

Oracle® Application Server Integration

Installation Guide

10g Release 2 (10.1.2) for Solaris Operating Environment
(SPARC), Linux x86, and Microsoft Windows

Part No. B16226-02

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Oracle Application Server Integration Installation Guide, 10g Release 2 (10.1.2) for Solaris Operating Environment (SPARC), Linux x86, and Microsoft Windows

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**Oracle Application Server Integration Installation Guide, 10g Release 2 (10.1.2)
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Part No. B16226-02**

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Preface

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

This preface contains these topics:

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

Intended Audience

Oracle Application Server Integration Installation Guide for Oracle BPEL Process Manager is intended for customers who want to install OracleAS Integration products, which for this release focuses on installing 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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Organization

This document contains:

Chapter 1, "Oracle BPEL Process Manager Installation"

This chapter describes how to install Oracle BPEL Process Manager.

Chapter 2, "Installing Oracle BPEL Process Manager with JBoss or WebLogic Application Servers"

This chapter provides the requirements and procedures for installing Oracle BPEL Process Manager with a JBoss Application Server or WebLogic Application Server.

Related Documentation

For more information, see these Oracle resources:

In North America, printed documentation is available for sale in the Oracle Store at

<http://oraclestore.oracle.com/>

To download free release notes, installation documentation, white papers, or other collateral, please visit the Oracle Technology Network (OTN). You must register online before using OTN; registration is free and can be done at

<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

This section describes the conventions used in the text and code examples of this documentation set. It describes:

- [Conventions in Text](#)
- [Conventions in Code Examples](#)
- [Conventions for Microsoft Windows Operating Systems](#)

Conventions in Text

We use various conventions in text to help you more quickly identify special terms. The following table describes those conventions and provides examples of their use.

Convention	Meaning	Example
Bold	Bold typeface indicates terms that are defined in the text or terms that appear in a glossary, or both.	When you specify this clause, you create an index-organized table .
<i>Italics</i>	Italic typeface indicates book titles or emphasis.	<i>Oracle Database Concepts</i> Ensure that the recovery catalog and target database do <i>not</i> reside on the same disk.
UPPERCASE monospace (fixed-width) font	Uppercase monospace typeface indicates elements supplied by the system. Such elements include parameters, privileges, datatypes, RMAN keywords, SQL keywords, SQL*Plus or utility commands, packages and methods, as well as system-supplied column names, database objects and structures, usernames, and roles.	You can specify this clause only for a NUMBER column. You can back up the database by using the BACKUP command. Query the TABLE_NAME column in the USER_TABLES data dictionary view. Use the DBMS_STATS.GENERATE_STATS procedure.
lowercase monospace (fixed-width) font	Lowercase monospace typeface indicates executables, filenames, directory names, and sample user-supplied elements. Such elements include computer and database names, net service names, and connect identifiers, as well as user-supplied database objects and structures, column names, packages and classes, usernames and roles, program units, and parameter values. Note: Some programmatic elements use a mixture of UPPERCASE and lowercase. Enter these elements as shown.	Enter sqlplus to open SQL*Plus. The password is specified in the orapwd file. Back up the datafiles and control files in the /disk1/oracle/dbs directory. The department_id, department_name, and location_id columns are in the hr.departments table. Set the QUERY_REWRITE_ENABLED initialization parameter to true. Connect as oe user. The JRepUtil class implements these methods.
lowercase italic monospace (fixed-width) font	Lowercase italic monospace font represents placeholders or variables.	You can specify the <i>parallel_clause</i> . Run <i>Uold_release</i> .SQL where <i>old_release</i> refers to the release you installed before upgrading.

Conventions in Code Examples

Code examples illustrate SQL, PL/SQL, SQL*Plus, or other command-line statements. They are displayed in a monospace (fixed-width) font and separated from normal text as shown in this example:

```
SELECT username FROM dba_users WHERE username = 'MIGRATE';
```

The following table describes typographic conventions used in code examples and provides examples of their use.

Convention	Meaning	Example
[]	Brackets enclose one or more optional items. Do not enter the brackets.	DECIMAL (<i>digits</i> [, <i>precision</i>])
{ }	Braces enclose two or more items, one of which is required. Do not enter the braces.	{ENABLE DISABLE}
	A vertical bar represents a choice of two or more options within brackets or braces. Enter one of the options. Do not enter the vertical bar.	{ENABLE DISABLE} [COMPRESS NOCOMPRESS]

Convention	Meaning	Example
...	Horizontal ellipsis points indicate either: <ul style="list-style-type: none"> ■ That we have omitted parts of the code that are not directly related to the example ■ That you can repeat a portion of the code 	<pre>CREATE TABLE ... AS subquery;</pre> <pre>SELECT col1, col2, ... , coln FROM employees;</pre>
.	Vertical ellipsis points indicate that we have omitted several lines of code not directly related to the example.	
Other notation	You must enter symbols other than brackets, braces, vertical bars, and ellipsis points as shown.	<pre>acctbal NUMBER(11,2);</pre> <pre>acct CONSTANT NUMBER(4) := 3;</pre>
<i>Italics</i>	Italicized text indicates placeholders or variables for which you must supply particular values.	<pre>CONNECT SYSTEM/system_password</pre> <pre>DB_NAME = database_name</pre>
UPPERCASE	Uppercase typeface indicates elements supplied by the system. We show these terms in uppercase to distinguish them from terms you define. Unless terms appear in brackets, enter them in the order and with the spelling shown. However, because these terms are not case sensitive, you can enter them in lowercase.	<pre>SELECT last_name, employee_id FROM employees;</pre> <pre>SELECT * FROM USER_TABLES;</pre> <pre>DROP TABLE hr.employees;</pre>
lowercase	Lowercase typeface indicates programmatic elements that you supply. For example, lowercase indicates names of tables, columns, or files. Note: Some programmatic elements use a mixture of UPPERCASE and lowercase. Enter these elements as shown.	<pre>SELECT last_name, employee_id FROM employees;</pre> <pre>sqlplus hr/hr</pre> <pre>CREATE USER mjones IDENTIFIED BY ty3MU9;</pre>

Conventions for Microsoft Windows Operating Systems

The following table describes conventions for Microsoft Windows operating systems and provides examples of their use.

Convention	Meaning	Example
Choose Start >	How to start a program.	To start the Database Configuration Assistant, choose Start > Programs > Oracle - HOME_NAME > Configuration and Migration Tools > Database Configuration Assistant.
File and directory names	File and directory names are not case sensitive. The following special characters are not allowed: left angle bracket (<), right angle bracket (>), colon (:), double quotation marks ("), slash (/), pipe (), and dash (-). The special character backslash (\) is treated as an element separator, even when it appears in quotes. If the file name begins with \\, then Windows assumes it uses the Universal Naming Convention.	<pre>c:\winnt\"system32</pre> is the same as <pre>C:\WINNT\SYSTEM32</pre>

Convention	Meaning	Example
C:\>	Represents the Windows command prompt of the current hard disk drive. The escape character in a command prompt is the caret (^). Your prompt reflects the subdirectory in which you are working. Referred to as the <i>command prompt</i> in this manual.	C:\oracle\oradata>
	The backslash (\) special character is sometimes required as an escape character for the double quotation mark (") special character at the Windows command prompt. Parentheses and the single quotation mark (') do not require an escape character. Refer to your Windows operating system documentation for more information on escape and special characters.	C:\>exp scott/tiger TABLES=emp QUERY=\"WHERE job='SALESMAN' and sal<1600\" C:\>imp SYSTEM/password FROMUSER=scott TABLES=(emp, dept)
HOME_NAME	Represents the Oracle home name. The home name can be up to 16 alphanumeric characters. The only special character allowed in the home name is the underscore.	C:\> net start OracleHOME_ NAMEtnsListener

Oracle BPEL Process Manager Installation

This chapter provides the requirements and procedures for installing Oracle BPEL Process Manager.

This chapter contains the following topics:

- [Oracle BPEL Process Manager Components Overview](#)
- [Installation Scenarios for Oracle BPEL Process Manager](#)
- [Installation Overview for Oracle BPEL Process Manager](#)
- [System Requirements for Oracle BPEL Process Manager](#)
- [Preinstallation Tasks for Oracle BPEL Process Manager](#)
- [Installation Tasks for Oracle BPEL Process Manager](#)
- [Postinstallation Tasks for Oracle BPEL Process Manager](#)
- [Postinstallation Verification Tasks for Oracle BPEL Process Manager](#)
- [Installing Oracle BPEL Process Manager on a Processor Farm](#)
- [Globalization for Oracle BPEL Process Manager](#)
- [Determining the Version of Your Oracle BPEL Process Manager](#)
- [Directory Structure of Oracle BPEL Process Manager](#)
- [Deinstallation Tasks for Oracle BPEL Process Manager](#)
- [Troubleshooting Oracle BPEL Process Manager Installation and Configuration](#)

Oracle BPEL Process Manager Components Overview

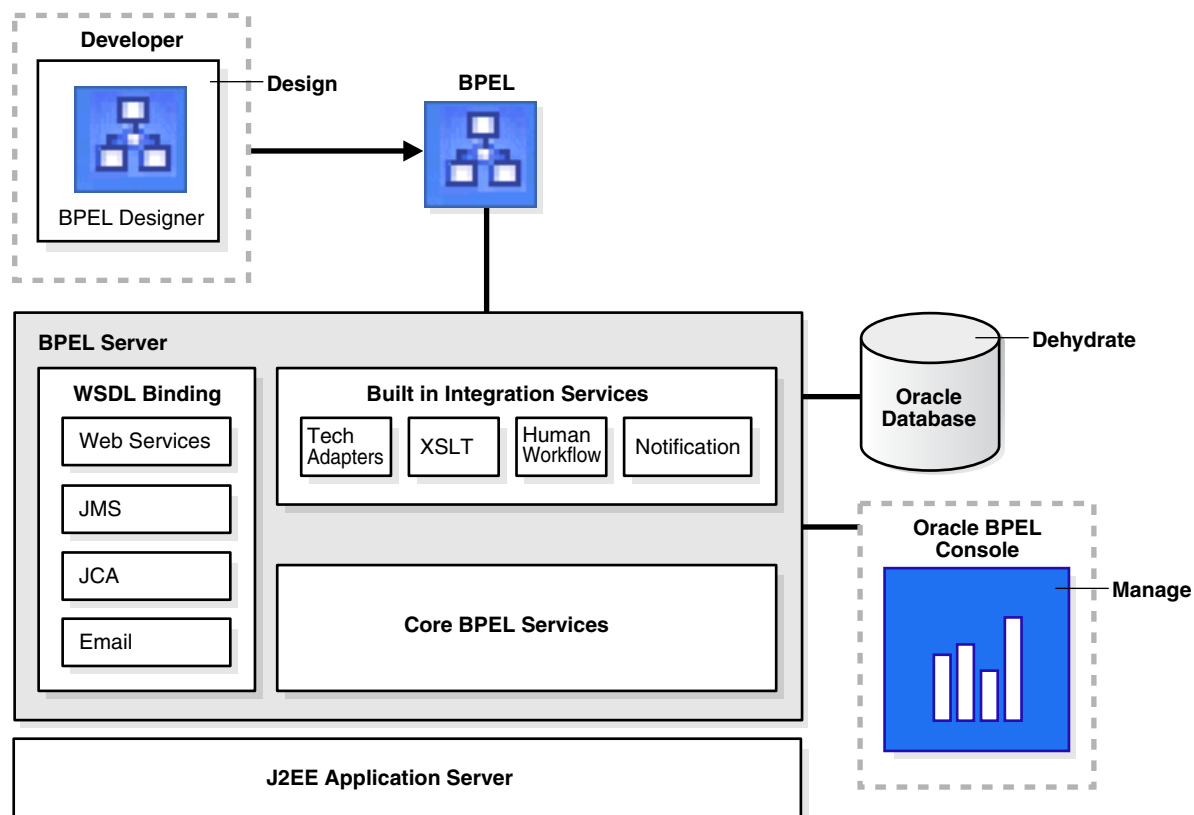
Oracle BPEL Process Manager provides a user-friendly and reliable solution for designing, deploying, and managing BPEL processes. When you install Oracle BPEL Process Manager, you are given two installation types, as shown in [Table 1-1](#).

