

**ORACLE®**

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**PRIMAVERA**

**P6 EPPM Web Services and WebLogic Configuration Guide  
Release 15.1**

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# Configuring P6 EPPM Web Services

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P6 EPPM Web Services uses open standards (XML, SOAP, and WSDL) to enable developers to seamlessly integrate P6's project management functionality into other applications.

When using P6 EPPM Web Services, organizations can share P6 data between applications regardless of operating system or programming language.

This guide will tell you how to:

- ▶ Uninstall previous products and versions of P6 EPPM Web Services
- ▶ Configure the application server for P6 EPPM Web Services
- ▶ Deploy P6 EPPM Web Services

Before using this guide you will need to:

- ▶ Install the 15.1 database. See the *Installing and Configuring P6 EPPM* guide or *Manually Installing the P6 EPPM Database* guide.
- ▶ Install P6 and P6 EPPM Web Services. See the *Installing and Configuring P6 EPPM* guide.



# Creating the WebLogic Environment for P6 EPPM Web Services

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Oracle WebLogic is a supported application server for P6 EPPM Web Services. Creating the WebLogic environment requires the following tasks:

- ▶ Installing the application server. See **Prerequisites for P6 EPPM Configuration** (on page 7).
- ▶ Installing the application. See the *Installing and Configuring P6 EPPM* guide.
- ▶ Configuring the application server. See **Configuring WebLogic for P6 EPPM** (on page 16).
- ▶ Starting the application server. See **Starting the WebLogic Admin Server for P6 EPPM** (on page 19).
- ▶ Deploying the application in the WebLogic domain. See **Deploying P6 EPPM Web Services in WebLogic** (on page 22).

## In This Section

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## Prerequisites for P6 EPPM Configuration

Review the prerequisites before configuring any P6 EPPM applications.

## System Requirements

P6 EPPM Web Services has the following system requirements for installation:

### Java Runtime Environment Requirements

- ▶ Before installing P6 EPPM Web Services, you need to install the Java Development Kit (JDK), version 1.7.x. While P6 EPPM Web Services is compatible with any 1.7 version, Oracle recommends that you use Update 67. The Integrated Development Environment (IDE) you use to create code must work with this version.
- ▶ You can download the Java JDK from the Sun Microsystems Web site (<http://www.oracle.com/technetwork/java/archive-139210.html>).
- ▶ The EAR file should be deployed in a supported application server running the Java Runtime Environment (JRE), version 1.7.x.

### Supported Operating Systems

P6 EPPM Web Services works on Windows, Linux, and the following Unix operating systems: Solaris, HP, AIX.

### Database

You must install a P6 (version 15.1) database (supported databases are Oracle and Microsoft SQL Server).

### Application Servers

P6 EPPM Web Services requires one of the following supported application servers:

- ▶ Oracle WebLogic 11g or 12c, see Tested Configurations for supported versions
- ▶ IBM WebSphere 8.5.5

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#### Notes:

- Even though the JRE and JDK are available on other operating systems, they have not been tested by Oracle.
  - For the full list of requirements, see the *P6 EPPM Tested Configurations* document.
  - For guidance on hardware and software requirements, see the *P6 Enterprise Project Portfolio Management Performance and Sizing Guide* white paper.
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## Uninstalling Previous Versions of P6

You must uninstall any previous versions of P6 before upgrading to 15.1.

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#### Cautions:

- Before upgrading P6, you should upgrade the P6 EPPM database to 15.1. See the *Upgrading and Configuring P6 EPPM* or *Manually Upgrading the P6 EPPM Database* guide for details on how to upgrade your database and for information on potential impact areas to your environment. For the full list of tested configurations for P6, go to the \Documentation\
- 
- ▶ If you are a current Apache JackRabbit user and want to upgrade to P6 EPPM 15.1, JackRabbit documents data will not migrate automatically. Refer to My Oracle Support's Knowledge Articles for information on manually migrating JackRabbit documents to Oracle Universal Content Management. Oracle recommends that you migrate the data before upgrading to 15.1.
  - ▶ If you are a current jBPM user and want to upgrade to P6 EPPM R15.1, workflows and reviews data will not be available. You should close all workflows and reviews that are in progress before upgrading to P6 EPPM 15.1. You cannot migrate any of this data to 15.1.
  - ▶ Starting with P6 EPPM R8, all recurring job service functions are hosted by P6. Due to this change, after upgrading to P6 EPPM R8 or later, you must configure Scheduled Services settings in the Primavera P6 Administrator to use this functionality. Also, if you're upgrading from version 7.0 or earlier, you must RESUMMARIZE ALL PROJECTS to accurately reflect your summary data. See the *P6 EPPM Post Installation Administrator's Guide* for information on Scheduled Services and configuring separate servers for job services.

## Tips

- ▶  For security reasons, Oracle strongly recommends that you replace the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier. See information about the Admin Superuser in the *P6 EPPM Post Installation Administrator's Guide*.
- ▶ P6 EPPM does not support Summary-Only projects. During the P6 EPPM database upgrade, existing Summary-Only projects convert to standard projects, but lose all summary data. You can import the summary project from Microsoft Project into the converted blank project, then summarize the data. See the *P6 Professional Help* or the *P6 Help*.
- ▶ During the upgrade to P6 EPPM 15.1, some P6 Activity Views settings will reset. After the upgrade, use the Customize Detail Windows feature to modify the settings that should appear for each view. See the *P6 Help* for information on how to edit Activity Views.
- ▶ Starting with P6 EPPM R8, P6 saves filter definitions globally. Filters still work for Activity Views, but all standard filter assignments reset during the upgrade. Due to this change, views that had Standard Filters applied will show all activities after the upgrade. Reapply filters after the upgrade finishes. See the *P6 Help* for information on how to edit Activity Views.

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## Uninstalling P6 from Tomcat

Follow the instructions below to uninstall Primavera's Web Application version 6.0 from a **Tomcat 5.5 Server**.

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**Note:** Tomcat is not a supported application server for P6 version 6.1 and later.

