Oracle WSM Components

Before you can add the custom step to a policy, you must make the Generic Message Update custom step available for each component which requires this workaround.

To add the custom step to the Oracle WSM component

1. From the navigation pane in Web Services Manager Control, click **Policy Management**, then click **Manage Policies**.
2. Click **Steps** for the component for which you must add the custom step.
3. On the Step Management page, click **Add New Step**, and add `ORACLE_HOME\owsm\samples\customsteps\GenericMessageUpdateStep.xml` to the component.
4. Click **Upload**.

7.10.3.2 Adding the Java Class to the Oracle WSM Applications

The Java class for the Generic Message Update custom step must be added to all applications that use the custom step.

To add the custom step class file to your applications

1. Compile `GenericMessageUpdateStep.java` using Apache Ant.
 - a. Navigate to `ORACLE_HOME\owsm\samples\customsteps\GenericMessageUpdateStep` directory.
 - b. Set the `ORACLE_HOME` environment variable to the installation directory for your SOA installation, and add the Ant home directory to your path.
 - c. Execute the command: `ant jar`.

The command compiles and creates `GenericMsgUpdateStep.jar` in the following location:

```
ORACLE_HOME
\owsm\samples\customsteps\GenericMessageUpdateStep\dist\lib
```

2. Copy the JAR file to the following location, as needed:

For this component	Copy JAR file to this location
Oracle WSM Client Agent	<code>APPLICATION_HOME\WEB-INF\config\clientagent\framework\lib</code>
Oracle WSM Server Agent	<code>APPLICATION_HOME\WEB-INF\config\serveragent\framework\lib</code>

7.10.3.3 Adding the Generic Message Update Step to the Policies

You must add the Generic Message Update step *before* the Verify Signature and *before* the Decrypt and Verify Signature steps in your client agent and server agent policies. Then, you must configure the policy step with the conversion information. In the example described in [Section 7.12.1](#), the client agent policy has a Sign Message policy step, and the server agent has a corresponding Verify Signature step. To determine what namespace prefixes are affected, do the following:

- In the client agent policy, add a Log policy step after the Sign Message policy step. This Log policy step captures the message *before* the optimization occurs.
- In the server agent policy, add a Log policy step before the Verify Signature step. This Log policy step captures the message *after* the optimization occurs.

You can then compare the logs to see what changes were made to the message by the namespace prefix optimization.

To add the custom step to the policy

1. From Web Services Manager Control, click **Policy Management**, then click **Manage Policies**.
2. Click **Policies** for the component that requires the custom step.
3. Click **Edit** for the policy to which the custom step must be added.
4. Add the Generic Message Update step before the Verify Signature or Decrypt and Verify Signature step.
5. Click **Configure** to configure the Generic Message Update Step.
6. In the Message Update Parameter text box, enter the string that is being replaced and the replacement string in the following form:

string=replace_with_string

Using the earlier example in [Section 7.12.1](#), you would enter:

`getTimeResponse=n:getTimeResponse`

Use commas to separate multiple entries.

7.11 Correction to Documentation of Extract Credentials Policy Step

In Appendix A, "Oracle Web Services Manager Policy Steps," in *Oracle Web Services Manager User and Administrator Guide*, there were errors in the documentation for the Extract Credentials policy step. The following is the correct documentation for two of the properties:

- **Credentials Location** – Where the credentials are extracted. The four possible locations are:
 - HTTP Authorization header – Specify *HTTP*. This is the default. Authorization is provided using the HTTP basic authorization scheme (BASIC-AUTH).
 - WS-BASIC SOAP security header – Specify *WS-BASIC*. Credentials are extracted from the standard UsernameToken as specified in the WS-I Basic Security Profile. Only plain text passwords are supported.
 - XPath – Specify the XPath expression to the credentials. Do not enter the word *XPath*. Start with the slash (/). For example:

`/soap:Envelope/soap:Header/wsse:Security/wsse:UsernameToken/`

XPath expressions are used to extract the user name and password from anywhere in the SOAP envelope. You must specify additional properties (Namespaces, UserID xpath, and Password xpath).

- **Namespaces** – Space-delimited list of prefix and namespace Uniform Resource Identifier (URI) pairs for the prefixes used in the User ID xpath and Password xpath properties. For example:
`soap=http://schemas.xmlsoap.org/soap/envelope,
wsse=http://www.docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd`

If spaces appear in the URI itself, they must be replaced by the characters `%20`.

This parameter applies only if the *Credentials location* property is specified with an XPath expression.

7.12 New Features

This section describes the 10.1.3.4 new features for *Oracle Web Services Manager*. This section includes the following topics:

- [Section 7.12.1, "Support for AXIS Agents"](#)
- [Section 7.12.2, "Cloning Oracle Web Services Manager"](#)
- [Section 7.12.3, "Migrating Oracle Web Services Components and Policies"](#)

7.12.1 Support for AXIS Agents

Beginning with Oracle Application Server 10g (10.1.3.4), Oracle WSM has added support for the following AXIS agents:

- AXIS 1.1 and 1.4 client agents
- AXIS 1.4 server agents

Follow the instructions in Chapter 6, "Installing Oracle WSM Agents," in the *Oracle Web Services Manager Deployment Guide* 10g Release 3 (10.1.3.3.0) to install the AXIS 1.1 and 1.4 agents. The AXIS version of the agents must be the same, that is, AXIS 1.1 client agents can only be used with AXIS 1.1 server agents, and AXIS 1.4 client agents can only be used with AXIS 1.4 server agents.

DIME and MIME attachments are not supported with AXIS 1.1 client agents. MIME attachments are supported with AXIS 1.4 client agents, but DIME attachments are not.

See [Section 7.10, "Namespace Optimization Causes Message Verification to Fail with AXIS 1.1 and 1.4 Clients"](#) for information about a known limitation with AXIS 1.1 and 1.4 client agents and the workaround for this limitation.

7.12.2 Cloning Oracle Web Services Manager

In earlier releases of Oracle Application Server 10g, cloning of the Oracle Application Server Mid-Tier was supported, but it was not possible to clone Oracle WSM. Beginning with Oracle Application Server 10g Release 3 (10.1.3.4), cloning Oracle Web Services Manager has been added to Oracle Application Server.

For more information on this new feature, see Chapter 10, "Oracle WSM Cloning and Horizontal Migration" in the *Oracle Web Services Manager User and Administrator Guide*.

7.12.3 Migrating Oracle Web Services Components and Policies

Oracle Web Services Manager provides a way to migrate selected components and policies between environments.

You may migrate the following objects across your Test, Staging, and Production environments:

- Single or multiple policies
- Oracle Web Services Manager components, including Oracle Web Services Manager Gateways, Server Agents, and Client Agents
- Services registered to a Oracle Web Services Manager Gateway
- Custom step templates

For more information on this new feature, see Chapter 10, "Oracle WSM Cloning and Horizontal Migration" in the *Oracle Web Services Manager User and Administrator Guide*.

Oracle Business Activity Monitoring

This chapter describes issues associated with *Oracle Business Activity Monitoring (BAM)*. It includes the following topics:

- [Section 8.1, "Supported Platforms"](#)
- [Section 8.2, "Microsoft Excel 2007 is Not Supported"](#)
- [Section 8.3, "Installing Against an 11g Database is Not Supported"](#)
- [Section 8.4, "Configuring IIS on Vista to Send Report Links or Pages"](#)
- [Section 8.5, "Click Apply and OK More Than Once in Surface Prompt Tab"](#)
- [Section 8.6, "Warning During Installation on Microsoft Windows 2008"](#)
- [Section 8.7, "Compilation Error on Launching Start Page After Successful Patch Install"](#)
- [Section 8.8, "New Features"](#)

8.1 Supported Platforms

This section describes the server and client platforms supported by this Oracle BAM release.

- [Section 8.1.1, "Server Platforms Supported"](#)
- [Section 8.1.2, "Client Platforms Supported"](#)

8.1.1 Server Platforms Supported

All machines on which Oracle Business Activity Monitoring server components are installed require the following software:

- Microsoft Windows Server Intel x86 versions supported:
 - Microsoft Windows 2000 (SP4 or higher) Server, Advanced Server, and Datacenter Server Editions
 - Microsoft Windows Server 2003 Standard, Enterprise, and Datacenter Editions
 - Microsoft Windows Server 2003 R2, Standard, Enterprise, and Datacenter Editions
 - Microsoft Windows Server 2008, Standard, Enterprise, and Datacenter Editions (see [Section 8.8.3, "Microsoft Windows 2008 Supported"](#) for details)

Notes: Enterprise Link is not supported on Microsoft Windows Server 2003 R2 and later platforms.

If you are installing on a Microsoft Windows 2000 or 2003 platform running Terminal Services, Terminal Services must be in Administration Mode, not Application Server Mode. See the article, HOW TO: Install Terminal Services in Remote Administration Mode in Windows 2000:

<http://support.microsoft.com/?id=306624>

How to enable and to configure Remote Desktop for Administration in Windows Server 2003:

<http://support.microsoft.com/kb/814590>

- Microsoft .NET Framework 1.1, Service Pack 1 is required on all servers except for the Oracle Database Server. This component will be installed on your system automatically if it is not already present. See the Oracle Business Activity Monitoring Installation Guide for more information.

8.1.2 Client Platforms Supported

The Oracle BAM client is supported on the following platforms:

- Microsoft Windows Intel x86 versions supported:
 - Windows XP Professional, Service Pack 1 or higher
 - Microsoft Windows 2000, Service Pack 4
 - Microsoft Windows Vista
- Web browsers supported:
 - Microsoft Internet Explorer 6, Service Pack 1 or higher
 - Microsoft Internet Explorer 7

Notes:

- If you are using Windows XP with Service Pack 2 or higher, or other pop-up blockers, you must allow pop-ups when using the Oracle Business Activity Monitoring Web applications. You must turn off popup blockers in Internet Explorer for the URL on which the Web applications are hosted.
 - The Internet Explorer installation on client systems must be a standard version and must not include customizations such as add-in tool bars or hot bars for other Web sites.
-
-

8.2 Microsoft Excel 2007 is Not Supported

Microsoft Excel 2007 is not supported in Oracle Business Activity Monitoring 10g Release 4 (10.1.3.4) or earlier versions of Oracle BAM. Do not create Excel Views with Excel 2007. Excel views created with Excel 2007 are unsupported, will not be viewable by users with the supported versions of Excel (Excel XP and Excel 2003), and will stop functioning in a future version of Oracle BAM.

8.3 Installing Against an 11g Database is Not Supported

Installing Oracle BAM against an 11g database is not supported; however, Oracle BAM does support running against an 11g database.

To work around this issue, install Oracle BAM against a 10g database and then upgrade the database to 11g.

Note: Refer to the *Oracle Business Activity Monitoring Installation Guide* for the list of Oracle 10g database versions that are supported by Oracle BAM.