Table 1-1 Oracle BPEL Process Manager Installation Types

Installation Type	Description
Oracle BPEL Process Manager for Developers	Provides a single environment for designing and running BPEL processes. The included components are JDeveloper BPEL Designer and BPEL Process Manager. This installation type is configured with an embedded Oracle Application Server Containers for J2EE and, on Windows only, uses Oracle Database Lite as its database.
Oracle BPEL Process Manager for OracleAS Middle Tier	Provides a standards-based environment for running processes designed using BPEL. This runtime environment includes Oracle BPEL Server, runtime services, and adapters. This installation type requires that an Oracle Application Server 10g J2EE middle tier already be installed in the chosen Oracle home.

Oracle BPEL Process Manager consists of the key components shown in [Figure 1-1](#). Oracle BPEL Process Manager runs standard BPEL processes. You deploy BPEL processes to Oracle BPEL Server.

Figure 1-1 Oracle BPEL Process Manager Components



The following components are included with Oracle BPEL Process Manager.

- BPEL Designer—a graphical and user-friendly way to model, edit, design, and deploy BPEL processes. BPEL Designer also enables you to view and modify the BPEL source code. This component is available with Oracle JDeveloper or as a plug-in on the Eclipse Platform version 3.0GA and gets installed with Oracle BPEL Process Manager for Developers.
- Oracle BPEL Server—the server to which you deploy the BPEL process that you design and that contains human workflow, technology adapters, and notification services components.
- Oracle BPEL Console—the console from which you run, manage, and test your deployed BPEL process. Oracle BPEL Console provides a Web-based interface for management, administration, and debugging of processes deployed to Oracle BPEL Server.
- Oracle Database Lite, on Windows—the database that holds your BPEL schema. This option gets installed with Oracle BPEL Process Manager for Developers on Windows only. For UNIX platforms and if you are using a multibyte character set, you must configure an Oracle database to test your deployed BPEL processes. See ["Preinstallation Tasks for Oracle BPEL Process Manager"](#) on page 1-8 for details about configuring an Oracle database.

See Also:

- *Oracle BPEL Process Manager Developer's Guide*
- *Oracle BPEL Process Manager Quick Start Guide*
- *Oracle BPEL Process Manager Order Booking Tutorial*
- <http://www.oracle.com/technology/bpel>

Installation Scenarios for Oracle BPEL Process Manager

Installation scenarios are described in the following sections:

- [Scenario 1: Oracle BPEL Process Manager for Developers](#)
- [Scenario 2: Oracle BPEL Process Manager for OracleAS Middle Tier](#)

Note: For information about other installation configurations, see:

- ["Step 5: If Installing on a Cold Failover Cluster \(CFC\) Middle Tier"](#) on page 1-10
 - ["Installing Oracle BPEL Process Manager on a Processor Farm"](#) on page 1-21
 - Oracle Application Server high availability details at:
http://www.oracle.com/technology/products/ias/hi_av/index.html
-

Scenario 1: Oracle BPEL Process Manager for Developers

Oracle BPEL Process Manager for Developers provides a design and standalone test environment. With this option, you design your process and then perform preproduction deployment and testing. Once you are ready to deploy a production version, you use the OracleAS Middle Tier option to deploy the BPEL process.

When you select Oracle BPEL Process Manager for Developers, you get these components:

- JDeveloper BPEL Designer
- BPEL Server
- Oracle BPEL Console
- Oracle Database Lite, on Windows only

Scenario 2: Oracle BPEL Process Manager for OracleAS Middle Tier

Oracle BPEL Process Manager for OracleAS Middle Tier provides robust production components for running BPEL processes. Before installation, you configure your Oracle database for use with Oracle BPEL Process Manager by running the Integration Repository Creation Assistant (IRCA). This release of Oracle BPEL Process Manager does not support using OracleAS Metadata Repository.

When you select Oracle BPEL Process Manager for OracleAS Middle Tier, you get these components:

- Oracle BPEL Server
- Oracle BPEL Console

Installation Overview for Oracle BPEL Process Manager

This section provides an overview of installation tasks to perform based on the type of installation used for Oracle BPEL Process Manager, and provides references to procedures for performing these tasks.

Exploring the Product CD-ROM

The Oracle BPEL Process Manager product CD-ROM contains the following files and directories at the top level:

- `README_BPEL.txt`—The readme file for this release, which contains important information.
- `bpel`—The directory that contains software to install.
- `doc`—The directory that contains this installation guide.
- `IRCA.zip`—The Integration Repository Creation Assistant zip archive, which is discussed later in this document.

Installation Tasks Summary and Where to Find Procedures

[Table 1–2](#) provides a summary of installation tasks to perform for Oracle BPEL Process Manager for Developers if you plan to use an Oracle Database instead of Oracle Database Lite.

[Table 1–3](#) provides an overview of installation tasks to perform for Oracle BPEL Process Manager for OracleAS Middle Tier.

Note: If you plan to install Oracle BPEL Process Manager for Developers on Windows, then you can go directly to ["Installing Oracle BPEL Process Manager for Developers"](#) on page 1-11. There are no preinstallation tasks.

Table 1–2 Oracle BPEL Process Manager for Developers

For Database	Follow These Steps...	See Also...
Oracle Database 10g (10.1) or Oracle9i Database release 9.2.0.5.0 or later	<ol style="list-style-type: none"> 1. Install Oracle Database 10g or Oracle9i Database release 9.2.0.5.0 or later, if not already installed. Note: Oracle BPEL Process Manager works with your existing Oracle Database 10g or Oracle9i Database release 9.2.0.5.0 or later 2. Create the Oracle BPEL Process Manager schema and user in the Oracle database using IRCA. 3. Install Oracle BPEL Process Manager for Developers. 4. Configure your Oracle BPEL Process Manager for the Oracle database. 	<p><i>Oracle Database Installation Guide 10g</i> or <i>Oracle Database Installation Guide 9i</i> for your platform</p> <p>"Step 4: Download and Apply Mandatory Patches" on page 1-10</p> <p>"Installing Oracle BPEL Process Manager for Developers" on page 1-11 of this guide</p> <p>"Step 3: Optional - Configure Oracle BPEL Process Manager to Use Your Oracle Database" on page 1-17 of this guide</p>

Table 1–3 Oracle BPEL Process Manager for OracleAS Middle Tier

For Database	Follow These Steps...	See Also...
Oracle Database 10g (10.1) or Oracle9i Database release 9.2.0.5.0 or later	<ol style="list-style-type: none"> 1. Install Oracle Database 10g or Oracle9i Database release 9.2.0.5.0 or later, if not already installed. 2. Create the Oracle BPEL Process Manager schema and user in the Oracle database using IRCA. 3. Install Oracle Application Server 10g Release 2 (10.1.2) and select the J2EE and Web Cache installation type. 4. Install the current release of Oracle BPEL Process Manager. Important: You must install on the Oracle Application Server middle tier in the same Oracle home as J2EE and Web Cache. 	<p><i>Oracle Database Installation Guide 10g</i> or <i>Oracle Database Installation Guide 9i</i> for your operating system</p> <p>"Step 4: Download and Apply Mandatory Patches" on page 1-10</p> <p><i>Oracle Application Server Installation Guide</i> for your operating system</p> <p>"Installing Oracle BPEL Process Manager for OracleAS Middle Tier" on page 1-13 of this guide</p>

System Requirements for Oracle BPEL Process Manager

Table 1–4 describes the system requirements for Oracle BPEL Process Manager

Table 1–4 Oracle BPEL Process Manager System Requirements

Element	Requirement
Operating system	<ul style="list-style-type: none"> ■ Sun SPARC Solaris version 8 or 9 See Also: <i>Oracle Application Server Installation Guide 10g Release 2 (10.1.2) for Solaris Operating System (SPARC)</i> for information on any required operating system patches and packages, swap space requirements, and kernel parameter settings ■ Red Hat Enterprise Linux AS/ES 2.1 and 3.0 ■ SUSE Linux Enterprise Server 8 and 9 Note: These supported versions are for Linux on the x86 architecture. Check the Certify section of Oracle <i>MetaLink</i> (http://metalink.oracle.com) for support of these Linux versions on different architectures. See Also: <i>Oracle Application Server Installation Guide 10g Release 2 (10.1.2) for hp HP-UX PA-RISC (64-bit) and Linux x86</i> for information on any required operating system patches and packages and kernel parameter settings ■ Windows 2000 with Service Pack 3 ■ Windows Server 2003 with Service Pack 1 ■ Windows XP See Also: <i>Oracle Application Server Installation Guide 10g Release 2 (10.1.2) for Microsoft Windows</i> for information on processor, TEMP directory, virtual memory, and swap space requirements
Memory	512 MB RAM minimum (1 GB preferred)
Disk space	<p>Oracle BPEL Process Manager for Developers:</p> <ul style="list-style-type: none"> ■ 600 MB <p>Oracle BPEL Process Manager for OracleAS Middle Tier:</p> <ul style="list-style-type: none"> ■ 200 MB
Swap space	1535 MB minimum
Monitor	Configured to display at least 256 colors

Supported Databases for Oracle BPEL Process Manager

Table 1–5 lists information about Oracle Database for your Oracle BPEL Process Manager installation.

You may use your existing Oracle database, if it meets the requirements shown in Table 1–5.

Table 1–5 Supported Oracle Databases

Oracle Database	Oracle BPEL Process Manager for Developers	Oracle BPEL Process Manager for OracleAS Middle Tier
Oracle Database Lite	Included on Windows installations only Refer to the note in this section about multibyte character set support	n/a
Oracle Database 10g	Recommended for UNIX installations	Recommended
Oracle9i Database release 9.2.0.5.0 or later	Supported	Supported

Note: Oracle Database Lite currently does not support multibyte character sets. This restriction only applies to Oracle BPEL Process Manager for Developers on the Windows platform.

Therefore, if your locale requires multibyte support, then you should use Oracle Database instead of Oracle Database Lite.

Supported Web Browsers for Oracle BPEL Console

Oracle BPEL Console requires Internet Explorer 6.0 SP2.

Note: Ensure that cookies are enabled in your Web browser. The Oracle BPEL Console caching mechanism uses cookies to identify user sessions.

Preinstallation Tasks for Oracle BPEL Process Manager

Depending on the platform and Oracle database that you plan to use, complete the following procedures that apply to your installation.

Steps for Oracle BPEL Process Manager for Developers

Note: On the Windows platform, Oracle Database Lite is included with the installation. If you use this configuration, skip the preinstallation procedures in this section and go directly to "[Installing Oracle BPEL Process Manager for Developers](#)" on page 1-11.

On UNIX platforms, an Oracle Database is required for Oracle BPEL Process Manager for Developers. (If you already have an Oracle database that meets this requirement, then you do not need to reinstall the database.)

For UNIX platforms, complete the following steps:

- [Step 1: Install the Oracle Database - If Not Already Installed](#)
- [Step 2: Run Integration Repository Creation Assistant](#)

Steps for Oracle BPEL Process Manager for OracleAS Middle Tier

For Oracle BPEL Process Manager for OracleAS Middle Tier, the preinstallation steps are as follows:

- [Step 1: Install the Oracle Database - If Not Already Installed](#)
- [Step 2: Run Integration Repository Creation Assistant](#)
- [Step 3: Install Oracle Application Server](#)
- [Step 4: Download and Apply Mandatory Patches](#)
- [Step 5: If Installing on a Cold Failover Cluster \(CFC\) Middle Tier](#)

Step 1: Install the Oracle Database - If Not Already Installed

An Oracle database is required to be your dehydration store for all Oracle BPEL Process Manager instances. If you already have an Oracle database that meets the requirements, then you do not need to reinstall the database. Otherwise, install or upgrade before you proceed.