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## Uninstalling P6 from Tomcat on Windows Platforms

To uninstall P6 from Tomcat on Windows platforms:

- 1) Go to the Start menu.
- 2) Choose Programs, <app name>, Uninstall <app name>.

## Uninstalling P6 from Tomcat on UNIX Platforms

To uninstall P6 from Tomcat on UNIX platforms:

- 1) Change to the webapps directory under the Tomcat install directory.
- 2) Run the **uninstalltc.sh** script.

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## Uninstalling P6 from JBoss

To uninstall Primavera's Web Application 6.0 or P6 Web Access version 6.1 and later from a JBoss Server:

- 1) Go to the JBoss install location (for example, c:\jboss-5.0.1.GA-jdk6\server).
- 2) Delete the deployment folder for Primavera Web.  
For 6.1 and earlier installations, the suggested folder name was "myprimavera."  
For 6.2 and later installations, the suggested folder name was "primaveraweb."

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**Note:** Starting with P6 R8, P6 no longer supports the JBoss application server.

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### Uninstalling P6 6.2.1 or Earlier from WebLogic

To uninstall Primavera's Web Application 6.0, P6 Web Access version 6.1 and later from the WebLogic Server:

- 1) Do one of the following:
  - ▶ On Windows platforms, from the Start menu, choose Programs, *app name*, Uninstall *app name*.
  - ▶ On Unix platforms, run the `uninstall.sh` script in the `weblogic_home/user_projects/domain` directory.

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**Note:** When you delete a `p6.ear`, `p6help.war`, or a `P6Tutorials.war` file from WebLogic and then redeploy any of those files, check `weblogic_home\user_projects\domains\your_domain\config\` for a folder called "fmwconfig." If the folder is there, delete it.

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- 2) If you will use the same *p6home* directory for the new deployment, delete the existing WAR or EAR file from that directory to avoid conflict with the new files.

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### Uninstalling P6 7.0 or Later From WebLogic

To uninstall P6 7.0 or later, you must uninstall it with the Oracle Universal Installer, then remove it from the application server.

#### Using Oracle Universal Installer to Uninstall P6

- 1) From the P6 folder of the physical media or download location, run one of the following depending on your system type:
  - ▶ If you are installing on a Microsoft Windows system, navigate to the `win\Disk1\install` directory, and then double-click on the `setup.exe` file.
  - ▶ If you are installing on a non-Microsoft Windows system, type the following command:

```
cd Operating System/Disk1/install
```

Depending on your operating system, replace *Operating System* in the command above with `aix_64-5L`, `hp_64`, `hpux_IA64`, `linux`, or `solaris_64`, then type the following commands:

```
chmod 755 runInstaller
chmod 755 unzip
./runInstaller
```
- 2) On the **Welcome** screen, click **Deinstall Products**.
- 3) On the **Inventory** dialog box, under the **Contents** tab, select the P6 version you want to uninstall.
- 4) Click **Remove**.
- 5) On the **Confirmation** dialog box, click **Yes**.
- 6) Click **Close** then **Cancel** to exit the dialog box and Oracle Universal Installer.

## Deleting P6 from WebLogic

To delete P6 from WebLogic:

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### Notes:

- If you are deleting a 7.x release, your deployment will say **primaveraweb** instead of **p6**.
  - If you are deleting an 8.x release, your deployment will say **p6**.
- 

1) Launch the WebLogic **Administration Console**.

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**Note:** You can open the Administration Console via a web browser using this address: `http://serverIP:listenport/console`. The default *listenport* is 7001.

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- 2) In the **Welcome** window, log in using the user name and password that you created when you created your WebLogic domain.
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane, click **Deployments**.
- 5) In the **Summary of Deployments** pane, in the **Control** tab:
  - a. Select the option next to your deployment (for example, **p6**).
  - b. Click **Stop, Force Stop Now**.
- 6) On the **Force Stop Application Assistant** pane, click **Yes**.
- 7) In the **Summary of Deployments** pane, in the **Control** tab:
  - a. Ensure the **State** column shows **Prepared**.
  - b. Select the option next to your deployment (for example, **p6**).
  - c. Click **Delete**.
  - d. On the **Delete Application Assistant** pane, click **Yes**.
- 8) In the **Change Center** pane, click **Activate Changes**.
- 9) Logout of the **Administration Console**.
- 10) If you will use the same home directory for the new deployment, delete the existing WAR or EAR file from that directory to avoid conflict with the new files.
- 11) If you installed the help and tutorials WAR files, repeat these steps.

## Uninstalling P6 EPPM Web Services 6.2.1 or Earlier from WebLogic

To uninstall P6 EPPM Web Services from a WebLogic server:

- 1) Do one of the following:
  - ▶ On Windows platforms, from the Start menu, choose Programs, *app name*, Uninstall *app name*.
  - ▶ On Unix platforms, run the `uninstall.sh` script in the `weblogic_home/user_projects/domain` directory.
- 2) If you will use the same *wshome* directory for the new deployment, delete the existing WAR or EAR file from that directory to avoid conflict with the new `p6ws.ear` file.

## Uninstalling P6 EPPM Web Services 7.0 or Later from WebLogic

To uninstall P6 EPPM Web Services 7.0 or later, you must uninstall it with the Oracle Universal Installer, then remove it from the application server.

### Using Oracle Universal Installer to Uninstall P6 EPPM Web Services

- 1) From the P6 EPPM Web Services folder of the physical media or download location, run one of the following depending on your system type:
  - ▶ If you are installing on a Microsoft Windows system, navigate to the **winDisk1\install** directory, and then double-click on the **setup.exe** file.
  - ▶ If you are installing on a non-Microsoft Windows system, type the following command:

```
cd Operating System/Disk1/install
```

Depending on your operating system, replace *Operating System* in the command above with *aix\_64-5L*, *hp\_64*, *hpux\_IA64*, *linux*, or *solaris\_64*, then type the following commands:

```
chmod 755 runInstaller
chmod 755 unzip
./runInstaller
```
- 2) On the **Welcome** screen, click **Deinstall Products**.
- 3) On the **Inventory** dialog box, under the **Contents** tab, select the P6 EPPM Web Services version you want to uninstall.
- 4) Click **Remove**.
- 5) On the **Confirmation** dialog box, click **Yes**.
- 6) Click **Close** then **Cancel** to exit the dialog box and Oracle Universal Installer.