8.4 Configuring IIS on Vista to Send Report Links or Pages

Microsoft Windows Vista is not supported for the Oracle BAM server components. However, if you are using Microsoft Windows Vista for demonstration or evaluation purposes you can use the following workaround.

When using Microsoft Internet Information Server (IIS) on Microsoft Windows Vista, Oracle BAM cannot send report links or pages (attachments). The Event Engine log reports the following error with `ReportMailer.asmx`:

Exception: The request failed with HTTP status 401:Unauthorized.

You can work around this problem in the following ways:

- Use one of the supported versions of Microsoft Windows to run Oracle BAM Web Applications and Event Engine.
- If you do not require Basic Authentication for Web Services, you can follow these steps to disable Basic Authentication through IIS in the Services directory. Note that if you do this, you cannot use the Oracle BPEL-BAM integration feature.

1. Open a command-line window and change to the following directory:

```
C:\inetpub\AdminScripts
```

2. Run the following command:

```
cscript.exe adsutil.vbs GET /w3svc/1/root/OracleBAM/NTAuthenticationProviders
```

The command may return the following:

```
NTAuthenticationProviders      : (STRING) "Negotiate,NTLM"
```

3. This needs to be set only to NTLM. Run this command to do so:

```
cscript.exe adsutil.vbs SET /w3svc/1/root/OracleBAM/NTAuthenticationProviders
"NTLM"
```

4. Run the command in step 2 again and verify that it returns the following:

```
NTAuthenticationProviders      : (STRING) "NTLM"
```

5. Open the IIS console.
6. Click Web Site > Default Web Site > OracleBAM > 6500 virtual directory.
 - a. Select the **Services** folder.
 - b. Select **Authentication** to change its properties.

- c. Disable Basic Authentication. (Windows Authentication should be the only option enabled.)
7. Click Web Sites > Default Web Site > OracleBAM virtual directory.
 - a. Select the **Services** folder.
 - b. Select **Authentication** to change its properties.
 - c. Disable Basic Authentication. (Windows Authentication should be the only option enabled.)
8. Close the IIS Console and test sending a report link or report page via an alert.

8.5 Click Apply and OK More Than Once in Surface Prompt Tab

In the View Editor, the Apply and OK buttons for the Surface Prompt tab do not apply changes the first time they are clicked.

To work around this issue click Apply or OK a second time before closing the View Editor, or reopen the view in the View Editor to click Apply or OK again in the Surface Prompt tab.

8.6 Warning During Installation on Microsoft Windows 2008

Oracle BAM 10.1.3.3.0 is not certified, and will show a warning, but the installation will succeed on Microsoft Windows 2008 Server. The user can then apply the 10.1.3.4.0 patch on the 10.1.3.3.0 installation to obtain full support on Microsoft Windows 2008 Server Standard, Enterprise, and Datacenter editions.

8.7 Compilation Error on Launching Start Page After Successful Patch Install

This is an intermittent issue. An error may occur during the compilation of a resource required to service the Oracle BAM Start Page launch request.

If you encounter this issue, use the following workaround:

Restart the World Wide Web Publishing service using either IISAdmin or the Services Control Panel.

If that does not resolve the issue, use the following workaround.

1. Stop the Oracle BAM and IIS services.

You can use the Stop BAM shortcut, and then stop IIS using a command prompt with the following command:

```
net stop iisadmin /y
```

Alternatively, you can use the Services Control Panel to stop the Oracle BAM and IIS services.

2. From a command prompt, delete the
c:\windows\microsoft.net\framework\v1.1.4322\temporary
asp.net files directory.
3. Restart the Oracle BAM and the IIS services.

You can start IIS via a command prompt with the following command:

```
net start w3svc
```

Then use the Start BAM shortcut.

Alternatively, you can use the Services Control Panel to restart the Oracle BAM and IIS services.

8.8 New Features

This section describes the 10.1.3.4 new features for *component_name*. This section includes the following topics:

- [Section 8.8.1, "Oracle Business Intelligence \(BI\) Server External Data Source Type Available"](#)
- [Section 8.8.2, "Oracle 11g Database Supported"](#)
- [Section 8.8.3, "Microsoft Windows 2008 Supported"](#)

8.8.1 Oracle Business Intelligence (BI) Server External Data Source Type Available

A new External Data Source type is available in Oracle BAM for Oracle Business Intelligence (BI) Server. To configure this data source, do the following steps.

1. Open Oracle BAM Architect Web application and create an External Data Source for Oracle Business Intelligence (BI) Server.
2. Enter the Administrator login and password for the Oracle Business Intelligence (BI) Server.
3. Configure **Connection string/URL** (for example, DSN=AnalyticsWeb.)
4. Leave **Driver** blank.
5. Create a new data object based on the external data source, and enter the following details:
 - External Table Name (for example, Products)
 - External Field Name (for example, "Products"."UPC")

Note: You may not see all of the rows expected because Oracle Business Intelligence (BI) Server suppresses duplicates but returns the correct number in the total row count.

8.8.2 Oracle 11g Database Supported

Oracle BAM 10.1.3.4 supports running against an 11g database; however, installing Oracle BAM against an 11g database is not supported.

To work around this issue, install Oracle BAM against a 10g database and then upgrade the database to 11g.

Note: Refer to the *Oracle Business Activity Monitoring Installation Guide* for the list of Oracle 10g database versions that are supported by Oracle BAM.

8.8.3 Microsoft Windows 2008 Supported

Oracle BAM 10.1.3.3.0 is not certified, and will show a warning, but the installation will succeed on Microsoft Windows 2008 Server. The user can then apply the 10.1.3.4.0

patch on the 10.1.3.3.0 installation to obtain full support on Microsoft Windows 2008 Server Standard, Enterprise, and Datacenter editions.

Note: Enterprise Link is not supported on Microsoft Windows Server 2003 R2 and later platforms.

Oracle HTTP Server

This chapter describes issues associated with Oracle HTTP Server. It includes the following topics:

- [Section 9.1, "Using Oracle Containers for J2EE Plug-in with iPlanet Web Server"](#)

9.1 Using Oracle Containers for J2EE Plug-in with iPlanet Web Server

This section describes how to install and configure the Oracle Containers for J2EE Plug-in to work with an iPlanet Web server. It includes the following tasks:

- [Install a Standalone Oracle HTTP Server Instance](#)
- [Configure Oracle Process Manager and Notification Server to Work with Oracle Containers for J2EE Plug-in](#)
- [Install Oracle Containers for J2EE Plug-in for iPlanet Web Server](#)
- [Configure Oracle Containers for J2EE Plug-in](#)
- [Create the opii.conf File](#)

9.1.1 Install a Standalone Oracle HTTP Server Instance

If the Oracle HTTP Server component is not installed as part of an Oracle Containers for J2EE cluster, then you will need to install it as standalone instance. Follow the instructions in *Administering a Standalone Deployment Based on Apache 2.0 10g (10.1.3.1.0)*.

9.1.2 Configure Oracle Process Manager and Notification Server to Work with Oracle Containers for J2EE Plug-in

The following procedure describes how to configure Oracle Process Manager and Notification Server (OPMN) to work with Oracle Containers for J2EE Plug-in:

1. Stop Oracle HTTP Server using the following command:

```
$ORACLE_HOME/opmn/bin/opmnctl stopproc process-type=HTTP_Server
```

2. Make a backup copy of the opmn.xml file.
3. Edit the opmn.xml to include the cluster topology and disable the Oracle HTTP Server process, as shown in bold in the following:

```
<?xml version="1.0" encoding="UTF-8"?>
<opmn xmlns="http://www.oracle.com/ias-instance">  <log path="$ORACLE_
HOME/opmn/logs/opmn.log" comp="internal;ons;pm"
rotation-size="1500000"/>
```

```
<debug path="$ORACLE_HOME/opmn/logs/opmn.dbg" comp=""
  rotation-size="1500000"/>
<notification-server interface="ipv4">
  <port local="6101"
    remote="6201"
    request="6004"/>
  <ssl enabled="true" wallet-file="$ORACLE_HOME/opmn/conf/ssl.wlt/default"/>
<!--example using a static list>
  <topology>
    <discover list="node1:6200,node2:6200"/>
  </topology>
</notification-server>
<process-manager>
  <process-modules>
    <module path="$ORACLE_HOME/opmn/lib/libopmnohs">
      <module-id id="OHS"/>
      <module-id id="GENERIC_APACHE"/>
      <module-id id="OHS2"/>
    </module>
  </process-modules>
  <ias-instance id="IAS-1"
    name="IAS-1">
    <environment>
      <variable id="TMP" value="/tmp"/>
    </environment>
    <module-data>
      <category id="start-parameters">
        <data id="routing-id" value="g_rt_id"/>
      </category>
    </module-data>
  <!--disable http server process>
    <ias-component id="HTTP_Server" status="disabled">
      <process-type id="HTTP_Server" module-id="OHS2">
        <module-data>
          <category id="start-parameters">
            <data id="start-mode" value="ssl-enabled"/>
          </category>
        </module-data>
        <process-set id="HTTP_Server" numprocs="1"/>
      </process-type>
    </ias-component>
  </ias-instance>
</process-manager>
</opmn>
```

4. Restart OPMN using the following commands:

```
$ORACLE_HOME/opmn/bin/opmnctl stopall
$ORACLE_HOME/opmn/bin/opmnctl startall
```

5. Check the status using the following command:

```
$ORACLE_HOME/opmn/bin/opmnctl status
```

The following message should be returned:

No processes running...

9.1.3 Install Oracle Containers for J2EE Plug-in for iPlanet Web Server

To install the Oracle Containers for J2EE Plug-in, copy the shared library from the OracleAS Companion CD as described in the following table:

Table 9–1 OC4J Plug-in Shared Libraries

Platform	File Name	Location and Description	Instructions
UNIX	opii.so	opii.so is the OC4J plug-in for iPlanet Web listener. It is located in the /plugins/solaris/sunone directory	To install the plug-in into the listener, place opii.so in a directory to which the listener has read and execute privileges.
Windows	opii.dll	opii.dll is the OC4J plug-in file for the iPlanet Web listener. It is located in the /plugins/win32/iis directory.	To install the plug-in into the listener, copy opii.dll to a directory the listener can access.

9.1.4 Configure Oracle Containers for J2EE Plug-in

Configure the Oracle Containers for J2EE Plug-in using the instructions in Appendix C, "Configuring OC4J Plug-in on Sun ONE" of *Oracle HTTP Server Administrator's Guide*.

