

Oracle® SOA Suite

Installation Guide for IBM WebSphere Application Server
10g Release 3 (10.1.3.3) for UNIX and Microsoft Windows
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Oracle SOA Suite Installation Guide for IBM WebSphere Application Server, 10g Release 3 (10.1.3.3) for UNIX and Microsoft Windows

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Preface

This guide is the primary source of installation information for Oracle BPEL Process Manager.

This preface contains these topics:

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

Audience

Oracle SOA Suite for Non-Oracle Application Servers Installation Guide is intended for customers who want to install Oracle BPEL Process Manager.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. 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

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Related Documentation

For more information, see these Oracle resources:

- *Oracle Application Server Installation Guide* for your platform
- *Oracle Database Administrator's Guide*

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

If you already have a username and password for OTN, then you can go directly to the documentation section of the OTN Web site at

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

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.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Installing Oracle SOA Suite with the IBM WebSphere Application Server

This chapter provides the requirements and procedures for installing Oracle SOA Suite with IBM WebSphere Application Server (WebSphere).

This chapter contains the following topics:

- [Overview of Oracle SOA Suite](#)
- [System and Database Requirements](#)
- [Installation and Configuration](#)
- [Design-Time Deployment Support for SOA Suite 10.1.3.1 on WebSphere 6.1.0.3](#)
- [Postinstallation Configuration of WebSphere](#)
- [Postinstallation Verification Tasks](#)
- [Auto Loan Demo](#)
- [Limitations, Known Issues, and Troubleshooting Tips](#)

See Also: The following documents after completing installation:

- *Oracle BPEL Process Manager Quick Start Guide*
- *Oracle BPEL Process Manager Order Booking Tutorial*
- *Oracle BPEL Process Manager Developer's Guide*
- *Oracle Application Server Adapter for Files, FTP, Databases, and Enterprise Messaging User's Guide*
- *Oracle Application Server Adapter Concepts*

Overview of Oracle SOA Suite

You can install and use Oracle SOA Suite with WebSphere.

WebSphere enables you to set up, operate, and integrate e-business applications across multiple computing platforms using Web technologies. WebSphere includes both the run-time components and the tools to develop and design applications.

Oracle SOA Suite provides a complete set of service infrastructure components for designing, deploying, and managing composite applications. Oracle SOA Suite enables services to be created, managed, and orchestrated into composite applications and business processes. Composites enable you to easily assemble multiple technology components into one SOA composite application. Oracle SOA Suite plugs into heterogeneous IT infrastructures and enables enterprises to incrementally adopt SOA.

Oracle Business Rules (Business Rules) and Oracle Adapters plug into the Service Infrastructure, a normalized transport infrastructure, make up the Enterprise Service Bus (ESB). With the addition of Oracle BPEL Process Manager (BPEL) and Human Task service components, the suite forms a complete Business Process Management (BPM) platform.

The following components comprise Oracle SOA Suite:

- Oracle Enterprise Service Bus (ESB)
- Oracle BPEL Process Manager (BPEL)
- Human Task
- Oracle Web Services Manager (OWSM)
- Oracle Business Rules

Oracle BPEL Console is the monitoring environment for Oracle BPEL Process Manager. You can run, manage, and test your deployed BPEL process using the Oracle BPEL Console. Oracle BPEL Console provides a Web-based interface for management, administration, and debugging of processes deployed to Oracle BPEL Server.

The installation of Oracle SOA Suite for WebSphere consists broadly of the following steps:

- Create the Oracle SOA Suite schema in the Oracle Database.
This step involves installation of the Oracle Database and creation of the required database schemas for BPEL, ESB, and OWSM.
- Install Oracle SOA Suite 10.1.3.1 for OC4J.
This comes with an embedded OC4J J2EE container. Further steps will configure this Oracle SOA Suite to work on top of WebSphere.
- Apply SOA Suite Patchset 10.1.3.3 on Oracle SOA Suite 10.1.3.1.
This patchset upgrades the existing 10.1.3.1.0 installation to 10.1.3.3.0.
- Configure Oracle SOA Suite on WebSphere Version 6.1.
This step involves running a command-based script, which will configure the Oracle SOA Suite installed earlier to run on WebSphere. The script performs the following:
 - Creates application server - oracleSOAServer.
 - Configures the oracleSOAServer shared libraries with Oracle SOA Suite Binaries.
 - Creates and configures the required data sources/JMS resources.
 - Deploys the required J2EE applications for BPEL Console, BPEL Administration, Human WorkFlow, ESB, OWSM, and Business Rules.

The above steps, which are further detailed in [Section , "Installation and Configuration"](#), summarize the installation and configuration of Oracle SOA Suite on WebSphere 6.1 platform.

System and Database Requirements

[Table 1–1](#) describes the system requirements for using Oracle SOA Suite with WebSphere.

Table 1–1 Oracle SOA Suite System Requirements

Element	Requirement
IBM WebSphere Application Server	Version 6.1.0.3 Network Deployment with fix packs PK33090 Note: The Interim Fix pack - IFPK33090 is used to resolve a WebSphere Bug related to ServletFilters. A Web Container custom property needs to be set for this bug fix to take effect. This step has been detailed in Step 14 of Section 3 of the Installation guide. Fix Pack 3: http://www-1.ibm.com/support/docview.wss?rs=180&uid=swg27004980#ver61 Interim Fix Pack IFPK33090: http://www-1.ibm.com/support/docview.wss?uid=swg24014758
Oracle SOA Suite for OC4J	Apply SOA Suite patchset 10.1.3.3 on SOA Suite 10.1.3.1 Note: Refer to Step 2: Install Oracle SOA Suite Basic 10.1.3.1.0 for OC4J for installing Oracle SOA Suite for OC4J.
Web browsers	Internet Explorer 6.0 or Mozilla Firefox 2.0
Operating systems	Microsoft Windows XP, Microsoft Windows 2003, Red Hat Enterprise Linux release 3, and Red Hat Enterprise Linux release 4 Note: See the IBM Web site for additional details about using these operating systems with the WebSphere.
Dehydration store database	Oracle Database 10g (10.2.0.2) or higher Note: This certification matrix reflects the Oracle SOA Suite certification on Oracle Application Server, and may vary with the application server being used. Confirm the certification matrix of the application server with Oracle Database version.

Installation and Configuration

This section describes the steps involved in installing and configuring the Oracle Database, creating a schema in the database, and installing and configuring WebSphere.

This section contains the following topics:

- [Step 1: Configure the Oracle Database](#)
- [Step 2: Install Oracle SOA Suite Basic 10.1.3.1.0 for OC4J](#)
- [Step 3: Create the Oracle SOA Suite Schema in the Oracle Database](#)
- [Step 4: Apply SOA Suite Patchset 10.1.3.3](#)
- [Step 5: Install and Configure WebSphere Version 6.1.0](#)

Note: On Windows, Oracle Database Lite is automatically installed with Oracle SOA Suite for Developers Basic install type described in this chapter. However, you *cannot* use Oracle Database Lite as the dehydration store.

Step 1: Configure the Oracle Database

Follow these instructions to install Oracle Database 10g.

Note: These instructions assume that you have obtained Oracle Database 10g version 10.1.0.2 and Oracle Database 10g Patch version 10.1.0.5.

For all other Database versions, refer to <http://www.oracle.com/technology/documentation/index.html>.

1. Install Oracle Database 10g 10.1.0.2.
2. Open SQL*Plus and log in as a user with the SYSDBA privilege.
3. Shut down the database:

```
SQL> SHUTDOWN IMMEDIATE
```

4. Install the Oracle Database 10g 10.1.0.5 patch in the same Oracle home in which you installed Oracle Database 10g.
5. If using Linux only, then log in as the root user and run the following command from the operating system command prompt:

```
/etc/init.d/init.cssd stop
```

6. Start the database in upgrade mode in SQL*Plus:

```
SQL> STARTUP UPGRADE
```

7. Run the following script:

```
SQL> @ORACLE_HOME/rdbms/admin/catpatch.sql;
```

8. Shut down the database:

```
SQL> SHUTDOWN IMMEDIATE
```

9. Restart the database:

```
SQL> STARTUP
```

10. Run the following script:

```
SQL> @ORACLE_HOME/rdbms/admin/utlrbp.sql;
```

Step 2: Install Oracle SOA Suite Basic 10.1.3.1.0 for OC4J

The install instructions to install basic Oracle SOA Suite 10.1.3.1 for OC4J is available in the Oracle SOA Suite 10g Software Downloads Web site at

<http://www.oracle.com/technology/software/tech/soa/index.html>

You need to install Oracle SOA Suite into the same directory outside of WebSphere. The WebSphere installation will refer to binaries and property files from this installation. This external installation will need to be there permanently, it is not a temporary staging area. Even though it also contains OC4J, you will not be starting and stopping it. This is an important prerequisite prior to the WAS install.

Note: In this step, you are required to install only the basic installation of Oracle SOA Suite 10.1.3.1, and not the advanced.

