P6 Professional Administrator's Guide for Oracle Database
15 R2

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This book is a step-by-step guide to installing and configuring P6 Professional software modules. This manual is organized as follows:

**Overview**

Provides an overview of P6 Professional software components, discusses how to plan an implementation for your organization, and offers an overview of the process of installing and configuring P6 Professional software components. Security guidelines are also outlined to assist you with creating a secure P6 Professional installation.

**Database Installation and Configuration**

Provides steps for using a wizard to automate the process of creating the P6 Professional database on either Oracle or Microsoft SQL Server and loading application data into the databases. This part also details how to manually create a database and use a wizard to automatically upgrade your database from previous versions of P6 Professional.

**Installation and Configuration**

Describes how to install and configure P6 Professional and an additional component. This section explains how to:

- Install P6 Professional.
- Install an additional component, the P6 Professional SDK (Software Development Kit).
- Create and run an unattended setup.
- Configure module connectivity to the P6 Professional database.

**P6 Professional Application Administration**

Describes how to customize P6 Professional applications, once installed. Specifically, this section covers how to:

- Set up users and configure security.
- Modify application settings and global enterprise data.
- Set up authentication and provision users.

**Tip**

Throughout this documentation, the Security Guidance icon helps you to quickly identify security-related content to consider during the installation and configuration process. See *Security Guidance* (on page 19) for more information about security guidelines.
P6 Professional can connect to one of two databases: a P6 Professional database or a P6 EPPM database. Some of the information in the documentation is relevant to only one of the databases. These topics are qualified in the title of the topic.

When a topic title is followed by (P6 Professional Only), the topic is relevant only when P6 Professional is connected to a P6 Professional database. When a topic title is followed by (P6 EPPM Only), the topic is relevant only when P6 Professional is connected to a P6 EPPM database.

Some topics include information that is relevant when connected to either database. These topics will not be qualified. For example, the information in the topic, "Create a project," applies when P6 Professional is connected to either database.

Other topics are generally relevant to both databases, but include some information that is only relevant when connected to a P6 Professional database and some that is only relevant when connected to a P6 EPPM database. In these cases, the topics include conditional phrases, such as:

- "When connected to a P6 Professional database..."
- "When P6 Professional is connected to a P6 EPPM database..."
- "(P6 EPPM Only)"
- "This icon only appears when P6 Professional is connected to a P6 Professional database."
Planning Your Implementation

Read this chapter when you are ready to plan your implementation. For more detailed information and assistance, please consult with Oracle Global Customer Support (if you have questions about installation) or Oracle Primavera GBU Consulting (if you want Oracle Primavera to assist you with your implementation.)

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Client and Server Requirements .............................................. 16
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Planning Checklist

When planning your implementation, you will first need to know which client modules and server components have to be installed and configured, and where those modules and components need to be installed. The following is a set of questions that you will want to answer before you begin implementation.

Which Relational Database Management System (RDBMS) will you use on the database server?

You can use either Oracle or Microsoft SQL Server on your database server. For detailed instructions on a Microsoft SQL Server database, refer to the document, P6 Professional Administrator's Guide for a Microsoft SQL Server Database.

Which workstations will require P6 Professional?

All P6 Professional users will need access to the database server. You will need to install the Oracle client software on each computer that runs the client module.

Do you want your administrators to install P6 Professional using standardized preconfigured settings?

If you want your client module to be configured identically, your administrators can run an unattended setup based on a standard configuration. You can create one or more sets of unattended setup files and share them on a network server.

Do you need to integrate your project data with other global systems?

If you need to integrate your project data with other global systems, such as Accounting or Human Resources applications, you will need to install P6 Integration API or P6 EPPM Web Services on computers that require access to the data. The P6 Integration API requires knowledge of Java programming. P6 EPPM Web Services seamlessly integrates P6 Professional functionality into other applications via open standards, including XML, SOAP, and WSDL.
Do some users require the ability to manage their projects in Microsoft Project while utilizing P6 Professional to manage global data?

Your organization might currently use Microsoft Project to manage projects. Use P6 and P6 Professional import/export functionality to share projects, resources, and roles data with Microsoft Project. For more information, see the P6 Help or the P6 Professional Help.

Will your team members use P6 Team Member Web to submit timesheets to the project/resource managers? If so, will you require that resource and/or project managers review and approve resource timesheets?

If team members will use P6 Team Member Web, you will need to install P6 Team Member Web files on an application server.

If you require that resource and/or project managers review and approve resource timesheets, you must install P6. The Timesheet Approval application, which is installed on the P6 Professional application server when you install P6, enables timesheet approval managers to review, approve, and reject timesheets, communicate with P6 Team Member Web resources, and run timesheet reports. Once installed, you can configure access to Timesheet Approval from P6.

Do you want to utilize password security features?

When the authentication mode is set to "Native," most of P6 Professional, with the exception of the P6 Professional SDK, offers a strong password policy feature. When enabled, this feature requires that all new and modified passwords be between 8 and 20 characters and contain at least one number and one letter. If using LDAP authentication, the security set on the host authentication server overrides the password security features in P6 Professional.

Client and Server Requirements

After determining your P6 Professional implementation plan, ensure that your hardware and software can support it.

For the full list of system requirements, versions, and tested configurations, see the Tested Configurations document.

Factors Affecting Memory Utilization by P6 Professional

Memory (RAM) utilization by P6 Professional is impacted by several factors, which can be categorized broadly as project complexity and presentation complexity. In general, an individual project with more activities, relationships, multi-level WBS, multi-level OBS, and which is planned over a longer period of time will require more memory than one with fewer activities, relationships, a simpler WBS and a simpler OBS. Additionally, a more complex User Interface experience – one in which multiple windows are open, many groups are displayed, and many layouts are available will consume more memory than a less complex User Interface experience.

Also the amount of memory needed during Scheduling is impacted primarily by the number of relationships among activities and the depth of relationships among activities. When there are more complex relationships among activities, Scheduling will consume more memory.

Factors Impacting Project Complexity:
Planning Your Implementation

- Number of Activities
- Number of Relationships
- Number of Currently Opened Projects
- Number of Baselines
- Project Length
- Depth of WBS Structure
- Depth of OBS Structure
- Number and length of Activities/Assignments
- Language: Whether double-byte/Unicode Language or single-byte language
- Number of Code Assignments
  - Assigned to Project
  - Assigned to Activities
  - Assigned to Resources
- Number of UDFs and Data Type of UDFs
- UDF Assignments
  - Assigned to Project
  - Assigned to Activities
  - Assigned to Resources
- EPS Complexity
  - It takes more memory to represent a complex, multi-level EPS than a flat EPS
  - Summary data is stored at each EPS level
- Resource Assignments
  - Having a large number of resource assignments will affect resource summary records and thus have an impact on memory usage.
- Calendars
  - Calendars will not significantly impact memory usage, unless there are many calendar exceptions and the Gantt view is shown with bar necking.

Factors Impacting Presentation Complexity:

- Number of Windows Open
- Number of Columns displayed
- Number of Layouts available
- Grouping
  - Number of Grouping Rows
  - Number of Grouping Levels
Security Guidance

This chapter provides guidelines on creating an overall secure environment for P6 Professional. It summarizes security options to consider for each installation and configuration process and details additional security steps that you can perform before and after P6 Professional implementation.

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Security Guidance Overview

During the installation and configuration process for P6 Professional, several options are available that impact security. Depending on your organization's needs, you might need to create a highly secure environment for all P6 Professional environments. Use the following guidelines to plan your security strategy for P6 Professional:

- Review all security documentation for applications and hardware components that interact or integrate with P6 Professional. Oracle recommends you harden your environment. See Additional Sources for Security Guidance (on page 24) for links to information that can help you get started.
- Read through the summary of considerations for P6 Professional included in this document. Areas covered include: safe deployment, authentication options, authorization, confidentiality, sensitive data, reliability, and cookies usage.
- Throughout this documentation, the Security Guidance icon 🛡️ helps you to quickly identify security-related content to consider during the installation and configuration process. Once you begin the installation and configuration of your P6 Professional environment, use the Security Guidance icon as a reminder to carefully consider all security options.

Tips

As with any software product, be aware that security changes made for third party applications might affect P6 Professional applications.
Safe Deployment of P6 Professional

To ensure overall safe deployment of P6 Professional, you should carefully plan security for all components, such as database servers and client computers that are required for and interact with P6 Professional. Certain components for P6 Professional are only available for 64-bit or 32-bit installations. In addition to the documentation included with other applications and hardware components, follow the P6 Professional-specific guidance below.

Administrative Privileges Needed for Installation and Operation

As the P6 Professional Administrator, you should determine the minimum administrative privileges or permissions needed to install, configure, and operate P6 Professional.

Minimum Client Permissions Needed for P6 Professional

Users do not have to be administrators on their machines to run P6 Professional. Instead, you can grant minimum permissions to create a more secure environment.