See Also:

- *Oracle Database Installation Guide for Microsoft Windows (32-Bit)*
- *Oracle Database Installation Guide for Linux x86*
- *Oracle Database Installation Guide for Solaris Operating System (SPARC 64-Bit)*

Step 2: Run Integration Repository Creation Assistant

Run IRCA to create the database user and schema. IRCA creates the default user `orabpel` and the default password `orabpel` on the tablespace `ORABPEL` that it creates in the Oracle database.

- If you previously installed Oracle BPEL Process Manager for Developers and you already ran IRCA on this Oracle database, then you do not need to run IRCA again.
- If you already have an Oracle BPEL Process Manager user (`orabpel`) in the target database, then stop all sessions, activity, and transactions for the user before running IRCA.
- You must run IRCA from the host where your Oracle database is installed, and your database must be up and running before you run IRCA.
- IRCA is located in the root directory on the Oracle BPEL Process Manager product CD-ROM in `IRCA.zip`.
- IRCA does not support Oracle Application Server Metadata Repository.

To run IRCA:

1. Copy `IRCA.zip` to the host where the Oracle database is installed.
2. Extract `IRCA.zip` to a temp directory of the host system, being sure to preserve path information.
3. From a command window, run `irca.bat` on Windows or `irca.sh` on UNIX. IRCA starts and prompts you for information.
4. Provide the database details shown in [Table 1–6](#) when prompted. Be sure to record the information that you provide because you need this in subsequent installation steps.

Important: Change the `orabpel` user password after you run IRCA, and make a note of your new password for subsequent steps.

Table 1–6 IRCA Prompts for Information

Prompt	Description	Example
Enter Database Oracle Home	Your <i>Oracle_Home</i>	C:\OraHome_1\
Enter JDK 1.4 location <default path>	Accept the default path for the Oracle database. Otherwise, if you downloaded JDK 1.4 separately, then give its location.	C:\oracle\product\10.1.0\DB_1\jdk
Enter database host [localhost]	The full name or IP address of your database host.	hr1-pc.us.acme.com or 137.1.18.228
Enter database port [1521]	The database listener port. The default is 1521.	1521
Enter database service name [orcl]	The service name that you specified when you installed the database. The default service name is <code>orcl</code> , which may be prepended to the fully qualified domain name (FQDN) for your database. Note that this is not the SID. If you are not sure, then run the <code>SQL*Plus</code> command <code>show parameter service_names</code> .	orcl or orcl.us.acme.com
Enter sys password	The database <code>sys</code> user password.	8x9cv55

Step 3: Install Oracle Application Server

Install Oracle Application Server 10g Release 2 (10.1.2) and select the J2EE and Web Cache installation type.

See Also: *Oracle Application Server Installation Guide* for your operating system

Step 4: Download and Apply Mandatory Patches

Note: The patch described in this section must be applied prior to installing Oracle BPEL Process Manager for OracleAS Middle Tier

You must download and install the patch described in this procedure before you install the product. The file `README.txt` included in the zip archive that you download provides more information about this patch.

To download the patch:

1. Log in to:
<http://metalink.oracle.com>
2. Select **Patches and Updates** from the navigation bar.
3. Select **Simple Search**.
4. **Search by Patch Number** for 4343748. This patch is generic for all platforms, so accept the default for the **Platform or Language** field.

To apply the patch:

1. Unzip `ppatch_number_101200_GENERIC.zip` to a temporary directory such as `temp` and specify **All files** and **Use folder names**.

The subdirectories and files are extracted to a directory named for the patch number in the location that you specified (for example, `\4343748`). The `README.txt` file is located in this directory.

2. Open a command window.
3. Set `Oracle_Home` to the Oracle home that needs to be patched.
4. Set your environment `PATH` to include `Oracle_Home/OPatch`.
5. Stop all process running from the `Oracle_Home`.
6. Change to the `patch_number` directory.
7. Enter the command:

```
opatch apply
```

If you have any problems installing this patch, call Oracle Support Services.

Step 5: If Installing on a Cold Failover Cluster (CFC) Middle Tier

If you are installing on a Cold Failover Cluster (CFC) middle tier, the following steps are required after installation of the middle tier and before you install Oracle BPEL Process Manager.

1. Configure the middle tier for a CFC environment.

See *Oracle Application Server Installation Guide* for your operating system for this step.

2. Check the `Midtier_Home/config/ias.properties` file and make sure that the value of the property `VirtualHostName` is correct for the `VirtualHostName` of the CFC middle tier.

After you complete the steps in this section, you are ready to continue with the installation.

Installation Tasks for Oracle BPEL Process Manager

Follow these instructions to install BPEL Process Manager:

- [Installing Oracle BPEL Process Manager for Developers](#)
- [Installing Oracle BPEL Process Manager for OracleAS Middle Tier](#)

Installing Oracle BPEL Process Manager for Developers

This installation type installs both the JDeveloper BPEL Designer and Oracle BPEL Process Manager.

1. Ensure that all preinstallation tasks and requirements described in "[Preinstallation Tasks for Oracle BPEL Process Manager](#)" on page 1-8 have been completed.
2. Log on to the host on which to install Oracle BPEL Process Manager components.
3. Insert the Oracle BPEL Process Manager CD-ROM.
4. Start Oracle Universal Installer from the `bpel` directory of the CD-ROM as follows:

On...	Do This...
UNIX	Enter the following command at the operating system prompt: <code>./runInstaller</code>
Windows	Click <code>setup.exe</code> .

The Welcome screen appears.

5. Click **Next**.

If your host is detected to be part of a cluster, the Specify Hardware Cluster Installation Mode screen appears. Select **Noncluster Installation**. This installs Oracle BPEL Process Manager on this node only, and not as part of a cluster node. Do not select **Cluster Installation**.

The Specify File Locations screen appears.

6. Accept the default **Name** and **Path**, or specify a new Oracle home name and directory path in which to install Oracle BPEL Process Manager components.
 - Do not use an existing home name and directory path.

On UNIX:

Name: `BPELPM1012`
Path: `/home/oracle/BPELPM1012`

On Windows:

Name: BPELPM1012
Path: C:\Oracle\BPELPM1012

- Do not change the directory path in the **Source** field. This is the location of installation files.

7. Click **Next**.

The Select Installation Type screen appears.

[Table 1–1, "Oracle BPEL Process Manager Installation Types"](#) on page 1-2 describes the available installation types.

8. Select BPEL Process Manager for Developers and click **Next**.

The Specify Outgoing HTTP Proxy Information screen appears.

Note: This information is automatically filled in on Windows platforms if your Internet Explorer has been configured for Proxy Server information under LAN Settings on the Connections tab.

If your Internet Explorer is using Automatic Configuration of proxies, then you must fill in this information.

9. If you have a direct connection to the Internet and do not use a proxy server, or if you accept the default information, then click **Next**.

Otherwise, enter the information as shown in [Table 1–7](#).

Table 1–7 Outgoing HTTP Proxy Information

Field	Description	Example
HTTP Proxy Host	Enter the name of the proxy server host.	www-proxy.us.acme.com
HTTP Proxy Port	Enter the port number of the proxy server host.	80
Bypass proxy for addresses	Enter an address that bypasses the proxy. You may enter more than one address, separating each with a semi-colon (;).	*.us.acme.com;*.us.acme.com;<local> Note: The <local> tag ensures that your hostname is automatically included in the bypass proxy list.

The Summary screen appears.

10. Click **Install**.

The Install screen appears showing the installation progress.

11. When installation completes, the End of Installation screen appears with information for your review.

12. Click **Exit** and confirm when prompted.

The Getting Started page appears.

This completes the installation procedures. Verify the installation, as described in ["Postinstallation Verification Tasks for Oracle BPEL Process Manager"](#) on page 1-20.

Installing Oracle BPEL Process Manager for OracleAS Middle Tier

To install Oracle BPEL Process Manager for OracleAS Middle Tier:

1. Ensure that all preinstallation tasks and requirements described in "[Preinstallation Tasks for Oracle BPEL Process Manager](#)" on page 1-8 have been completed.
2. Log on to the host on which to install Oracle BPEL Process Manager components.
3. Insert the Oracle BPEL Process Manager CD-ROM.
4. Start Oracle Universal Installer from the `bpel` directory of the CD-ROM as follows:

On...	Do This...
UNIX	Enter the following command at the operating system prompt: <code>./runInstaller</code>
Windows	Click <code>setup.exe</code> .

The Welcome screen appears.

5. Click **Next**.

If your host is detected to be part of a cluster, the Specify Hardware Cluster Installation Mode screen appears. Select **Noncluster Installation**. This installs Oracle BPEL Process Manager on this node only, and not as part of a cluster node. Do not select **Cluster Installation**.

The Specify File Locations screen appears.

6. Select the Oracle home name and directory path where Oracle Application Server 10.1.2 J2EE and Web Cache is located.
 - Do not accept the default **Name** and **Path**. The installer looks for the Oracle Application Server 10.1.2 J2EE and Web Cache instance. If you specify an incorrect path, the Dependencies alert appears.

On UNIX:

Name: `Home1`
Path: `/home/oracle/OraHome_1`

On Windows:

Name: `Home1`
Path: `C:\OraHome_1`

- Do not change the directory path in the **Source** field. This is the location of installation files.

7. Select BPEL Process Manager for OracleAS Middle Tier and click **Next**.

The Specify Outgoing HTTP Proxy Information screen appears.

8. If you have a direct connection to the Internet and do not use a proxy server, or if you accept the default information, then click **Next**.

Otherwise, enter the information as shown in [Table 1-7, "Outgoing HTTP Proxy Information"](#) on page 1-12.

The Specify Instance Repository Information screen appears.

9. In the Specify Instance Repository Information screen, provide the details as described in the following table:

Information	Description	Example
Password for BPEL Process Manager Schema (ORABPEL):	The password that IRCA assigns to the user <code>orabpel</code> . You changed this password after you ran IRCA. For information about the <code>orabpel</code> user account, refer to the section " Step 2: Run Integration Repository Creation Assistant " on page 1-8.	*****
Hostname:Port	The full name or IP address of your database host and the listener port. The default listener port is 1521.	<code>my-pc.acme.com:1521</code> or <code>137.1.18.228:1521</code>
Service Name:	The service name that you specified when you installed the database. The default service name is <code>orcl</code> , which may be prepended to the fully qualified domain name (FQDN) for your database. Note that this is not the SID. If you are not sure, then run the SQL*Plus command <code>show parameter service_names</code> .	<code>orcl</code> or <code>orcl.us.acme.com</code>
ias_admin Password:	The password for the Oracle Application Server middle tier in which you are installing. You specified this password when you installed Oracle Application Server with J2EE and Web Cache.	*****

10. Click **Next**. (Note that it takes a few minutes for the database connection to be established.)

The Summary screen appears.

11. Click **Install**.

The Installation Progress screen appears for a few seconds, and then the Configuration Assistants screen appears with Oracle BPEL Process Manager Configuration Assistant.

12. When installation completes, the End of Installation screen appears with information for your review.

13. Click **Exit** and confirm when prompted.

The Getting Started page appears.

This completes the installation procedures. Verify the installation, as described in "[Postinstallation Verification Tasks for Oracle BPEL Process Manager](#)" on page 1-20.

Postinstallation Tasks for Oracle BPEL Process Manager

After installing Oracle BPEL Process Manager, complete the following required tasks and then complete the additional tasks depending on the type of installation you are performing.

- [Required Postinstallation Steps for Oracle BPEL Process Manager](#)
- [Postinstallation Steps for Oracle BPEL Process Manager for Developers](#)
- [Postinstallation Step for Oracle BPEL Process Manager for OracleAS Middle Tier](#)

Note:

- Important information about Oracle BPEL Process Manager configuration is provided in *Oracle_Home/integration/orabpel/bpelsetupinfo.txt*.
 - For the full log of installation details, see the *installActionsdate_time.log* file. The date and time are specified as *yyyy-mm-dd_hr-mm-ss*. This file is located under *c:\Program Files\Oracle\Inventory\logs* on Windows and *\$ORACLE_HOME/oraInventory/logs/* on UNIX.
-

Required Postinstallation Steps for Oracle BPEL Process Manager

Complete these procedures for all installations of Oracle BPEL Process Manager.