WARNING: Do not start Oracle SOA Server from the Windows Start Menu or by running the `opmnctl startall` script. These actions are not supported.

Step 3: Create the Oracle SOA Suite Schema in the Oracle Database

Note: The scripts to configure Oracle SOA Suite on WebSphere require that the `JAVA_HOME` environment parameter be set prior to running the script.

1. Navigate to the `Disk1\install\soa_schemas\irca` folder in the Oracle SOA Suite installation setup files directory.
2. Set `ORACLE_HOME` to point to the Oracle Database installation location. For example,

```
set ORACLE_HOME=c:\Oracle10g
```
3. Enter `irca`.
This runs the `irca` script to create the schemas required for BPEL, ESB, and OWSM.
4. Enter `sys` password when prompted.
The `orabpel`, `oraesb`, and `orawsm` schemas are loaded into the Oracle Database.

Step 4: Apply SOA Suite Patchset 10.1.3.3

You need to download the Oracle SOA Suite patchset 10.1.3.3 from *OracleMetaLink* and then apply the patchset on Oracle SOA Suite 10.1.3.1. Perform the following steps:

1. Log in to *OracleMetaLink* at <http://metalink.oracle.com>. The *OracleMetaLink* home page is displayed.
2. Click **Patches & Updates**. The Patches & Updates page is displayed.
3. Click **Simple Search**.
4. In the **Search By** field, enter 6148874. The details of the patchset 6148874 are displayed.
5. Follow the instructions in the patchset to install the patchset on Oracle SOA Suite 10.1.3.1.

Caution: You should not start/restart the Oracle SOA Suite instance after applying the patch.

Step 5: Install and Configure WebSphere Version 6.1.0

Note: These instructions assume that you have obtained WebSphere version 6.1.0 and version 6.1.0.3 upgrade software.

1. Install WebSphere Network Deployment (ND) version 6.1.0. If installing on Windows, then ensure that you have administrative privileges.

Note: If installing on Linux, then WebSphere should be installed as the root user.

2. Upgrade WebSphere ND to version 6.1.0.3 by downloading and applying the following fix pack from WebSphere Supplements:
 - Fixpack3 PK33090 (IFIX330906023) on 6.1.0 ND using the UpdateInstaller
3. Download Oracle SOA Suite 10.1.3.3 for WebSphere (6.1.0.3) available from the Application Server 10g Release 3 (10.1.3.x) Downloads Web site at <http://www.oracle.com/technology/software/products/ias/htdocs/101310.html> and unzip to the `Installables` folder.

Note:

- The directory to which you download the Oracle SOA Suite should be the same host on which WebSphere ND is installed.
 - Unzip the `Installables` folder as a non-root user (same user as was used to install Oracle SOA Suite 10.1.3.1.0 for OC4J). For example, `Oracle`.
-

4. Start Nodeagent as follows:

For...	Run...
Windows XP	<code>WAS_HOME\profiles\<profilename>\bin\startNode.bat</profilename></code>
Linux	<code>WAS_HOME/profiles/<ProfileName>/bin/startNode.sh</code>

5. Modify the following mandatory installation properties in the `Installables\cfg\constants.properties` file:

Note: Mandatory properties cannot have a `<comment>` tag or contain blank values. Failure to follow this requirement results in errors during installation. Also, ensure that you enter the appropriate information for each of the fields. Any typo will cause errors during installation.

The `constants.properties` file must not contain any forward or backward slashes. Also, there should be no space before and after `"=`".

Property	Description
WAS_HOME	The directory path in which WebSphere is installed.
CELL_NAME	Name of the WebSphere Cell (<host>Node01Cell).
NODE_NAME	Name of the WebSphere Node (<host>Node01).
PROFILE_NAME	Name of the Profile (AppSrv01 by default).
SOA_HOME	The directory path in which Oracle SOA Suite is installed.
SERVER_NAME	The name of the WebSphere instance that runs Oracle SOA Suite. The default value is <code>oracleSOAServer</code> , but this can be any valid name.
SOA_DS.DRIVERTYPE	The JDBC driver type (thick or thin).
SOA_DS.HOSTNAME	The name or IP address of the host on which Oracle Database 10g is installed.
SOA_DS.PORTNUMBER	The port number of the host on which Oracle Database 10g is installed.
SOA_DS.SID	The service name of Oracle Database 10g.
BPEL.JAASAUTHUSERID	The user name for accessing the BPEL schema.
BPEL.JASAUTHPASSWORD	The password of the user name for accessing the BPEL schema.
ESB.JAASAUTHUSERID	The user name for accessing the ESB schema.
ESB.JASAUTHPASSWORD	The password of the user name for accessing the ESB schema.
AQ.JAASAUTHUSERID	The user name for accessing the AQ schema that is similar to the ESB schema.
AQ.JASAUTHPASSWORD	The password of the user name for accessing the AQ schema that is similar to the ESB schema.
VHPORTS1	The virtual host or HTTP port number.
VHPORTS2	The virtual host or HTTP port number.
VHPORTS1 - DEFAULT PORT	The default port on which the Oracle SOA Suite will run.

6. If you want to use the following optional properties, remove the <comment> tag from the properties, and then specify values.

Note: Optional properties have the <comment> tag, by default. If you remove the <comment> tag for these properties, then they cannot contain blank values. Change the default values for the four properties. Failure to follow this requirement results in errors during installation.

Property	Description
PROXYSET	Indicates whether a proxy server is being used (<code>true</code> or <code>false</code>).
PROXYHOST	The name or IP address of the host on which the proxy server is installed.
PROXYPORT	The port your host uses to access the proxy server.

Property	Description
NONPROXYHOSTS	The addresses for which the proxy server must be bypassed.
CLUSTER_NAME	Name of the WebSphere cluster for hosting BPEL Server.

7. Run the following script at the operating system command prompt:

For...	Run...
Windows XP	configureSOA.bat
Linux	configureSOA.sh as root user (WebSphere Install user)" copyFiles.sh install as non-root Oracle SOA Suite Install user
AIX/Solaris	configureSOA.sh as root user (WebSphere Install user) copyFiles.sh install as non-root Oracle SOA Suite Install user

This creates Oracle SOA Server on WebSphere and configures the required applications, database connections, and adapters.

Installation progress is logged to the *Installables\bin\logs\output.log* file.

Note:

- Refer to [Section , "Limitations, Known Issues, and Troubleshooting Tips"](#) for non root Installations of WebSphere
 - Ensure that JAVA_HOME is set to WebSphere Java. For example,
set JAVA_
HOME=C:/Progra~1/IBM/WebSphere/AppServer/java
-
-

8. To change the database pointed to by the OWSM application, run *irca* and then run the following command:

For...	Run...
Windows	configureOWSMDB.bat
Linux	configureOWSMDB.sh as oracle user

This script configures the required property files and seeds data into the database.

Note: Run *irca* against the schema before running this script. Also ensure that the OWSM schema does not contain any seeded data.

9. Stop and Start the NodeAgent after the script run is completed.
10. From IBM Admin console, add Webcontainer custom property "com.ibm.ws.webcontainer.invokefilterscompatibility=true". To access Custom Properties, navigate to Servers > Application Servers > oracleSOAServer > Web Container Settings > Web Container > Custom Properties.

Note: This is required for the domain filter bug fix in WebSphere.

11. Start **Oracle BPEL Server** from Servers > Application Servers, select `oracleSOAServer`, Start (represented by the name **oracleSOAServer**) by following the startup instructions in the WebSphere administration documentation.

Note: Do *not* start Oracle SOA Server from the Windows Start Menu or by running the `opmnctl startall` script. These actions are not supported.

Design-Time Deployment Support for SOA Suite 10.1.3.1 on WebSphere 6.1.0.3

This section describes the various design-time support functions available on WebSphere 6.1.0.3, for the deployment of J2EE applications in JDeveloper. You can deploy Oracle SOA Suite components on WebSphere 6.1.0.3 by using the following methods:

- [From the BPEL PM Developer Prompt Using Ant](#)
- [From JDeveloper](#)

From the BPEL PM Developer Prompt Using Ant

You can use `ant` in the BPEL PM developer prompt to deploy J2EE applications. This section contains the following topics:

- [Prerequisite Checks](#)
- [Steps to Deploy Using the BPEL PM Prompt](#)

Prerequisite Checks

1. Ensure that `bpelPlatform` is set to **WebSphere_5** in the `ORACLE_HOME\bpel\system\config\collaxa-config.xml` file.
2. Ensure that `platform` is set to **WebSphere_5** in the `ORACLE_HOME\bpel\utilities\ant-orabpel.properties` file.
3. The `admin.user` property and `admin.password` property should point to a valid LDAP user if security is ON in the `ORACLE_HOME\bpel\utilities\ant-orabpel.properties` file.

Note: If the `admin.user` property is not set correctly, then the deployment may throw authentication errors.