The following is a summary of the minimum system requirements needed to access and run components of P6 Professional:

Files within Folders:

- On 32-bit target machines with 32-bit installations, default file paths start with `local drive\Program Files\Oracle\Primavera P6\P6 Professional`.
- On 64-bit target machines with 32-bit installations, default file paths start with `local drive\Program Files (x86)\Oracle\Primavera P6\P6 Professional`.
- On 64-bit target machines with 64-bit installations, default file paths start with `local drive\Program Files\Oracle\Primavera P6\P6 Professional`.

- `dbexpsda40.dll`
- `dbexpsda30.dll`
- `dbexpoda40.dll`
- `dbexpoda30.dll`
- `DbExpPrC.dll` (only needed when using P6 Compression Server)
- `dbexpsda.dll`
- `dbxadapter.dll` (only needed when using P6 Compression Server)
- `Primavera.AdminConfig.exe`

Note: P6 Compression Server is only available on 32-bit platforms installed on either 32-bit or 64-bit operating systems.

Read&Execute/Read permission to access files needed to run P6 Professional applications and to create and modify database alias connections.

For a 32-bit platform on a 32-bit operating system or a 64-bit platform on a 64-bit OS: `local drive\Program Files\Oracle\Primavera P6\P6 Professional\pm.ini`

For a 32-bit platform on a 64-bit operating system: `local drive\Program Files (x86)\Oracle\Primavera P6\P6 Professional\pm.ini`
Read&Execute/Read/Write permission to access the ini file, which is required to log into P6 Professional applications.

For a 32-bit platform on a 32-bit operating system and 64-bit platform on a 64 bit OS: 
local drive\Program Files\Oracle\Primavera P6\P6 Professional\Java\ 

For a 32-bit platform on a 64-bit operating system: 
local drive\Program Files\Oracle\Primavera P6\P6 Professional\Java\ 
dbconfig.cmd

For your reference, the following is the default installation locations for the PrmBootStrap.xml file:

\%LOCALAPPDATA\%\Oracle\Primavera P6\P6 Professional
During installation, the PrmBootStrap.xml file is also copied to one the location below. The files will never be modified during use of P6 Professional, so they can be copied to the current user location (USERPROFILE or LOCALAPPDATA) if you need to revert P6 Professional back to its original state (for example, if files become corrupted).
\%PROGRAMDATA\%\Oracle\Primavera P6\P6 Professional

- Output directory for File > Export, Log output files
- Read&Execute/Read/Write to create and write output files.

**Registry Keys:**

- For a 32-bit platform on a 32-bit operating system or a 64-bit platform on a 64 bit OS:
  HKEY_LOCAL_MACHINE\Software\Primavera
  READ

- For a 32-bit platform on a 64-bit operating system:
  HKEY_LOCAL_MACHINE\Software\Wow6432Node\Primavera

**Note:** For the Update Baseline and Schedule Comparison/Claim Digger tools, the key is opened in Read/Write/Delete mode.

**Physical Security Requirements for P6 Professional**

You should physically secure all hardware hosting P6 Professional to maintain a safe implementation environment. Consider the following when planning your physical security strategy:

- You should install, configure, manage, and maintain your environment according to guidance in all applicable installation and configuration documentation for P6 Professional.
- You should install P6 Professional components in controlled access facilities to prevent unauthorized access. Only authorized administrators for the systems hosting P6 Professional should have physical access to those systems. Such administrators include the Operating System Administrators, Application Server Administrators, and Database Administrators.
- You should use Administrator access to client machines only when you install and configure P6 Professional modules.
Authentication Options for P6 Professional

Authentication determines the identity of users before granting access to P6 Professional modules. P6 Professional offers the following authentication modes:

Native is the default mode for P6 Professional. In Native mode, the P6 Professional database acts as the authority and the application handles the authentication of the user who is logging into that application.

Lightweight Directory Access Protocol (LDAP) authenticates users through a directory and is available for P6 Professional applications. P6 Professional supports LDAP referrals with Oracle Internet Directory and Microsoft Windows Active Directory. LDAP referrals allow authentication to extend to another domain. You can also configure multiple LDAP servers, which supports failover and enables you to search for users in multiple LDAP stores. In LDAP mode, an LDAP directory server database confirms the user’s identity when they attempt to login to a P6 Professional application.

LDAP helps you create the most secure authentication environment available in P6 Professional.

Authorization for P6 Professional

Grant authorization carefully to all appropriate P6 Professional users.

To help you with security planning, consider the following authorization-related options:

- Use Global profiles to limit privileges to global data. Assign the Admin Superuser account sparingly.
- Use Project profiles to limit privileges to project data. Assign the Project Superuser account sparingly.
- Assign OBS elements to EPS and WBS nodes to limit access to projects.
- Assign resource access limitations to each user.

Confidentiality for P6 Professional

Confidentiality ensures only authorized users see stored and transmitted information. In addition to the documentation included with other applications and hardware components, follow the P6 Professional-specific guidance below.

- For data in transit, use SSL/TLS to protect network connections among modules. If you use LDAP authentication, ensure you use LDAPS to connect to the directory server.
- For data at rest, refer to the documentation included with the database server for instructions on securing the database.

Sensitive Data for P6 Professional

Protect sensitive data in P6 Professional, such as user names, passwords, and e-mail addresses. Use the process below to help during your security planning:

- Implement security measures in P6 Professional to carefully grant users access to sensitive data. For example, use a combination of Global Profiles, Project Profiles, and OBS access to limit access to data.
Implement security measures for applications that interact with P6 Professional, as detailed in the documentation included with those applications.

**Reliability for P6 Professional**

Protect against attacks that could deny a service by:

- Installing the latest security patches.
- Replacing the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier.
- Ensuring log settings meet the operational needs of the server environment. Do not use "Debug" log level in production environments.
- Documenting the configuration settings used for servers and create a process for changing them.
- Protecting access to configuration files with physical and file system security.

**Cookie Usage in P6 Professional**

View the details below for information on when cookies are created and stored.

<table>
<thead>
<tr>
<th>Cookie Name</th>
<th>Description</th>
<th>Scope</th>
<th>Retention</th>
<th>Encrypted?</th>
</tr>
</thead>
<tbody>
<tr>
<td>sw</td>
<td>Applies only for the help system. The last search term used in the search tab located on the table of contents frame.</td>
<td>Current working directory only on the current host (for example, if located at <a href="http://host/help">http://host/help</a>, only valid for the <a href="http://host/help">http://host/help</a> directory).</td>
<td>None (expires at end of session)</td>
<td>No</td>
</tr>
<tr>
<td>sm</td>
<td>Applies only for the help system. The type of search used in the search tab located on the table of contents frame. Value corresponds as: 0: All words, 1: Any words, 2: Exact phrase. Any other value is invalid.</td>
<td>Current working directory only on the current host (for example, if located at <a href="http://host/help">http://host/help</a>, only valid for the <a href="http://host/help">http://host/help</a> directory).</td>
<td>None (expires at end of session)</td>
<td>No</td>
</tr>
</tbody>
</table>

**Additional Sources for Security Guidance**

You should properly secure the databases, platforms, and servers you use for your P6 Professional. You might find the links below helpful when planning your security strategy (not a comprehensive list).

**Oracle Database**

http://download.oracle.com/docs/cd/B19306_01/network.102/b14266/toc.htm

**Oracle Linux Security Guide**

http://www.oracle.com/technetwork/articles/servers-storage-admin/secure-linux-env-1841089.html

**Microsoft Windows Server 2012**


**Microsoft Windows Server 2008**


**Microsoft SQL Server 2012 Database**


**Microsoft SQL Server 2008 Database**

Automatic Database Installation

Follow the steps in this chapter to set up and load the P6 Professional database on a server using the automatic install process.

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Automatic Oracle Database Installation Overview

One database is used to run P6 Professional. It stores data used by all P6 Professional applications.

If you need detailed steps on installing Oracle Database or Microsoft SQL Server, refer to the database documentation included with those products.

P6 Professional supports Oracle and Microsoft SQL Server databases. See Client and Server Requirements (on page 16) for details on which versions are supported. The Oracle or Microsoft SQL Server software must be installed on the database servers before you can create the database.

You can run the database wizard to automatically create a database structure and load application data into it; or, you can manually configure the database structures and then run a batch file to load application data. This chapter walks you through the automatic method.

Note: See Automatic Database Upgrade Considerations and Prerequisites (on page 43) for details if you have previously installed and configured P6 Professional databases and want to upgrade to the current version.

See Database Administration (on page 49) for additional tips and considerations related to database performance along with additional settings.

Oracle Database Considerations

Before installing the P6 Professional database, consider the following:

- If you intend to run P6 Professional or P6 Compression Server on an Oracle Database server, the Oracle client must be installed on each machine that will be accessing the database server.
- When you install the Oracle database client, the TNSPING.EXE utility is automatically installed in the \oracle\ora_home\bin folder. You must have this utility for P6 Professional applications. Do not delete it.
Oracle must be run in Dedicated Mode (rather than MTS mode).
If you need to use the Euro symbol in any Western European language, you must use codepage WE8MSWIN1252 or UTF8. Please note, if you change the NLS_LENGTH_SEMANTICS parameter from BYTE to CHAR the software will not be affected. Oracle recommends using CHAR if using UTF8 because some characters are two or three bytes.