9.1.5 Create the opii.conf File

The opii.conf file controls the directives for Oracle Containers for J2EE Plug-in, and supports all the directives supported by the mod_oc4j module. The basic file should look as follows:

```
Oc4jOracleHome path_to_ORACLE_HOME_OPMN_installation
#this is the default oc4j routing id
Oc4jRoutingID g_rt_id
Oc4jRoutingMode Dynamic
```

For example, you might have the following for your installation:

```
Oc4jOracleHome /opt/oracle/product/10.1.3/OracleAS_2
#this is the default oc4j routing id
Oc4jRoutingID g_rt_id
Oc4jRoutingMode Dynamic
```

To use static routing for group names, the file should look similar to the following:

```
Oc4jOracleHome /opt/oracle/product/10.1.3/OracleAS_2
Oc4jRoutingMode Static
Oc4jRoutingID g_rt_id
Oc4jMount /em/* mygroup
```

Oracle Application Server Integration B2B

This chapter describes OracleAS Integration B2B interoperability with Oracle BPEL Process Manager and Oracle Enterprise Service Bus (Oracle ESB). It includes the following topics:

- [Section 10.1, "B2B–BPEL Integration: 10.1.3.4 Download Available from Metalink"](#)
- [Section 10.2, "B2B–ESB Integration: 10.1.3.4 Download Available from Metalink"](#)

10.1 B2B–BPEL Integration: 10.1.3.4 Download Available from Metalink

Oracle BPEL Process Manager, release 10.1.3.4, integrates with OracleAS Integration B2B, release 10.1.2, with no changes in the integration process. The B2B WSIL Browser enables B2B–BPEL interoperability. It is available for download from Metalink, patch 5105622.

OracleAS Integration B2B provides the following internal delivery channels to enable communication between the host application and OracleAS Integration B2B:

- B2B Inbound, uses the `IP_IN_QUEUE` queue—B2B receives an inbound message from the trading partner. The message is then routed to BPEL PM.
- B2B Outbound, uses the `IP_OUT_QUEUE` queue—BPEL PM sends an outbound message to B2B, which then routes the message to the trading partner.

For more information, see the following:

- "Enabling Oracle B2B & BPEL Process Manager Interoperability," available at http://www.oracle.com/technology/products/integration/b2b/pdf/B2B_TN_022_Enabling_B2B_BPEL_Interop.pdf
- Chapter 4 in *Oracle Application Server Integration B2B User's Guide*, available at http://download.oracle.com/doc/cd/B14099_19/integrate.1012/b19370/toc.htm

10.2 B2B–ESB Integration: 10.1.3.4 Download Available from Metalink

Oracle ESB, release 10.1.3.4, integrates with OracleAS Integration B2B, release 10.1.2. The B2B WSIL Browser enables interoperability. It is available for download from Metalink, patch 5105622.

For more information, see "Oracle B2B–Oracle ESB Interoperability," available at http://www.oracle.com/technology/products/integration/b2b/pdf/B2B_TN_028_ESB_B2B_Interop.pdf

Oracle Application Server Packaged-Application Adapter

This chapter describes issues associated with Oracle Application Server Technology adapters. It includes the following topics:

- [Section 11.1, "MaxTransactionSize Should be Limited for Oracle Database Adapter"](#)
- [Section 11.2, "Oracle Database Adapter Loses Record When Processing Master-Detail Adapter During Failover"](#)
- [Section 11.3, "Adapter Clustering Fails When Two or More Cluster Groups are Configured for the BPEL Processes"](#)
- [Section 11.4, "New Features"](#)

11.1 MaxTransactionSize Should be Limited for Oracle Database Adapter

In Database adapter, set a limited value for MaxTransactionSize. For example, set `MaxTransactionSize=10`

Setting higher values to MaxTransactionSize will likely time out.

11.2 Oracle Database Adapter Loses Record When Processing Master-Detail Adapter During Failover

XA on RAC results in message loss when processing master-detail adapter during failover.

For XA on RAC in Oracle Application Server 10g Release 10.1.3.4, ensure that if multiple components are connecting to a RAC database, then they share the same managed datasource definition, and not just the same connection pool definition.

11.3 Adapter Clustering Fails When Two or More Cluster Groups are Configured for the BPEL Processes

Oracle File/FTP adapter clustering will not work across endpoints in different subnets. However, it works fine with UDP protocol.

To resolve this problem, when the SOA cluster is across the subnet, use TCP protocol in `jgroups-protocol.xml`, and ensure that you set the activation agent property `useJGroupConfigFile=false` in `bpel.xml` of the corresponding BPEL process.

11.4 New Features

This section describes the new features for Oracle Application Server 10g Release 10.1.3.4 for the following technology adapters:

- [Section 11.4.1, "Native Format Builder Wizard New Features"](#)
- [Section 11.4.2, "Oracle Application Server Adapter for Files/FTP New Features"](#)
- [Section 11.4.3, "Oracle Application Server Adapter for Java Message Service New Features"](#)
- [Section 11.4.4, "Oracle Application Server Adapter for Advanced Queuing New Features"](#)
- [Section 11.4.5, "Oracle Application Server Adapter for Database New Features"](#)
- [Section 11.4.6, "Oracle Application Server Adapter for MQSeries New Features"](#)

11.4.1 Native Format Builder Wizard New Features

Oracle Application Server 10g Release 10.1.3.4 includes the following new features for the Native Format Builder Wizard:

- [Section 11.4.1.1, "Escape Character"](#)
- [Section 11.4.1.2, "Top-Level and Field-Level Validations"](#)

11.4.1.1 Escape Character

There can be instances where the special characters, such as a delimiter are part of the data. In such cases, the actual data should be included within quotes. If quotes exist in the field data, then you must double the embedded quote characters, and delimit the field with double-quotes. Consider the following CSV data field example:

```
Arun said, " I love google".
```

The special characters in the preceding example must be escaped in the native as follows:

```
"Arun said, "" I love google""."
```

Note that here the special characters, , (comma) and " (double-quotes) are part of the data.

11.4.1.2 Top-Level and Field-Level Validations

you can configure adapters to perform stricter validations on inbound operation at level 1 and level 2. This new feature ensures that the adapter will not publish invalid records. The following validations are available in this release:

- [Section 11.4.1.2.1, "Level 1: Top-Level Validation"](#)
- [Section 11.4.1.2.2, "Level 2: Field-Level Validation"](#)

11.4.1.2.1 Level 1: Top-Level Validation

At the top level, you can validate `DOMResult` against the XML schema. Though this sort of validation is useful, it does not provide translation context information, such as

the line and the column in the native stream where this error occurred. However, this validation can control the publishing of invalid records and provide XML validation errors. The following code snippet enables XML validation:

```
<schema xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:nxsd="http://xmlns.oracle.com/pcbpel/nxsd"
  targetNamespace="http://xmlns.oracle.com/pcbpel/nxsd/smoketest"
  elementFormDefault="qualified"
  attributeFormDefault="unqualified"
  nxsd:stream="chars"
  nxsd:version="NXSD"
  nxsd:validation="true"
>
```

11.4.1.2.2 Level 2: Field-Level Validation

Type validation support at the field level - XML schema type validation is performed for each token read from the native stream. In case of an error, an error is reported with the line and column number in the native stream, and the corresponding XML type where this validation failure occurred.

The following code snippet enables field-level validation:

```
<schema xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:nxsd="http://xmlns.oracle.com/pcbpel/nxsd"
  targetNamespace="http://xmlns.oracle.com/pcbpel/nxsd/smoketest"
  elementFormDefault="qualified"
  attributeFormDefault="unqualified"
  nxsd:stream="chars"
  nxsd:version="NXSD"
  nxsd:fieldValidation="true"
>
```

Note that, currently, field-level validation does not support XML schema patterns and facet-level validation.

11.4.2 Oracle Application Server Adapter for Files/FTP New Features

Oracle Application Server 10g Release 10.1.3.4 includes the following new features for the File and FTP adapters:

- [Section 11.4.2.1, "Support for Copying, Moving, and Deleting Files by Using an Outbound Service"](#)
- [Section 11.4.2.2, "Support for FTPS \(FTP over SSL\) in Linux"](#)
- [Section 11.4.2.3, "End of Line Characters Handling in File and FTP Adapters in Linux"](#)
- [Section 11.4.2.4, "Processing of Files by Their Last Modified Time in File Adapter"](#)

11.4.2.1 Support for Copying, Moving, and Deleting Files by Using an Outbound Service

The File and FTP adapter includes a functionality that allows you to copy or move a file from one location to another or delete a file from the target folder. Additionally, the FTP adapter allows you to move or copy files from a local file system to a remote file system and vice versa.

Note that the FTP adapter includes variants for SFTP and FTPS.

Oracle JDeveloper Release 10.1.3.4 does not support this feature. However, it is possible to configure this feature manually. This new feature is being implemented as a new interaction specification for outbound services. So, this feature can be accessed either by using a BPEL invoke activity or an ESB routing rule.

At a high level, you will need to create an outbound service and configure this service with the source and target directories and filenames.

The following use cases demonstrate the new functionality supported by File and FTP adapters that allow you to copy, move, and delete files by using an outbound service:

- [Section 11.4.2.1.1, "Use Case 1: Moving a File from a Local Folder on the File System to Another Local Folder"](#)
- [Section 11.4.2.1.2, "Use Case 2: Copying a File from a Local Folder on the File System to Another Local Folder"](#)
- [Section 11.4.2.1.3, "Use Case 3: Deleting a File from a Local File System Folder"](#)
- [Section 11.4.2.1.4, "Use Case 4: Working with Huge CSV Files"](#)
- [Section 11.4.2.1.5, "Use Case 5: Moving a File from a Remote Folder to Another Remote Folder on the Same FTP Server"](#)
- [Section 11.4.2.1.6, "Use Case 6: Copying a File from a Local Folder on the File System to a Remote Folder on the FTP Server"](#)
- [Section 11.4.2.1.7, "Use Case 7: Copying a File from a Remote Folder on the File System to a Local Folder on the File System"](#)
- [Section 11.4.2.1.8, "Use Case 8: Copying a File from One FTP Server to Another"](#)

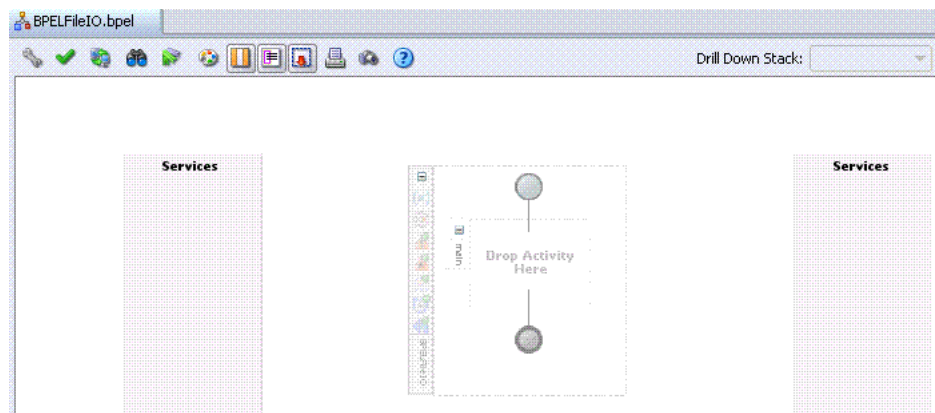
11.4.2.1.1 Use Case 1: Moving a File from a Local Folder on the File System to Another Local Folder

You will model only a part of this procedure by using the wizard because the corresponding Oracle JDeveloper Wizard is not available. You will complete the rest of the procedure by configuring the generated WSDL file manually.