Steps to Deploy Using the BPEL PM Prompt

Follow these instructions to deploy BPEL PM processes from the developer prompt using `ant`:

1. Select **Start, All Programs, <Oracle_HOME>, Oracle BPEL Process Manager, Developer Prompt** to open a BPEL PM Developer prompt.
2. Run `ant .sh/bat`. This runs the `build.xml` of the BPEL application and performs the following steps:

- a. Compiles and deploys the BPEL process to BPEL PM.
 - b. Compiles and generates Workflow form WAR files in `public_html` within the BPEL application directory, but does not deploy on WebSphere.
 - c. Compiles and generates UI application WAR files (if any) in the `bpel\system\appserver\oc4j\j2ee\home\applications` directory, but does not deploy on WebSphere.
 - d. Compiles and generates Decision Service (Business Rules) application EAR files in the `decisionservices` folder within the BPEL application directory, but does not deploy on WebSphere.
3. Manually deploy the Workflow form and DecisionService Applications into `OracleSOAServer` in WebSphere (Using IBM Integration Console).

Note: Refer to [Auto Loan Demo](#) for more details.

From JDeveloper

You can also deploy J2EE applications from JDeveloper. This section contains the following topics:

- [Prerequisite Checks](#)
- [Steps to Deploy Using JDeveloper](#)

Prerequisite Checks

1. Download JDeveloper Studio 10.1.3.1 (`jdevstudio10131.zip`) from
For Windows -
<http://www.oracle.com/technology/software/products/jdev/htdocs/soft10131.html>.
2. Ensure that `bpelPlatform` is set to **WebSphere_5** in the `ORACLE_HOME\bpel\system\config\collaxa-config.xml` file.
3. Ensure that `platform` is set to **WebSphere_5** in the `ORACLE_HOME\bpel\utilities\ant-orabpel.properties` file.
4. Copy `bpm-services.jar` from
`Installables\bpel\system\services\lib` to `<jdev_home>\integration\lib`.

Note: The `bpm-services.jar` contains changes to `java-wsdl-mapping` and `DecisionServiceInfoTemplate`, which are required for `DecisionServices` to run on WebSphere.

5. The `admin.user` property and `admin.password` property should point to a valid LDAP user if security is ON in the `bpel\utilities\ant-orabpel.properties` file.

Creating Connections to Oracle SOA Server

Follow the steps below to create an application server connection and an integration server connection:

1. Create an application server connection of the Standalone OC4J 10.1.3 type.

- Choose OC4J standalone as server type as there is no plugin available for WebSphere
 - Ignore errors when testing this connection. This is due to OPMN absent on WebSphere
2. Create an Integration Server connection to **hostname:<default_port>**. The default port is as mentioned in the `constants.properties` file.
 - Choose the above-created AppServer connection
 - BPEL and ESB should pass when this connection is tested.

Steps to Deploy Using JDeveloper

Follow these instructions to deploy BPEL PM from the developer prompt using JDeveloper:

1. Select **Start, All Programs, <Oracle_Home>, Oracle BPEL Process Manager, Developer Prompt** to open Developer Prompt.
2. From JDeveloper, right-click and deploy the BPEL application into the required domain. This runs the `build.xml` file of the BPEL application and performs the following steps:
 - a. Compiles and deploys the BPEL process to BPEL PM.
 - b. Compiles and generates Workflow form WAR files in `public_html` within the BPEL application directory but does not deploy on WebSphere.
 - c. Compiles and generates UI application EAR files (if any) in the `bpel\system\appserver\oc4j\j2ee\home\applications` directory but does not deploy on WebSphere.
 - d. Compiles and generates Decision Service (Business Rules) application EAR files in the `decisionservices` folder within the BPEL application directory but does not deploy on WebSphere.

Note: This EAR file contains an `application.xml` file and you need to add the `application_1_3.dtd` file. Also, include the `web-app_2_3.dtd` file into `web.xml` file of `workflowform.war`, which is under `default_OrderApproval_1_0_OrderApproval.war`. The `web.xml` file includes a `<description>` tag. This tag is not supported by WebSphere and may lead to deployment errors. To avoid this issue, manually remove the `<description>` tag from the `web.xml` file before deploying into WebSphere.

Oracle is working to provide a fix in a future patch, which will be available from [OracleMetaLink](#).

In the `web.xml` file, WebSphere would expect the `<security-role>` tag to come after the `<mime-mapping>` tag.

3. To deploy an ESB Services project, right-click and select **Register with ESB** to the required Integration Server Connection.
4. Manually deploy the Workflow form and DecisionService Applications into OracleSOAServer in WebSphere (Using IBM Integration Console).

Postinstallation Configuration of WebSphere

You can perform the following postinstallation steps for configuring IBM WebSphere Application Server:

- [Using High Availability](#)

Using High Availability

Refer to [Appendix A, "Configuring BPELPM on WebSphere for Multiple Federated Nodes"](#).

Postinstallation Verification Tasks

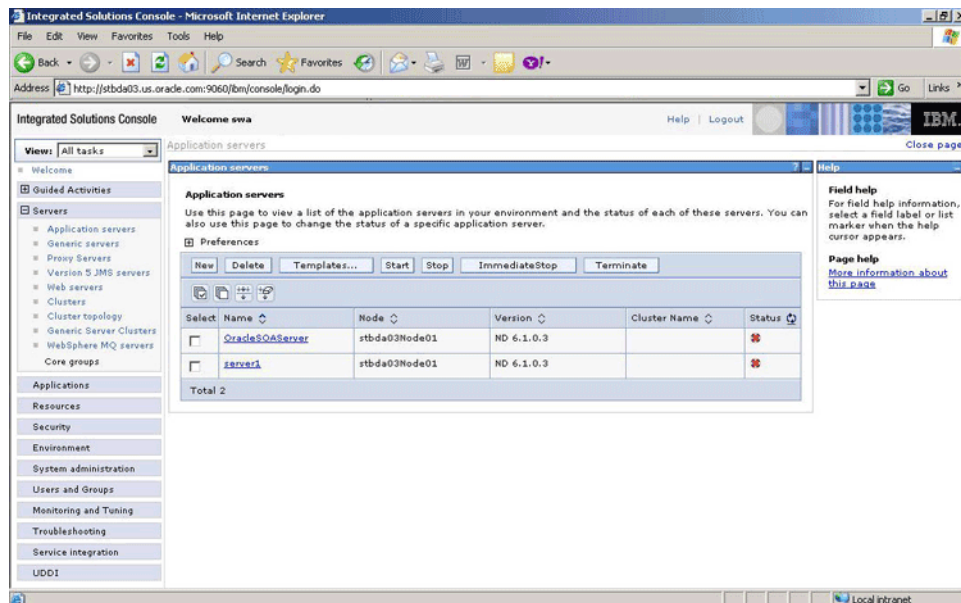
This section describes the postinstallation verification tasks to be performed, and it contains the following topics:

- [Verifying Installation from the WebSphere Console](#)
- [Verifying BPEL, ESB, OWSM Consoles](#)
- [Verifying the SelectAllByTitle Sample for the Database Adapter](#)
- [Verifying the OrderBooking Tutorial Sample](#)
- [Running Adapter Samples](#)

Verifying Installation from the WebSphere Console

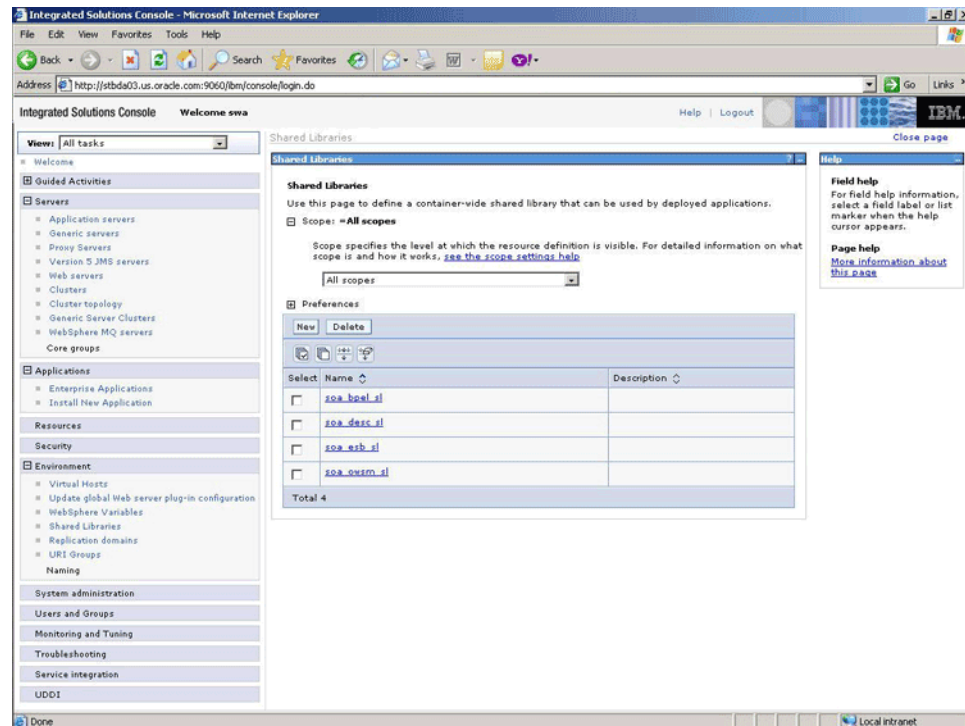
1. Log in to the WebSphere console and verify that **oracleSOAServer** is installed under **Servers, Application Servers**, as shown in [Figure 1-1](#).