**Note:** P6 Professional does not support passwords with multi-byte characters.

To configure the Oracle Database server for SSL, please see the Advanced Security Administrator's Guide included with the Oracle Database Server Documentation for configuring the Oracle Server and Oracle Client(s) for SSL.

### About the Database Wizard

The Database wizard guides you through the steps for creating a new database structure and loading the application data into it. You do not need to be an experienced DBA to perform these steps; however, Oracle or Microsoft SQL Server must already be installed on the database server.

You can run the Database wizard to create a new database from a client computer or from the server itself. The Database wizard creates any necessary file structures and database users for you.

For information on how to run the Database wizard from a command line, refer to My Oracle Support’s Knowledge Articles.

### Automatically Installing an Oracle Database and Loading Application Data

Complete the following steps to automatically create an Oracle Database and load application data.

**Notes:**

- If you will be using SSL protocol, refer to your Oracle Database documentation and the My Oracle Support’s Knowledge Articles for configuration instructions before running the Database wizard (dbsetup).
- Oracle recommends that you create a 500 MB temporary tablespace and a 500 MB undo tablespace. Refer to your Oracle Database documentation if you are unfamiliar with this process.

### Creating an Oracle Database

To create an Oracle Database:

1) Set the JAVA_HOME location:
   - In your Windows system environment:
     a. Right-click on **My Computer** and select **Properties**.
b. In the **System Properties** dialog box, on the **Advanced** tab, click **Environment Variables**.

c. In the **Environment Variables** dialog box, under **System variables**, click **New**.

d. In the **New System Variable** dialog box:
   1. In the **Variable name** field, enter **JAVA_HOME**.
   2. In the **Variable value** field, enter the location where Java is located (for example, C:\Program Files\Java\jre7).

e. Click **OK** to exit out of the open dialog boxes.

   For Linux, add the JAVA_HOME Environment variable to the dbsetup.sh (in the Database folder of the physical media or download) file before running it. For example:
   ```
   export JAVA_HOME=/usr/java/jre1.7.0_15/
   ```

2) **Complete the following steps to grant privileges to the SYSTEM or another DBA user:**

   a. Go to \database\scripts\install\PPM_<release_level> and open `manual_script_before_install.sql` in a text editor.

      This script grants sys.DATABASE_REPOSITORY, sys.DBA_VIEWS, sys.DBMS_LOB, sys.DBMS_SQL, sys.DBMS_JOB, sys.DBMS_RANDOM, sys.DBA_EXTENTS privileges to the SYSTEM user (or another DBA user), which will be validated during database installation.

   b. Modify all schema user references to match your actual schema user name.

      If you use another DBA account for database install, update the references to SYSTEM with the actual DBA account you will use for the install.

   c. From the command line, execute `sqlplus sys/<password>@<DBNAME> as sysdba`.

      where `<password>` is the password for your sysuser and `<DBNAME>` is the Net Service Name for your database, which can be found in your `$ORACLE_HOME\NETWORK\ADMIN\TNSNAMES.ORA` file.

   d. Go to \database\scripts\install\PPM_<release_level> and execute `manual_script_before_install.sql`.

      For example, at the SQL prompt, enter:
      ```
      @C:\P6_Professional_Database\database\scripts\install\PPM_15_01_00\manual_script_before_install.sql
      ```

3) **Double-click dbsetup.bat (or dbsetup.sh for Linux) in the Database folder of the P6 Professional physical media or download to start the Database wizard.**

   **Note:** Click **Next** on each wizard screen to advance to the next step.

4) **On the Primavera P6 screen:**

   a. In the **Database options** field, select the **Install a new database** option.

   b. In the **Server type** field, select the **Oracle** option.

5) **On the Connection Information screen**, enter the following information to connect to the database:

   a. In the **DBA User Name** field, enter the DBA user name (by default, system).

   b. In the **DBA Password** field, enter the password for the DBA user name.
c. In the **Database Host Address** field, enter the server machine name of IP address where the Oracle Database is installed.

d. In the **Database Host Port** field, enter the port number that the Oracle Database is using. The default is 1521.

e. In the **Database Service Name** field, enter the Oracle Service Name or SID. You can find this value in the TNSNAMES.ORA file, which you created when you or your DBA set up the Oracle client. You can also obtain the Service Name or SID by running the following query against the database as a DBA user (db_name reflects the SID and service_names reflects the service name):

   ```sql
   select name, value from v$parameter where name in ('db_name','service_names');
   ```

   **Note**: Do not use special characters in the database name, privileged user, or public user, for example: `{ } [ ] : ; < > , . ? ! @ # $ % ^ & * ( ) - / \ ~ `

6) On the **Configure Oracle Tablespaces** screen, do one of the following:

   - If the database server to which you are connecting already has existing tablespaces and you want to use them, select the **Use existing tablespaces** checkbox. If you do this, skip the rest of this procedure and continue to **Loading Application Data for Oracle** (on page 28).
   - Otherwise, change the estimated tablespace sizes as needed and continue this procedure.

7) On the **Specify Oracle Tablespace Locations** screen:

   a. Accept the default locations for the Oracle tablespaces or specify different locations.
   b. Click **Create**.

### Loading Application Data for Oracle

To continue installing the Oracle Database and load application data:

1) On the **Primavera Database Setup Wizard** screen, click **Next**.

2) On the **Create Oracle Users** screen, specify the Oracle Database administrative, privileged, public, and background user names and passwords.

   **Caution**: Use a unique name for all your user names; do not use duplicate names. Repeating user names will cause conflicts.

   **Notes**:

   - P6 Professional does not support passwords with multi-byte characters.
   - Oracle recommends using strong passwords. Strong passwords in P6 Professional contain between 8 and 20 characters and at least one numeric and one alpha character. To further strengthen the password, use a mixture of upper and lower case letters.
Automatic Database Installation

- Do not use special characters in the database name, privileged user, or public user name, for example: `{ } [ ] : ; < > , . ? ! @ # $ % ^ & * ( ) - _ | / ~

3) On the Configuration Options screen:
   a. In the Application User section, enter the P6 Professional application administrative user name and password. By default, the application administrative user will be granted Admin Superuser access rights.

   **Note:** Oracle recommends using strong passwords. Strong passwords in P6 Professional contain between 8 and 20 characters and at least one numeric and one alpha character. To further strengthen the password, use a mixture of upper and lower case letters.

   b. Select the Load sample data option if you want to include sample project data in a non-production database. If you do not select the Load sample data option, empty data is loaded in a secure state and includes only the most basic information needed to run the P6 Professional database.

   **Caution:** You must choose the base currency if you do not want the database to use US dollars ($) as the base currency. You cannot change the base currency once projects are in progress.

   c. If you want to use a currency other than US Dollars as the base currency for the database, select a different base currency in the Currency field.

   d. Click Install to start the process of loading the database tables with application data.

4) On the Finish screen, click Finish to exit the wizard.

**Notes:**

- If the database creation fails, see PrimaveraDatabaseSetup.log located in the user home directory (for example, C:\Documents and Settings\Administrator). Contact Oracle Global Customer Support if you need further assistance.

- When the installation successfully completes, delete the installation log: DatabaseSetup.log. You can find this under C:\Documents and Settings. The folder name will depend on what you setup during installation.

Once the application data is installed you can begin to install and configure the client module.

See **Database Administration** (on page 49) for information on configuring database settings to optimize performance.
The Base Currency for Oracle

The base currency is the monetary unit used to store cost data for all projects in the database and is controlled by a global administrative setting. The default base currency for P6 Professional is US dollars ($). The view currency is the monetary unit used to display cost data in P6 Professional and is controlled by a user preference.

The exchange rate for the base currency is always 1.0. When a user selects a different currency than the base currency to view cost data, the base currency value is multiplied times the current exchange rate for the view currency to calculate the values displayed in cost and price fields.

For example, if the base currency is US Dollars, the view currency is Euros, and the exchange rate for Euros is $1 = €0.75, a value of $10 stored in the database is displayed as €7.5 in cost and price fields. Similarly, if you enter €7.5 in a cost or price field, it is stored in the database as $10.

When data is displayed in a view currency that is different than the base currency, some cost and price values can vary slightly (e.g., due to rounding). As long as the correct base currency is selected during database installation, a user can view completely accurate cost and price data by changing the view currency to match the base currency.

Private Database Logins

Private database logins are used primarily by administrators to gain direct access to a database. For example, the privileged user login that you use to access the P6 Professional database is a private database login. You can add, modify, or delete existing logins using the Database Logins tool.