### Deleting P6 EPPM Web Services from WebLogic

To delete P6 EPPM Web Services from WebLogic:

- 1) Launch the WebLogic **Administration Console**.

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**Note:** You can open the Administration Console via a web browser using this address: `http://serverIP:listenport/console`. The default *listenport* is 7001.

---

- 2) In the **Welcome** window, log in using the user name and password that you created when you created your WebLogic domain.
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane, click **Deployments**.
- 5) In the **Summary of Deployments** pane, in the **Control** tab:
  - a. Select the option next to **p6ws**.
  - b. Click **Stop, Force Stop Now**.
- 6) On the **Force Stop Application Assistant** pane, click **Yes**.
- 7) In the **Summary of Deployments** pane, in the **Control** tab:
  - a. Ensure the **State** column shows **Prepared**.

- b. Select the option next to **p6ws**.
  - c. Click **Delete**.
  - d. On the **Delete Application Assistant** pane, click **Yes**.
- 8) In the **Change Center** pane, click **Activate Changes**.
- 9) Logout of the **Administration Console**.
- 10) If you will use the same *wshome* directory for the new deployment, delete the existing WAR or EAR file from that directory to avoid conflict with the new p6ws.ear file.

## Installing Applications

Before you upgrade or install your application, install the products mentioned in the following sections.

### Installing WebLogic

You will need to install WebLogic to deploy P6 EPPM. For supported versions, see the *Tested Configurations* document. For more information about how to install WebLogic, see the following URL: <http://www.oracle.com/technetwork/middleware/weblogic/documentation/index.html>

**Note:** If you are using WebLogic 11g (10.3.6), you must download and apply the following patches from My Oracle Support:

- 9923849
- 19182814

For information on how to apply your WebLogic patches, see the readme that is located in the respective patch zip file.

**Note:** Oracle recommends that you install Oracle Access Manager on a new WebLogic Middleware home.

If existing Middleware applications are installed into the Middleware home (for example, BI Publisher or Identity Management), Access Manager will fail to deploy.

### Tips

After you finish installing WebLogic, ensure you can run the startNodeManager.cmd/sh (depending on your environment) before installing P6 EPPM. If you cannot run these files, contact your WebLogic representative for help.

### JDK Installation

WebLogic automatically installs Oracle JRockit and Java Development Kit. For a list of supported JDK versions for P6 EPPM, see the *Tested Configurations* document. As new releases of the software become available, you can find these at <http://www.oracle.com/technetwork/java/archive-139210.html>.

### Download the wsdl4j-1.6.2.jar

If you plan to install Web Services, you must download the wsdl4j-1.6.2.jar on your machine.

To download the jar:

- 1) Go to <http://mirrors.ibiblio.org/pub/mirrors/maven2/wsdl4j/wsdl4j/1.6.2/>.
- 2) Select the **wsdl4j-1.6.2.jar**.
- 3) Save the file to your machine.
- 4) Note the location where you save the jar file.

### P6 and P6 EPPM Web Services Installation

To deploy P6 EPPM Web Services, you must install P6 and P6 EPPM Web Services. To install these applications, run the setup.exe file from the **Primavera P6 Enterprise Project Portfolio Management R15.1 for <platform>\Disk1\Install** folder of the physical media or download. For more information on installing P6 and P6 EPPM Web Services, see the *Installing and Configuring P6 EPPM* guide.

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**Note:** You can deploy P6 EPPM Web Services on a separate machine from P6.

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### Enabling and Customizing WS-Policy

P6 EPPM Web Services uses an external attachment file to support WS-Policy. Since the reference to the external file is commented out in the default P6 EPPM Web Services installation, WS-Policy for P6 EPPM Web Services is disabled by default. However, you can enable WS-Policy by uncommenting the reference to the external file before deploying P6 EPPM Web Services to the server.

The external file, policies.xml, requires HTTPS and WS-Addressing for P6 EPPM Web Services. However, if you want to remove either of these requirements from a P6 EPPM Web Services, you can customize WS-Policy by removing the HTTPS and/or WS-Addressing sections for that service from the external attachment file.

To enable and customize WS-Policy:

- 1) Extract the **cx.xml** and **policies.xml** files from the **p6ws.ear** file.
  - a. Navigate to the **p6ws.ear** file and use this command to extract to extract the **p6ws.war** file:
    - `jar xf p6ws.ear p6ws.war`
  - b. Execute the following commands to extract the **cx.xml** and **policies.xml** files from the **p6ws.war** file:
    - `jar xf p6ws.ear WEB-INF/classes/cx.xml`
    - `jar xf p6ws.ear WEB-INF/classes/policies.xml`
- 2) To uncomment the reference in the cx.xml file to the external attachment file:
  - a. Open the **cx.xml** file in a text editor.
  - b. Find following line in the cx.xml file:
    - `<!-- <ref bean="policyIn" /> -->`