Figure 1-1 IBM WebSphere Console Window - Application Servers Page



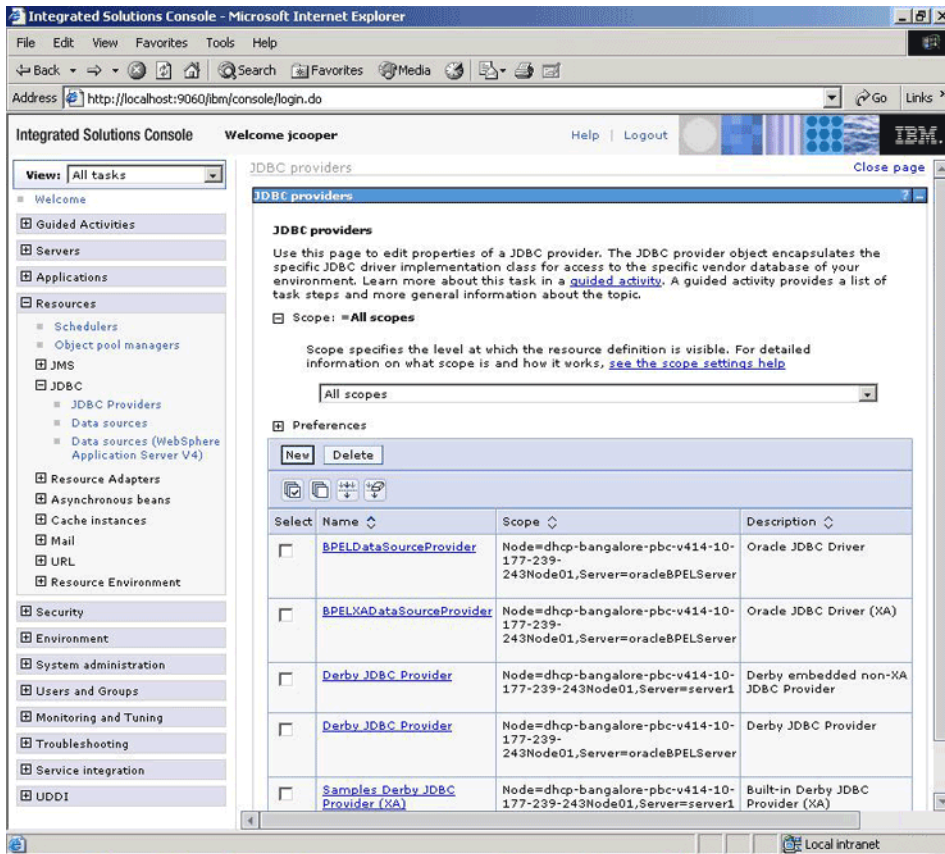
2. Verify that the `soa_bpel_sl`, `soa_esb_sl`, `soa_desc_sl`, and `soa_owsm_sl` shared libraries have been created under **Environment, Shared Libraries**, as shown in [Figure 1-2](#).

Figure 1–2 IBM WebSphere Console Window - Application Servers Page - Shared Libraries Page



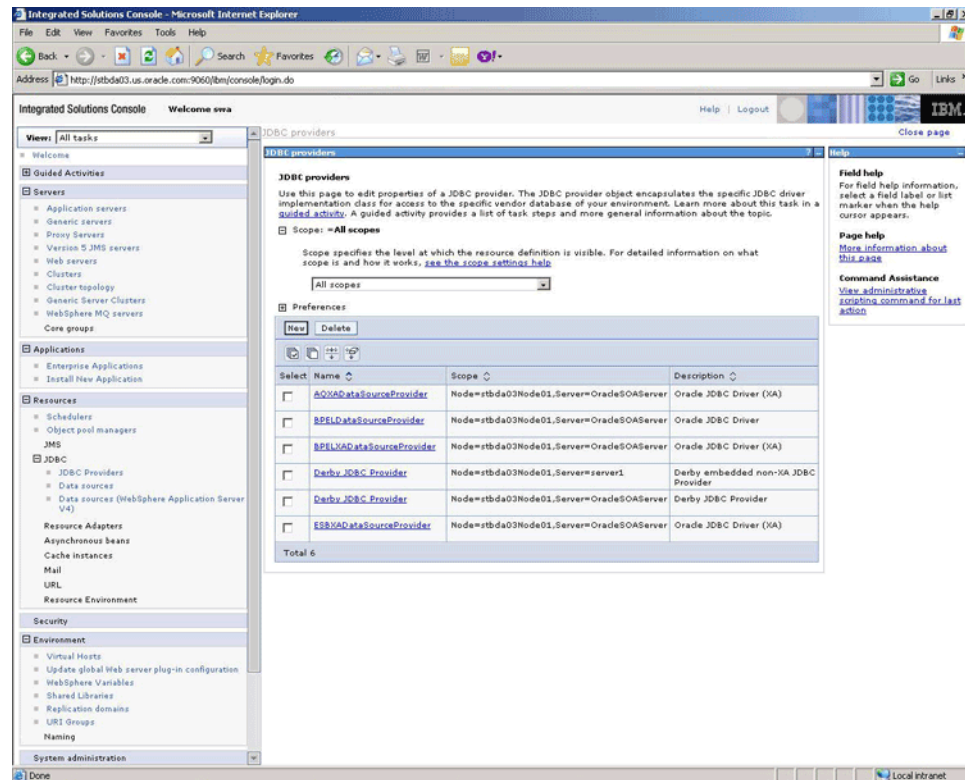
3. Verify that BPELDataSourceProvider, BPELXDataSourceProvider, AQXDataSourceProvider, and ESBXDataSourceProvider under Resources, JDBC, JDBC Providers, as shown in Figure 1–3.

Figure 1-3 IBM WebSphere Console Window - JDBC Providers Page



4. Test the database connectivity of the created data sources under **Resources, JDBC, Data Sources**, as shown in [Figure 1-4](#).

Figure 1-4 IBM WebSphere Console Window - Data Sources Page



Verifying BPEL, ESB, OWSM Consoles

Perform the following steps to check if the BPEL, ESB, OWSM consoles have started:

1. Navigate to `http://localhost:<default_port>/BPELConsole/` or to the location where the software is installed, for example, `http://<machine-name>:<default_port>/BPELConsole/`. The BPEL Console is displayed, as shown in Figure 1-5.

Navigate to `http://localhost:<default_port>/esb/`. The ESB Console is displayed, as shown in Figure 1-6.

Navigate to `http://localhost:<default_port>/ccore/`. The OWSM Console is displayed, as shown in Figure 1-7.

Note: You can use the BPEL, ESB, OWSM log in windows only if the admin security is configured in WebSphere.

The `<default_port>` is defined in the `constants.properties` file.