P6 Professional includes an encryption algorithm that provides enhanced security for private database logins; however, when you manually configure your database, the database does not automatically enforce the encryption algorithm. If you manually configure your database, Oracle recommends that you use this encryption algorithm. To do so, you must reset the private database login. See Resetting Private Database Passwords to Use the New Encryption Algorithm for instructions. If you automatically configure your database, you do not need to configure the encryption algorithm.

User logins and passwords are not affected.

Adding Private Database Logins for P6 Professional

Use the steps that follow to add private database logins for P6 Professional.

From the Database folder in the P6 Professional for <platform> folder of the physical media or download:

1) Run `databaselogsins.bat` (databaselogsins.sh for Linux).
2) On the Database Connection dialog box:
   a. Select the database.
   b. Type the user name and password of a privileged database user (for example, privuser). This login should have administrative rights on the database.
c. Enter the host address, host port, and database/instance name specific to your installation. The Port field displays the default port for the database type you selected.

d. Click **Next**.

3) On the **Private Database Logins** dialog box:
   a. Click **Add**.
   b. Enter a user name.
   c. Enter a password.

   **Note**: To reverse a change, click **Undo**. Undo will reverse any changes made during the current session.

d. Click **Save**.
e. Click **OK** to exit.

---

### Modifying Private Database Logins for P6 Professional

Use the steps that follow to modify private database logins.

From the Database folder in the P6 Professional for `<platform>` folder of the physical media or download:

1) Run `databaselogsins.bat` (databaselogsins.sh for Linux).

2) On the **Database Connection** dialog box:
   a. Select the database.
   b. Type the user name and password of a privileged database user (for example, privuser). This login should have administrative rights on the database.
   c. Enter the host address, host port, and database/instance name specific to your installation. The Port field displays the default port for the database type you selected.
   d. Click **Next**.

3) On the **Private Database Logins** dialog box:
   a. Select the private database user name that you wish to modify.
   b. Enter a new user name.
   c. Highlight the password, and change it.
   d. Click the **Update Password** button.

   **Note**: To reverse a change, click **Undo**. Undo will reverse any changes made during the current session.

e. Click **Save**.
f. Click **OK** to exit the Database Logins tool.
Deleting Private Database Logins for P6 Professional

Use the steps that follow to delete private database logins for P6 Professional:

From the Database folder in the P6 Professional for <platform> folder of the physical media or download:

1) Run databaselogins.bat (databaselogins.sh for Linux).

2) On the Database Connection dialog box:
   a. Select the database.
   b. Type the user name and password of a privileged database user (for example, privuser).
      This login should have administrative rights on the database.
   c. Enter the host address, host port, and database/instance name specific to your installation.
      The Port field displays the default port for the database type you selected.
   d. Click Next.

3) On the Private Database Logins dialog box:
   a. Select the private database user name that you wish to remove.

      **Note:** You must have at least one private user name for the P6 Professional database at all times.

   b. Click Delete.

      **Note:** To reverse a change, click Undo. Undo will reverse any changes made during the current session.

   c. Click Save.
   d. Click OK to exit the Database Logins tool.
Manual Oracle Database Configuration

Read this chapter to manually set up the central P6 Professional database on a server running Oracle.

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Changing the Database Base Currency .................................................................. 38
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Manual Oracle Database Configuration Overview

The P6 Professional database stores all P6 Professional data used by all P6 Professional applications.

P6 Professional supports Oracle and Microsoft SQL Server databases. See the Tested Configurations document for details on which versions are supported. The Microsoft SQL Server or Oracle server software must be installed on the database servers before you can create the database.

Note: P6 Professional R8.x includes an encryption algorithm that provides enhanced security for private database logins; however, the encryption algorithm is not automatically enforced when you manually configure or upgrade your database. If you manually configure or upgrade your database, Oracle recommends that you use this encryption algorithm. To do so, you must reset the private database login. See Resetting Private Database Passwords to Use the New Encryption Algorithm for instructions. If automatically installing or upgrading your database, no configuration is needed after the upgrade to use the encryption algorithm. User logins and passwords are not affected.

Tips

- P6 Professional does not support passwords with multi-byte characters.
- When you install the Oracle client, the TNSPING.EXE utility is automatically installed in the \oracle\ora_home\bin folder. This utility must be present for P6 Professional applications. Do not delete it.
- See Automatic Database Upgrade Considerations and Prerequisites (on page 43) for instructions on automatically upgrading your databases to the current version if you have manually configured P6 Professional databases for an earlier version. If you want to manually upgrade your databases, see the Manually Upgrading the P6 Professional Database for Oracle document or the Manually Upgrading the P6 Professional Database for Microsoft SQL Server document.
For security reasons, Oracle strongly recommends that you replace the default database users’ (admuser, privuser, pubuser, and bgjobuser) passwords immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier. Do not use special characters in the database name, privileged user, or public user name, for example: { } [ ] ; ; < > , . ? ! @ # $ % ^ & * ( ) - _ | / \ ~

Oracle recommends using strong passwords. Strong passwords in P6 Professional are defined as passwords containing between 8 and 20 characters and at least one numeric and one alpha character. To further strengthen the password, use a mixture of upper and lower case letters.

See Modifying Private Database Logins for P6 Professional for instructions on how to replace the private database login. For all other database user names and passwords, use the tools included with Oracle Database. The background job user only has to be reset for manual installations.

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.

To configure the Oracle Database server for SSL, please see the Advanced Security Administrator's Guide included with the Oracle Database Server Documentation for configuring the Oracle Server and Oracle Client(s) for SSL.

Creating the Database Structure for Oracle and Loading Application Data

The Oracle Database administrator (DBA) creates the P6 Professional database, then runs P6 Professional SQL scripts, which create each database’s structure (tables, indexes, relationships, etc.).

Notes:

- Oracle must be run in Dedicated Mode (rather than MTS mode).
- If you need to use the Euro symbol in any Western European language, you must use codepage WE8MSWIN1252 or UTF8. Please note, if you change the NLS_LENGTH_SEMANTICS parameter from BYTE to CHAR, you will not affect the software. Oracle recommends using CHAR if using UTF8 because some characters are two or three bytes.

These instructions assume you are an Oracle DBA or are familiar with administering Oracle databases. They also assume you have set up an Oracle server instance and configured your network. You must complete the steps in the order specified. If you have any questions about the manual setup process, please contact Oracle Global Customer Support before proceeding.

You can also use a wizard that automatically creates the database structures and loads the data for you. See the Installing and Configuring P6 Professional guide for more information.

Oracle recommends that you use SQL Plus to run scripts referenced in the following instructions.
Creating the P6 Professional Database Structure

Complete the following steps to create the P6 Professional Oracle Database structure.

Copying the Script Files to a Local Drive

To copy the script files:

1) Copy the \database folder to a local drive from the physical media or download.

Grant Privileges to the SYSTEM User

Complete the following steps to grant privileges to the SYSTEM or another DBA user:

1) Go to \database\scripts\install\PPM_<release_level> and open manual_script_before_install.sql in a text editor.
    This script grants sys.DBMS_REPUTIL, sys.DBA_VIEWS, sys.DBMS_LOB, sys.DBMS_SQL, sys.DBMS_JOB, sys.DBMS_RANDOM, sys.DBA_EXTENTS privileges to the SYSTEM user (or another DBA user), which will be validated during database installation.

2) Modify all schema user references to match your actual schema user name.

3) If you use another DBA account for database install, update the references to SYSTEM with the actual DBA account you will use for the install.

4) From the command line, execute sqlplus sys/<password>@<DBNAME> as sysdba.
   where <password> is the password for your sysuser and <DBNAME> is the Net Service Name for your database, which can be found in your $ORACLE_HOME\NETWORK\ADMIN\TNSNAMES.ORA file.

5) Go to \database\scripts\install\PPM_<release_level> and execute manual_script_before_install.sql.
   For example, at the SQL prompt, enter @C:\P6_Professional_Database\database\scripts\install\PPM_15_01_00\manual_script_before_install.sql.

Creating the Database Tablespaces

To create database tablespaces:

1) Log into Oracle as a SYSTEM or other DBA privileged user.

2) Go to \database\scripts\install\PPM_<release_level> and execute the orppm_init_db.sql script.
   The script creates the following tablespaces:
   - PMDB_DAT1
   - PMDB_NDX1
   - PMDB_LOB1

   If you want to change the tablespace names, modify the orppm_init_db.sql script.

Notes:

- Do not use special characters in the database name, privileged user, or public user name, for example: { } [ ] ; < > , . ? ! @ # $ % ^ & * ( ) - _ | / \ ~ `
Instead of running the orppm_init_db.sql script, you can manually create a database with system, temporary, and undo tablespaces. Oracle recommends that you create a database with a 500 MB temporary tablespace and a 500 MB undo tablespace. Make sure that the Oracle client can connect to the database. Refer to your Oracle Database documentation if you are unfamiliar with this process.