The following are the steps to move a file from a local folder on the file system to another local folder:

1. Create an empty BPEL process, as shown in [Figure 11–1](#).

Figure 11–1 An Empty BPEL Process

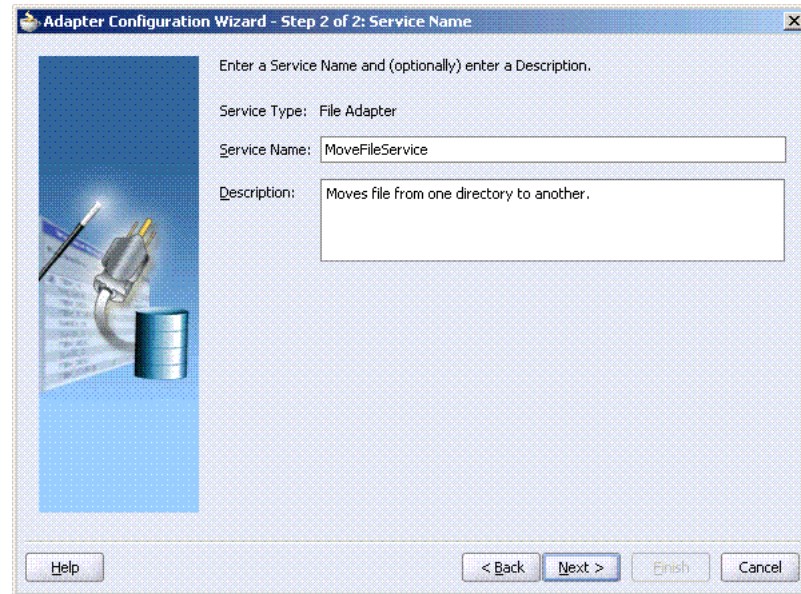


2. Drag and drop **File Adapter** from the BPEL Services list for the outbound service.

The Adapter Configuration Wizard is displayed.

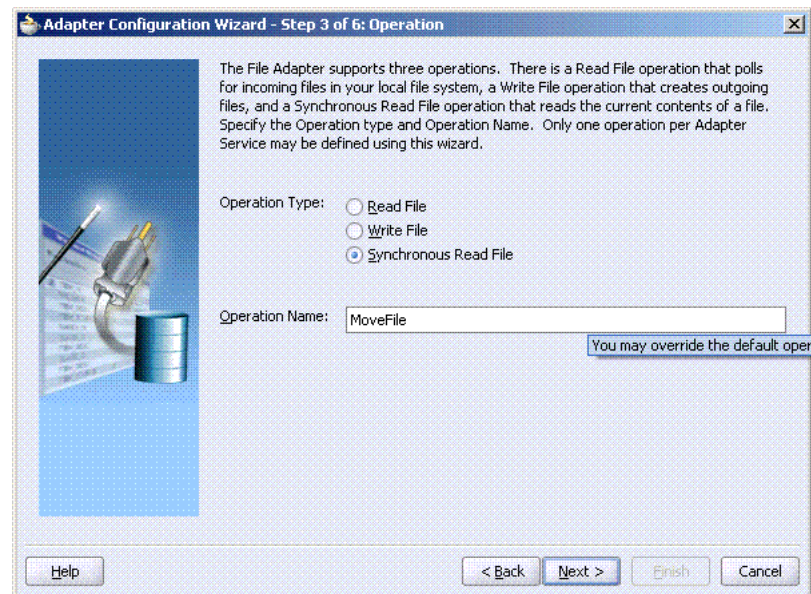
3. Click **Next**. The Service Name page is displayed.
4. Enter a service name, and optionally enter a description, as shown in [Figure 11-2](#), and then click **Next**.

Figure 11-2 The Service Name Page



5. In the Operation page, select **Synchronous Read File** as the operation, as shown in [Figure 11-3](#). You may optionally change the name of operation, and then click **Next**.

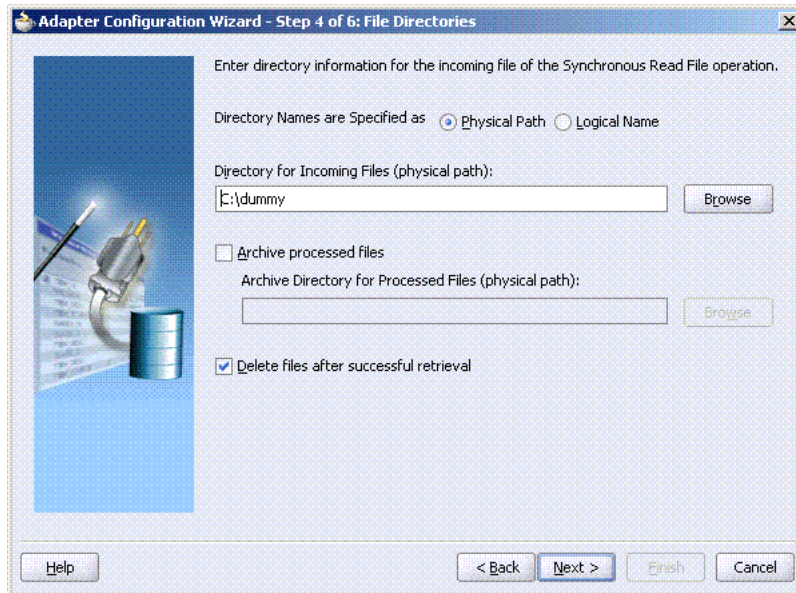
Figure 11-3 The Operation Page



Note that you have selected Synchronous Read File as the operation because the WSDL file that is generated as a result of this operation is similar to the one required for the file IO operation.

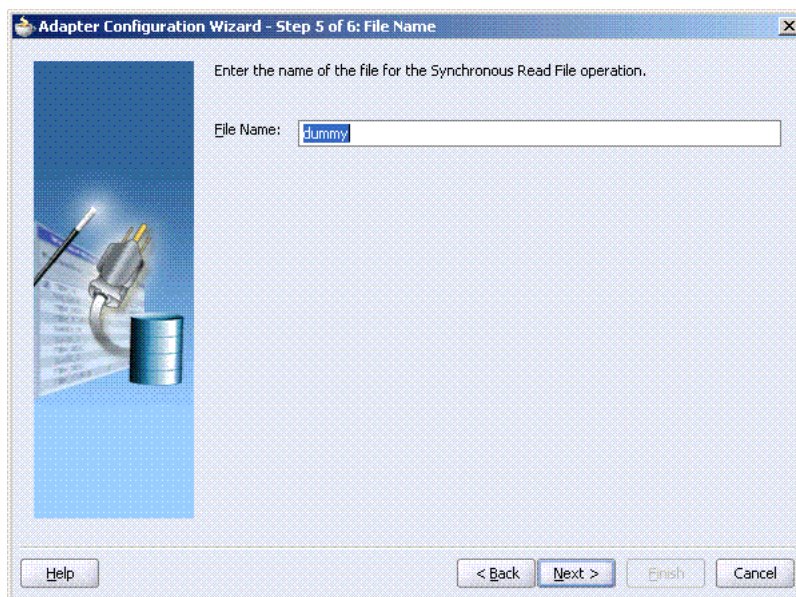
6. In the File Directories page, select a dummy directory for now, which will not be used, as shown in [Figure 11-4](#), and then click **Next**. You will change the directory manually in a later step.

Figure 11-4 The File Directories Page



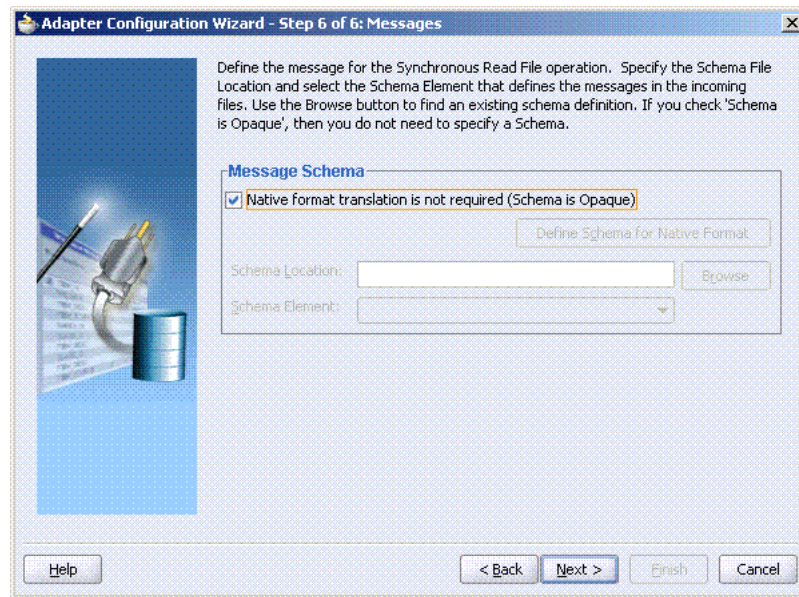
7. In the File Name page, select a dummy file for now, as shown in [Figure 11-5](#), which will not be used, and then click **Next**. You will change the file name manually in a later step.

Figure 11-5 Specifying a Dummy File Name



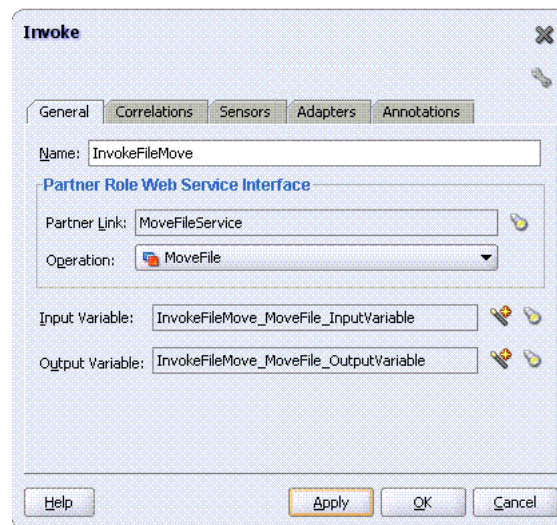
8. In the Messages page, as shown in [Figure 11-6](#), select **Native format translation is not required (Schema is opaque)**, and then click **Next**.

Figure 11-6 The Messages Page



9. Click **Finish**.
10. Create an invoke activity for the MoveFileService service that you just created, as shown in [Figure 11-7](#).