- c. Uncomment this line by removing the the beginning and the end of the comment tag:
    - `<ref bean="policyIn" />`
  - d. Find following lines in the cxf.xml file:
    - `<!--`
    - `<p:externalAttachment location="classpath:/policies.xml"/>`
    - `-->`
  - e. Remove the lines beginning with `<!--` and `-->` to uncomment the external file reference.
  - f. Find following lines in the cxf.xml file:
    - `<!-- <p:policies/> -->`
  - g. Uncomment this line by removing the the beginning and the end of the comment tag:
    - `<p:policies/>`
- 3) Customize the policies.xml file.
- a. Open the **policies.xml** in a text editor.
  - b. Customize the HTTPS Policy definitions section. For example, to remove the requirement to use HTTPS with the Spread service, remove these lines from the **HTTPS Policy definitions** section of the **policies.xml** file:
    - `<wsa:EndpointReference>`
    - `<wsa:Address>/SpreadService</wsa:Address>`
    - `</wsa:EndpointReference>`
  - c. Customize the WS Addressing Policy definitions section. For example, to remove the requirement to use WS Addressing with the Spread service, remove the following lines from the **WS Addressing Policy definitions** section of the **policies.xml** file:
    - `<wsa:EndpointReference>`
    - `<wsa:Address>/SpreadService</wsa:Address>`
    - `</wsa:EndpointReference>`
- 4) Update the **p6ws.ear** file with the new **cxf.xml** file and **policies.xml** files.
- a. Ensure that you are in the same directory as the **p6ws.ear** file.
  - b. Use the following commands to update the **p6ws.war** file:
    - `jar uf p6ws.war WEB-INF/classes/cxf.xml`
    - `jar uf p6ws.war WEB-INF/classes/policies.xml`
  - c. Use the following command to update the **p6ws.ear** file with updated the **p6ws.war** file:
 

```
jar uf p6ws.ear p6ws.war
```
  - d. Delete the **p6ws.war** file and the **WEB-INF** directory.

## Tips

The default policies.xml file is separated into two sections:

- ▶ The top section contains policy expressions for requiring HTTPS connections from clients.
- ▶ The bottom section contains policy expressions for requiring WS-Addressing (WS-Addressing is configured using the `<Addressing>` policy expression).

## Configuring WebLogic for P6 EPPM

This section details the basic configuration steps for P6 EPPM applications in a WebLogic environment when opting for an Admin Server and Managed Server deployment.

Oracle recommends you create a Managed Server deployment. Each managed server requires exclusive access to their own rotating logfiles. If your managed and clustered servers are on the same machine, you must create a different P6 home folder for each managed server and then copy the `BREBootstrap` file into each folder. Each `BREBootstrap` file must then be edited to ensure the `logDir` setting is set to folder unique to each managed server. If your Admin, Managed, and clustered servers are all on the same machine, you will not need to copy the `BREBootstrap` file. This section assumes that you will be set up separate domains for your applications; however, you can create one domain and configure all P6 EPPM applications to run in this domain.

Although not required for the P6 EPPM server set up, WebLogic has additional settings that can be used to enhance the environment. For example, when using clustering, enabling the session replication setting will seamlessly transfer users to another server if a server shuts down unexpectedly.

If you want to set up the WebLogic Admin Server and Managed Servers to run as Windows Services, see WebLogic's documentation.

See WebLogic's documentation for details on all available configuration, deployment, and settings options.

## Creating a WebLogic Domain for P6 EPPM Web Services

Oracle recommends you deploy P6 EPPM Web Services and P6 in separate domains. If you want P6 EPPM Web Services and P6 deployed in the same domain, you may have completed these steps when you deployed P6 and can skip to Deploying P6 EPPM Web Services in WebLogic.

To create a WebLogic Domain:

- 1) Run the WebLogic **Configuration Wizard**.
- 2) In the **Welcome** window:
  - a. Select **Create a new WebLogic domain**.
  - b. Click **Next**.
- 3) In the **Select Domain Source** window, click **Next** to accept the default selections.
- 4) In the **Specify Domain Name and Location**:
  - a. Enter the domain name.
  - b. Enter the domain location.
  - c. Click **Next**.
- 5) In the **Configure Administrator User Name and Password** window:
  - a. Enter the user name and password information.
  - b. Click **Next**.
- 6) In the **Configure Server Start Mode and JDK** window:
  - a. Select **Production Mode** in the left pane.

- b. Select an appropriate JDK in the right pane.
  - c. Click **Next**.
- 7) In the **Select Optional Configuration** window:
- a. Select the **Administration Server** and the **Managed Servers, Clusters and Machines** options.
  - b. Click **Next**.
- 8) (Optional) In the **Configure the Administration Server** window, select the SSL enabled option and set the SSL listen port if you are enabling Secure Sockets Layer communication. See [http://download.oracle.com/docs/cd/E12840\\_01/wls/docs103/secmanage/ssl.html](http://download.oracle.com/docs/cd/E12840_01/wls/docs103/secmanage/ssl.html) for more details on setting SSL for WebLogic.
- 9) In the **Configure Managed Servers** window:
- a. Click **Add**.
  - b. Enter the **Name** and select the **Listen address** information.
  - c. (Optional) Select the **SSL enabled** option and set the SSL listen port.

---

**Note:**  Oracle recommends you always use SSL in a production environment for secure communications.

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- d. (Optional) Add or delete other managed servers.
  - e. Click **Next**.
- 10) (Optional) In the **Configure Clusters** window:

---

**Note:** Do not add clusters if you are not using multiple WebLogic server instances for scalability.

---

- a. Click **Add**.
- b. (Required) Enter the name of the cluster.
- c. (Optional) Enter the following information: **Cluster messaging mode, Multicast address, Multicast port, Cluster address**.
- d. (Optional) Add or delete other configured clusters.
- e. Click **Next**.

---

**Note:** For information on setting up clusters, use Oracle's WebLogic Server documentation: [http://download.oracle.com/docs/cd/E11035\\_01/wls100/cluster/setup.html](http://download.oracle.com/docs/cd/E11035_01/wls100/cluster/setup.html).

---

- 11) (Optional) In the **Assign Servers to Clusters** window, assign a server to a cluster.
- 12) Click **Next**.

---

**Note:** Select the Cluster in the right pane, then select the Server in the left pane. Assign the server to the cluster by clicking the right arrow button.

---

- 13) In the **Configure Machines** window:
- a. Select the **Machine** or **Unix Machine** tab.

b. If you select the **Machine** tab:

1. Click **Add**.
2. (Required) Enter a machine name.
3. (Optional) Select the **Node manager listen address** from the list.

---

**Note:** If you specify an address for a machine that hosts the Administration Server and you need to access the WebLogic Server Node Manager, you must disable the host name verification.