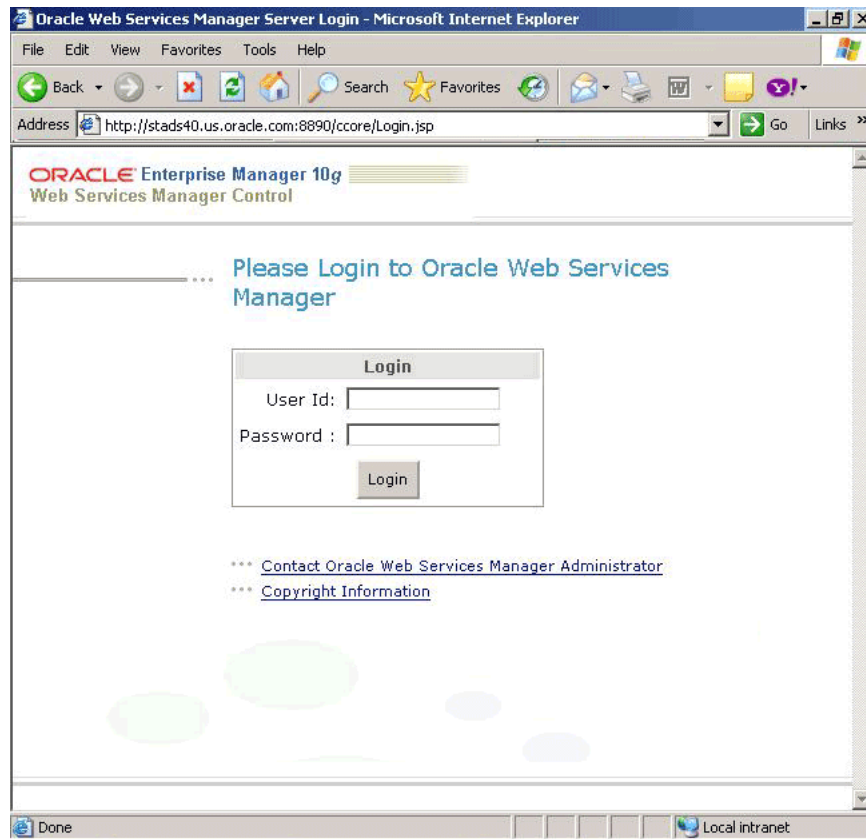
Figure 1–5 BPEL Console Window



Figure 1–6 ESB Console Window

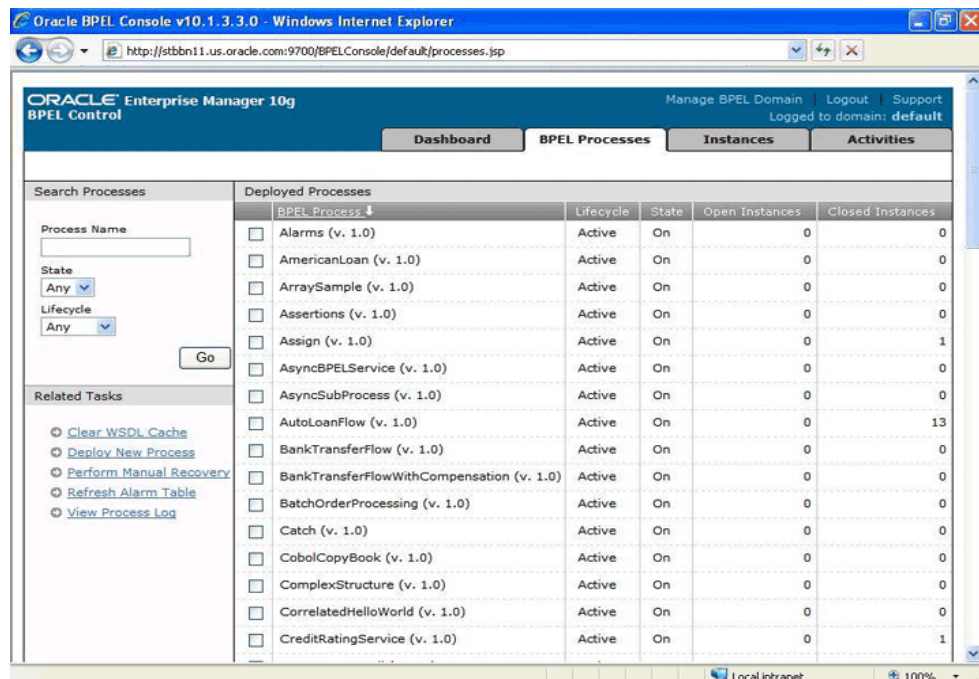


Figure 1–7 OWSM Console Window



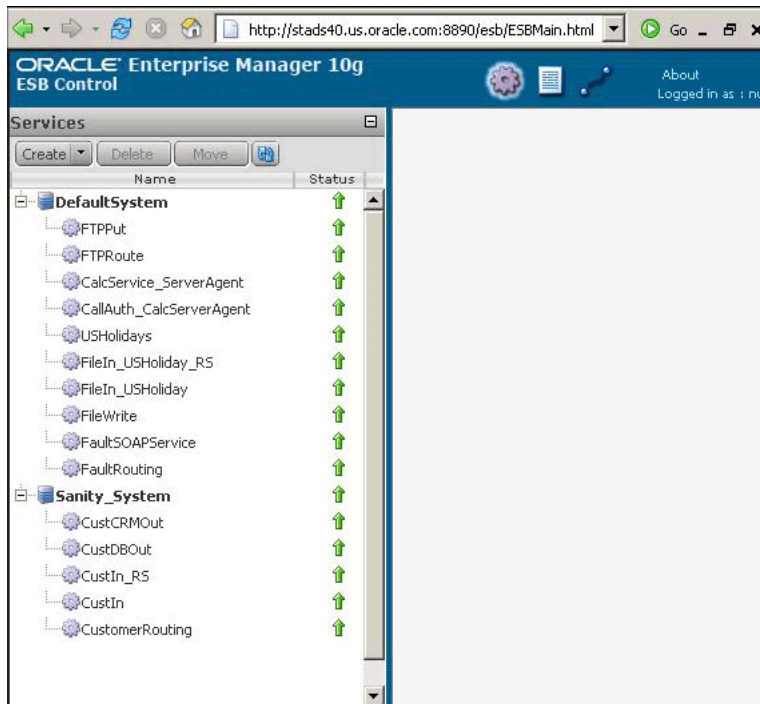
2. Log in to the BPEL Console using the username and password, the Oracle Enterprise Manager BPEL Control page is displayed, as shown in Figure 1–8.

Figure 1–8 Oracle Enterprise Manager BPEL Control



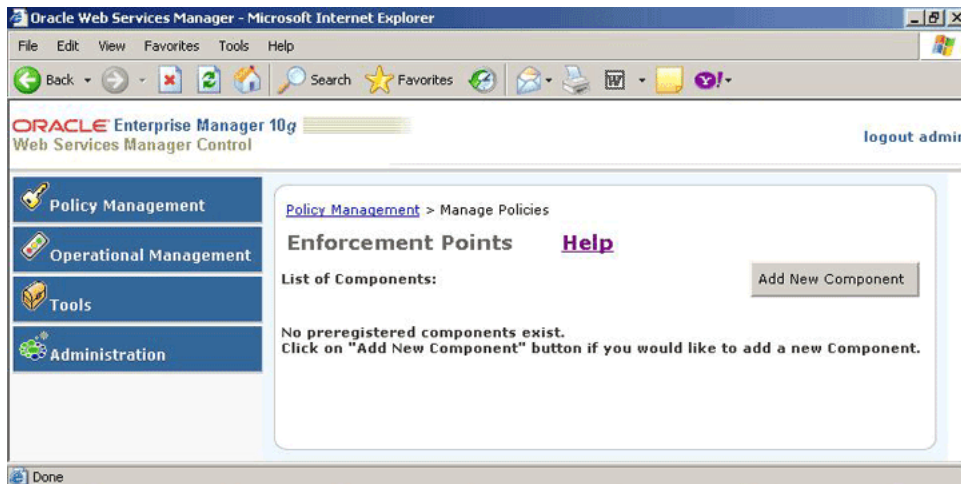
Log in to the ESB Console using the username and password, the Oracle Enterprise Manager ESB Control page is displayed, as shown in [Figure 1-9](#).

Figure 1-9 Oracle Enterprise Manager ESB Control



Log in to the OWSM Console using the username and password, the Oracle Enterprise Manager Web Services Manager Control page is displayed, as shown in [Figure 1-10](#).

Figure 1-10 Oracle Enterprise Manager OWSM Control



Verifying the SelectAllByTitle Sample for the Database Adapter

1. Log in to the database and start SQL*Plus.
2. Run the `setup.sql` script:


```
SQL> @Oracle_Home/samples/tutorials/122.DBAdapter/sql/setup.sql;
```

This script creates and populates the `movies` table in the database.

3. Point the database adapter to your database in the WebSphere Console under **Resources, Resource Adapters, DB Adapter, J2C Connection Factories, BPEL Samples, Custom Properties, Connection String**. Also, set the username and password.
4. Restart `oracleSOAServer`.
5. Select **Start, All Programs, Oracle - Oracle_Home, Oracle SOA Suite, Developer Prompt**.
6. Change to the following directory:


```
tutorials\122.DBAdapter>SelectAllByTitle
```
7. Run the following command:


```
ant
```

This compiles and deploys all projects dependent on this tutorial. Projects are deployed into `Oracle_Home\bpel\domains\domain_name\deploy`.
8. Select **Start, All Programs, Oracle - Oracle_Home, Oracle SOA Suite, BPEL Console**.
9. Click **SelectAllByTitle** in the **Deployed BPEL Processes** list.
10. Refer to the `MOVIES` table, and enter the movie title on the Initiate page. For example, 'The Aviator'.
11. Click **Post XML Message**.
12. View the results and inspect the instance.

Note: Refer to the Enterprise Service Bus Web site at

<http://www.oracle.com/technology/products/integration/esb/index.html> for ESB Samples. You can try and deploy the samples following the instructions in the samples.

Verifying the OrderBooking Tutorial Sample

The Web application DTD link in the `web.xml` files included with Oracle SOA Suite must be modified before deployment to WebSphere.

1. Search for the `web.xml` files in the `Oracle_Home\bpel\samples` directory.
2. Make the following change in each `web.xml` file related to the sample to run:

Change:

```
http://java.sun.com/j2ee/dtds/web-app_2_3.dtd
```

To:

```
http://java.sun.com/dtd/web-app_2_3.dtd
```

3. Select **Start, All Programs, Oracle - Oracle_Home, Oracle SOA Suite, Developer Prompt**.
4. Change directories to the following:

tutorials\127.OrderBookingTutorial

5. Start SQL*Plus and run the following script:

```
SQL> @PracticeFiles\insertTable.sql;
```

This creates the required sample tables in the database.