Figure 11-7 The Invoke Activity



The next step is to modify the generated WSDL file for MoveFileService service and configure it with the new interaction specification for the move operation.

11. Open the MoveFileService.wsdl file and modify the `jca:operation`, as shown in the following example.

You will configure the WSDL file with the source, target directory, and file details. You can either hardcode the source, target directory, and file details in the WDL file or use header variables to populate them. In this example, you will use header variables.

```
<jca:operation
  InteractionSpec="oracle.tip.adapter.file.outbound.FileIoInteractionSpec"
  SourcePhysicalDirectory="foo1"
  SourceFileName="bar1"
  TargetPhysicalDirectory="foo2"
  TargetFileName="bar2"
  Type="MOVE">
</jca:operation>
```

Note: Note that you have modified the `className` attribute, and added `SourcePhysicalDirectory`, `SourceFileName`, `TargetPhysicalDirectory`, `TargetFileName` and `Type`. Currently, the values for the source and target details are dummy. You will populate them at runtime. You can also hardcode them to specific directories or filenames.

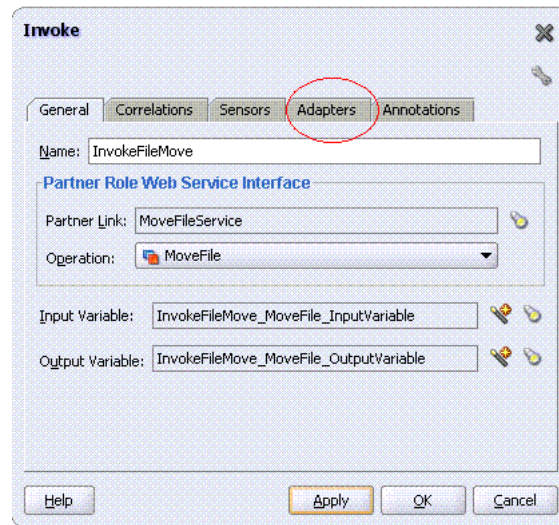
The `Type` attributes decides the type of operation. Apart from `MOVE`, the other acceptable values for the `Type` attribute are `COPY` and `DELETE`.

12. Now that you have configured the WDL file with dummy source and target details, you will need to specify headers so that you can override them at runtime. First, you will need to modify `fileAdapterOutboundHeader.wsdl`, and then add the new headers, as shown in the following example:

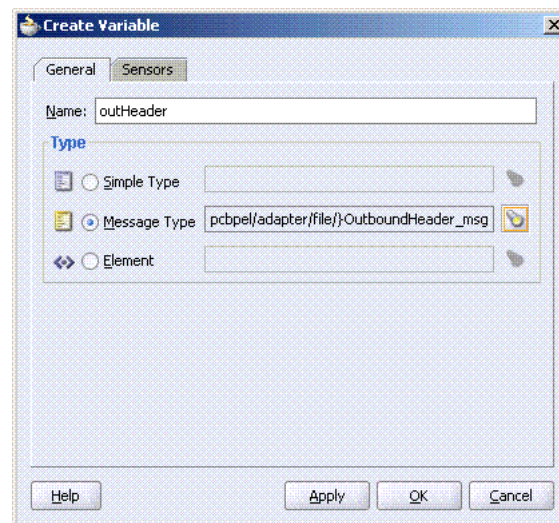
```
<types>
  <schema ..>
    <element name="OutboundFileHeaderType">
      <complexType>
        <sequence>
          <element name="fileName" type="string"/>
          <element name="directory" type="string"/>
          <element name="sourceDirectory" type="string"/>
          <element name="sourceFileName" type="string"/>
          <element name="targetDirectory" type="string"/>
          <element name="targetFileName" type="string"/>
        </sequence>
      </complexType>
    </element>
  </schema>
</types>
```

This is required because you will use the BPEL header mechanism to override the source, target directory, and file details at runtime.

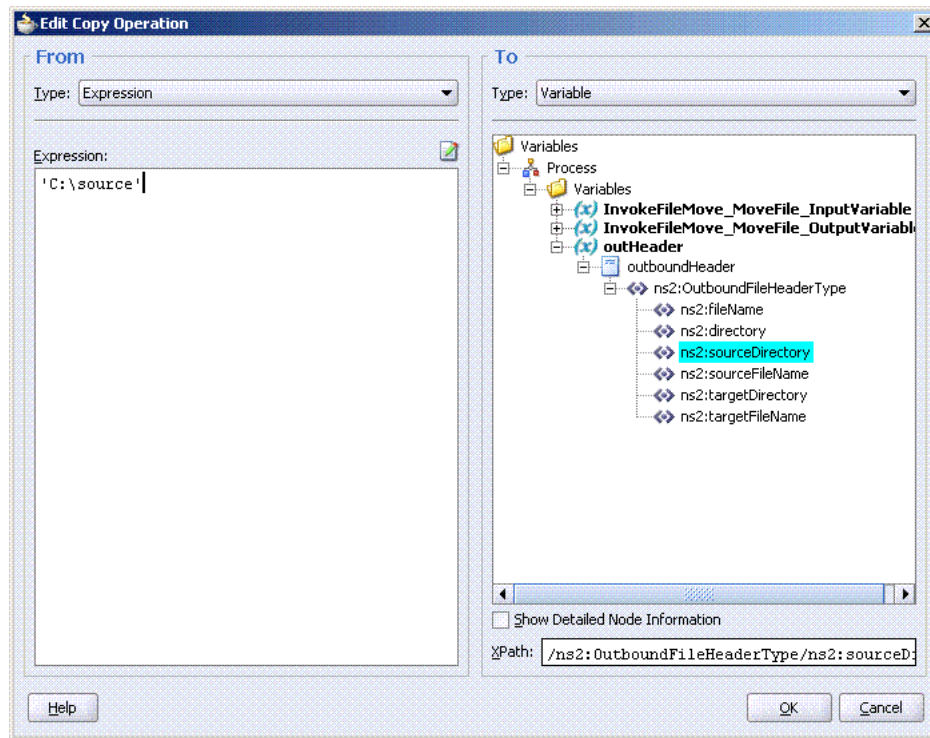
13. Create a header variable for the invoke activity, as shown in [Figure 11-8](#).

Figure 11–8 Creating a Header Variable

14. Create a new header variable, as shown in [Figure 11–9](#) , and configure it with the `OutboundHeader_msg` message type from the `fileAdapterOutboundHeader.wsdl` file.

Figure 11–9 Creating a Header Variable

15. Create an assign activity to assign the header variable values for `sourceDirectory`, `sourceFileName`, `targetDirectory` and `targetFileName`, as shown in [Figure 11–10](#).

Figure 11–10 *Creating an Assign Activity*

16. Similarly, create a copy operation for sourceFileName, targetDirectory and targetFileName. Now, the assign operation appears in the BPEL source view, as shown in the following code snippet.

```
<assign name="AssignFileDetails">
  <copy>
    <from expression="'C:\source'"/>
    <to variable="outHeader" part="outboundHeader"
      query="/ns2:OutboundFileHeaderType/ns2:sourceDirectory"/>
  </copy>
  <copy>
    <from expression="'in.zip'"/>
    <to variable="outHeader" part="outboundHeader"
      query="/ns2:OutboundFileHeaderType/ns2:sourceFileName"/>
  </copy>
  <copy>
    <from expression="'C:\target'"/>
    <to variable="outHeader" part="outboundHeader"
      query="/ns2:OutboundFileHeaderType/ns2:targetDirectory"/>
  </copy>
  <copy>
    <from expression="'out.zip'"/>
    <to variable="outHeader" part="outboundHeader"
      query="/ns2:OutboundFileHeaderType/ns2:targetFileName"/>
  </copy>
</assign>
```

Note that you have hardcoded the source and target details here. You can also provide these details as run-time parameters.

17. Finally, add an initial receive or pick activity.

You have completed moving a file from a local folder on the file system to another local folder.

11.4.2.1.2 Use Case 2: Copying a File from a Local Folder on the File System to Another Local Folder

The following are the steps to copy a file from a local folder on the file system to another local folder:

1. Follow steps 1 through 10 in [Section 11.4.2.1.1, "Use Case 1: Moving a File from a Local Folder on the File System to Another Local Folder"](#).
2. Change the value of the TYPE attribute to COPY in the `jca:operation`, as shown in the following example in Step 11 in [Section 11.4.2.1.1, "Use Case 1: Moving a File from a Local Folder on the File System to Another Local Folder"](#).

```
<jca:operation
  InteractionSpec="oracle.tip.adapter.file.outbound.FileIoInteractionSpec"
    SourcePhysicalDirectory="foo1"
    SourceFileName="bar1"
    TargetPhysicalDirectory="foo2"
    TargetFileName="bar2"
    Type="COPY">
</jca:operation>
```

11.4.2.1.3 Use Case 3: Deleting a File from a Local File System Folder

To delete a file, the parameters you require are `TargetPhysicalDirectory` and `TargetFileName`. Note that you do not require `SourcePhysicalDirectory` and `SourceFileName` to delete a file from a local file system folder.

The following are the steps to delete a file `delete_me.txt` from `/home/alex`:

1. Follow steps 1 through 10 in [Section 11.4.2.1.1, "Use Case 1: Moving a File from a Local Folder on the File System to Another Local Folder"](#)
2. Change the value of the TYPE attribute to DELETE in the `jca:operation` in Step 11 in [Section 11.4.2.1.1, "Use Case 1: Moving a File from a Local Folder on the File System to Another Local Folder"](#), as shown in the following example:

```
<jca:operation
  InteractionSpec="oracle.tip.adapter.file.outbound.FileIoInteractionSpec"
    TargetPhysicalDirectory="/home/alex"
    TargetFileName="delete_me.txt"
    Type="DELETE">
</jca:operation>
```

11.4.2.1.4 Use Case 4: Working with Huge CSV Files

Consider the following scenario:

You have a large CSV file of size 1 gigabyte coming on the source folder, and you need to perform the following:

1. Translate the CSV into XML.
2. Transform the resulting XML using XSL.
3. Finally, translate the result from the transform operation into a fixed length file.

This use case is similar to the `FlatStructure` sample in the BPEL samples directory for `121.FileAdapter`. The difference is that the three steps will occur in a single File IO interaction.

Note that all the three steps occur in a single File IO interaction only if all the records in the data file are of the same type.