---

4. (Optional) Enter the **Node manager listen port**.
5. (Optional) Add or delete configured machines.

c. If you select the **Unix Machine** tab:

1. (Required) Enter a valid machine name.
2. (Optional) Select the **Post bind GID enabled** option to enable a server running on this machine to bind to a UNIX group ID (GID) after it finishes all privileged startup actions.
3. (Optional) Enter the **Post bind GID** where a server on this machine will run after it finishes all privileged startup actions. If you do not enter a GID, the server will continue to run under the group where it was started. For this setting to work, you must select the **Post bind GID enabled** option.
4. (Optional) Select the **Post bind UID enabled** option to enable a server running on this machine to bind to a UNIX user ID (UID) after it finishes all privileged startup actions.
5. (Optional) Enter **Post bind UID** where a server on this machine will run after it finishes all privileged startup actions. If you do not enter a UID, the server will continue to run under the account where it was started. For this setting to work, you must select the **Post bind UID enabled** option.
6. (Optional) Add or delete configured machines.

d. Click **Next**.

---

**Notes:**

- You might want to create machine definitions for the following situations: (1) The Administration Server uses the machine definition, with the Node Manager application, to start remote servers. (2) WebLogic Server uses configured machine names when determining the server in a cluster that can handle certain tasks, such as HTTP session replication. The WebLogic Server then delegates those tasks to the identified server.
  - You must configure machines for each product installation that runs a Node Manager process. The machine configuration must include values for the listen address and port number parameters.
- 

14) In the **Assign Servers to Machines** window:

**Note:** A machine is a physical server that will host a WebLogic managed server. Depending on your resource needs and data load, the machines may be in the same physical server where the WebLogic Admin Server is installed or in separate physical servers.

- a. In the **Machine** list, select the machine where you want to assign a WebLogic Server instance.
  - b. Assign WebLogic Server instances to the selected machine.  
The name of the WebLogic Server instance is removed from the **Server** list and added below the name of the target machine in the **Machine** list.
  - c. Repeat steps a and b for each WebLogic Server instance you want to assign to a machine.
  - d. Review the machine assignments.  
If necessary, you can remove a WebLogic Server instance from a machine, and the WebLogic Server instance will be removed from the **Machine** list and restored to the **Server** list.
  - e. Click **Next**.
- 15) In the **Configuration Summary** window, click **Create**.  
If given the option, you can click **Done** now. Otherwise, continue to the next step.
- 16) If you are using Windows, in the **Creating Domain** window:
- a. Select **Start Admin Server**.
  - b. Click **Done**.
- 17) When prompted, enter the administrator user name and password that you entered above.

### Starting and Stopping the Admin Server and Managed or Clustered Servers

To set arguments in the WebLogic Administration Console and deploy P6 EPPM applications in WebLogic, you will need to start the Admin Server and your Managed or clustered servers. This section also includes information on stopping your Admin Server and your Managed and clustered servers.

#### Starting the WebLogic Admin Server for P6 EPPM

Follow the instructions below to start the WebLogic Admin Server for P6 EPPM. You must perform these procedures to launch the WebLogic Administration Console. Once you launch the WebLogic Administration Console, you can follow the steps to set arguments and deploy P6 EPPM applications in WebLogic.

#### Starting WebLogic on Windows Platforms

To start WebLogic on Windows:

- 1) From the Start menu, navigate to the Oracle WebLogic submenu.
- 2) Choose User Projects, *domain*, Start Server.
- 3) If prompted for a user name and password in the WebLogic console window, type in the administrative user name and password you specified when creating the domain.

---

**Note:** If you turned on the WebLogic precompile option, the WebLogic console displays "Server started in RUNNING mode" when precompiling finishes. For detailed information about turning on precompilation, see your WebLogic Server documentation.

---

## Starting WebLogic

To start WebLogic:

- 1) Navigate to the `weblogic_home/user_projects/domains/your_domain` directory.
- 2) Run the startWebLogic script.
  - ▶ `startWeblogic.cmd` on Windows machine
  - ▶ `startWeblogic.sh` on Unix machine
- 3) If prompted for a user name and password in the WebLogic console window, type in the administrative user name and password you specified when creating the domain.

---

**Note:** If you turned on the WebLogic precompile option, the WebLogic console displays "Server started in RUNNING mode" when precompiling finishes. For detailed information about turning on precompilation, see your WebLogic Server documentation.

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## Stopping the WebLogic Admin Server for P6 EPPM

When you are finished working in the WebLogic Administration Console, use the instructions below to stop the WebLogic Admin Server for P6 EPPM.

### Stopping WebLogic on Windows Platforms

To stop WebLogic on Windows:

- 1) From the Start menu, navigate to the Oracle WebLogic submenu.
- 2) Choose User Projects, *domain*, Stop Server.
- 3) If prompted for a user name and password in the WebLogic console window, type in the administrative user name and password you specified when creating the domain.

---

**Note:** The WebLogic console window that opened when you started WebLogic will close automatically when it has shutdown.

---

### Stopping WebLogic for P6 EPPM Applications

To stop WebLogic:

- 1) Navigate to `<weblogic_home>/user_projects/domain` directory.
- 2) Run the stopWebLogic script.
  - ▶ `stopWeblogic.cmd` on Windows machine
  - ▶ `stopWeblogic.sh` on Unix machine
- 3) If prompted for a user name and password in the WebLogic console window, type in the administrative user name and password you specified when creating the domain.

---

**Note:** The WebLogic console window that opened when you started WebLogic will close automatically when it has shutdown.

---

## Starting and Stopping Managed Servers

You have several options for starting and stopping managed servers. Oracle recommends that you use the `startNodeManager` file and start the server in the WebLogic Administration Console (see **Starting a Managed or Clustered Server** (on page 21)). However, you can view other ways to stop and start managed servers at "Managing Server Startup and Shutdown for Oracle WebLogic Server" at

[http://download.oracle.com/docs/cd/E14571\\_01/web.1111/e13708/overview.htm](http://download.oracle.com/docs/cd/E14571_01/web.1111/e13708/overview.htm).

---

**Note:** You can use different ways to start the managed servers, but you must ensure that the managed servers recognize the arguments required for your application (for example, the argument for where the bootstrap is located) and how the application environment will start.