- [Step 1: Recommended - Change Default Passwords](#)
- [Step 2: Recommended - Configure Notification and Workflow for Oracle BPEL Process Manager](#)
- [Step 3: Mandatory - Download the Latest Samples](#)

Step 1: Recommended - Change Default Passwords

It is important to change default passwords before you start using the product.

- A domain named `default` is automatically installed with Oracle BPEL Process Manager. The initial password for this domain is `bpel`. Change this password immediately after installation is complete.
- You create BPEL domains and configure Oracle BPEL server properties from Oracle BPEL Admin Console. The password for Oracle BPEL Admin Console is automatically set to `oracle`. Change this password immediately after installation.

See Also: *Oracle BPEL Process Manager Developer's Guide* for procedures on changing passwords

Step 2: Recommended - Configure Notification and Workflow for Oracle BPEL Process Manager

In order to use the notification service and workflow applications, you must complete the following steps.

1. Configure the e-mail server settings as described in *Oracle BPEL Process Manager Developer's Guide* in the Oracle BPEL Process Manager Notification Service chapter. The e-mail server settings are used to send and receive e-mails by the Notification and Workflow services.
2. Acting on workflow tasks through e-mail requires that you configure the actionable e-mail account as described in *Oracle BPEL Process Manager Developer's Guide* in the Oracle BPEL Process Manager Workflow Services chapter.
3. If the notification service is to be used to send notifications using voice or short message service (SMS) channels, then the wireless service settings must be

configured as described in the section that describes configuring the wireless service provider for voice in the Oracle BPEL Process Manager Notification Service chapter of *Oracle BPEL Process Manager Developer's Guide*.

Step 3: Mandatory - Download the Latest Samples

Oracle BPEL Process Manager ships with a large set of samples that demonstrate various features of the product. Update your samples immediately following installation to ensure that you have the latest.

The samples are updated frequently to correct known issues, update and add new readme files, and add new samples. The latest samples update can be found at:

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

Please make it a point to visit the Oracle BPEL Process Manager Web site for updates on a periodic basis.

Note: Oracle BPEL Process Manager must be restarted for changes to take effect.

Postinstallation Steps for Oracle BPEL Process Manager for Developers

The procedures in this section are necessary only if you are using Oracle BPEL Process Manager for Developers.

- [Step 1: Mandatory - Download and Apply Patches](#)
- [Step 2: Mandatory - Set JDeveloper Proxy Information](#)
- [Step 3: Optional - Configure Oracle BPEL Process Manager to Use Your Oracle Database](#)
- [Step 4: Optional - Configure the Startup File to Use the Oracle database](#)
- [Step 5: Optional - Configure JDeveloper BPEL Designer to Use Online Help from a Local Disk](#)

Step 1: Mandatory - Download and Apply Patches

Note: The patch described in this section must be applied after installing Oracle BPEL Process Manager for Developers and *before* you use the product.

You must download and install the patch described in this procedure before you start Oracle BPEL Process Manager Server for the first time. The file `README.txt` included in the zip archive that you download provides more information about this patch.

To download the patch:

1. Log in to:
<http://metalink.oracle.com>
2. Select **Patches and Updates** from the navigation bar.
3. Select **Simple Search**.
4. **Search by Patch Number** for 4369818. This patch is generic for all platforms, so accept the default for the **Platform or Language** field.

To apply the patch:

1. Unzip `ppatch_number_101200_GENERIC.zip` to a temporary directory such as `temp` and specify **All files** and **Use folder names**.

The subdirectories and files are extracted to a directory named for the patch number in the location that you specified. The `README.txt` file is located in this directory.

2. Open a command window.
3. Set `Oracle_Home` to the Oracle home that needs to be patched.
4. Set your environment `PATH` to include `Oracle_Home/OPatch`.
5. Stop all processes running from the `Oracle_Home`.
6. Change to the `patch_number` directory.
7. Enter the command:

```
opatch apply
```

If you have any problems installing this patch, call Oracle Support Services.

Step 2: Mandatory - Set JDeveloper Proxy Information

You must add the hostname of your computer to the Oracle JDeveloper preference settings. If you do not do this, you can receive parsing errors when selecting a WSDL file on the WSDL Chooser window while creating a partner link. Additionally, this procedure ensures that you can access the online help from the Oracle JDeveloper Web site on the Oracle Technology Network.

1. Select **Preferences** from the **Tools** main menu.
2. Click **Web Browser and Proxy**.
3. Enter the hostname of your host in the **Exceptions** field. For example, if your hostname is `myhost-pc`:

```
us.acme.com|*.us.acme.com|localhost|127.0.0.1|myhost-pc
```

4. Ensure that `localhost` appears in the **Exceptions** field.
5. Click **OK**.

Step 3: Optional - Configure Oracle BPEL Process Manager to Use Your Oracle Database

This procedure is required for Oracle BPEL Process Manager for Developers on UNIX, if you want to use an Oracle database as your dehydration database on Windows, or if you require multibyte character set support.

To configure the Oracle database to use Oracle BPEL Process Manager:

1. Find the Oracle BPEL Process Manager `data-sources.xml` file located in the `config` directory under the destination path that you specified during installation. For example, on Windows:

```
C:\BPELPM1012\integration\orabpel\system\appserver\oc4j\j2ee\home\config
```

2. Make a backup copy of the `data-sources.xml` file.
3. Edit the `data-sources.xml` file in a text editor as follows.

- Search for the heading Use this datasource to connect to Oracle 9i.
- Uncomment the data-source elements under this heading.
- Edit the connection parameters indicated in bold in this example.

```
<!-- Use this datasource to connect to Oracle 9i -->
<data-source class="com.evermind.sql.DriverManagerDataSource"
  name="BPELServerDataSource"
  location="loc/BPELServerDataSource"
  xa-location="BPELServerDataSource"
  ejb-location="jdbc/BPELServerDataSource"
  connection-driver="oracle.jdbc.OracleDriver"
  max-connections="50"
  min-connections="10"
  connection-retry-interval="30"
  max-connect-attempts="10"
  url="jdbc:oracle:thin:username/password@host:port:sid" />
```

where the default username is orabpel and the default password is orabpel. The host is the fully qualified name or IP address of the host on which you installed Oracle Database 10g or Oracle9i Database release 9.2.0.5.0 or later. The default port number is 1521.

An example of the connection parameters is:

```
url="jdbc:oracle:thin:orabpel/orabpel@DB_Host:1521:DB_SID" />
```

- Search for the heading Use these datasources to connect to Oracle Lite.
- Comment out the entire section under this heading. For example:

```
<!-- Use these datasources to connect to Oracle Lite -->
<!--
<data-source class="com.evermind.sql.DriverManagerDataSource"
  name="BPELServerDataSource"
  location="loc/BPELServerDataSource"
  xa-location="BPELServerDataSource"
  ejb-location="jdbc/BPELServerDataSource"
  connection-driver="oracle.lite.poljdbc.POLJDBCDriver"
  username="system"
  password="any"
  max-connections="30"
  min-connections="10"

...
-->
```

4. Save the data-sources.xml file.

Step 4: Optional - Configure the Startup File to Use the Oracle database

For Windows only, if you are using the Oracle database, then you must configure startorabpel.bat to use the Oracle database instead of Oracle Database Lite. This procedure only applies for Windows installations.

1. Find the startorabpel.bat file located in the bin folder under the destination path that you specified during installation. For example, on Windows:

```
C:\BPELPM1012\integration\orabpel\bin
```


2. Make a backup copy of the `startorabpel.bat` file.
3. Edit the `startorabpel.bat` file as follows:
 - Remove or comment out two lines that call Oracle Database Lite as shown.


```

@rem call "C:\BPELPM1012\integration\orabpel\bin\kill_olite.bat"

and

@rem start /d "C:\BPELPM1012\integration\orabpel\bin" /min /realtime start_
olite.bat
          
```
4. Save the `startorabpel.bat` file.

Step 5: Optional - Configure JDeveloper BPEL Designer to Use Online Help from a Local Disk

The procedure in this section is optional and only helpful if you want to use online help from a local disk. Online help for Oracle JDeveloper is available from the Oracle JDeveloper Web site. Therefore, to use the most current online help from the Web, ensure that you have an external connection to access the files.

To install the online help to use locally:

1. Download `jdev1012_doc.zip` from the Oracle JDeveloper documentation page on Oracle Technology Network at:
<http://www.oracle.com/technology/products/jdev>
2. Install the documentation into Oracle JDeveloper by extracting the files into the directory where Oracle JDeveloper is installed.
 The `jdev_install\jdev\doc\ohj` directory is created, as well as the `jdev_install\jdev\tutorials` directory.
3. From the JDeveloper BPEL Designer Tools menu, select **Preferences** and then **Documentation**.
4. Select **Use Local Documentation**.

If you install the documentation into any other local directory, then you need to configure the location in JDeveloper as follows:

1. Start JDeveloper BPEL Designer.
2. Select **Tools > Preferences > Documentation** from the JDeveloper main menu.
3. Select **Use Local Documentation**.
4. Set the full path to where the local documentation is installed.
5. Click **OK**.

Note: Oracle BPEL Process Manager must be restarted for changes to take effect.

Postinstallation Step for Oracle BPEL Process Manager for OracleAS Middle Tier

This step is required for all installations of Oracle BPEL Process Manager for OracleAS Middle Tier.

Step 1: Mandatory - Restart Oracle Enterprise Manager 10g Application Server Control Console

Stop and restart Oracle Enterprise Manager 10g Application Server Control Console as follows:

```
emctl stop em
```

```
emctl start em
```

Postinstallation Verification Tasks for Oracle BPEL Process Manager

This section helps you verify your installation of Oracle BPEL Process Manager. Completing these steps help confirm a fully functional installation of the various installed components.

Table 1–8 provides instructions for accessing the various components.

Table 1–8 Accessing Oracle BPEL Process Manager Components

To Access The...	On Windows...	On UNIX...
Oracle BPEL Server	<p>To start Oracle BPEL Server:</p> <p>Select Start > All Programs > Oracle - Oracle_Home > Oracle BPEL Process Manager 10.1.2 > Start BPEL PM Server</p> <p>To stop Oracle BPEL Server:</p> <p>Select Start > All Programs > Oracle - Oracle_Home > Oracle BPEL Process Manager 10.1.2 > Stop BPEL PM Server</p>	<p>To start Oracle BPEL Server:</p> <p>From \$ORACLE_HOME/integration/orabpel/bin:</p> <pre>startorabpel.sh</pre> <p>To stop Oracle BPEL Server:</p> <p>From \$ORACLE_HOME/integration/orabpel/bin:</p> <pre>shutdownorabpel.sh</pre>
JDeveloper BPEL Designer	<p>Select Start > All Programs > Oracle - Oracle_Home > Oracle BPEL Process Manager 10.1.2 > JDeveloper BPEL Designer to start JDeveloper BPEL Designer, or use the shortcut icon that is placed on your desktop.</p>	<pre>\$ORACLE_HOME/integration/jdev/jdev/bin/jdev</pre>
Oracle BPEL Console	<p>You must first start Oracle BPEL Server.</p> <p>To start Oracle BPEL Console:</p> <ol style="list-style-type: none"> Select Start > All Programs > Oracle - Oracle_Home > Oracle BPEL Process Manager 10.1.2 > BPEL Console <p>You can also start Oracle BPEL Console from Internet Explorer 6.0 using the URL for your installation, which can be found in bpelsetupinfo.txt.</p>	<p>First start Oracle BPEL Server.</p> <p>To start the Oracle BPEL Console:</p> <ul style="list-style-type: none"> From Internet Explorer 6.0, log on to the URL for your installation, which can be found in bpelsetupinfo.txt.