The following are the steps to perform the three operations on the CSV file:

1. Copy the `address-csv.xsd` and `address-fixedLength.xsd` files from the `FlatStructure` sample into the `xsd` directory of your project.
2. Copy `addr1Toaddr2.xsl` from the `FlatStructure` sample into the `xsl` directory of your project.
3. Configure the File IO interaction, as shown in the following example. At a high level, you will need to specify the source and target schemas as well as the XSL in the interaction specification along with the source, target folder, and file details, as shown in the following example:

```
<jca:operation
    InteractionSpec="oracle.tip.adapter.file.outbound.FileIoInteractionSpec"
        SourcePhysicalDirectory="C:\inputDirectory"
        SourceFileName="input.csv"
        TargetPhysicalDirectory="C:\outputDirectory"
        TargetFileName="output_fixedLength.txt"
        SourceSchema="address-csv.xsd"
        SourceSchemaRoot ="Root-Element"
        SourceType="native"
        TargetSchema="address-fixedLength.xsd"
        TargetSchemaRoot ="Root-Element"
        TargetType="native"
        Xsl="addr1Toaddr2.xsl"
        Type="MOVE">
</jca:operation>
```

Note that you have provided the following additional parameters:

- `SourceSchema`: Relative path to the source schema.
- `SourceSchemaRoot`: The root element in the source schema.
- `SourceType`: The type of data. The other possible type is XML.
- `TargetSchema`: Relative path to the target schema.
- `TargetSchemaRoot`: The root element in the target schema.
- `TargetType`: The type of data. The other possible type is XML.
- `XSL`: Relative path to the XSL file.

11.4.2.1.5 Use Case 5: Moving a File from a Remote Folder to Another Remote Folder on the Same FTP Server

The IO use-cases for the FTP adapter are very similar to those for File adapter. However, there are a few nuances that need attention.

Note that you are moving a file within the same folder, so it seems more like a rename operation on the same server. Most FTP servers support the `RNFR`, and the `RNTO` FTP commands that allow you to rename a file on the FTP server.

However, even if the `RNFR`, and the `RNTO` commands are not supported, moving a file within the same folder is still possible by virtue of a binding property

UseNativeRenameOperation. If this property is set to TRUE, then the FTP adapter uses the native RNFR and RNTD commands. However, if this property is set to FALSE, then the FTP adapter uses the Get and Put commands followed by a Delete command to emulate a move operation. By default, UseNativeRenameOperation is set to FALSE in which case the FTP adapter emulates a move operation. If your FTP server supports the RNFR and RNTD commands, then set this property to TRUE.

Similar to the File IO, you will need model a part of the use case using the Oracle JDeveloper wizard because the corresponding Oracle JDeveloper wizard is not available.

Modeling this use case is similar to [Section 11.4.2.1.1, "Use Case 1: Moving a File from a Local Folder on the File System to Another Local Folder"](#) except for the following two differences from Use Case 1:

1. Change InteractionSpec to
oracle.tip.adapter.ftp.outbound.FTPIoInteractionSpec
2. Add an endpoint property in the bpel.xml file for the outbound partner link for UseNativeRenameOperation.

If the FTP server supports the RNFR, and the RNTD FTP commands, then you must set UseNativeRenameOperation to TRUE. Otherwise, you will need to set it to FALSE. Define the property in bpel.xml, as shown in the following example:

```
<partnerLinkBinding name="FtpRenameSvc">
    <property name="wsdlLocation">FtpRenameSvc.wsdl</property>
    <property name=" UseNativeRenameOperation">true</property>
    <property name="retryInterval">60</property>
</partnerLinkBinding>
```

3. Follow the rest of the steps as mentioned in [Section 11.4.2.1.1, "Use Case 1: Moving a File from a Local Folder on the File System to Another Local Folder"](#), with changes only to the InteractionSpec class name, as shown in the following example:

```
<jca:operation
    InteractionSpec="oracle.tip.adapter.ftp.outbound.FTPIoInteractionSpec"
    SourcePhysicalDirectory="foo1"
    SourceFileName="bar1"
    TargetPhysicalDirectory="foo2"
    TargetFileName="bar2"
    Type="MOVE">
</jca:operation>
```

11.4.2.1.6 Use Case 6: Copying a File from a Local Folder on the File System to a Remote Folder on the FTP Server

The steps for this use case are the same as in [Section 11.4.2.1.5, "Use Case 5: Moving a File from a Remote Folder to Another Remote Folder on the Same FTP Server"](#) except that you must configure the source folder as local and the target folder as remote.

Use the two properties SourceIsRemote and TargetIsRemote to specify whether the source/target file is on the local or remote file system, as shown in the following example:

```
<jca:operation
    InteractionSpec="oracle.tip.adapter.ftp.outbound.FTPIoInteractionSpec"
    SourcePhysicalDirectory="foo1"
    SourceFileName="bar1"
```

```

        SourceIsRemote="false"
        TargetPhysicalDirectory="foo2"
        TargetFileName="bar2"
        Type="COPY">
    </jca:operation>

```

Notice that you have configured `SourceIsRemote` as `FALSE`. In this case, the FTP IO assumes that the source file comes from a local file system. Also, notice that you did not specify the parameter for target because, by default `TargetIsRemote` is set to `TRUE`.

11.4.2.1.7 Use Case 7: Copying a File from a Remote Folder on the File System to a Local Folder on the File System

The steps for this use case are the same as in [Section 11.4.2.1.6, "Use Case 6: Copying a File from a Local Folder on the File System to a Remote Folder on the FTP Server"](#) except that you must configure the source folder as remote and the target folder as local, as shown in the following example:

```

<jca:operation
    InteractionSpec="oracle.tip.adapter.ftp.outbound.FTPIoInteractionSpec"
    SourcePhysicalDirectory="foo1"
    SourceFileName="bar1"
    TargetPhysicalDirectory="foo2"
    TargetFileName="bar2"
    TargetIsRemote="false"
    Type="COPY">
</jca:operation>

```

Notice that you have configured `TargetIsRemote` as `FALSE`. In this case, the FTP IO will assume that the source file comes from a remote file system whereas the target is on a local file-system folder. Also, notice that you did not specify the parameter for source because, by default, `SourceIsRemote` is set to `TRUE`.

Also, note that you cannot set both `SourceIsRemote` and `TargetIsRemote` as `FALSE`, because this use case is applicable for a File adapter and not an FTP adapter.

11.4.2.1.8 Use Case 8: Copying a File from One FTP Server to Another

For this use case, you will need to perform [Section 11.4.2.1.6, "Use Case 6: Copying a File from a Local Folder on the File System to a Remote Folder on the FTP Server"](#) and [Section 11.4.2.1.7, "Use Case 7: Copying a File from a Remote Folder on the File System to a Local Folder on the File System"](#) in a sequential manner. In Use case 6 the file from the FTP server is downloaded to a local directory and in Use case 7 the file is uploaded to another FTP server from the local directory.

11.4.2.2 Support for FTPS (FTP over SSL) in Linux

Oracle Application Server 10g Release 10.1.3.4 includes a functionality in which the FTP adapter now supports SSL on Linux in addition to previously supported Solaris.

The configuration for SSL on Linux is the same as the one for Solaris, described in the documentation for FTP over SSL in earlier versions, for example Oracle Application Server 10g Release 10.1.3. In addition, you have to configure the following parameters:

- `keyStoreProviderName: oracle.security.pki.OraclePKIProvider`
- `keyStoreType: PKCS12`
- `keyStoreAlgorithm: OracleX509`

- `pkiProvider: OraclePKI`
- `jsseProvider: OracleJSSE`

Ensure that you add the `OraclePKIProvider` in `java.security` policy file in the `SOA-HOME\jdk\jre\lib\security` directory.

11.4.2.3 End of Line Characters Handling in File and FTP Adapters in Linux

The current XML specification, available at

<http://www.w3.org/TR/REC-xml/#sec-line-ends> states the following:

1. Every `0x0D`, that is, carriage return (CR) is converted to `0x0A`, that is, line feed (LF)
2. Every consecutive `0x0A` are converted into ONE single `0x0A`

For example,

```
0x0D --> 0x0A
0x0D0x0A --> 0x0A
0x0A0x0A0x0A --> 0x0A
```

An option is required to avoid any CR and LF characters (that is, `0x0D` and `0x0A`) transformation as described in the preceding example to maintain data consistency from source to target.

Oracle Application Server 10g Release 10.1.3.4 includes a functionality whereby two new parameters `normalizeLineTerminators` and `encodeLineTerminators` have been added as top level schema directives.

If `nxsd:normalizeLineTerminators="false"`, then the translator will not normalize new line characters. For example, `\r\n` will be retained as a `0x0D0x0A` sequence. By default, `normalizeLineTerminators="true"`, and line terminator character sequences are normalized to `\n`. If

`nxsd:encodeLineTerminators="true"`, then the translator will encode line terminators. For example, line feed (`\n`) will be encoded as `
`; and a carriage return (`\r`) will be encoded as ``. By default, `encodeLineTerminators` is set to `FALSE`, that is, `\n` will appear as `0x0A` and `\r` will appear as `0x0D`.

11.4.2.4 Processing of Files by Their Last Modified Time in File Adapter

Oracle Application Server 10g Release 10.1.3.4 includes a functionality, whereby the inbound adapter can be configured to sort files by configuring a new parameter, `Sorter`, in the activation specification for the File adapter.

The `Sorter` parameter supports two values currently, one that sorts files in ascending order of modified times and the other that sorts in descending order, as shown in the following example:

```
Set
Sorter="oracle.tip.adapter.file.sorter.TimestampSorterAscending"
in order to sort the file names by their modified timestamps in ascending manner
or
Sorter="oracle.tip.adapter.file.sorter.TimestampSorterDescending"
in order to sort the file names by their modified timestamps in descending manner
You can also plugin your own sorter by implementing java.util.Comparator e.g.
public class MySorter implements Comparator
{
    public int compare(Object a, Object b)
    {
        FileInfo first = (FileInfo)a;
        FileInfo second = (FileInfo)b;
        if(first.get...()... > second.get...())
```

```
        return 1;
    else if(first.get...() < second.get...())
        return -1;
    return 0;
    }
}
```

Finally, you need to copy `MySorter.class` to the `bpel/system/classes` folder.

Note: This feature works only if the following two conditions are met:

- A synchronous Oracle BPEL Process is created or a synchronous ESB routing rule is used.
 - The number of threads is set to 1 in the `pc.properties` file. For Oracle BPEL Process Manager, this file is available in `ORAHOME/bpel/system/service/config`, and for Oracle ESB, it is available in `ORAHOME/integration/esb/config`. Note that you must rename `pc.properties.esb` to `pc.properties`.
`oracle.tip.adapter.file.numProcessorThreads=1.`
-

11.4.3 Oracle Application Server Adapter for Java Message Service New Features

Oracle Application Server 10g Release 10.1.3.4 includes the following new features for the Oracle JMS adapter:

- [Section 11.4.3.1, "Mapped Message Feature"](#)
- [Section 11.4.3.2, "Certification with Weblogic JMS and Active MQ"](#)

11.4.3.1 Mapped Message Feature

A `MapMessage` is used to send a set of name-value pairs where names are strings and values are Java primitive types. The entries can be accessed sequentially or randomly by name. The order of the entries is undefined. It inherits from a message and adds a map message body.