Creating Users and Tables

To create users and tables:

1) Log into the P6 Professional database as a SYSTEM or other DBA privileged user.
2) Go to \database\scripts\install\PPM_<release_level> and execute the orppm_create_users.sql script.

Notes:

- Running the orppm_create_users.sql script automatically creates database user names: admuser, privuser, and pubuser. If you have created other user names and wish to use those when running P6 Professional database scripts, make sure to replace the administrative, private and public user names with your custom user names in all applicable scripts before running them.
- Do not use special characters in the database name, privileged user, or public user name, for example: { } [ ] : ; < > , . ? ! @ # $ % ^ & * ( ) - _ | / \ ~ `.

3) Log into the P6 Professional database as admuser, or use your custom administrative user name if you created one.
4) Go to \database\scripts\install\PPM_<release_level> and execute the orppm_tables.sql script.

Notes:

- If you changed tablespace or user names, you will need to update the orppm_tables.sql script. You will need to update the PMDB_DAT1 tablespace name and the admuser, privuser, and pubuser names.
- Do not use special characters in the database name, privileged user, or public user names, for example: { } [ ] : ; < > , . ? ! @ # $ % ^ & * ( ) - _ | / \ ~ `.

Installing Sample Data and Creating Your P6 Professional Admin Superuser Password

To install sample data:

1) Open a command prompt and change your directory to the location of the rundataloader.bat file, which is on the root of the database folder by default.
2) Do one of the following:
   - If you want to load sample data into a non-production environment, execute the following command:
For EPPM:
```bash
rundataloader.bat sample:pmdb_mk.zip
<admuser>@oracle:<host>:<port>:<instance>
```

For P6 Professional:
```bash
rundataloader.bat sample:ppmdb_mk.zip
<admuser>@oracle:<host>:<port>:<instance>
```

where `<admuser>` is the system admin user you created, `<host>` is the server machine name or IP address where Oracle is installed, `<port>` is the port number that Oracle is using (the default is 1521), and `<instance>` is the database name or SID (for example, PMDB).

If you do not want to load sample data, execute the following command:

For EPPM:
```bash
rundataloader.bat sample:pmdb_mk_empty.zip
<admuser>@oracle:<host>:<port>:<instance>
```

For P6 Professional:
```bash
rundataloader.bat sample:ppmdb_mk_empty.zip
<admuser>@oracle:<host>:<port>:<instance>
```

where `<admuser>` is the system admin user you created, `<host>` is the server machine name or IP address where Oracle is installed, `<port>` is the port number that Oracle is using (the default is 1521), and `<instance>` is the database name or SID (for example, PMDB).

**Note:** This command loads empty data is loaded in a secure state with only the basic information needed to run the P6 Professional database.

3) At the Please select a password for the P6 'admin' SuperUser account prompt, enter or verify your superuser password.

**Creating Remaining P6 Professional Database Objects**

To create the remaining database objects:

1) Log in to the Oracle database as admuser (or use your custom administrative user name if you created one).

2) If you changed the default PMDB_NDX1 tablespace name and privuser user name, go to `\database\scripts\install\PPM_<release_level>` and update the `orppm_admuser.sql` script with your custom names.

3) Execute `orppm_admuser.sql`.

4) Log in to the Oracle database as privuser (or use your custom privileged user name if you created one).

5) If you changed the default admuser user name, go to `\database\scripts\source\PPM_<release_level>` and update the `orppm_privuser.sql` script with your custom name.

6) Execute `orppm_privuser.sql`.

7) Log in to the Oracle database as pubuser (or use your custom public user name if you created one).
8) If you changed the default admuser user name, go to
`\database\scripts\source\PPM_<release_level>` and update the `orppm_pubuser.sql` script with your custom name.

9) Execute `orppm_pubuser.sql`.

10) Log in to the Oracle database as bgjobuser (or use your custom background job user name if you created one).

11) If you changed the default admuser user name, go to
`\database\scripts\source\PPM_<release_level>` and update the `orppm_bguser.sql` script with your custom name.

12) Execute `orppm_bguser.sql`.

13) Log in to the Oracle database as SYSTEM or your custom DBA user.

14) If you changed any of the following, go to `\database\scripts\source\PPM_<release_level>` and update the `orppm_reset_priv.sql` script with your custom names:
   - Tablespace Names
     - PMDB_DAT1
     - PMDB_NDX1
     - PMDB_LOB1
   - User Names
     - admuser
     - bgjobuser

15) Execute `orppm_reset_priv.sql`.

### Dropping P6 Professional Database Objects

If you make a mistake or want to recreate the database objects for the P6 Professional database:

1) Go to `\database\scripts\install\PPM_<release_level>` and execute the `orppm_drop_users.sql` script. This will drop admuser, privuser, pubuser, and bgjobuser, and their objects.

2) Start over at Creating Users and Tables (on page 36).

### Changing the Database Base Currency

If you do not want the P6 Professional database to use US dollars ($) as the base currency, you must change the base currency after manually creating and configuring the P6 Professional database.

**Caution:** You cannot change the base currency after projects begin.

### Base Currency

The base currency is the monetary unit used to store cost data for all projects in the database and is controlled by a global administrative setting. The default base currency for P6 Professional is US dollars ($). The view currency is the monetary unit used to display cost data in P6 Professional and is controlled by a user preference.
The exchange rate for the base currency is always 1.0. When a user selects a different currency than the base currency to view cost data, the base currency value is multiplied times the current exchange rate for the view currency to calculate the values displayed in cost and price fields.

For example, if the base currency is U.S. Dollars, the view currency is Euros, and the exchange rate for Euros is .75, a value of $10 stored in the database is displayed as 7.5 Euros in cost and price fields. Similarly, if you enter 7.5 Euros in a cost or price field, it is stored in the database as $10.

When data is displayed in a view currency that is different than the base currency, some cost and price values can vary slightly (e.g., due to rounding). As long as the correct base currency is selected during database installation, a user can view completely accurate cost and price data by changing the view currency to match the base currency.

Reviewing Currency Choices

To change the base currency you need to edit and run the P6 Professional script provided. By default, US dollars is the base currency, and USD is the short name used in the script. To know which short name to use, review the list of available short names for P6 Professional by running the following query on the P6 Professional database:

```sql
select curr_type, curr_short_name from currtype;
```

Changing the Base Currency

To change the base currency:

1) On the P6 Professional physical media or download:
   a. Go to `database\scripts\common`.
   b. Copy the `or_set_currency.sql` script to a local drive.
2) If you copied the script from the physical media, turn off the script's read-only attribute.
   Since files on physical media are read-only, this attribute is enabled when you copy the file from a CD or DVD.
   a. In Windows Explorer, right-click the file.
   b. Choose `Properties`.
   c. Deselect the `Read-Only` option.
3) Open the script for editing and locate the line containing `v_new_base_currency: = ‘USD’`
4) Replace USD with the currency short name of your choice.
5) Save your changes and run the modified script.

Private Database Logins for P6 Professional

Private database logins are used primarily by administrators to gain direct access to a database. For example, the privileged user login that you use to access the P6 Professional database is a private database login. You can add, modify, or delete existing logins using the Database Logins tool. This can also be accomplished using the Administration Configuration tool.
P6 Professional includes an encryption algorithm that provides enhanced security for private database logins; however, when you manually configure your database, the database does not automatically enforce the encryption algorithm. If you manually configure your database, Oracle recommends that you use this encryption algorithm. To do so, you must reset the private database login. See Resetting Private Database Passwords to Use the New Encryption Algorithm for instructions. If you automatically configure your database, you do not need to configure the encryption algorithm.

User logins and passwords are not affected.

**Resetting Private Database Passwords to Use the New Encryption Algorithm**

Use the steps that follow to reset private database passwords to use the new encryption algorithm.

From the Database folder in the P6 Professional for <platform> folder of the physical media or download:

1) Run `databaselogins.bat` (databaselogins.sh for Linux).
2) On the **Database Connection** dialog box:
   a. Select the database.
   b. Type the user name and password of a privileged database user (for example, privuser). This login should have administrative rights on the database.
   c. Enter the host address, host port, and database/instance name specific to your installation. The Port field displays the default port for the database type you selected.
   d. Click **Next**.
3) On the **Private Database Logins** dialog box:
   a. Select the private database user name that you wish to reset.
   b. Highlight the password and change it (or simply re-enter the existing password).
   c. Click the **Update Password** button.

   **Note:** To reverse a change, click **Undo**. Undo will reverse any changes made during the current session.

d. Click **Save**.
e. Click **OK** to exit the Database Logins tool.

**Adding Private Database Logins for P6 Professional**

Use the steps that follow to add private database logins for P6 Professional.

From the Database folder in the P6 Professional for <platform> folder of the physical media or download:

1) Run `databaselogins.bat` (databaselogins.sh for Linux).
2) On the **Database Connection** dialog box:
   a. Select the database.
   b. Type the user name and password of a privileged database user (for example, privuser). This login should have administrative rights on the database.
c. Enter the host address, host port, and database/instance name specific to your installation. The Port field displays the default port for the database type you selected.

d. Click **Next**.