Table 1–8 (Cont.) Accessing Oracle BPEL Process Manager Components

To Access The...	On Windows...	On UNIX...
Developer Prompt	Select Start > All Programs > Oracle - Oracle_Home > Oracle BPEL Process Manager 10.1.2 > Developer Prompt to open up a command prompt at the <code>c:\Oracle_Home\integration\orabpel\samples</code> directory. This enables you to easily access demonstrations.	Set the Developer Prompt in the Bourne shell: <pre>\$ ORACLE_ HOME=/home/oracle/installs/midtier \$ export ORACLE_HOME \$ PATH=\$ORACLE_ HOME/integration/orabpel/bin:\$PATH \$ export PATH</pre>
Oracle BPEL Process Manager Samples and Tutorials	For details about BPEL samples and additional tutorials available for use: Select Start > All Programs > Oracle - Oracle_Home > Oracle BPEL Process Manager 10.1.2 > Getting Started with Samples	Log into the following URL using Internet Explorer 6.0: <code>\$ORACLE_ HOME/integration/orabpel/samples/s ampleshome.html</code>
Oracle BPEL Worklist Application	To access the login window for Oracle BPEL Worklist Application: Select Start > All Programs > Oracle - Oracle_Home > Oracle BPEL Process Manager 10.1.2 > Sample Worklist Application You may also start Oracle BPEL Worklist Application from Internet Explorer 6.0 using the URL for your installation, which is found in <code>bpelsetupinfo.txt</code> .	First start Oracle BPEL Server. To start Oracle BPEL Worklist Application: <ul style="list-style-type: none"> From Internet Explorer 6.0, log on to the URL for your installation, which is found in <code>bpelsetupinfo.txt</code>.

See Also:

- *Oracle BPEL Process Manager Quick Start Guide*
- *Oracle BPEL Process Manager Order Booking Tutorial*
- *Oracle BPEL Process Manager Developer's Guide*

Installing Oracle BPEL Process Manager on a Processor Farm

Follow these steps to successfully install Oracle BPEL Process Manager on a processor farm or server cluster.

See Also: *Oracle Application Server Installation Guide* for your operating system

1. Install Oracle Application Server 10g Release 2 (10.1.2) on server 1.
2. Install Oracle Application Server 10g Release 2 (10.1.2) on server 2.
3. Go to Oracle Enterprise Manager 10g Application Server Control Console of the first middle tier (server 1), and perform the following steps:
 - Go to OracleAS Infrastructure and configure a farm repository. You may create a file-based repository.
 - Note the ID of the farm repository you just created.
4. After you configure the farm repository, stop all Oracle Process Manager and Notification Server (OPMN) processes and stop Oracle Enterprise Manager 10g Application Server Control Console on middle tier server 1.

5. Start OPMN and Application Server Control Console again on middle tier server 1. This synchronizes the farm repository.
6. Go to Application Server Control Console on the second middle tier (server 2), and perform the following steps:
 - Go to OracleAS Infrastructure and configure a farm repository. You may create a file-based repository
 - Click **Add to an existing Farm repository and Provide the repository Id at joining time.**
7. Stop all OPMN and Application Server Control Console for middle tier servers 1 and 2.
8. Start OPMN and Application Server Control Console again on middle tier servers 1 and 2.
9. Install Oracle BPEL Process Manager on middle tier server 1.
10. Using Application Server Control Console, create a cluster on middle tier server 1.
11. Add middle tier server 1 to the cluster.
12. Perform a stop and start of OPMN and Oracle Enterprise Manager 10g Application Server Control Console on all farm members. This ensures that the farm repositories are still synchronized.
13. Install Oracle BPEL Process Manager on middle tier server 2.
14. Add middle tier server 2 to the cluster. (This step takes a long time to complete.)

Globalization for Oracle BPEL Process Manager

This section provides information about globalization and optional considerations.

Oracle BPEL Console and BPEL Server Locales

Oracle BPEL Console is available in the following languages: French, German, Italian, Spanish, Portuguese, Japanese, Korean, Simplified Chinese, and Traditional Chinese. JDeveloper BPEL Designer is only available in English and Japanese. Oracle BPEL Console and JDeveloper BPEL Designer retrieve and display text message from Oracle BPEL Server in the server locale on certain pages. To avoid mixed languages being displayed, make sure Oracle BPEL Console and Oracle BPEL Server are using the same locale.

BPEL Designer Online Help

The online help for JDeveloper BPEL Designer is only available in English for this release.

XSLT Mapper Parsing

The XSLT mapper uses UTF-8 encoding for your operating system to read XSL content from files. Therefore, parsing errors can occur if encoding of XSL content is different from UTF-8.

Determining the Version of Your Oracle BPEL Process Manager

You can determine the version number of Oracle BPEL Process Manager for support purposes.

To check your JDeveloper BPEL Designer version:

- Start JDeveloper BPEL Designer and select **About** from the Help menu. Look for the line **BPEL Designer**.

To check the Oracle BPEL Server version on Windows:

1. Select **Start > All Programs > Oracle - Oracle_Home > Oracle BPEL Process Manager 10.1.2** and select **Developer Prompt**.
2. Enter `obversion` at the command prompt.

To check the Oracle BPEL Server version on UNIX:

- Go to `$ORACLE_HOME/integration/orabpel/bin` and run `obversion.sh`.

Directory Structure of Oracle BPEL Process Manager

Table 1–9 shows the directory structure that is created after completing the installation of JDeveloper BPEL Designer and Oracle BPEL Process Manager.

Table 1–9 Directory Structure for Oracle BPEL Process Manager Installed Components

This Directory	Contains...
<code>cfgtoollogs</code>	Oracle Universal Installer configuration tools logs.
<code>diagnostics</code>	Oracle Universal Installer diagnostic information.
<code>integration</code>	These subdirectories:

Table 1–9 (Cont.) Directory Structure for Oracle BPEL Process Manager Installed

This Directory	Contains...
<ul style="list-style-type: none"> ■ <code>jdev</code> <p>Note: This directory is installed with the BPEL Process Manager for Developers option only</p>	<ul style="list-style-type: none"> ■ JDeveloper BPEL Designer and Oracle JDeveloper files and directories, including the workspace and project directories (under <code>jdev/jdev/mywork</code>) in which your BPEL processes are created and designed.
<ul style="list-style-type: none"> ■ <code>orabpel</code> 	<ul style="list-style-type: none"> ■ Oracle BPEL Process Manager files and directories, which include the samples.
<code>integration/orabpel</code>	These subdirectories:
<ul style="list-style-type: none"> ■ <code>bin</code> ■ <code>docs</code> ■ <code>domains</code> ■ <code>install</code> ■ <code>lib</code> ■ <code>samples</code> ■ <code>system</code> 	<ul style="list-style-type: none"> ■ BPEL server binary and script files. ■ Javadocs and API documentation. ■ The default domain, plus new domains you create. ■ BPEL installer-related files. ■ Oracle BPEL Process Manager JAR files. ■ All samples and associated files. ■ Oracle Application Server files, classes, and logs.
<code>inventory</code>	Oracle installed products.
<code>jdk</code>	The required Java Developer's Kit version.
<code>jre</code>	Java runtime environment files and libraries.
<code>lib</code>	Servlet jar file.
<code>OPatch</code>	The <code>opatch</code> utility and files to help patch components within this product.
<code>oui</code>	Oracle Universal Installer.
<code>perl</code>	The required version of Perl for the <code>opatch</code> utility.

Deinstallation Tasks for Oracle BPEL Process Manager

Follow these instructions to deinstall Oracle BPEL Process Manager:

1. Start Oracle Universal Installer.

On...	Do This...
UNIX	Enter the following command at the operating system prompt: <code>./runInstaller</code>
Windows	Select Start > All Programs > Oracle - Oracle_Home > Oracle Installation Products > Oracle Universal Installer

2. Select **Deinstall Products**.
3. Expand the Oracle home that contains the products to deinstall.
4. Select **Oracle BPEL Process Manager**.
5. Click **Yes** when prompted.

The deinstallation does not remove files created after installation (for example, project files, server files, log files, and so on). You must manually remove these files and directories. Oracle recommends that you delete the `integration` directory under your Oracle home after backing up any required files.

Note:

- If you want to deinstall and reinstall Oracle BPEL Process Manager in the *same* Oracle home, ensure that you first remove files and subdirectories under `Oracle_Home/integration` before performing the Oracle BPEL Process Manager reinstallation. The only directory that does not need to be removed is the `log` directory. Other than this directory, the `Oracle_Home/integration` directory must be empty for reinstallations into the same Oracle home.
 - You cannot deinstall and then reinstall within the same Oracle home during the same OUI install session. You must exit the OUI after deinstallation, clean out the directory structure, and then restart a fresh installation.
-

Troubleshooting Oracle BPEL Process Manager Installation and Configuration

This section contains troubleshooting tips and information for issues that you can encounter.

Optimizing Transaction Timeout for BPEL Server

The server timeout value is specified by the `transaction-config timeout` parameter in the `server.xml` file located in `Oracle_Home\j2ee\OC4J_BPEL\config`. The default value of the `transaction-config timeout` parameter is "60000" milliseconds, or one minute, which may not be optimal for your server load.

This value can be adjusted along with the `syncMaxWaitTime` in the domain configuration file `domain.xml`, which is located in `Oracle_Home\integration\orabpel\domains\default\config`. In general, `syncMaxWaitTime` should always be **less than** `transaction-config timeout` in `server.xml`.

To change the `transaction-config timeout` parameter:

1. Go to `Oracle_Home\j2ee\OC4J_BPEL\config`, and open the file `server.xml` in a text editor.
2. Find the line for the `transaction-config timeout` parameter. For example:

```
<transaction-config timeout="60000" />
```

3. Change the value to a greater duration. An example that sets the duration to five minutes is as follows:

```
<transaction-config timeout="300000" />
```

Change the `syncMaxWaitTime` parameter through Oracle BPEL Admin Console. Alternatively, to change the `syncMaxWaitTime` setting manually:

1. Go to `Oracle_Home\integration\orabpel\domains\default\config` and open the file `domain.xml` in a text editor.
2. Find the line for `syncMaxWaitTime`. For example:

```
<property id="syncMaxWaitTime">
```

3. Change the value to a greater duration, making sure that this is less than the duration you set for `transaction-config timeout`. For example:

```
<property id="syncMaxWaitTime">
  <name>Delivery result receiver maximum wait time</name>
  <value>120</value>
```

The default is 45 seconds, and in this example the duration is changed to 120 seconds, or three minutes.

Alternatively, you can reduce the database activity to the BPEL dehydration database. For example, you can change the `AuditLevel` value to "production" to reduce the database activity. However, doing so takes away some of the useful information from the Console Audit instances details in the Oracle Enterprise Manager 10g Application Server Control Console.

Preventing Timeouts with Oracle Application Server Containers for J2EE

With slow processors, heavily loaded systems, or very large numbers of business processes, Oracle Application Server Containers for J2EE (OC4J) may time out while Oracle BPEL Process Manager is shutting down. If this occurs, then Oracle Enterprise Manager 10g Application Server Control Console displays an error message.

To prevent Oracle Application Server Containers for J2EE from timing out with Oracle BPEL Process Manager, you can increase the `Stop Timeout` parameter in `opmn.xml` to 3 or 4 minutes.

Creating the ORABPEL Tablespace Manually

In environments where your data files are not stored as regular text, create the ORABPEL tablespace prior to running IRCA. For example, if your data files reside on a raw file system, or Veritas, then IRCA cannot create the ORABPEL tablespace. However, if you manually create the tablespace and then run IRCA, it automatically detects that the tablespace exists and continues to configure the user and schema. Note that IRCA runs properly with Automatic Storage Management (ASM).