---

## Starting a Managed or Clustered Server

To start a managed or clustered server in the WebLogic Administration Console:

---

**Note:** When starting/stopping an environment using the node manager, the **StartScriptEnabled** setting in the **nodemanager.properties** file must equal true. Example: `StartScriptEnabled=true`

---

1) Run the **startNodeManager** file.

- ▶ In Windows, the file is named "startNodeManager.cmd" and is located in:  
`weblogic_home\user_projects\domains\domainname\bin`
- ▶ In Unix, the file is named "startNodeManager.sh" and is located in:  
`weblogic_home\user_projects\domains\domainname\bin`

2) Launch the WebLogic **Administration Console**.

---

**Note:** You can open the Administration Console via a web browser using this address: `http://serverIP:listenport/console`. The default *listenport* is 7001.

---

3) In the **Welcome** window, log in using the user name and password that you created when you created your WebLogic domain.

4) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.

5) In the **Domain Structure** pane:

- a. Expand **Environment**.
- b. Click **Servers**.

6) In the **Summary of Servers** pane:

- a. Select the **Control** tab.
- b. Select the option for your managed server.
- c. Click **Start**.

- 7) In the **Server Life Cycle Assistant** pane, click **Yes**.
- 8) In the **Summary of Servers** pane, click the 'Start Refresh' icon in the middle of the pane to see when the **State** column says 'RUNNING.'

### Stopping a Managed or Clustered Server

Your managed or clustered server will stop running when you close the startNodeManager file. You can also stop the managed or clustered server in the WebLogic Administration Console.

- 1) Launch the WebLogic **Administration Console**.

---

**Note:** You can open the Administration Console via a web browser using this address: `http://serverIP:listenport/console`. The default *listenport* is 7001.

---

- 2) In the **Welcome** window, log in using the user name and password that you created when you created your WebLogic domain.
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane:
  - a. Expand **Environment**.
  - b. Click **Servers**.
- 5) In the **Summary of Servers** pane:
  - a. Select the **Control** tab.
  - b. Select the option for your managed server.
  - c. Click the down arrow to the right of the **Shutdown** button.
  - d. Click **When work completes** or **Force Shutdown Now**.
- 6) In the **Server Life Cycle Assistant** pane, click **Yes**.
- 7) In the **Summary of Servers** pane, click the 'Start Refresh' icon in the middle of the pane to see when the **State** column says 'SHUTDOWN.'

## Deploying P6 EPPM Web Services in WebLogic

Follow the instructions to deploy P6 Integration API into the WebLogic domain.

---

### Notes:

- Consult WebLogic's documentation for additional methods of deploying a Web application, such as using a Managed Server or Clustering.
  - P6 EPPM Web Services supports the HTTPS communication protocol. See the application server documentation for instructions on configuring HTTPS on your application server.
-

### Creating an Endorsed Folder

To create an endorsed folder:

- 1) Locate the folder that contains the JDK you used when you created the WebLogic domain. This folder is known as `<JDK_HOME>`.  
If it does not already exist, create an endorsed folder: `<JDK_HOME>/jre/lib/endorsed`.
- 2) In the `<WS_INSTALL_HOME>/endorsed` folder, locate the `saaj-impl.jar` file.
- 3) Copy the `saaj-impl.jar` file to the endorsed folder you created (`<JDK_HOME>/jre/lib/endorsed`).
- 4) Restart the WebLogic domain.

### Setting the Bootstrap Location if P6 EPPM Web Services is in a Different WebLogic Server from P6

If you will run the `p6ws.ear` file in the same domain as P6, skip this section and continue to **Adding P6 EPPM Web Services to WebLogic** (on page 25).

If you will run the `p6ws.ear` file in a different domain from P6, set the location of your P6 bootstrap file. When you set the bootstrap argument, you will set it for the home directory where you want P6 EPPM Web Services to connect.

- 1) Launch the WebLogic **Administration Console**.

---

**Note:** You can open the Administration Console via a web browser using this address: `http://serverIP:listenport/console`. The default `listenport` is 7001.

---

- 2) In the **Welcome** window, log in using the user name and password you created when you created your WebLogic domain.
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane:
  - a. Expand **Environment**.
  - b. Click **Servers**.
- 5) In the **Summary of Servers** pane, in the **Control** tab, click the link for your managed server name.
- 6) In the **Settings for <managed server name>** pane, select the **Server Start** tab.
- 7) Locate the **Arguments** field and set the following:
  - a. Set the Primavera bootstrap system property (it should be all one line with no space between "-" and "Dprimavera").
    - In Windows, the line should look similar to the following (all one line):  
`-Dprimavera.bootstrap.home=p6home`  
where `p6home` is the P6 home directory that was set during installation (for example, `C:\P6EPPM_1\p6`).
    - In UNIX, the line should look similar to the following (all one line):  
`-Dprimavera.bootstrap.home=p6home`

where *p6home* is the P6 home directory that was set during installation (for example, /usr/P6EPPM\_1/p6).

- b. If your bootstrap file has only one database, skip this step.

If your bootstrap file contains more than one database, you need to add an argument clarifying which database you want to use. The line will look similar to the following:

```
-Ddatabase.instance=db_id
```

where *db\_id* is the database instance you want to use (for example, -Ddatabase.instance=2).

The whole line should look similar to the following (all one line):

```
-Dprimavera.bootstrap.home=p6home -Ddatabase.instance=db_id
```

- c. Set the memory settings to maximize performance.

- In Windows, the line should look similar to the following (all one line):

```
-Dprimavera.bootstrap.home=p6home -Xms256m -Xmx512m
```

where *p6home* is the P6 home directory that was set during installation (for example, c:\p6home).

- In UNIX, the line will look similar to the following (all one line):

```
-Dprimavera.bootstrap.home=p6home -Xms256m -Xmx512m
```

where *p6home* is the P6 home directory that was set during installation (for example, /usr/p6home).

- 8) Click **Save**.

- 9) In the **Change Center** pane, click **Activate Changes**.

- 10) Restart your managed server:

- a. In the **Domain Structure** pane:

1. Expand **Environment**.
2. Click **Servers**.

- b. In the **Summary of Servers** pane:

1. Select the **Control** tab.
2. Select the option for your managed server.

- c. Click **Shutdown**.