3) On the **Private Database Logins** dialog box:
   a. Click **Add**.
   b. Enter a user name.
   c. Enter a password.

   **Note:** To reverse a change, click **Undo**. Undo will reverse any changes made during the current session.

d. Click **Save**.

e. Click **OK** to exit.

### Modifying Private Database Logins for P6 Professional

Use the steps that follow to modify private database logins.

From the Database folder in the P6 Professional for <platform> folder of the physical media or download:

1) Run **databaselogins.bat** (databaselogins.sh for Linux).

2) On the **Database Connection** dialog box:
   a. Select the database.
   b. Type the user name and password of a privileged database user (for example, privuser). This login should have administrative rights on the database.
   c. Enter the host address, host port, and database/instance name specific to your installation. The Port field displays the default port for the database type you selected.
   d. Click **Next**.

3) On the **Private Database Logins** dialog box:
   a. Select the private database user name that you wish to modify.
   b. Enter a new user name.
   c. Highlight the password, and change it.
   d. Click the **Update Password** button.

   **Note:** To reverse a change, click **Undo**. Undo will reverse any changes made during the current session.

e. Click **Save**.

f. Click **OK** to exit the Database Logins tool.
Deleting Private Database Logins for P6 Professional

Use the steps that follow to delete private database logins for P6 Professional:

From the Database folder in the P6 Professional for <platform> folder of the physical media or download:

1) Run `databaselogins.bat` (databaselogins.sh for Linux).

2) On the Database Connection dialog box:
   a. Select the database.
   b. Type the user name and password of a privileged database user (for example, privuser).
      This login should have administrative rights on the database.
   c. Enter the host address, host port, and database/instance name specific to your installation.
      The Port field displays the default port for the database type you selected.
   d. Click Next.

3) On the Private Database Logins dialog box:
   a. Select the private database user name that you wish to remove.
      
      **Note:** You must have at least one private user name for the P6 Professional database at all times.
      
   b. Click Delete.
      
      **Note:** To reverse a change, click Undo. Undo will reverse any changes made during the current session.
      
   c. Click Save.
   d. Click OK to exit the Database Logins tool.
Automatic Database Upgrade Considerations and Prerequisites

Read this chapter to upgrade your P6 Professional database to R8.x when version 6.2.1 or later is already installed. You need to upgrade your database if you want to preserve your project data to use with the new version of P6 Professional. A wizard automatically upgrades your database for you.

Oracle recommends that you upgrade your database automatically; however, if you want to manually upgrade your oracle database, use the *Manually Upgrading the P6 Professional Database for Oracle*.

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Database Upgrade Process

You can upgrade your existing P6 Professional database (version v6.2, v6.2.1, v7, R8.1, R8.2, R8.3, or R8.4) to P6 Professional 15 R2. You must upgrade your P6 Professional database so it will work with the new version. Use the Database wizard to upgrade your database automatically. The wizard runs the necessary scripts to upgrade the database structure and an upgrade program to add data required by the new version.

**Note:** Upgrading from versions 5.0, 6.0, or 6.1 requires an upgrade to version 6.2.1 first. See the 6.2.1 documentation for more information

If you are upgrading from a release earlier than R8.1, then all risk data fields are migrated when upgrading; existing fields are mapped to new fields. See Risks Migration for more information.

Methodologies are not migrated; they must be converted to projects before the upgrade.

Convert Methodologies to Projects

To migrate Methodology Management version 7.0 or earlier data to P6 Professional R8.x projects, use Project Architect in the Project Management module (version 7.0 or earlier) to convert the data from a methodology to a project.

**Note:** You can create only one project at a time. If you want all of your Methodology Management data moved to projects, contact Oracle Consulting to automate the process.
To convert Methodology Management data to a project:

1) Create a new EPS node in Project Management where you can store all your Methodology Management projects.


3) After you have converted all your Methodology Management data to projects, upgrade P6 Professional.

**Risks Migration**

This topic applies only if you are upgrading from a version earlier than P6 Professional R8.2. The following table illustrates the risks data field mapping when upgrading from P6 Professional database (version 6.2.1 through 7.0 SP3) to P6 Professional R8.x.

*Note:* Some fields will migrate to text fields instead new fields because certain fields no longer correspond. The new text fields are noted below.

**Risks Fields Migration Table**

<table>
<thead>
<tr>
<th>Name</th>
<th>P6 Professional database (version 6.2.1 through 7.0 SP3) Risks Fields</th>
<th>P6 Professional R8.x Risks Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk ID</td>
<td>risk_id</td>
<td>risk_id</td>
</tr>
<tr>
<td></td>
<td>risk_id</td>
<td>risk_code (PROJRISK appended with risk_id)</td>
</tr>
<tr>
<td>Risk Name</td>
<td>risk_name</td>
<td>risk_name</td>
</tr>
<tr>
<td>Risk Description</td>
<td>risk_descr</td>
<td>risk_desc</td>
</tr>
<tr>
<td>Risk Status</td>
<td>status_code</td>
<td>status_code Open= Open; Closed=Managed (closed)</td>
</tr>
<tr>
<td>Risk Category ID</td>
<td>risk_type_id</td>
<td>risk_type_id</td>
</tr>
<tr>
<td>Risk Control</td>
<td>risk_control</td>
<td>cause (with 'Risk Control' heading)</td>
</tr>
<tr>
<td>Risk UDFs</td>
<td>table_name</td>
<td>table_name</td>
</tr>
<tr>
<td>Applies to WBS</td>
<td>wbs_id</td>
<td>cause (with 'Applies to WBS' &lt;WBS name&gt; heading)</td>
</tr>
<tr>
<td>Applies to Resource</td>
<td>rsrch_id</td>
<td>rsrch_id</td>
</tr>
</tbody>
</table>
### Upgrading an Oracle Database

If you want to use the database from Primavera 6.0 and later with P6 Professional R8.x, you need to upgrade it. Although recommended, it is not required that these steps be performed by an experienced database administrator.

The wizard runs the necessary scripts to upgrade the database structure and an upgrade program to add data required by the new version. You must upgrade your P6 Professional database.

<table>
<thead>
<tr>
<th>Name</th>
<th>P6 Professional database (version 6.2.1 through 7.0 SP3) Risks Fields</th>
<th>P6 Professional R8.x Risks Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsible Manager</td>
<td>obs_id</td>
<td>cause (with 'Responsible Manager' &lt;OBS name&gt; heading)</td>
</tr>
<tr>
<td>Priority</td>
<td>priority_type</td>
<td>cause (with 'Priority' &lt;priority_type&gt; heading)</td>
</tr>
<tr>
<td>Project ID</td>
<td>proj_id</td>
<td>proj_id</td>
</tr>
<tr>
<td>Date Identified</td>
<td>add_date</td>
<td>add_date</td>
</tr>
<tr>
<td>Impact Date</td>
<td>impact_date</td>
<td>cause (with 'Impact Date' &lt;add_date in mmm-dd-yyyy format &gt; heading)</td>
</tr>
<tr>
<td>Priority</td>
<td>prbly_pct</td>
<td>cause (with 'Probability' &lt;prbly_pct&gt; heading)</td>
</tr>
<tr>
<td>Impact - Labor Units</td>
<td>impact_work_qty</td>
<td>cause (with 'Impact - Labor Units' &lt;impact_work_qty&gt; - 2 decimals heading)</td>
</tr>
<tr>
<td>Impact - Nonlabor Units</td>
<td>impact_equip_qty</td>
<td>cause (with 'Impact - Nonlabor Units' &lt;impact_equip_qty&gt; - 2 decimals heading)</td>
</tr>
<tr>
<td>Impact - Material Units</td>
<td>impact_mat_qty</td>
<td>cause (with 'Impact - Material Units' &lt;impact_mat_qty&gt; - 2 decimals heading)</td>
</tr>
<tr>
<td>Impact - Expenses</td>
<td>Impact_expense_cost</td>
<td>cause (with 'Impact - Expenses' &lt;Impact_expense_cost&gt; - 2 decimals heading)</td>
</tr>
<tr>
<td>Risk Control</td>
<td>risk_control</td>
<td>cause (with 'Risk Control' &lt;risk_control&gt; heading)</td>
</tr>
<tr>
<td>Risk Category</td>
<td>risk_type</td>
<td>risk_type</td>
</tr>
<tr>
<td>Risk Category Sequence ID</td>
<td>seq_num</td>
<td>seq_num</td>
</tr>
</tbody>
</table>
Notes:

- The upgrade will fail if you are using any Oracle version prior to 10.2.
- Datafiles in the LOB tablespace (e.g., PMDB_LOB1) should be made to autoextend. The estimated sizing is not exact, and the database conversion might fail if the datafiles are a fixed size.
- If your existing database uses code page WE8ISO8859P1 and you want to use the Euro symbol, you will need to convert your database to WE8MSWIN1252 using the following statement: `ALTER DATABASE CHARACTER SET WE8MSWIN1252;`
- If you need to convert your database, be sure to first refer to the note on Oracle Support: Changing the Database Character Set (NLS_CHARACTERSET)[ID 225912.1].
- If you will be using SSL protocol, refer to your Oracle Database documentation and the My Oracle Support’s Knowledge Articles for configuration instructions before running the Database wizard (dbsetup).