6. Change all the BPEL partner links in the bpel.xml files to update to the default port, as defined in the constants.properties file.
7. Run the following command:

```
ant
```

This compiles and deploys all projects dependent upon this tutorial. However, WAR files for CreateOrderBookingUI and SelectManufacturingUI must be manually deployed into WebSphere.

8. Change to the `<ORACLE_HOME>\j2ee\home\applications` directory.
9. Note the `CreateOrderBookingUI.war` file that was created when you ran `ant` in Step 7.
10. Change to the `OrderApproval\public_html\OrderApproval\form` directory.
11. Note the `default_OrderApproval_1_0_OrderApproval.war` file that was created when you ran `ant` in Step 7.
12. Select **Install Application** in the WebSphere Administrative console to deploy the war files to WebSphere.

Access the WebSphere Administrative console at the following URL:

```
http://hostname:9060/ibm/console
```

Note: For deploying the WAR files alone, you will have to supply the context root as follows:

- `CreateOrderBookingUI.war` `CreateOrderBookingUI`
-
-

13. Select **oracleSOAServer** as the deployment target.
14. Repeat Steps 9 through 13 for the war or ear file.
15. Restart **oracleSOAServer** from the IBM console.
16. Run the following OrderBooking Tutorial steps:
 - a. Initiate the process using `http://localhost:<default_port>/CreateOrderBookingUI` where `default_port` is as defined in the constants.properties file.
 - b. Open the console in audit or flow mode. Follow the steps that appear on the console and click task links to complete the task.
 - c. After the process moves beyond supplier selection, the human workflow is added, for manual user approval (or rejection). This process has a timeout of 5 minutes and defaults to order status is rejected. Follow this step by opening the worklist URL at

```
http://localhost:default_port/integration/worklistapp/Login
```

where `default_port` is as defined in the constants.properties file.

- d. Log in as jcooper/welcome, and you will be presented with a list of tasks. Acquire the task first, then view it, and approve or reject the task. Then, logout of the jcooper page.

Log in as jstein/welcome and you will be presented with a list of Approved tasks only. View it, and approve or reject it. Then, logout of the jstein page. This completes the human workflow part of the process. You can return to main process to audit the process.

- e. To run the process in batch mode with file read, copy the provided practice files\OrderBookingPO_*.xml in the \temp directory, and observe the batch process read the file and process it.

Running Adapter Samples

Ensure that the J2C connection factory properties shown in [Table 1-2](#) are modified.

Table 1-2 J2C Connection Factory Properties

Adapter Type	Properties
Database	<ul style="list-style-type: none"> ■ driverClassName ■ connectionString ■ username ■ password
FTP	<ul style="list-style-type: none"> ■ host ■ port <p>Note: A new authentication alias must be created for connecting to the FTP server.</p>
Applications	<ul style="list-style-type: none"> ■ connectionString ■ userName ■ password
AQ	<ul style="list-style-type: none"> ■ connectionString ■ userName ■ password
JMS	<ul style="list-style-type: none"> ■ connectionFactoryLocation ■ isTopic ■ isTransacted <p>Note: The <code>istopic</code> property must be set to <code>false</code> for queues. The <code>isTransacted</code> property must be set to <code>false</code> for the JMS samples to run.</p>
MQ	<ul style="list-style-type: none"> ■ channelName ■ portNumber ■ queueManagerName ■ hostName

Auto Loan Demo

This section describes how to run Auto Loan Demo on BPEL PM 10.1.3.3 on WebSphere 6.1. It contains these sections:

- [Prerequisites on JDeveloper Studio 10.1.3.3](#)

- [Auto Loan Demo Sample](#)
- [Modelling Auto Loan Flow Process Using JDeveloper Studio](#)
- [Known Issues on non-Oracle Platforms](#)
- [Deploying J2EE Applications on WebSphere](#)
- [Running the Sample](#)

Prerequisites on JDeveloper Studio 10.1.3.3

The following one-time changes should be performed on JDeveloper:

1. Replace the **bpm-services.jar** file within JDeveloper at `jdev\integration\lib` with the updated jar from `BPEL_HOME\system\services\lib`.
2. Replace the **orabpel-ant.jar** file within JDeveloper at `jdev\integration\lib` with the updated jar from `BPEL_HOME\lib`.
3. Modify the following properties in `jdev\integration\bpel\utilities\ant-orabpel.properties` file:
 - Platform to **websphere_5**
 - `admin.user` to a valid user in the WebSphere realm
 - `admin.password` to the password of the above mentioned user
 - `jndi.url` to **`iiop://<hostname>:<Boot_strap_port>`**

Note: The `Boot_strap_port` to use above can be obtained from IBM admin console under `oracleSOAServer -> Ports -> BOOTSTRAP_ADDRESS`.

- `jndi.InitialContextFactory` to **`com.ibm.websphere.naming.WsnInitialContextFactory`**
4. In JDeveloper, create an Application Server connection of type "Standalone OC4J 10.1.3".
 - Choose OC4J standalone as server type as there is no plugin available for WebSphere
 - Ignore errors when testing this connection. This is due to OPMN absent on WebSphere
 5. In JDeveloper, create an Integration Server connection to "`<hostname>:9700`"
 - Choose the above-created AppServer connection
 - BPEL and ESB should pass when this connection is tested.

Note: Ignore errors during test connection regarding Mediator at this stage.

Auto Loan Demo Sample

The Auto Loan Flow sample has the following components:

- BPEL Process: AutoLoanFlow BPEL Process `<bpel jar>`
- Decision Service Applications (Business Rules Applications)

- CreditRatingAgent <ear>
- LoanAdvisorAgent <ear>
- UI Application: AutoLoanFlowUI <ear>
- HWF Tform application: AutoLoanflow LoanApproval <ear>

Since the AutoLoanFlow sample that is bundled with BPEL PM standalone is written for OC4J Application Server, it cannot be run as is on WebSphere. Specifically, the Decision Service applications need to be regenerated for WebSphere platform, using JDeveloper, as the java-wsdl-mapping file needs WebSphere specific modifications.

The next section describes the steps to regenerate the Decision Services applications in Auto Loan Flow for WebSphere.

Modelling Auto Loan Flow Process Using JDeveloper Studio

Perform the following steps to modify the AutoLoanFlow sample for WebSphere:

1. Delete the following file from the filesystem:

```
BPEL_
HOME\samples\demos\AutoLoadDemo\AutoLoanFlow\bpel\decisionser
vices.decs
```

2. Open the AutoLoanFlow sample from JDeveloper Studio as a JDeveloper project using the following file:

```
BPEL_
HOME\samples\demos\AutoLoanDemo\AutoLoanFlow\AutoLoanFlow.jpr
```

3. Open the **AutoLoanFlow.bpel** file from the Applications Navigator (found within the AutoLoanFlow project).
4. From the Services swim lane of **AutoLoanFlow.bpel**, delete the following decision service partnerlinks:
 - CreditRatingAgent
 - LoanAdvisorAgent
5. Follow the steps II, III, IV, and V of "Modelling Auto Loan Broker Process" from *BPEL_HOME\samples\demos\AutoLoanDemo\AutoLoanBroker.pdf* to recreate the two Decision Service applications.

Known Issues on non-Oracle Platforms

The AutoLoanFlow BPEL process has two Decision Service applications as partnerlinks (CreditRatingAgent and LoanAdvisorAgent). By default, the context-root generated for both these J2EE applications are same with the value - /rules/\${domain_id}/\${process_id}/\${process_revision}.

The \${} attributes are replaced by actual values during the build and deploy of the Auto Loan Flow. However, as the context-root is not unique for these two applications, these cannot be deployed on WebSphere. When the second application is deployed/started on WebSphere it would complain that the context-root is already in use.

This is an issue on non-Oracle application servers when a BPEL Process references more than one Decision Service partnerlinks generated from JDeveloper Studio. As a workaround, after generating the Decision Service applications on JDeveloper and before doing a build and deploy, perform the following:

6. Modify the `AutoLoanFlow\decisionsservices\CreditRatingAgent\ear\META-INF\application.xml` file.

Change `<context-root>/rules/${domain_id}/${process_id}/${process_revision}</context-root>` to `<context-root>/rules/${domain_id}/${process_id}/${process_revision}/CreditRatingAgent</context-root>`

7. Modify the `AutoLoanFlow\decisionsservices\CreditRatingAgent\war\WEB-INF\web.xml` file.

Change `<url-pattern>CreditRatingAgent</url-pattern>` to `<url-pattern>/</url-pattern>`

8. Finally, build and deploy the Auto Loan Flow using the Integration Server connection. In the Application navigator, right-click `build.xml` under the `Resources` folder in the BPEL project, and select **Run Ant Target** and then **Deploy**.

This would automatically deploy the BPEL process into BPEL engine running at the Integration Server connection.