To create the ORABPEL tablespace manually, use the following SQL statements:

```
CREATE TABLESPACE ORABPEL
    DATAFILE '/dev/vx/rdsk/dg2/1024m_6' SIZE 100M
    AUTOEXTEND ON NEXT 30M MAXSIZE UNLIMITED;
```

Finding Metrics in Application Server Control Console

The metrics for Start Time, CPU Usage, and Memory Usage for Oracle BPEL Process Manager are displayed as "Not Yet Available" in Oracle Enterprise Manager 10g Application Server Control Console. To see these metrics for Oracle BPEL Process Manager, go to the page for Oracle Application Server Containers for J2EE.

BPEL Server Processes Not Starting

Oracle BPEL Console uses the Oracle Application Server Web Cache port in this release. Therefore, both Oracle HTTP Server and Oracle Application Server Web Cache must be running in order for BPEL server processes to be available. You can start these processes from Oracle Enterprise Manager 10g Application Server Control Console by selecting the process and clicking **Start**.

Alternatively, you can start the processes from the Developer Prompt as follows.

To start Oracle HTTP Server, enter:

```
opmnctl startproc process-type=HTTP_server
```

To start Oracle Application Server Web Cache, enter:

```
opmnctl startproc process-type=WebCache
```

Installing Oracle BPEL Process Manager with JBoss or WebLogic Application Servers

This chapter provides the requirements and procedures for installing Oracle BPEL Process Manager with a JBoss Application Server or WebLogic Application Server:

- [Oracle BPEL Process Manager Components Overview](#)
- [System Requirements for Oracle BPEL Process Manager](#)
- [Preinstallation Tasks for Using an Oracle Database](#)
- [Installation Tasks for Oracle BPEL Process Manager](#)
- [Postinstallation Tasks for Oracle BPEL Process Manager](#)
- [Postinstallation Verification Tasks for Oracle BPEL Process Manager](#)
- [Globalization for Oracle BPEL Process Manager](#)
- [Determining the Version of Your Oracle BPEL Process Manager](#)
- [Directory Structure for Oracle BPEL Process Manager](#)
- [Deinstallation Tasks for Oracle BPEL Process Manager](#)
- [Troubleshooting for Oracle BPEL Process Manager](#)

See Also: The following documentation 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 BPEL Process Manager Components Overview

JBoss is an open source, Java-based application server for use on operating systems that support Java. The BEA WebLogic application server enables you to develop, integrate, secure, and manage distributed service-oriented applications. You can install and use Oracle BPEL Process Manager with the JBoss Application Server or WebLogic Application Server.

The following components are included with Oracle BPEL Process Manager:

- Oracle BPEL Server—the server to which you deploy the BPEL process that you design and that contains human workflow, technology adapters, and notification services components.
- Oracle BPEL Console—the console from which you run, manage, and test your deployed BPEL process. Oracle BPEL Console provides a Web-based interface for management, administration, and debugging of processes deployed to Oracle BPEL Server.
- Oracle Database Lite, on Windows—the database that holds your BPEL schema. For UNIX platforms and if you are using a multibyte character set, you cannot use this database. Instead, you must configure a different Oracle database to test your deployed BPEL processes. See ["Preinstallation Tasks for Using an Oracle Database"](#) on page 2-4 and ["Postinstallation Tasks for Oracle Databases"](#) on page 2-12 for details about configuring an Oracle database.

Note: JDeveloper BPEL Designer, which provides a graphical and user-friendly way to model, edit, design, and deploy BPEL Processes, is not included with Oracle BPEL Process Manager on the JBoss Application Server or WebLogic Application Server. For information on downloading and using JDeveloper BPEL Designer, visit the following URL:

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

System Requirements for Oracle BPEL Process Manager

This section describes the system requirements for installing Oracle BPEL Process Manager with the following application servers:

- [JBoss Application Server](#)
- [BEA WebLogic Application Server](#)

JBoss Application Server

[Table 2–1](#) describes the system requirements for Oracle BPEL Process Manager with the JBoss Application Server.

Table 2–1 Oracle BPEL Process Manager System Requirements

Element	Requirement
JBoss Application Server	Version 3.2.6. This JBoss version is automatically installed with Oracle BPEL Process Manager.

Table 2–1 (Cont.) Oracle BPEL Process Manager System Requirements

Element	Requirement
Operating system	<ul style="list-style-type: none"> ■ Sun SPARC Solaris version 8 or 9 ■ Red Hat Enterprise Linux AS/ES 2.1 and 3.0 ■ SUSE Linux Enterprise Server 8 and 9 <p>Note: These supported versions are for Linux on the x86 architecture. Check the Certify section of Oracle <i>MetaLink</i> (http://metalink.oracle.com) for support of these Linux versions on different architectures.</p> <ul style="list-style-type: none"> ■ Windows 2000 with Service Pack 3 ■ Windows Server 2003 with Service Pack 1 ■ Windows XP
JDK	JDK 1.4.x (JDK 1.4.0 is not supported)
Memory	512 MB RAM minimum (1 GB preferred)
Disk space	500 MB
Swap space	1535 MB minimum
Monitor	Configured to display at least 256 colors

BEA WebLogic Application Server

Table 2–2 describes the system requirements for Oracle BPEL Process Manager with the BEA WebLogic Application Server.

Table 2–2 Oracle BPEL Process Manager System Requirements

Element	Requirement
BEA WebLogic Application Server	Version 8.1.4 must already be installed.
Operating system	<ul style="list-style-type: none"> ■ Sun SPARC Solaris version 8 or 9 ■ Red Hat Enterprise Linux AS/ES 2.1 and 3.0 ■ SUSE Linux Enterprise Server 8 and 9 <p>Note: These supported versions are for Linux on the x86 architecture. Check the Certify section of Oracle <i>MetaLink</i> (http://metalink.oracle.com) for support of these Linux versions on different architectures.</p> <ul style="list-style-type: none"> ■ Windows 2000 with Service Pack 3 ■ Windows Server 2003 with Service Pack 1 ■ Windows XP
JDK	JDK 1.4.x (JDK 1.4.0 is not supported)
Memory	512 MB RAM minimum (1 GB preferred)
Disk space	500 MB
Swap space	1535 MB minimum
Monitor	Configured to display at least 256 colors

Supported Databases for Oracle BPEL Process Manager

[Table 2–3](#) lists information about the Oracle database for your Oracle BPEL Process Manager installation.

You may use your existing Oracle database, if it meets the requirements shown in [Table 2–3](#).

Table 2–3 *Supported Oracle Databases*

Oracle Database	Description
Oracle Database Lite	Included on Windows installations of Oracle BPEL Process Manager only. Oracle Database Lite is best suited for designing a BPEL process and then performing preproduction deployment and testing. Once you are ready to deploy a production version, use the Oracle database. Refer to the note in this section about multibyte character set support.
Oracle Database 10g	Recommended for UNIX installations and production deployments on all operating systems.
Oracle9i Database release 9.2.0.5.0 or later	Supported.

Note: Oracle Database Lite currently does not support multibyte character sets. Therefore, if your locale requires multibyte support, then use the Oracle database instead of Oracle Database Lite.

Supported Web Browsers for Oracle BPEL Console

Oracle BPEL Console requires Internet Explorer 6.0 SP2.

Note: Ensure that cookies are enabled in your Web browser. The Oracle BPEL Console caching mechanism uses cookies to identify user sessions.

Preinstallation Tasks for Using an Oracle Database

Note: If you are using Oracle Database Lite, you can skip this section and proceed to ["Installation Tasks for Oracle BPEL Process Manager"](#) on page 2-6.

An Oracle database is required to be your dehydration store for all Oracle BPEL Process Manager instances. Oracle Database Lite is automatically installed with Oracle BPEL Process Manager on Windows operating systems only.

For UNIX platforms and if you are using a multibyte character set, you need to configure an Oracle database for your deployed BPEL processes.

Follow these instructions:

- [Step 1: Install the Oracle Database - If Not Already Installed](#)

- [Step 2: Run Integration Repository Creation Assistant](#)

Step 1: Install the Oracle Database - If Not Already Installed

An Oracle database is required to be your dehydration store for all Oracle BPEL Process Manager instances. If you already have an Oracle database that meets the requirements, then you do not need to reinstall the database. Otherwise, install or upgrade before you proceed.

Step 2: Run Integration Repository Creation Assistant

Run Integration Repository Creation Assistant (IRCA) to create the database user and schema. IRCA creates the default user `orabpel` and the default password `orabpel` on the tablespace `ORABPEL` that it creates in the Oracle database.

- You must run IRCA from the host where your Oracle database is installed, and your database must be up and running before you run IRCA.
- If you already have an Oracle BPEL Process Manager user (`orabpel`) in the target database, then stop all sessions, activity, and transactions for the user before running IRCA.
- IRCA is located at the root of the Oracle BPEL Process Manager software media in `IRCA.zip`.
- IRCA does not support Oracle Application Server Metadata Repository.

To run IRCA:

1. Copy the ZIP file to the host where the Oracle database is installed.
2. Extract the ZIP file to a temp directory of the host system, being sure to preserve path information.
3. From a command window, run `irca.bat` on Windows or `irca.sh` on UNIX. IRCA starts and prompts you for information.
4. Provide the database details as shown in [Table 2-4](#) when prompted. Be sure to record the information that you provide. You must provide this information later when you configure either JBoss Application Server ("[Configure the JBoss Application Server](#)" on page 2-12) or BEA WebLogic Application Server ("[Configure the BEA WebLogic Application Server](#)" on page 2-14) to use the Oracle database as the dehydration store.

Important: Change the `orabpel` user password after you run IRCA, and make a note of your new password.

Table 2–4 IRCA Prompts for Information

Prompt	Description	Example
Enter Database Oracle Home	Your <i>Oracle_Home</i>	C:\OraHome_1\
Enter JDK 1.4 location <default path>	Accept the default path for the Oracle database. Otherwise, if you downloaded JDK 1.4 separately, then give its location.	C:\oracle\product\10.1.0\DB_1\jdk
Enter database host [localhost]	The full name or IP address of your database host.	hr1-pc.us.acme.com or 137.1.18.228
Enter database port [1521]	The database listener port. The default is 1521.	1521
Enter database service name [orcl]	The service name that you specified when you installed the database. The default service name is <code>orcl</code> , which may be prepended to the fully qualified domain name (FQDN) for your database. Note that this is not the SID. If you are not sure, then run the SQL*Plus command <code>show parameter service_names</code> .	orcl or orcl.us.acme.com
Enter sys password	The database <i>sys</i> user password.	8x9cv55 Note: This is just an example. The password to enter is the one you specified for this account either during or after Oracle database installation.

Installation Tasks for Oracle BPEL Process Manager

Follow these instructions to install Oracle BPEL Process Manager with the following application servers:

- [JBoss Application Server](#)
- [WebLogic Application Server](#)

Note: The Solaris and Linux instructions in these sections describe the screens that appear and mouse clicks to use when performing an X Windows-based installation. If you are performing a console-based installation (that is, with no graphical user interface), the questions that appear are the same, but the keyboard commands you use to navigate through the installation are different. Be aware of the commands. For example, you press **Enter** to move to the next set of questions, instead of clicking **Next**.