To upgrade the database:

1) Perform a cold backup and a full database export.
   
   If you are unsure how to back up your Oracle Database, do not proceed with the upgrade. Contact your database administrator, your database vendor, or Oracle Global Customer Support for assistance in backing up your database before performing the database upgrade. Also, ensure that you are familiar with the process of restoring the backup copy of the database, in case you need to do so.

2) Go to `database\scripts\install\PPM_<release level>` and update the following scripts in a text editor:
   
   - `manual_script_before_upgrade.sql`
     
     If you are not using the schema names admuser or privuser, update the references with your actual admuser and privuser names.
   
   - `manual_script_before_install.sql`
     
     By default, grant options are being made to the SYSTEM schema user. The upgrade requires entry of a DBA user account, so if you use SYSTEM, no update is needed. However, if you use another DBA account for the upgrade, update the references to SYSTEM with the actual DBA account.

3) From the command line, execute `sqlplus sys/<password>@<DBNAME> as sysdba`.
   
   where `<password>` is the password for your sysuser and `<DBNAME>` is the Net Service Name for your database, which can be found in your `$ORACLE_HOME\NETWORK\ADMIN\TNSNAMES.ORA` file.

4) Go to `database\scripts\install\PPM_<release level>` and execute `manual_script_before_upgrade.sql`.
   
   For example, at the SQL prompt, enter `@C:\P6_Professional_Database\database\scripts\install\PPM_15_01_00\manual_script_before_upgrade.sql`. 
5) Go to `\database\scripts\install\PPM_<release level>` and execute `manual_script_before_install.sql`. For example, at the SQL prompt, enter `@C:\P6_Professional_Database\database\scripts\install\PPM_15_01_00\manual_script_before_install.sql`.

6) Double-click `dbsetup.bat` (or `dbsetup.sh` for Linux) in the Database folder of the P6 Professional physical media or download to start the Database wizard.

**Note:** Click Next on each wizard screen to advance to the next step.

7) On the **Connection Information, Connect to Database Server** screen:
   a. In the **DBA User Name** field, enter the DBA user name (by default, system).
   b. In the **DBA Password** field, enter the password for the DBA user name.
   c. In the **Database Host Address** field, enter the server machine name of IP address where the Oracle Database is installed.
   d. In the **Database Host Port** field, enter the port number that the Oracle Database is using. The default is 1521.
   e. In the **Database Service Name** field, enter the Oracle Service Name or SID. You can find this value in the TNSNAMES.ORA file, which you created when you or your DBA set up the Oracle client. You can also obtain the Service Name or SID by running the following query against the database as a DBA user (`db_name` reflects the SID and `service_names` reflects the service name):

   ```
   select name, value from v$parameter where name in ('db_name','service_names');
   ```

   **Note:** If you use the P6 PPM schema user (ADMUSER) in the DBA user name field, the following upgrade failure results: "Error in Run SQL Script `orpmp_grant_privileges.sql`: DatabaseToolException (ORA-01031: insufficient privileges)."

8) On the **Connection Information, Enter Administrative** screen:
   a. Enter the schema owner name for P6 PPM (by default, admuser or admprm$pm for standalone).
   b. Enter password of the schema owner for P6 PPM.

9) On the **Upgrade Options** screen:
   a. In the **Privileged User Name** field, select the privileged username (by default, privuser or privprm$pm for standalone) from the dropdown.
   b. In the **Privileged User Password** field, enter the password for the privileged user.
   c. In the **Public User Name** field, select the public username (by default, pubuser or pubprm$pm for standalone) from the dropdown.
   d. In the **Public User Password** field, enter the password for the public user.
   e. In the **Background Job User Name** field, select the background job username (by default, bgjobuser or bgjob$pm for standalone) from the dropdown.
   f. In the background job user password field, enter the password for the background job user.

10) On the **Ready to Begin Upgrading Data** screen:
a. Select the Yes, upgrade my database option.
b. Click Upgrade.

11) On the Primavera Database Setup Wizard screen, click Next after the process has completed.

   Note: If the database upgrade fails, see DatabaseSetup.log located in the user home directory (for example, C:\Documents and Settings\Administrator). Contact Oracle Global Customer Support if you need further assistance.

12) On the Finish screen, click Finish to exit the wizard.

   Your database is now ready to use with P6 Professional.
Database Administration

Read this chapter to learn how to configure the job scheduler supplied by your RDBMS, how to optimize performance of your P6 Professional database, and how to configure the PRMAUDIT feature to monitor edits, deletions, and additions to the databases.

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Background Processes and Clean Up in P6 Professional

Because clean up tasks can be resource intensive and time consuming, in P6 Professional, these tasks are initiated by two background jobs that run on the database server using the background job processes user name:

- SYMON (System Monitor), responsible for running procedures that take less than a few seconds to complete.
- DAMON (Data Monitor), responsible for running procedures that take longer than a few seconds to complete.

Both of these jobs are pre-configured with default settings. Since the default settings are optimal for most environments, you generally do not need to tune them. However, if you need to optimize your background process further, you can use the background job processes user to change the settings to tune the behavior of the background jobs for specific environments.

The background process will:

- Update the settings table with a record each time a job runs.
- Update the settings table with a HeartBeatTime record for both the SYMON and DAMON processes. The background processes regularly refresh the record to indicate that they are still running.

When you initiate background jobs:
Execute the stored procedure **INITIALIZE_BACKGROUND_PROCS**.

Locate the logs of background process activity in **BPLOGS** and **SETTINGS** tables within the Primavera database.

**RDBMS Scheduler Configuration**

Since background jobs are initiated by the job scheduler supplied by the RDBMS, you need to ensure that the scheduler for your specific RDBMS is properly configured.

**For an Oracle Database**: P6 Professional uses DBMS_SCHEDULER to schedule background jobs in Oracle. P6 Professional R8.x does not need parameter changes.

**Database Settings Table**

**Settings Table Overview**

The settings table contains name-value pairs that configure the behavior of the background processes.

**Namespace**

The namespace component is a dot-notation string representing a formal path to the parameter.

**Setting Name**

The setting name identifies the name of the setting.

**Value**

Values in the SETTINGS table are case-sensitive. The value portion of the pair can be:

- **String**: The string data type is a free text value. The most common string sub-type is interval which represents an interval of time by combining a numeric portion with a unit portion as depicted in the table below.

<table>
<thead>
<tr>
<th>Interval Subtype Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit portion</td>
</tr>
<tr>
<td>--------------</td>
</tr>
<tr>
<td>Numeric portion</td>
</tr>
<tr>
<td>d</td>
</tr>
<tr>
<td>h</td>
</tr>
<tr>
<td>m</td>
</tr>
<tr>
<td>s</td>
</tr>
</tbody>
</table>

- **Numeric**: The numeric data type consists of any number.
- **Boolean**: The Boolean data type can have one of two values: true or false, where zero represents false and any non-zero number represents true.
- **Date**: The date data type consists of dates.
Setting Example

The following is an example of a setting:

- Namespace: database.cleanup.Usession
- Setting Name: ExpiredSessionTimeout
- Value: 2h (two hour interval)

Reading Setting Values

You can configure settings through the Settings API Procedures. These procedures are similar to registry or INI file procedure calls.

**Reading Settings Values**

Use the following SETTINGS_READ_* procedures to determine the current value of specific settings:

- SETTINGS_READ_STRING(ret_val,namespace,settings_name,default)
- SETTINGS_READ_DATE(ret_val,namespace,settings_name,default)
- SETTINGS_READ_NUMBER(ret_val,namespace,settings_name,default)
- SETTINGS_READ_BOOL(ret_val,namespace,settings_name,default)

Using Code to Read Setting Values for Oracle

The following code snippets for the Oracle Database demonstrate how the SETTINGS_READ_* procedures read the setting values.

To retrieve the value of the KeepInterval setting in Oracle:

1) Use the following code:

```
SQL> variable vset varchar2(255)
SQL> exec settings_read_string(:vset,'database.cleanup.Usession',
'ExpiredSessionTimeout');
```

2. The following message should appear:

```
PL/SQL procedure successfully completed.
SQL> print vset
```

Writing Setting Values

Use the SETTINGS_WRITE_STRING procedure to set the value of a specific setting:

```
SETTINGS_WRITE_STRING(new value,namespace,settings_name);
```

Using Code to Write Setting Values for Oracle

The following code snippets for Oracle Database demonstrate how the SETTINGS_WRITE_STRING procedure sets the value of the ExpiredSessionTimeout setting to twelve hours.
To set the value of the ExpiredSessionTimeout setting to twelve hours in an Oracle Database:

1) Log into SQL *Plus using privuser as your user name.
2) Run the following statement:

```
SQL > exec SETTINGS_WRITE_STRING
('12h','database.cleanup.Usession','ExpiredSessionTimeout');
```

## Tracking Background Job Execution

You can track the execution of background jobs by monitoring the high level status settings or by inspecting the BGPLOG table.