The following J2EE applications should be manually deployed into WebSphere using the WebSphere Admin console:

- `CreditRatingAgent.ear`
- `LoanAdvisorAgent.ear`
- `AutoLoanFlowUI.ear`
- `<domain>_AutoLoanFlow_<version>_LoanApproval.ear`

Deploying J2EE Applications on WebSphere

Perform the following steps to deploy the applications to WebSphere:

1. Start the WebSphere Administrative console at `http://<hostname>:<port>/ibm/console`.
2. Select **Install Enterprise Application**.
3. Navigate to the directory where the target ear file is located on the file system, and select the ear file.
4. In the Select Installation Options page, select the **Deploy Webservices** option.
5. On the Map Modules to Servers page, choose **oracleSOAServer** as the target server when installing the applications.
6. Complete deployment with other default values.
7. Start the deployed applications from list of deployments.

Running the Sample

When the process is deployed, perform the following steps to test the sample:

1. Open the AutoLoanFlow UI at `http://<hostname>:default_port/AutoLoanFlowUI` where `default_port` is as defined in the `constants.properties` file.
2. Click the **Initiate New BPEL Loan Flow** link.

3. Accept the default payload and click **Submit Loan Application**.
4. Log in to the worklist at `http://<hostname>:<default_port>/integration/worklistapp` using `jstein/welcome1` as the username and password. The `default_port` is defined in the `constants.properties` file.
5. Click the Task title (Loan Approval for Irving Stone).
6. Examine the task payload, the credit rating for that loan should be 500 with "Medium" risk and a Credit Max Amount of 50000.0.
The provider for the Loan Offer should be "Premium Bank" with an APR of 4.0
7. Approve the task.
8. Verify the AutoLoanFlow instance.

Limitations, Known Issues, and Troubleshooting Tips

This section describes the limitations, known issues, and troubleshooting tips for Oracle BPEL Process Manager 10.1.3.1 on WebSphere version 6.1.0.3.

Limitations

Note the following limitations:

- The BPEL Test page, which runs the JUnit test cases for the BPEL process, cannot run multiple concurrent instances. This is due to the fact that threads that are spawned from JSP pages are unable to access JNDI resources in WebSphere.
- EJB 3.0/ JPA
WebSphere 6.1.0.3 does not support EJB 3.0 and JPA. An upgrade to fixpack 6.1.0.9 and an additional feature pack for EJB 3.0 should be installed for running EJB3.0 applications.
- Java Web Services (JWS)
WebSphere 6.1.0.3 does not support Annotated JWS. An upgrade to fixpack 6.1.0.9 and an additional feature pack for JWS should be installed for running JWS applications.
- SOA OrderBooking on WebSphere
The JWS application within SOA Order Booking Tutorial fails to deploy on WebSphere even after the required upgrades and feature packs are applied. This is due to the bug mentioned at the following link in [bugs.eclipse.org](https://bugs.eclipse.org/bugs/show_bug.cgi?id=112835):
`https://bugs.eclipse.org/bugs/show_bug.cgi?id=112835`
- ESB Resubmission API
Resubmission of ESB instances from an external client using the Resubmission API fails with the following error:
`Error code="1617" severity="5" - "java.sql.SQLException: enlist:`
The same can be resubmitted from the ESB Console.
- J2C Connections
Different J2C Connection Factories needs to be configured for BPELPM and ESB `jca:endpoints`, since the same adapters are used by BPELPM processes and ESB services.

Known Issues

Note the following known issues:

- The following exception occurs in the SystemOut.log file when starting BPEL processes:

```
"javax.ejb.RemoveException: com.ibm.ejs.container.BeanNotReentrantException:
METHOD_READY: Tx != null"
```

This can be ignored because it does not affect any functionality.

- The following error might be encountered while starting/stopping the SOAServer, these are benign error. These errors can be ignored safely.

```
(Error No. 1) javax.naming.ConfigurationException [Root exception is
javax.naming.NameNotFoundException: Name comp/env/ejb not found in context
"java:".]
    at
com.ibm.ws.naming.java.javaURLContextImpl.throwConfigurationExceptionWithDefaultJavaNS(javaURLContextImpl.java:411)
    at
com.ibm.ws.naming.java.javaURLContextImpl.lookup(javaURLContextImpl.java:388)
    at
com.ibm.ws.naming.java.javaURLContextRoot.lookup(javaURLContextRoot.java:204)
    at
com.ibm.ws.naming.java.javaURLContextRoot.lookup(javaURLContextRoot.java:144)
    at javax.naming.InitialContext.lookup(InitialContext.java:363)
    ...
=====
(Error No. 2 ) java.lang.NullPointerException
    at org.apache.jsp._ErrorPage._jspService(_ErrorPage.java:482)
    at
com.ibm.ws.webcontainer.jsp.runtime.HttpJspBase.service(HttpJspBase.java:102)
    at javax.servlet.http.HttpServlet.service(HttpServlet.java:856)
    at
com.ibm.ws.webcontainer.servlet.ServletWrapper.service(ServletWrapper.java:989)
    at
com.ibm.ws.webcontainer.servlet.ServletWrapper.service(ServletWrapper.java:930)
    at
com.ibm.ws.webcontainer.filter.WebAppFilterChain.doFilter(WebAppFilterChain.java:118)
    at com.ibm.ws.webcontainer.filter.WebAppFilterChain._
doFilter(WebAppFilterChain.java:87)
    at
com.ibm.ws.webcontainer.filter.WebAppFilterManager.doFilter(WebAppFilterManager
.java:761)
    at
com.ibm.ws.webcontainer.filter.WebAppFilterManager.doFilter(WebAppFilterManager
.java:673)
    at
com.ibm.ws.webcontainer.servlet.ServletWrapper.handleRequest(ServletWrapper.java:498)
    at
com.ibm.ws.webcontainer.servlet.ServletWrapper.handleRequest(ServletWrapper.java:464)
    at
com.ibm.ws.webcontainer.webapp.WebAppRequestDispatcher.forward(WebAppRequestDispatcher.java:308)
    at com.ibm.ws.webcontainer.webapp.WebApp.sendError(WebApp.java:2720)
    at
com.ibm.ws.webcontainer.servlet.CacheServletWrapper.handleRequest(CacheServletW
```



```

rapper.java:111)
    at com.ibm.ws.webcontainer.WebContainer.handleRequest(WebContainer.java:744)
    at
com.ibm.ws.wshebcontainer.WebContainer.handleRequest(WebContainer.java:1433)
    at
com.ibm.ws.webcontainer.channel.WCChannelLink.ready(WCChannelLink.java:96)
    at
com.ibm.ws.http.channel.inbound.impl.HttpInboundLink.handleDiscrimination(HttpIn
boundLink.java:465)
    ....
=====
(Error No. 3) [9/27/07 13:55:45:669 IST] 00000066 agent      E   Global
transaction rollback
oracle.tip.esb.server.common.exceptions.BusinessEventRetriableException: Failed
to commit transaction; transaction status is "6"
at oracle.tip.esb.server.common.JTAHelper.commitTransaction(JTAHelper.java:178)
    at oracle.tip.esb.server.dispatch.agent.ESBWork.run(ESBWork.java:143)
    at com.ibm.ejs.j2c.work.WorkProxy.run(WorkProxy.java:497)
    at com.ibm.ws.util.ThreadPool$Worker.run(ThreadPool.java:1469)
Caused by: javax.transaction.RollbackException
    at
com.ibm.ws.Transaction.JTA.TransactionImpl.stage3CommitProcessing(TransactionIm
pl.java:1811)
    at
com.ibm.ws.Transaction.JTA.TransactionImpl.processCommit(TransactionImpl.java:1
590)
    at
com.ibm.ws.Transaction.JTA.TransactionImpl.commit(TransactionImpl.java:1512)
    at
com.ibm.ws.Transaction.JTA.TranManagerImpl.commit(TranManagerImpl.java:237)
    at com.ibm.ws.Transaction.JTA.TranManagerSet.commit(TranManagerSet.java:162)
    at
com.ibm.ws.Transaction.JTA.UserTransactionImpl.commit(UserTransactionImpl.java:
285)
    at
oracle.tip.esb.server.common.JTAHelper.commitTransaction(JTAHelper.java:176)
... 3 more
    ....

```

Troubleshooting Tips

The following list explains the errors encountered while installing Oracle BPEL Process Manager with WebSphere, and their resolutions:

Proxy Settings

When you initiate a BPEL process, you could encounter the WSDL not found error. To resolve this error, ensure that the proxy settings have been configured correctly, as follows:

1. Log in to the IBM Admin console.
2. Navigate to **Servers, Application Servers**. The Application Servers page is displayed.
3. Click **Java and Process Management, Process Definition, Java Virtual Machine, and Custom Properties**.
4. Verify the values for the following custom properties
 - `http.proxySet`: Set to true if using a proxy server, else false

- `http.proxyHost`: URL of the proxy server
 - `http.proxyPort`: Port of the proxy server
 - `http.nonProxyHosts`: Pipe(|) separated list of addresses for which proxy will be bypassed.
5. Restart **oracleSOAServer**, if you change any of these properties.