Oracle JMS adapter provides support for processing `MapMessage`. It now supports one new Activation and Interaction Spec each namely `JmsMapMessageConsumeActivationSpec` and `JmsMapMessageProduceInteractionSpec`. The `PayloadEntry` property specifies that the `MapMessage` entry that will be used as the payload. Users have the option to send payload as an attachment if the `AttachmentList` property is defined. If both `PayloadEntry` and `AttachmentList` property are not defined, then the entire `MapMessage` is converted to XML and the XML is transferred as the payload.

11.4.3.2 Certification with Weblogic JMS and Active MQ

Oracle JMS adapter now works with both WebLogic JMS Provider and Active MQ-JMS provider.

11.4.4 Oracle Application Server Adapter for Advanced Queuing New Features

Oracle Application Server 10g Release 10.1.3.4 includes the following new features for the Oracle AQ adapter:

- [Section 11.4.4.1, "DequeueTimeout Property"](#)

- [Section 11.4.4.2, "Support for Multiple Inbound Dequeue Threads"](#)

11.4.4.1 DequeueTimeout Property

The `DequeueTimeout` property applicable to 10.1.3.x releases supports for multiple inbound dequeue threads. The value for this property determines how many seconds the `dequeue()` API waits for messages before it returns and the next polling cycle begins.

Add this property to the `bpel.xml` file, as shown in the following example:

```
<partnerLinkBindings>
  <partnerLinkBinding name="InboundPartnerLink">
    <property name="wsdlLocation">Dequeueer.wsdl</property>
  </partnerLinkBinding>
  ...
</activationAgents>
  <activationAgent className="oracle...JCAActivationAgent"
    partnerLink="InboundPartnerLink">
    <property name="DequeueTimeout">60</property>
```

11.4.4.2 Support for Multiple Inbound Dequeue Threads

Oracle AQ adapter now support multiple dequeue threads through the activation property `adapter.aq.dequeue.threads`. The value of this property determines the number of polling threads that are active at any point in time when the activation is initiated. The following example uses the activation property `adapter.aq.dequeue.threads`:

```
<service name="Raw-Dequeueer">
  <interface.wsdl interface="http://xmlns.oracle.com/pcbpel/adapter/aq/Raw_
Dequeueer/#wsdl.interface(Dequeue_ptt)" />
  <binding.jca config="Raw-Dequeueer_aq.jca" />
  <property name="adapter.aq.dequeue.threads">2</property> </service>
```

11.4.5 Oracle Application Server Adapter for Database New Features

Oracle Application Server 10g Release 10.1.3.4 includes the following new feature for the Oracle Database adapter:

- [Section 11.4.5.1, "Pure SQL - XML Type Support"](#)

11.4.5.1 Pure SQL - XML Type Support

Pure SQL Adapter is an option in the database adapter wizard that allows you to type the SQL directly and have an XSD/Web service generated automatically. The database tables are introspected dynamically in the wizard to test the SQL and better populate the XSD, that is, with valid return type.

The Pure SQL support allows the database adapter to deal with tables/views as entities and for dealing directly with SQL. You can use Pure SQL:

- for simple data projection style report queries
- in cases where the result set is not table oriented, such as `select count(*)`
- to perform an update or delete all
- when working with XMLType columns and `xquery`

- when using complex SQL, which are not modelled in the wizard expression builder

You can use the Pure SQL Adapter with Oracle `XMLTypes`. It is a natural fit for inserting XML into `XMLType` tables and columns, and retrieving XML using `xquery` selects. Pure SQL is a natural fit for the database adapter that provides a relational-xml mapping that parallels XML DB(XDB) support. So when using XDB the adapter should be as lightweight and transparent as possible, to let you focus on XDB and `Xquery`.

If your data is in XML (unstructured/semi-structured) format, and you have no relational schema at all that you can map your data to, then you could use XDB. The conventional database adapter allows you to import an existing relational schema as an XML schema to be used with web services. XDBs XML shredding algorithm can generate a relational schema from an existing XML schema for persistent storage.

Note: In Oracle Application Server 10g Release 10.1.3.3, `XMLTypes` are NOT supported with the conventional tables/views database adapter. Database Adapter stored procedures supports anonymous `XMLTypes`.

11.4.6 Oracle Application Server Adapter for MQSeries New Features

Oracle Application Server 10g Release 10.1.3.4 includes the following new feature for the Oracle MQSeries adapter:

- [Section 11.4.6.1, "Using MQSeries Message Character Set for Translation"](#)

11.4.6.1 Using MQSeries Message Character Set for Translation

To use the character set of MQ message for translation in inbound adapter, set the following property to TRUE in `ActivationSpec`:

```
UseMessageEncodingForTransalation="true"
```

Once, `UseMessageEncodingForTransalation` is set to TRUE, then the MQSeries adapter will use the character set as specified in the MQ message for translation. The default value for this property is TRUE. If the

`UseMessageEncodingForTransalation` is set to FALSE, then the adapter would use the character set as specified in the schema (NXSD) file.

Similarly, for the outbound adapter if you want to use the character set to be specified at the run time, then you can specify the character set in the outbound header file `MQOutboundHeader.wsdl` and set `UseMessageEncodingForTransalation` to TRUE in `InteractionSpec`.

In the `MQOutboundHeader.wsdl` file, currently, the `CodedCharSetId` element is not available. You must add this manually in Oracle JDeveloper. If you want to assign the `CodedCharSetId` element to the outbound WSDL, then perform the following steps:

1. After creating the outbound service for the MQ adapter, add the following code in the `MQOutboundHeader` element in the `MQAdapterOutboundHeader.wsdl` file:

```
<element name="CodedCharSetId" type="string" minOccurs="0" />
```

2. Restart Oracle JDeveloper.
3. Create an Invoke activity, and in the Adapters tab, create an Outbound header variable.

4. Use the outbound header variable created in Step 3 to assign the `CodedCharSetID` element to the outbound header.

Oracle Containers for J2EE

This chapter describes issues and new features associated with Oracle Containers for J2EE. It includes the following topics:

- [Section 12.1, "Applications Share HTTP Client Static Memory"](#)
- [Section 12.2, "JAZNMigration Tool Does Not Migrate ADFPrincipal Type Correctly"](#)
- [Section 12.3, "Configuration Issues When Using an External LDAP Provider"](#)
- [Section 12.7, "New Features"](#)

12.1 Applications Share HTTP Client Static Memory

The HTTP Client library is loaded by the OC4J system class loader and is therefore inherited by all applications deployed in the OC4J instance. As a result, the HTTP Client's static memory is shared across all applications. An application that modifies default values that are stored in the HTTP Client's static memory may affect other applications that also rely on the HTTP Client library. The work around for this issue is to have each application import a local copy of the HTTP Client library. The HTTP Client's static memory is then private to the application and cannot be modified by another application.

The following example demonstrates how to configure an application to import a local copy of the HTTP Client library and not inherit the HTTP Client library loaded by the OC4J system class loader. The change must be made in an application's `orion-application.xml` file.

```
<orion-application>
...
<imported-shared-libraries>
  <remove-inherited name="oracle.http.client">
</imported-shared-libraries>
...
<library path="ORACLE_HOME/j2ee/home/lib/http_client.jar"/>
...
</orion-application>
```

12.2 JAZNMigration Tool Does Not Migrate ADFPrincipal Type Correctly

Be aware of the following issue when you use the OracleAS JAAS Provider migration tool to migrate policies from the file-based provider to the Oracle Identity Management (essentially, Oracle Internet Directory) security provider, either in `policy` mode or `all` mode: The migration tool prepends the Oracle Internet Directory realm name to custom or nonrealm principal names in grantee entries in the

policy configuration. (A custom principal may come into play when authenticating through a custom login module, for example.)

In the migrated configuration, a custom principal name in a grantee entry becomes, for example, `us/anyone` instead of just `anyone`, assuming `us` is the realm name. This results in permission issues. For ADF applications, for example, this results in public pages not working after migration to Oracle Internet Directory as the security provider.

The following workarounds are available for this issue:

- Manually remove the `us/` prefix from the LDIF file that the migration tool creates, prior to importing it into Oracle Internet Directory.
- Manually remove the `us/` prefix from relevant grantee entries after the migration, using Oracle Internet Directory administration tools.

12.3 Configuration Issues When Using an External LDAP Provider

If you plan to use an external LDAP provider for an application, it is recommended that you use a middle tier installation that is configured with the default XML security provider.

If you have a middle tier installation that is associated with an infrastructure installation (such as OID) and you want to use an external LDAP provider, you need to manually edit the `jazn.xml` file. Change the provider and location attributes of the `<jazn>` element as follows:

```
<jazn provider="XML" location="./system-jazn-data.xml" ... >
```

12.4 For AIX and Linux on POWER: Process Does Not Start With JDK 1.4.2

When you replace JDK 1.5 with JDK 1.4.2, OC4J does not start and the OPMN log (`ORACLE_HOME/opmn/logs/default_group~home~default_group~1.log`) gives an error similar to the following:

```
-----
Start process
-----
***** WARNING *****
You are currently running with data limits not set to unlimited.
You may experience out of memory(OOM) conditions.
In the event of an OOM error, please increase the data limit value.
You may use "ulimit -d unlimited" to set data limit as unlimited.
*****

[ Unrecognized option:
-Xjit:exclude={oracle/sysman/emSDK/eml/util/ias/IASLogConfig.getViewLogsURL(Ljava
ax/servlet/ServletContext;Ljavax/servlet/http/HttpServletRequest;Ljavax/servlet/
http/HttpServletResponse;)Ljava/lang/String;},
exclude={oracle/security/jazn/util/OHSH.update([B)V},
exclude={com/phaos/ASN1/ASN1Sequence.<init>(Ljava/io/InputStream;)V},
exclude={com/phaos/crypto/DES.1([BIZ)V} ]
[ JVMCI123: Unable to parse 1.2 format supplied options - rc=-6 ]
Could not create JVM.
```

Use the following workaround to ensure that OC4J starts with JDK 1.4.2:

1. Remove the following lines from `opmn.xml` (`$ORACLE_HOME/opmn/conf/opmn.xml`):

```
-Xjit:exclude={oracle/sysman/emSDK/eml/util/ias/IASLogConfig.getViewLogsURL(
Ljavax/servlet/ServletContext;Ljavax/servlet/http/HttpServletRequest;Ljavax/s
ervlet/http/HttpServletResponse;)Ljava/lang/String;},
exclude={oracle/security/jazn/util/OHSH.update([B)V},
exclude={com/phaos/ASN1/ASN1Sequence.<init>(Ljava/io/InputStream;)V},
exclude={com/phaos/crypto/DES.1([B[IZ)V}
```

2. Start the OC4J instance by using the following command:

```
opmnctl startall
```

12.5 For HP-UX and Solaris Operating System (x86) Only: OC4J Process Does Not Start With JDK 1.4.2 ()

When you replace JDK 1.5 with JDK 1.4.2, OC4J does not start and the OPMN log (`$ORACLE_HOME/opmn/logs/default_group~home~default_group~1.log`) gives an error similar to the following:

```
-----
Start process
-----
Unrecognized VM option 'AppendRatio=3'
Could not create the Java virtual machine.
```

Use the following workaround to ensure that OC4J starts with JDK 1.4.2:

1. Shut down the OC4J instance by using the following command:

```
opmnctl stopall
```

2. Remove the following lines from `opmn.xml` (`$ORACLE_HOME/opmn/conf/opmn.xml`):

```
AppendRatio=3
```

3. Start the OC4J instance by using the following command:

```
opmnctl startall
```

12.6 For HP-UX PA-RISC (64-Bit): Attempts to Run JAZN Migration Tool with JDK 1.6 Fails

While using JDK 1.6 with Oracle Application Server 10g Release (10.1.3.4), JAZN Migration Tool fails.