JBoss Application Server

1. Log on to the host on which to install Oracle BPEL Process Manager.
2. Download Oracle BPEL Process Manager for JBoss for the operating system you are using from <http://www.oracle.com/technology/bpel>:

Operating System	Name of File to Download
Windows	as_windows_x86_bpel_jboss_101200.exe
Solaris	as_sun_bpel_jboss_101200.cpio
Linux	as_linux_x86_bpel_jboss_101200.cpio

Each downloadable file contains the following components:

- The `readme` file for this release, which contains important information to read before you begin
- The Oracle BPEL Process Manager software to install
- The `IRCA.zip` file, which is described in ["Step 2: Run Integration Repository Creation Assistant"](#) on page 2-5

3. Begin the installation:

For...	Perform These Steps...
Windows	<ol style="list-style-type: none"> 1. Double-click <code>as_windows_x86_bpel_jboss_101200.exe</code> and extract the contents into a temporary directory. 2. Change directories to <code>bpel_jboss</code> in Explorer. 3. Double-click the <code>as_windows_x86_bpel_jboss_101200.exe</code> executable file.
Solaris and Linux	<ol style="list-style-type: none"> 1. Extract the downloaded file: <code>cat as_platform_bpel_jboss_101200.cpio cpio -icd</code> where <i>platform</i> is either <i>sun</i> (for Solaris) or <i>linux_x86</i> (for Linux) 2. Change directories: <code>cd bpel_jboss</code> 3. Unzip the <code>.gz</code> file: <code>gunzip as_platform_bpel_jboss_101200.bin.gz</code> 4. Set the permissions to make the unzipped file executable: <code>chmod +x as_platform_bpel_jboss_101200.bin</code> 5. Run the file in either of two ways: For X Windows-based installations: <code>./as_platform_bpel_jboss_101200.bin</code> For console-based installations (no graphical user interface): <code>./as_platform_bpel_jboss_101200.bin -i console</code>

The Introduction screen appears.

4. Review the instructions and click **Next**.

The Choose Install Folder window appears.

5. Specify a directory in which to install Oracle BPEL Process Manager and click **Next**.

Note: The examples throughout this chapter use `C:\OraBPELPM` (for Windows installations) and `/home/user_home/OraBPELPM` (for Solaris and Linux installations) as the home directory name that you specify. If you specify a different home directory, substitute it as necessary in this chapter.

The Choose JDK Folder window appears.

6. Specify a directory in which JDK 1.4.x is installed and click **Next**. You cannot use JDK 1.4.0. You can download the correct version from the following URL:

<http://java.sun.com/j2se>

The Specify incoming HTTP port information window appears.

7. Enter the following details and click **Next**:

Field	Description	Example
HTTP Port	The incoming HTTP port number	9700
HTTPS Port	The incoming secure HTTP port number	9701

The Specify outgoing HTTP port information window appears. This window enables you to route outgoing HTTP connections through a proxy server.

8. If a proxy server is required for connecting to the Internet, ensure that the **Proxy required for internet** check box remains selected.
9. Enter the following proxy server details:

Field	Description	Example
HTTP Proxy Host	The name of the proxy server host	www-proxy.us.acme.com
HTTP Proxy Port	The port number of the proxy server host	80
Bypass proxy for addresses	The addresses that bypass the proxy (separated by semicolons)	*.acmecorp.com;*.acmeportal.com;<local>

10. Click **Install**.

The Pre-Installation Summary screen appears.

11. Review your selections from the previous screens and click **Install**.

After installation completes, the Install Complete screen appears.

12. Click **Done**.

The Getting Started with Oracle BPEL Process Manager page appears with instructions on how to get started.

WebLogic Application Server

1. Log on to the host on which to install Oracle BPEL Process Manager.

2. Download Oracle BPEL Process Manager for BEA WebLogic for the operating system you are using from <http://www.oracle.com/technology/bpel>:

Operating System	Name of File to Download
Windows	as_windows_x86_bpel_weblogic_101200.exe
Solaris	as_sun_bpel_weblogic_101200.cpio
Linux	as_linux_x86_bpel_weblogic_101200.cpio

Each downloadable file contains the following components:

- The readme file for this release, which contains important information to read before you begin
- The Oracle BPEL Process Manager software to install
- The IRCA.zip file, which is described in ["Step 2: Run Integration Repository Creation Assistant"](#) on page 2-5

3. Begin the installation:

For...	Perform These Steps...
Windows	<ol style="list-style-type: none"> 1. Double-click <code>as_windows_x86_bpel_weblogic_101200.exe</code> and extract the contents into a temporary directory. 2. Change directories to <code>bpel_weblogic</code> in Explorer. 3. Double-click the <code>as_windows_x86_bpel_weblogic_101200.exe</code> executable file.
Solaris and Linux	<ol style="list-style-type: none"> 1. Extract the downloaded file: <code>cat as_platform_bpel_weblogic_101200.cpio cpio -icd</code> where <i>platform</i> is either <i>sun</i> (for Solaris) or <i>linux_x86</i> (for Linux) 2. Change directories: <code>cd bpel_weblogic</code> 3. Unzip the .gz file: <code>gunzip as_platform_bpel_weblogic_101200.bin.gz</code> 4. Set the permissions to make the unzipped file executable: <code>chmod +x as_platform_bpel_weblogic_101200.bin</code> 5. Run the file in either of two ways: For X Windows-based installations: <code>./as_platform_bpel_weblogic_101200.bin</code> For console-based installations (no graphical user interface): <code>./as_platform_bpel_weblogic_101200.bin -i console</code>

The Introduction screen appears.

4. Review the instructions and click **Next**.

The Choose Install Folder window appears.

5. Specify a directory in which to install Oracle BPEL Process Manager and click **Next**.

The Choose BEA Installation window appears.

6. Select the directory in which the BEA WebLogic Application Server version 8.1.4 is installed and click **Next**.

The Specify WebLogic Domain window appears.

7. Accept the default domain name of **myorabpel** or specify a different name in the **Domain Name** field and click **Next**.

The Choose WebLogic Domain Location window appears.

8. Accept the base directory of **user_projects** for your domain or specify a different directory and click **Next**.

The Choose JDK Folder window appears.

9. Specify a directory in which JDK 1.4.x is installed and click **Next**. You cannot use JDK 1.4.0. Your BEA WebLogic Application Server version 8.1.4 installation includes an applicable JDK 1.4.x installation that you can use.

You can also download the correct version from the following URL:

<http://java.sun.com/j2se>

The Specify incoming HTTP port information window appears.

10. Enter the following details and click **Next**:

Field	Description	Example
HTTP Port	The incoming HTTP port number	9700
HTTPS Port	The incoming secure HTTP port number	9701

The Specify outgoing HTTP port information window appears. This window enables you to route outgoing HTTP connections through a proxy server.

11. If a proxy server is required for connecting to the Internet, ensure that the **Proxy required for internet** check box remains selected.

12. Enter the following proxy server details:

Field	Description	Example
HTTP Proxy Host	The name of the proxy server host	www-proxy.us.acme.com
HTTP Proxy Port	The port number of the proxy server host	80
Bypass proxy for addresses	The addresses that bypass the proxy (separated by semicolons)	*.acmecorp.com; *.acmeportal.com; <local>

13. Click **Install**.

The Pre-Installation Summary screen appears.

14. Review your selections from the previous screens and click **Install**.

After installation completes, the Install Complete screen appears.

15. Click **Done**.

The Getting Started with Oracle BPEL Process Manager page appears with instructions on how to get started.

Postinstallation Tasks for Oracle BPEL Process Manager

Complete the following postinstallation tasks.

- [Postinstallation Steps for Oracle BPEL Process Manager](#)
- [Postinstallation Tasks for Oracle Databases](#)

Postinstallation Steps for Oracle BPEL Process Manager

Complete these procedures for all installations of Oracle BPEL Process Manager.

- [Step 1: Mandatory - Configure the Samples on Solaris and Linux](#)
- [Step 2: Recommended - Change Default Passwords](#)
- [Step 3: Recommended - Configure Notification and Workflow for Oracle BPEL Process Manager](#)
- [Step 4: Mandatory - Download and Apply Patches](#)

Step 1: Mandatory - Configure the Samples on Solaris and Linux

You must configure the samples shipped with Oracle BPEL Process Manager on Solaris and Linux before you can use them.

1. Set your PATH variable to include `/home/user_home/OraBPELPM/bin`:

```
export PATH=/home/user_home/OraBPELPM/bin:$PATH
```

2. Change to the following directory:

```
cd /home/user_home/OraBPELPM/samples
```

3. Run `obant` to configure the samples:

```
obant.sh configure
```

A message similar to the following displays at the end.

```
BUILD SUCCESSFUL
Total time: 23 seconds
```

Step 2: Recommended - Change Default Passwords

It is important to change default passwords before you start using the product.

- A domain named `default` is automatically installed with Oracle BPEL Process Manager. The initial password for this domain is `bpel`. Change this password immediately after installation is complete.
- You create BPEL domains and configure Oracle BPEL Server properties from Oracle BPEL Admin Console. The password for Oracle BPEL Admin Console is automatically set to `oracle`. Change this password immediately after installation.

See Also: *Oracle BPEL Process Manager Developer's Guide* for procedures on changing passwords

Step 3: Recommended - Configure Notification and Workflow for Oracle BPEL Process Manager

In order to use the notification service and workflow applications, you must complete the following steps.

1. Configure the e-mail server settings as described in *Oracle BPEL Process Manager Developer's Guide* in the Oracle BPEL Process Manager Notification Service chapter. The e-mail server settings are used to send and receive e-mails by the notification and workflow services.
2. Acting on workflow tasks through e-mail requires that you configure the actionable e-mail account as described in *Oracle BPEL Process Manager Developer's Guide* in the Oracle BPEL Process Manager Workflow Services chapter.
3. If the notification service is to be used to send notifications using voice or short message service (SMS) channels, then the wireless service settings must be configured as described in the section that describes configuring the wireless service provider for voice in the Oracle BPEL Process Manager Notification Service chapter of *Oracle BPEL Process Manager Developer's Guide*.

Step 4: Mandatory - Download and Apply Patches

Oracle periodically releases patches that fix issues and provide enhancements. You must download and apply these patches to Oracle BPEL Process Manager. To find out if any patches have been released since you obtained your copy of Oracle BPEL Process Manager, visit the 10.1.2 patches link at the following URL for details:

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

Postinstallation Tasks for Oracle Databases

Note: If you are using Oracle Database Lite, you can skip this section.

If you are using an Oracle database other than Oracle Database Lite as the dehydration store, you must complete the following steps:

- [Step 1: Configure the Application Server to Use the Oracle Database as a Dehydration Store](#)
- [Step 2: \(Windows only\) Configure the Startup File to Use the Oracle Database](#)

Note: Substitute the home directory name in the following sections with the one you specified on the Choose Install Folder window in Step 5 on page 2-7 for JBoss or Step 5 on page 2-9 for BEA WebLogic.

Step 1: Configure the Application Server to Use the Oracle Database as a Dehydration Store

See the following section based on the application server you are using:

- [Configure the JBoss Application Server](#)
- [Configure the BEA WebLogic Application Server](#)

Configure the JBoss Application Server

1. Back up the following files for the operating system you are using. Ensure that the backup file is placed in a directory *other* than the deploy directory listed below.

On...	Back Up...
Windows	<ul style="list-style-type: none"> ■ C:\OraBPELPM\system\appserver\jboss\server\default\deploy\oracle-ds.xml ■ C:\OraBPELPM\system\appserver\jboss\server\default\deploy\oracle-sample-bpel-ds.xml
Solaris and Linux	<ul style="list-style-type: none"> ■ /home/user_ home/OraBPELPM/system/appserver/jboss/server/default/deploy/oracle-ds.xml ■ /home/user_ home/OraBPELPM/system/appserver/jboss/server/default/deploy/oracle-sample-bpel-ds.xml

2. Open oracle-ds.xml for the operating system you are using with a text editor. This file includes the following sections to which you *must* make the same changes:

- <local-tx-datasource>
- <no-tx-datasource>

3. Change the following two lines to use the JDBC thin driver with the Oracle database in the <local-tx-datasource> section.

Change:

```
<connection-url>jdbc:polite4@127.0.0.1:100:orabpel</connection-url>
<driver-class>oracle.lite.poljdbc.POLJDBCdriver</driver-class>
```

to:

```
<connection-url>jdbc:oracle:thin:orabpel/orabpel_
password@hostname:port:database_service_name </connection-url>
<driver-class>oracle.jdbc.OracleDriver</driver-class>
```

Note: Enter the orabpel user name and password (orabpel by default, unless you changed it as recommended) that were automatically created and the hostname, port, and database service name that you manually entered when running IRCA in ["Step 2: Run Integration Repository Creation Assistant"](#) on page 2-5.