Sudo Access (Linux only)

WebSphere 6.1.0.3 should be installed as root (using sudo access).

Also, the sudo password should be provided, when prompted, while you run the `Installables\bin\setup.sh` file.

J_security Servlet Not Found

When you log in to BPELConsole, you may encounter the J_security servlet not found error. This indicates that the application security has not been enabled for form-based authentication.

To enable security, follow these steps:

1. Log in to the IBM Admin console.
2. Navigate to **Servers, Secure administration, applications, and infrastructure**. The Secure, administration, applications, and infrastructure page is displayed.
3. Click the **Security Configuration Wizard** button, and then follow the steps in the wizard.

If security is not required, then directly access the BPEL Console dashboard using: `http://hostname:<default_port>/BPELConsole/default/index.jsp` where `default_port` is as defined in the `constants.properties` file.

Business Rules Applications (Decision Service Applications)

Some Decision Service applications with the Deploy Web services option may fail to install on WebSphere. This is mainly due to the differences in the JAX-RPC java-wsdl mapping file expected by WebSphere.

The `java-wsdl` mapping file may need to be regenerated using the `java2wsdl` emitter in WebSphere.

Note: Refer to http://publib.boulder.ibm.com/infocenter/wasinfo/v6r1/index.jsp?topic=/com.ibm.websphere.express.doc/info/exp/ae/rwbs_java2wsdl.html for **wsdl2java** and **java-wsdl** mapping file details.

Deployment of BPEL Processes Using Ant/Obant Scripts

If the deployment of BPEL processes fail, then verify the following attributes set in the `bpel\utilities\ant-orabpel.properties` file:

- `Platform`: This should be set to **websphere_5**.
- `admin.user`, `admin.password`: These should be the credentials of a valid user from the User Account Repository (this applies only if Application security is enabled in WebSphere).

Note: The `ant-orabep1.properties` file is the BPEL_HOME\OraBPEL_1\bpel\utilities directory.

Handling Null Pointer Exceptions in JMS Adapter When Using MCF Attributes

When running any adapter process ensure to remove the `ManagedConnectionFactory` (MCF) and other associated MCF attributes (within `jca:address`) from the inbound and outbound service wsdl. These attributes are generated by JDeveloper and are to be used only on OC4J.

If you retain the MCF attributes, it can cause null pointer exception in JMS adapter on MQ. You will encounter similar errors with other adapters too. Hence, it is best practice to remove these MCF attributes when running on WebSphere.

Installing on Non-root Installations of WebSphere Application Server

The `configureWebsphereAsRoot.sh` script assumes that WebSphere Application Server is installed as the root user and displays the message - "This script must be executed as 'root' user", and exits.

If WebSphere Application Server is installed as a different user, for example `wasUser`, then the script should be modified to remove the check for root user and should be run as `wasUser`.

Perform the following steps to install on non-root installations of WebSphere Application Server:

1. Edit `configureWebsphereAsRoot.sh` as follows:

```
use # to comment out the 'exit' statement after 'echo "This script must be
executed as 'root' user.'" ' as shown below

if [ $(whoami) = "root" ]
then
echo "Executing the script as 'root' user"
else
echo "This script must be executed as 'root' user."
#exit
fi
```

2. Run the `configureWebsphereAsRoot.sh` script as the `wasUser` user.

SystemErr Error

Ensure that the "Topic Location" is set to `ESB_JAVA_DEFERRED` for all the registered Systems. This can be changed from the Services -> System Page of the ESB Console.

The following error might be thrown in the SystemErr logs, if the Topic Location value is incorrect:

```
[10/22/07 15:48:53:118 PDT] 0000001e SystemErr R at
oracle.tip.esb.server.common.RuntimeESBSystem.isSystemOnCurrentCluster(RuntimeESBSy
stem.java:247)
```

OWSM

OWSM application cannot be accessed without logging into OWSM. Hence, if Security is not enabled in IBM Console the following change needs to be made:

1. Update `<ORACLE_HOME>\owsm\config\ccoreui-config-common.properties`. Set `ui.jsso.enable=false`.

2. Restart **oracleSOAServer** or core application from IBM Console.
3. Access OWSM core using the following url:
http://<hostname>:<DEFAULTPORT>/ccore/Login.jsp with admin/oracle as the username and password.

Configuring BPELPM on WebSphere for Multiple Federated Nodes

This appendix describes the steps to be followed to configure BPELPM 10.1.3.3 in a Multiple Federated Node environment of WebSphere 6.1 ND and preparing the multiple instances of BPELPM as a HA setup.

- [Install WebSphere ND 6.1](#)
- [BPELPM 10.1.3.3 Configuration on Federated Multi Node environment](#)

Install WebSphere ND 6.1

The supported topology for HA of OracleSOASuite is by configuring Multiple federated Websphere nodes within a cell with one Deployment Manager. The HA topology for ESB is to have a single ESB-DesignTime (esbservices) and multiple ESB-Runtimes(esbservices-runtime) within the Websphere Cell pointing to the same oraesb database. The ESB DesignTime should be uninstalled from the IBM console, on Websphere Nodes, which need to host only the ESB-Runtime.

Perform the following steps to install WebSphere ND 6.1 on Node01 and Node02:

Node01

1. Launch the WebSphere 6.1 ND Installation wizard.
2. Select **Cell (Deployment Manager and a Managed Node)** as the environment and complete the installation.

This creates the following:

2 Profiles: DMgr01 and AppSrv01

1 Cell: for example, Cell01

2 Nodes: CellManager01 and Node01

By Default in this environment, the Node01 is federated with Cell01

3. Run `startManager` from `DMgr01/bin`.
4. Run `startNode` from `AppSrv01/bin`.
5. Access IBM Console from `http://<hostname>:<port>/ibm/console`.

Note: Check for the actual soap connector port from the WC_adminhost attribute in `serverindex.xml` of CellManager01.

Node02

1. Launch the Profile Management Tool and create a new profile.
2. Select **Custom profile** as the environment.
3. Select the `<hostname>` and `<soap connector port>` of the Deployment Manager with which this new node should be federated.

Note: Check for the actual soap connector port from the SOAP_CONNECTOR_ADDRESS attribute in `serverindex.xml` of `CellManager01`.

4. Complete creating the profile.

This creates the following:

1 Profile: `Custom01`

1 Node: for example, `Node02`, which is federated to `Cell01`

5. Run `startNode` from `Custom01/bin`.

BPELPM 10.1.3.3 Configuration on Federated Multi Node environment

The steps to configure BPELPM 10.1.3.3 on WebSphere 6.1 for Federated multi Node environment are by and large the same as for a single single Node environment. The differences are mentioned below:

Ensure that the Deployment Manager and both the NodeAgents (`Node01` and `Node02`) are running. In case of federated multi node environment, the setup scripts should be run individually on each node.

Running the `configureSOA.bat/sh` for Node01

Select the following values in `constants.properties`:

- `CELL_NAME= Cell01`
- `NODE_NAME= Node01`
- `PROFILE_NAME= AppSrv01`
- `BPEL_HOME=` [The directory path in which Oracle BPEL Process Manager is installed on the same host as this Node.]

Other attribute values are unambiguous.

After successful execution of `setup.sh/bat`, the following would be created:

- `OracleSOAServer` on `Node01` configured to run on port 9700
This can be verified from IBM admin console under `oracleSOAServer -> Ports -> WC_defaulthost`.

Running the `configureSOA.bat/sh` for Node02

Select the following values in `constants.properties`:

- `CELL_NAME= Cell01`
- `NODE_NAME= Node01`
- `PROFILE_NAME= Custom01`

Other attribute values are unambiguous.

After successful execution of `setup.sh/bat`, the following would be created:

- OracleSOAServer on Node02 configured to run on port 9700

If Node02 and Node01 are created on the same host then due to port clash, then both the oracleSOAServers cannot be started together. This port should be changed manually to a different value, for example, 9702.

This can be modified from IBM admin console under oracleSOAServer -> Ports -> WC_defaulthost.

Virtual Hosts

Also ensure that the new ports are added to the list of Virtual Hosts. This can be done from the IBM admin console under Virtual Hosts -> default_host -> Host Aliases.

The IBM Admin console would display the following servers under Application Servers after the above steps.

Table A-1 Server Details

Name	Node	Version
oracleSOAServer	sraghura-pcNode05	ND 6.1.0.3
oracleSOAServer	sraghura-pcNode03	ND 6.1.0.3

Configuring BPELPM on 2 Nodes for HA

Use a software Load Balancer, which maps the 2 BPELPM Node instances to a single Load Balancing URL, as follows:

- `http://<hostname>:load_bal_port/`
 - `http://<hostname>:9700`
 - `http://<hostname>:9702`

Modify the `soapCallbackURL` to `http://<hostname>:load_bal_port/` in `<BPEL_HOME>/system/config/collaxa-config.xml`.

Then, restart oracleSOAServer on both Node01 and Node02.

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