Before running JAZN Migration Tool on JDK 1.6, you must set the environment variable, `SHLIB_PATH`, by using the following command:

```
export SHLIB_PATH=$ORACLE_HOME/jdk/jre/lib/PA_RISC2.0/jli
```

12.7 New Features

This section describes the new features for Oracle Containers for J2EE. This section includes the following topics:

- [Section 12.7.1, "Attribute in orion-web.xml to Enable or Disable URL Rewriting"](#)
- [Section 12.7.2, "Improved Proxy Session Support"](#)

12.7.1 Attribute in orion-web.xml to Enable or Disable URL Rewriting

The `<session-tracking>` element in `orion-web.xml` now includes the `url-rewriting` attribute to enable or disable URL rewriting. For example:

```
<session-tracking url-rewriting="false"/>
```

The default value of `url-rewriting` is `true`. When the value is set to `false`, URL rewriting is disabled.

URL rewriting is a technique for encoding a session ID into a URL. If Web clients do not support cookies and an application requires access to HTTP session data, you can enable URL rewriting instead of using cookies. For example, you can use URL rewriting for Wireless Application Protocol (WAP) clients, which do not support cookies.

To suppress the encoding of a session ID into a URL, you can set the `url-rewriting` attribute of `<session-tracking>` to `false`.

12.7.2 Improved Proxy Session Support

Data source proxy session support has been improved by allowing a managed data source's connection pool to automatically use proxy sessions. When proxy sessions are enabled, OC4J opens a proxy session on the connection for the application-authenticated user each time a connection request is made on the pool. The proxy session is then closed when the connection is returned to the pool.

Proxy session support includes proxy authentication, which is the ability to connect as a user through another user. For example, proxy authentication enables the middle tier to authenticate once to the database using a generic account and then establish a lightweight session on behalf of actual users. Proxy connections are obtained with the user associated with the current thread state at the time of the connection request.

To enable proxy connection support, add the `proxy-sessions` attribute (set to `true`) to the connection pool definition in `data-sources.xml` as demonstrated below. By default, proxy sessions are disabled.

```
<managed-data-source name="OracleDS"
  connection-pool-name="Example Connection Pool"
  jndi-name="jdbc/OracleDS"/>

<connection-pool name="Example Connection Pool"
  max-connections="100"
  min-connections="20"
  num-cached-statements="10"
  proxy-sessions="true">
  <connection-factory factory-class="oracle.jdbc.pool.OracleDataSource"
    user="user"
    password="password"
    url="jdbc:oracle:thin:@localhost:5521:main">
  </connection-factory>
</connection-pool>
```

Proxy authentication requires that the application user exist in the database and be granted the proper `CONNECT THROUGH` privileges. The following SQL is used to setup a database to allow `app_user` to authenticate and connect as the user `scott`. The

user `scott` must be defined for the connection pool, or managed data source in `data-sources.xml`.

```
ALTER USER app_user GRANT CONNECT THROUGH scott
```

Oracle Business Rules

This chapter describes issues associated with *Oracle Business Rules*. It includes the following topics:

- [Section 13.1, "Oracle Rules SDK StoreException Thrown: Error Accessing File"](#)
- [Section 13.2, "MultipleInheritance Exceptions with Imported XML Schemas"](#)
- [Section 13.3, "New Features"](#)

13.1 Oracle Rules SDK StoreException Thrown: Error Accessing File

This is a known issue: If a file-based repository cannot be accessed by the OC4J user, a `StoreException` is thrown when attempting to connect in Rule Author. For example,

```
oracle.rules.sdk.store.StoreException: Error accessing file
'/scratch/how-to-rules-java/dict/CarRepository'. at
oracle.rules.sdk.store.RepositoryConnectionFactory.getRepositoryConnection(Rep
ositoryConnectionFactory.java:129) at
oracle.rules.sdk.repository.impl.RuleRepositoryImpl.init(RuleRepositoryImpl.java:6
5) at
java.util.zip.ZipException: error in opening zip file at
java.util.zip.ZipFile.open(Native Method) at
java.util.zip.ZipFile.<init>(ZipFile.java:114) at
java.util.jar.JarFile.<init>(JarFile.java:133) at
java.util.jar.JarFile.<init>(JarFile.java:70)
```

You can work around this issue by modifying file permissions such that the OC4J user can both read and write the file.

13.2 MultipleInheritance Exceptions with Imported XML Schemas

By default when an XML Schema is imported into the data model, the fact type created from the `ObjectFactory` has the property "Supports XPath" set to **false**. This prevents a `MultipleInheritanceException` from being thrown should the `ObjectFactory` class be "fact classed" in the generated RL before the classes referenced in it are "fact classed".

When multiple XML Schemas are imported into the datamodel, only the first instance of `ObjectFactory` will have the property "Supports XPath" set to **false**. Additional instances of fact types named `ObjectFactory` in other packages must have this value set explicitly by the user to prevent `MultipleInheritanceExceptions`.

13.3 New Features

This section describes the 10.1.3.4 new features for Oracle Business Rules Rule Author.

The following are changes to the functionality of Oracle Business Rules after applying the patch:

- [Section 13.3.1, "Variable Summary Page with Updated Value Field"](#)
- [Section 13.3.2, "Definitions Tab with Schema File Browser Button Added"](#)
- [Section 13.3.3, "Supports XPATH Set to FALSE by Default for XML Schema Imported with JAXB"](#)
- [Section 13.3.4, "Support for Inline Editing for Variable Values"](#)

13.3.1 Variable Summary Page with Updated Value Field

Rule Author has been updated so that on the Variable Summary page you can use the Value field to edit the value of a variable.

13.3.2 Definitions Tab with Schema File Browser Button Added

Oracle Business Rules Rule Author has a file browser button that allows you to browse for a schema .xsd file to import XML fact types. From the Definitions tab, you can now import XML schema by either entering the path name for the schema, or by using the browser to select the schema file.

13.3.3 Supports XPATH Set to FALSE by Default for XML Schema Imported with JAXB

The default for "supports xpath" is set to false for ObjectFactory and the JAXB classes generated for elements of JAXB generated classes when a schema is imported.

13.3.4 Support for Inline Editing for Variable Values

In the 10.1.3.4 release of Oracle Business Rules Rule Author, the Variable Summary page supports inline editing for variable values, as shown in [Figure 13-1](#).

Figure 13-1 Variable Summary Page with Editable Value

Variable Summary

Select All | Select None

Select	Name	Alias	Type	Value	Edit
☐	DM.standardisationExaminers	standardisationExaminers	long	33626	
☐	DM.financeDept	financeDept	String	"Finance"	
☐	DM.subjectAdminDept	subjectAdminDept	String	"Subj Admin"	
☐	DM.processingDept	processingDept	String	"Processing"	
☐	DM.authorisedMsg	authorisedMsg	String	"Authorised"	
☐	DM.standardisationModerators	standardisationModerators	long	33621	
☐	DM.Senior	Senior	String	"Seniora"	

This figure shows the Rule Author Variable Summary Page that allows you to edit variable values.

Oracle WebCenter Suite

This chapter describes issues associated with Oracle WebCenter Suite. It includes the following topics:

- [Section 14.1, "Rerunning a Page that Uses Oracle WebCenter Adapter for EMC Documentum"](#)
- [Section 14.2, "Running the Predeployment Tool from a Root Directory"](#)
- [Section 14.3, "Upgrading a Custom OC4J"](#)
- [Section 14.4, "New Features"](#)

14.1 Rerunning a Page that Uses Oracle WebCenter Adapter for EMC Documentum

Without stopping the embedded OC4J, if you rerun a page that uses the Oracle WebCenter adapter for EMC Documentum, then the **JBO-29000: Unexpected exception caught: java.lang.UnsatisfiedLinkError, msg=Native Library exception** occurs.

This is a known issue.

As a workaround, stop the embedded OC4J before rerunning such a page within Oracle JDeveloper.

14.2 Running the Predeployment Tool from a Root Directory

On Windows, the predeployment might fail with the following error:

```
Processing connections.xml
javax.naming.NamingException [Root exception is
oracle.adf.share.security.CredentialNotFoundException: Unable to locate the
credential for key ...
```

This is a known issue.

As a workaround, ensure that when you run the predeployment tool your current directory is not a root directory, such as C:\ or D:\. Invoke the predeployment tool from a non-root directory, such as C:\TEMP, and rerun the predeployment tool.

14.3 Upgrading a Custom OC4J

Documents are missing `oracle.ws.jaxrpc` in custom OC4J implementations.

This is a known issue.

As a workaround, after the `adfinstaller` has been run, edit the `server.xml` file of the custom OC4J and add the following line in the `adf.oracle.domain` definition.

```
<import-shared-library name="oracle.ws.jaxrpc"/> to adf.oracle.domain
```

14.4 New Features

This section describes the 10.1.3.4 new features documented in the *Oracle WebCenter Framework Developer's Guide*. This section includes the following topics:

- [Section 14.4.1, "Oracle Content Server-Based Data Control"](#)
- [Section 14.4.2, "Discussion Forums"](#)

14.4.1 Oracle Content Server-Based Data Control

Oracle WebCenter Framework now lets you integrate content from the Oracle Content Server repository. For information, see Section 5.2.6, "Configuring a Content Data Control Based on Oracle Content Server".

14.4.2 Discussion Forums

The "Integrating Oracle WebCenter Discussions" chapter has been rewritten, in particular, section 7.2.2, "How to Configure SSO with Your Oracle WebCenter Discussions Application and Portlet".

Oracle Content DB Issues

This chapter describes issues associated with Oracle Content DB. It includes the following topics:

- [Section 15.1, "Oracle Content DB Web Folders not Supported \(Vista and Windows 2008\)"](#)

15.1 Oracle Content DB Web Folders not Supported (Vista and Windows 2008)

The Web Folders feature in Oracle Content DB is not supported on Microsoft Vista and Windows 2008 systems.