1. Click the down arrow to the right of the **Shutdown** button.
2. Click **When work completes** or **Force Shutdown Now**.
3. In the **Server Life Cycle Assistant** pane, click **Yes**.
4. Select the option for your managed server.
5. Click **Start**.

- d. In the **Server Life Cycle Assistant** pane, click **Yes**.

- e. In the **Summary of Servers** pane, click the 'Start Refresh' icon in the middle of the pane to see when the **State** column says 'RUNNING.'

- 11) Repeat these steps for each managed server.

### Adding P6 EPPM Web Services to WebLogic

To add P6 EPPM Web Services as a WebLogic application:

---

**Note:** These steps assume that you have set the bootstrap in the WebLogic Administration Console.

---

- 1) Launch the WebLogic **Administration Console**.

---

**Note:** You can open the Administration Console via a web browser using this address: `http://serverIP:listenport/console`. The default *listenport* is 7001.

---

- 2) In the **Welcome** window, log in using the user name and password that you created when you created your WebLogic domain.
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane, click **Deployments**.
- 5) In the **Summary of Deployments** pane, in the **Control** tab, click **Install**.
- 6) In the **Install Application Assistant** pane:
  - a. Navigate to the P6 EPPM Web Services home directory.
  - b. Select the **p6ws.ear** file.
  - c. Click **Next**.
- 7) In the **Install Application Assistant** pane:
  - a. Select **Install this deployment as an application**.
  - b. Click **Next**.
- 8) In the **Install Application Assistant** pane:
  - a. Click the server or cluster where you want to deploy the application.
  - b. Click **Next**.
- 9) In the **Install Application Assistant** pane, click **Next** to accept the default options.
- 10) Review the configuration settings you have chosen, then click **Finish** to complete the installation.

---

### Adding a JVM Option to the startWeblogic Script

Before starting P6 EPPM Web Services, add the following JVM option to the startWeblogic startup script:

- 1) Make a backup copy of the **startWebLogic** file in case you need to undo any changes.
  - ▶ In Windows, the file is named "startWebLogic.cmd" and is located in:  
`weblogic_home\user_projects\domains\your_domain\bin\`
  - ▶ In Unix, the file is named "startWebLogic.sh" and is located in:  
`weblogic_home/user_projects/domains/your_domain/bin/`
- 2) Right-click the startWebLogic file and select Edit.
- 3) Locate the line that begins with "set JAVA\_OPTIONS=" and add these variables (as all one line with no space between "-" and "Dprimavera" or "-" and "Djavax").

▶ **On Windows:**

```
set JAVA_OPTIONS=%SAVE_JAVA_OPTIONS%
-Djavax.xml.soap.MessageFactory=com.sun.xml.messaging.saaj.soap.ver1_1.SOAPMessageFactory1_1Impl
-Djavax.xml.soap.SOAPConnectionFactory=weblogic.wsee.saaj.SOAPConnectionFactoryImpl
-Dprimavera.bootstrap.home=<WS_INSTALL_HOME>
```

where <WS\_INSTALL\_HOME> is the P6 EPPM Web Services home directory the you set during installation

▶ **On Linux:**

```
JAVA_OPTIONS="$ {SAVE_JAVA_OPTIONS}
-Djavax.xml.soap.MessageFactory=com.sun.xml.messaging.saaj.soap.ver1_1.SOAPMessageFactory1_1Impl
-Djavax.xml.soap.SOAPConnectionFactory=weblogic.wsee.saaj.SOAPConnectionFactoryImpl
-Dprimavera.bootstrap.home=<WS_INSTALL_HOME>"
```

where <WS\_INSTALL\_HOME> is the P6 EPPM Web Services home directory the you set during installation

---

### Starting the P6 EPPM Web Services Application in WebLogic

To start the P6 EPPM Web Services application in WebLogic:

- 1) In the **Change Center** pane, click **Activate Changes**.
- 2) In the **Domain Structure** pane, click **Deployments**.
- 3) In the **Summary of Deployments** pane, select **p6ws**.
- 4) In the **Summary of Deployments** pane, in the **Control** tab:
  - a. Click the down arrow to the right of the **Start** button.
  - b. Click **Servicing all requests**.
- 5) In the **Start Application Assistant** pane, click **Yes**.
- 6) In the **Summary of Deployments** pane, view the link in the **State** column of the row that contains 'p6ws.' Wait a few minutes, then click **Refresh**. The p6ws State column should show **Active**.
- 7) Logout of the **Administration Console**.

# Where to Go From Here - Post Manual P6 EPPM Web Services Configuration

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Now that you have deployed P6 EPPM Web Services and configured it with P6, you can begin using P6 EPPM Web Services. Use the *P6 EPPM Post Installation Administrator's Guide* to get started.

## For More Information

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### Where to Get Documentation

Complete documentation libraries for P6 EPPM releases are available on the Oracle Technology Network (OTN) at:

<http://www.oracle.com/technetwork/documentation/primavera-093289.html>

From this location you can either view libraries online or download them to have local copies. We recommend viewing them from OTN to ensure you always access the latest versions, including critical corrections and enhancements.

P6 EPPM is configured to access its help systems on OTN. However, you can also install local versions when you install the software.

The documentation assumes a standard setup of the product, with full access rights to all features and functions.

The following table describes the core documents available for P6 EPPM and lists the recommended readers by role. P6 EPPM roles are described in the *Planning Your P6 EPPM Implementation* guide.

Title	Description
<i>What's New in P6 EPPM</i>	Highlights the new and enhanced features included in this release. You can also use the <i>P6 EPPM Cumulative Feature Overview Tool</i> to identify the features that have been added since a specific release level. All users should read this guide.