4. Optionally add the following lines immediately below this if you want to use exception handling capabilities:

```
<exception-sorter-class-name>
org.jboss.resource.adapter.jdbc.vendor.OracleExceptionSorter
</exception-sorter-class-name>
```

5. Remove or comment out the following two lines. These lines apply only to Oracle Database Lite.

```
<!--
<user-name>system</user-name>
<password>manager</password>
-->
```

6. Repeat Step 3 through Step 5 to make the same changes in the `<no-tx-datasource>` section of `oracle-ds.xml`.
7. Save your changes.
8. Open `oracle-sample-bpel-ds.xml` and repeat Step 3 through Step 5 to make the same changes *only* in the `<local-tx-datasource>` section; this file does not include a `<no-tx-datasource>` section.
9. Save your changes.
10. Back up the following file for the operating system you are using:

On...	Back Up...
Windows	■ <code>C:\OraBPELPM\system\appserver\jboss\bin\run.bat</code>
Solaris and Linux	■ <code>/home/user_home/OraBPELPM/system/appserver/jboss/bin/run.sh</code>

11. Open the file for the operating system you are using with a text editor.
12. Make the following changes for the JDBC thin driver.

On...	Make The Following Changes:
Windows	<ol style="list-style-type: none"> 1. Update <code>JBOSS_CLASSPATH</code> as follows: <pre>set JBOSS_CLASSPATH=Oracle_Home\jdbc\lib\ojdbc14.jar;%JBOSS_CLASSPATH% ;%JAVAC_JAR%;% RUNJAR%;%POST_CLASSPATH%;</pre> where <i>Oracle_Home</i> is the Oracle top-level directory (for example, <code>C:\oracle\product\10.1.0\Db_1</code>).
Solaris and Linux	<ol style="list-style-type: none"> 1. Update <code>JBOSS_CLASSPATH</code> as follows: <pre>JBOSS_CLASSPATH=\$ORACLE_HOME/jdbc/lib/ojdbc14.jar:\$JBOSS_CLASSPATH</pre> where <i>\$ORACLE_HOME</i> is the Oracle top-level directory (for example, <code>home/user_home/oracle/product/10.1.0/Db_1</code>).

Note: If the Oracle database is installed remotely, you must copy the JAR file locally (for example, `C:\temp\ojdbc14.jar`) and add it to your path.

13. Save your changes.

Configure the BEA WebLogic Application Server

1. Back up the following files for the operating system you are using:

On...	Back Up...
Windows	<code>C:\OraBPELPM\domain_location\domain_name\config.xml</code>

On...	Back Up...
Solaris and Linux	<p>/home/user_home/OraBPELPM/domain_location/domain_name/config.xml</p> <p>where:</p> <ul style="list-style-type: none"> ■ <i>domain_location</i> is the name you specified in Step 8 on page 2-10 ■ <i>domain_name</i> is the name you specified in Step 7 on page 2-10

2. Open the file for the operating system you are using with a text editor.
3. Make the following changes for the JDBC thin driver.

```
<JDBCConnectionPool CapacityIncrement="2"
DriverName="oracle.jdbc.OracleDriver"
MaxCapacity="15" LoginDelaySeconds="1"
Name="BPELServerPool"
ShrinkPeriodMinutes="15"
ShrinkingEnabled="true" SupportsLocalTransaction="true"
Targets="orabpelServer"
URL="jdbc:oracle:thin:orabpel/orabpel_password@hostname:port:database_service_
name" />
```

Note: Enter the orabpel user name and password (orabpel by default, unless you changed it as recommended) that were automatically created and the hostname, port, and database service name that you manually entered when running IRCA in ["Step 2: Run Integration Repository Creation Assistant"](#) on page 2-5.

4. Remove the following line from the JDBCConnectionPool section. This line applies only to Oracle Database Lite.

```
Properties="user=system;password=manager"
```

5. Save your changes.

Step 2: (Windows only) Configure the Startup File to Use the Oracle Database

For Windows only, if you are using the Oracle database, then you must configure `startorabpel.bat` to use the Oracle database instead of Oracle Database Lite. This procedure only applies for Windows installations.

1. Find the `startorabpel.bat` file located in the `bin` folder under the destination path that you specified during installation. For example, on Windows:

```
C:\OraBPELPM\bin
```

2. Make a backup copy of the `startorabpel.bat` file.
3. Edit the `startorabpel.bat` file as follows:

- Remove or comment out two lines that call Oracle Database Lite as shown.

```
@rem call "C:\OraBPELPM\bin\kill_olite.bat"
```

and

```
@rem start /d "C:\OraBPELPM\bin" /min /realtime start_olite.bat
```

4. Save the `startorabpel.bat` file.

Postinstallation Verification Tasks for Oracle BPEL Process Manager

This section helps you verify your installation of Oracle BPEL Process Manager. Completing these steps confirms a fully functional installation of the various installed components.

Table 2-5 provides instructions for accessing the various components.

Note: Note the following conventions in Table 2-5:

- Substitute `C:\OraBPELPM` (for Windows installations) and `/home/user_home/OraBPELPM` (for Solaris and Linux installations) in the examples with the home directory name that you specified in the Choose Install Folder screen in Step 5 on page 2-7 for JBoss or Step 5 on page 2-9 for BEA WebLogic.
- Substitute **Oracle - *application_server*** in the Windows Start Menu with the application server in your environment (for example, **Oracle - JBoss** or **Oracle - WebLogic**).

Table 2-5 Accessing Oracle BPEL Process Manager Components

To Access The...	On Windows...	On UNIX...
Oracle BPEL Server	<p>To start Oracle BPEL Server:</p> <p>Select Start > All Programs > Oracle - <i>application_server</i> > Oracle BPEL Process Manager 10.1.2 > Start BPEL PM Server</p> <p>To stop Oracle BPEL Server:</p> <p>Select Start > All Programs > Oracle - <i>application_server</i> > Oracle BPEL Process Manager 10.1.2 > Stop BPEL PM Server</p>	<p>To start Oracle BPEL Server:</p> <p>From <code>/home/user_home/OraBPELPM/bin</code>: <code>startorabpel.sh</code></p> <p>To stop Oracle BPEL Server:</p> <p>From <code>/home/user_home/OraBPELPM/bin</code>: <code>shutdownorabpel.sh</code></p>
Oracle BPEL Console	<p>You must first start Oracle BPEL Server.</p> <p>To start Oracle BPEL Console:</p> <ol style="list-style-type: none"> 1. Select Start > All Programs > Oracle - <i>application_server</i> > Oracle BPEL Process Manager 10.1.2 > BPEL Console <p>You can also start Oracle BPEL Console from Internet Explorer 6.0 using the URL for your installation, which can found in <code>bpelsetupinfo.txt</code>.</p>	<p>First start Oracle BPEL Server.</p> <p>To start Oracle BPEL Console:</p> <ul style="list-style-type: none"> ■ From Internet Explorer 6.0, log on to the URL for your installation, which can found in <code>bpelsetupinfo.txt</code>.

Table 2–5 (Cont.) Accessing Oracle BPEL Process Manager Components

To Access The...	On Windows...	On UNIX...
Developer Prompt	Select Start > All Programs > Oracle - application_server > Oracle BPEL Process Manager 10.1.2 > Developer Prompt to open up a command prompt at the C:\OraBPELPM\samples directory. This enables you to easily access demonstrations.	Set the Developer Prompt in the Bourne shell. \$ ORACLE_HOME=/home/user_ home/OraBPELPM \$ export ORACLE_HOME \$ PATH=\$ORACLE_HOME/bin:\$PATH \$ export PATH
Oracle BPEL Process Manager Samples and Tutorials	For details about BPEL samples and additional tutorials available for use: Select Start > All Programs > Oracle - application_server > Oracle BPEL Process Manager 10.1.2 > Getting Started with Samples	Log into the following URL using Internet Explorer 6.0: \$ORACLE_ HOME/samples/samplehome.html
Oracle BPEL Worklist Application	To access the login window for Oracle BPEL Worklist Application: Select Start > All Programs > Oracle - application_server > Oracle BPEL Process Manager 10.1.2 > Sample Worklist Application You may also start Oracle BPEL Worklist Application from Internet Explorer 6.0 using the URL for your installation, which is found in bpelsetupinfo.txt.	First start Oracle BPEL Server. To start Oracle BPEL Worklist Application: <ul style="list-style-type: none"> From Internet Explorer 6.0, log on to the URL for your installation, which is found in bpelsetupinfo.txt.

Globalization for Oracle BPEL Process Manager

This section provides information about globalization and optional considerations.

Oracle BPEL Console and BPEL Server Locales

Oracle BPEL Console is available in the following languages: French, German, Italian, Spanish, Portuguese, Japanese, Korean, Simplified Chinese, and Traditional Chinese. Oracle BPEL Console retrieves and displays text message from Oracle BPEL Server in the server locale on certain pages. To avoid mixed languages being displayed, make sure Oracle BPEL Console and Oracle BPEL Server are using the same locale.

Oracle BPEL Process Manager Installation

Oracle BPEL Process Manager installation with the JBoss Application Server is only in English.

Determining the Version of Your Oracle BPEL Process Manager

You can determine the version number of Oracle BPEL Process Manager for support purposes.

To check the Oracle BPEL Server version on Windows:

1. Select **Start > All Programs > Oracle - application_server > Oracle BPEL Process Manager 10.1.2** and select **Developer Prompt**.
2. Enter `obversion` at the command prompt.

To check the Oracle BPEL Server version on UNIX:

- Go to `$ORACLE_HOME/bin` and run `obversion.sh`.

Directory Structure for Oracle BPEL Process Manager

Table 2–6 shows the directory structure that is created after completing the installation of Oracle BPEL Process Manager.

Table 2–6 *Directory Structure for Oracle BPEL Process Manager Installed Components*

This Directory	Contains...
bin	BPEL server binary and script files.
docs	Javadocs and API documentation.
domains	The default domain, plus new domains you create.
install	BPEL installer-related files.
lib	Oracle BPEL Process Manager JAR files.
samples	All samples and associated files.
system	Oracle Application Server files, classes, and logs.
user_projects (BEA WebLogic only)	Default base directory name for your BEA WebLogic domain. You accepted this default name or specified a different name in Step 8 on page 2-10 of Oracle BPEL Process Manager installation.

Deinstallation Tasks for Oracle BPEL Process Manager

Follow these instructions to deinstall Oracle BPEL Process Manager.

- [On Windows Operating Systems](#)
- [On UNIX Operating Systems](#)

Note: The deinstallation does not remove files created after installation (for example, project files, server files, log files, and so on). You must manually remove these files and directories.

On Windows Operating Systems

1. Select **Start > Programs > Oracle - *application_server* > Oracle BPEL Process Manager 10.1.2 > Uninstall BPEL Process Manager**.

The Uninstall Oracle BPEL Process Manager 10.1.2.0.0 window appears.

2. Click **Uninstall**.

On UNIX Operating Systems

1. Change directories to `$ORACLE_HOME/install/UninstallerData`.
2. Enter the following command:

```
./uninstall
```

The Uninstall Oracle BPEL Process Manager 10.1.2.0.0 window appears.

3. Click **Uninstall**.

Troubleshooting for Oracle BPEL Process Manager

This section contains troubleshooting tips and information for issues that you can encounter.

Creating the ORABPEL Tablespace Manually

In environments where your data files are not stored as regular text, create the ORABPEL tablespace prior to running IRCA. For example, if your data files reside on a raw file system, or Veritas, then IRCA cannot create the ORABPEL tablespace. However, if you manually create the tablespace and then run IRCA, it automatically detects that the tablespace exists and continues to configure the user and schema. Note that IRCA runs properly with Automatic Storage Management (ASM).

To create the ORABPEL tablespace manually, use the following SQL statements:

```
CREATE TABLESPACE ORABPEL
  DATAFILE '/dev/vx/rdisk/dg2/1024m_6' SIZE 100M
  AUTOEXTEND ON NEXT 30M MAXSIZE UNLIMITED;
```

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