<b>Title</b>	<b>Description</b>
<i>Planning Your P6 EPPM Implementation</i>	Explains planning your implementation and provides an installation process overview, frequently asked questions, client and server requirements, and security information. The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.
<i>P6 EPPM Installation and Configuration Guide</i>	Explains how to install and configure P6 EPPM using the P6 EPPM Installation and Configuration wizards. The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.
<i>P6 EPPM Installation and Manual Configuration Guide</i>	Explains how to install and configure the P6 EPPM using the P6 EPPM Installation wizards, and how to manually configure individual components. The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.
<i>P6 EPPM Post Installation Administrator's Guide</i>	Describes how to get started using P6 EPPM applications after you have installed and configured them. Complete the tasks in this guide before letting your users work with these applications. These tasks include information about configuring your users and security settings and privileges, configuring your Primavera P6 Administrator settings, and finalizing your P6 Integration API and P6 EPPM Web Services settings. The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.
<i>Tested Configurations</i>	Lists the configurations that have been tested and verified to work with P6 EPPM. The network administrator/database administrator and P6 EPPM administrator should read this document.
<i>P6 User's Guide</i>	Explains how to plan, set up, and manage projects in a multiuser environment. If you are new to P6, start with this guide to learn how to use the software effectively to plan and manage projects. When you need more detail, refer to the P6 Help. The program manager, project manager, resource/cost manager, team leader, and all P6 users should read this guide.

Title	Description
<i>P6 Help</i>	<p>Explains how to use P6 to administer, plan, set up, and manage projects, portfolios, workflows, timesheets, documents, and reports in a multiuser environment. Describes how to analyze performance and ROI, and analyze budgets. If you are new to P6, use this Help to learn how to use the software effectively.</p> <p>The operations executive, P6 EPPM and P6 administrator, program manager, project manager, resource/cost manager, team leader, and all users should read this Help.</p>
<i>P6 Data Dictionary</i>	<p>Defines fields used in P6.</p> <p>All P6 users should refer to this guide if they need a field definition.</p>
<i>P6 Team Member Web Help</i>	<p>Describes how to use P6 Team Member Web to provide status on activities.</p> <p>P6 Team Member Web users should read this Help.</p>
<i>P6 EPPM Web Services Programmer's Guide</i>	<p>Describes how to invoke, use, and troubleshoot the available services and operations within supported environments. When you need specific information about the services and operations available, refer to the P6 EPPM Web Services Reference Manual.</p> <p>Anyone who wants to develop applications that interact with P6 should read this guide.</p>
<i>P6 EPPM Web Services Reference Manual</i>	<p>Describes all services and operations available in P6 EPPM Web Services.</p> <p>Anyone who wants to develop applications that interact with P6 should read this guide.</p>
<i>P3 to P6 EPPM Migration Guide</i>	<p>Provides best practices for migrating your P3 data to P6 EPPM and details how P3 functionality maps to P6 EPPM functionality.</p> <p>All administrators should read this guide if your organization is moving from P3 to P6.</p>

### Distributing Information to the Team

You can copy the online documentation to a network drive for access by project participants. Team members can then view or print those portions that specifically relate to their roles in the organization.

Throughout this documentation, the Security Guidance icon  helps you to quickly identify security-related content to consider during the installation and configuration process.

### Where to Get Training

To access comprehensive training for all Primavera products, go to:

<http://education.oracle.com>

#### Oracle Learning Library

The Oracle Learning Library (OLL) provides online learning content covering Primavera products. Content includes whitepapers, videos, tutorials, articles, demos, step-by-step instructions to accomplish specific tasks, and self-paced interactive learning modules.

To access the learning library's Primavera content, go to:

<http://www.oracle.com/oll/primavera>

### Where to Get Support

If you have a question about using Oracle products that you or your network administrator cannot resolve with information in the documentation or help, visit <http://support.oracle.com/>. This page provides the latest information on contacting Oracle Global Customer Support, knowledge articles, and the support renewals process. For more information about working with Support, visit <https://support.oracle.com/epmos/faces/DocumentDisplay?id=888813.2> to view **Support Tools & Tips**.

The following knowledge articles are a good place to start your research because they link to the most frequently referenced articles about P6 EPPM

- ▶ Primavera Product Master Notes [ID 1489367.1]
- ▶ Master Note For Primavera P6 Common Application Questions Or Issues [ID 1292929.1]

P6 EPPM integrates with different Oracle applications; when you create a Service Request, be sure to open the request with the proper Support team. To ensure you reach the proper Support team, enter the correct product information when you create the Service Request. Each product has its own support line.

- ▶ Use the **Primavera P6 EPPM** support line when you are having installation, configuration, or connection issues related to P6 EPPM.
- ▶ Use one of the following support lines when you are having installation or configuration issues that do not relate to P6 EPPM.
  - ▶ Oracle WebLogic Server
  - ▶ Oracle Database Server
  - ▶ BI Publisher
  - ▶ BPM
  - ▶ Oracle Webcenter Content Core Capabilities (formerly Universal Content Management)
  - ▶ Oracle Enterprise Manager

- ▶ Oracle Access Manager
- ▶ Oracle AutoVue

### Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/us/support/contact-068555.html> or visit <http://www.oracle.com/us/corporate/accessibility/support/index.html> if you are hearing impaired.

### Using Primavera's Support Resource Centers

Primavera's Support Resource Center provides links to important support and product information. Primavera's Product Information Centers (PICs) organize documents found on My Oracle Support (MOS), providing quick access to product and version specific information such as important knowledge documents, Release Value Propositions, and Oracle University training. PICs also offer documentation on Lifetime Management, from planning to installs, upgrades, and maintenance.

Visit <https://support.oracle.com/epmos/faces/DocumentDisplay?id=1486951.1> to access links to all of the current PICs.

PICs also provide access to:

- ▶ **Communities** which are moderated by Oracle providing a place for collaboration among industry peers to share best practices.
- ▶ **News** from our development and strategy groups.
- ▶ **Education** via a list of available Primavera product trainings through Oracle University. The Oracle Advisor Webcast program brings interactive expertise straight to the desktop using Oracle Web Conferencing technology. This capability brings you and Oracle experts together to access information about support services, products, technologies, best practices, and more.

# Legal Notices

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Oracle Primavera Prime P6 EPPM Web Services and WebLogic Configuration Guide

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