### High Level Status Settings

Each time a job runs it will update the SETTINGS table for the setting_name = 'HeartBeatTime.' The job can update this value multiple times during the execution. You can monitor the maximum difference between this time and the current date to ensure that the job is running promptly. Refer to the High Level Status Settings table below for information about the HeartBeatTime setting.

<table>
<thead>
<tr>
<th>High Level Status Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Last date and time background job SYMON ran.</strong></td>
</tr>
<tr>
<td>Namespace</td>
</tr>
<tr>
<td>Setting Name</td>
</tr>
<tr>
<td>Default Setting</td>
</tr>
</tbody>
</table>

| **Last date and time background job DAMON ran.** |
| Namespace | database.background.Damon |
| Setting Name | HeartBeatTime |
| Default Setting | N/A |

### The BGPLOG Table

You can also track the execution of background jobs by inspecting the BGPLOG table. The BGPLOG table holds detailed entries from the background processes including informational, elapsed time, and error entries. Refer to the BGPLOG Table Descriptions for information about what this table contains.
### BGPLOG Table Descriptions

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log_time</td>
<td>Time when background process made a log entry</td>
<td>Datetime</td>
</tr>
<tr>
<td>Source</td>
<td>Program generating log entry</td>
<td>&quot;system_monitor&quot;, &quot;data_monitor&quot;</td>
</tr>
<tr>
<td>Type</td>
<td>Type of message</td>
<td>INFORMATION, ELAPSED TIME, ERROR</td>
</tr>
<tr>
<td>Description</td>
<td>Message from the background process</td>
<td>A variable message followed by a number in parenthesis that represents the number of rows that processed. As an example, the message &quot;Complete BGPLOG (40)&quot; indicates that forty rows processed.</td>
</tr>
</tbody>
</table>

### SYMON (System Monitor) Procedures

SYMON runs simple P6 Professional tasks on a quick schedule. By default, the job runs every minute; the tasks assigned to this job should take only a few seconds to complete on each run. Do not change the scheduled run time (every minute) for this procedure.

#### Procedures performed by SYMON

The procedures run by SYMON perform these tasks:

- Processing the PRMQUEUE entries for Project Security by queuing OBSPROJ updates to the PRMQUEUE table.
- Marking expired USESSION records as logically deleted.

**Note:** You can manually run queries to assist you with tracking concurrent usage of P6 Professional.

### OBSPROJ_PROCESS_QUEUE Procedure

OBSPROJ_PROCESS_QUEUE processes the PRMQUEUE entries for Project Security. It defers processing of OBSPROJ updates by queuing the updates to the PRMQUEUE table.

Refer to the following table for information about the settings associated with the OBSPROJ_PROCESS_QUEUE procedure.
**OBSPROJ_PROCESS_QUEUE Settings**

<table>
<thead>
<tr>
<th>Setting Description: Maximum project-level queue records to process on each run.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
</tr>
<tr>
<td>Setting Name</td>
</tr>
<tr>
<td>Default Setting</td>
</tr>
<tr>
<td>Type</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting Description: Maximum EPS-level queue records to process on each run.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
</tr>
<tr>
<td>Setting Name</td>
</tr>
<tr>
<td>Default Setting</td>
</tr>
<tr>
<td>Type</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting Description: Maximum times to re-process a failed entry before marking it as an error.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
</tr>
<tr>
<td>Setting Name</td>
</tr>
<tr>
<td>Default Setting</td>
</tr>
<tr>
<td>Type</td>
</tr>
</tbody>
</table>

**USESSION_CLEANUP_EXPIRED Procedure**

USESSION_CLEANUP_EXPIRED logically deletes USESSION records that have not updated their last_active_time based on the Expired Session settings. Marking expired USESSION records as logically deleted maximizes the number of module access logins that are available. Since it is not cleaning up the underlying data (physically deleting rows), the task completes quickly.

Values in the SETTINGS table control the clean up of expired sessions. By default, although the clean up of expired sessions occurs every two hours, the SETTINGS table does not contain a value for this setting. Use the SETTINGS_WRITE_STRING (value, namespace, setting) stored procedure to change the default clean up value.

For example, setting the value to "2d" deletes expired sessions older than two days.

**Note:** Oracle recommends that you set the ExpiredLongSessionTimeout sessions to at least one hour longer than your longest job. For example, if your longest job is a summarizer job that usually takes 12 hours, you should set the value in the SETTINGS table to at least 13.
Refer to the table below for information about the USESSION_CLEANUP_EXPIRED Settings.

### USESSION_CLEANUP_EXPIRED Settings

<table>
<thead>
<tr>
<th>Setting Description: ExpiredSessionTimeout determines how long an inactive user session will remain in the records before it is marked deleted. User sessions are created when a P6 Professional user logs into P6 Professional.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Namespace</strong></td>
<td>database.cleanup.Usession</td>
</tr>
<tr>
<td><strong>Setting Name</strong></td>
<td>ExpiredSessionTimeout</td>
</tr>
<tr>
<td><strong>Default Setting</strong></td>
<td>2h</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Interval</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting Description: ExpiredLongSessionTimeout determines how long a session that is running a job-like operation (that is still processing) will remain in the records before it is marked deleted. Job-like operations are processed by job services and some are performed by logged in P6 Professional users. Operations that are considered job-like are:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduling</td>
<td></td>
</tr>
<tr>
<td>Leveling</td>
<td></td>
</tr>
<tr>
<td>Apply Actuals</td>
<td></td>
</tr>
<tr>
<td>Update Progress</td>
<td></td>
</tr>
<tr>
<td>Copy/Paste Project</td>
<td></td>
</tr>
<tr>
<td>Create Project from Template</td>
<td></td>
</tr>
<tr>
<td>Maintain Baselines (create new baseline)</td>
<td></td>
</tr>
<tr>
<td>Approve Timesheets</td>
<td></td>
</tr>
<tr>
<td>Summarize</td>
<td></td>
</tr>
<tr>
<td>PX Publish (For P6 Professional with an P6 Professional database only)</td>
<td></td>
</tr>
<tr>
<td>Export</td>
<td></td>
</tr>
<tr>
<td>Import</td>
<td></td>
</tr>
<tr>
<td><strong>Namespace</strong></td>
<td>database.cleanup.Usession</td>
</tr>
<tr>
<td><strong>Setting Name</strong></td>
<td>ExpiredLongSessionTimeout</td>
</tr>
<tr>
<td><strong>Default Setting</strong></td>
<td>12h</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Interval</td>
</tr>
</tbody>
</table>
Tracking Concurrent Usage of P6 Professional

To track concurrent usage of P6 Professional, you can run queries against the USESSION and USESSAUD tables to perform self-audits. See sample queries below.

**Note:** See *DAMON (Data Monitor) Procedures* (on page 56) for information on how to set up the USESSAUD procedure. To ensure accuracy of these queries, run them before physically deleting remaining USESSION records and cleaning up the USESSAUD table.

- Against the USESSION table, run the following query to determine how many users are logged in at a given time:
  ```sql
  select count(*) from usession where delete_session_id is null
  ```

- Against the USESSION table, run the following query to determine how many users are logged into a specific P6 Professional product at a given time:
  ```sql
  select count(*) from usession where delete_session_id is null and app_name='P6 Professional product name'
  where P6 Professional product name is the application abbreviation.
  ```
  **Note:** You can view all available application abbreviations by running the following query as an administrative database user:
  ```sql
  select distinct(db_engine_type) from usereng
  ```

- Against the USESSAUD table, run a query similar to the following to determine how many users logged into P6 Professional on a specific date during a specified time range. You can alter the date, time range, and P6 Professional product as needed. The following example will search for all users who logged into P6 Professional on February 17, 2010 between 9am and 10am:
  ```sql
  select * from usessaud where login_date between to_date('17-FEB-10 09:00:00','DD-MON-YY HH:MI:SS') and to_date('17-FEB-10 10:00:00','DD-MON-YY HH:MI:SS') and app_name='Project Management'
  ```

### DAMON (Data Monitor) Procedures

The second database job is the DAMON data monitor job. The DAMON job runs the majority of the background processing and is responsible for running background cleanup processes required by the application that can potentially take a relatively long time to run.

**Oracle and DAMON**

By default, DAMON runs every Saturday. It uses the Oracle DBMS_SCHEDULER package to schedule the jobs, and an Interval setting controls the schedule and accepts the same parameters as the DBMS_SCHEDULER interval. For more information, refer to your Oracle Database documentation.
BGPLOG_CLEANUP Procedure

This procedure keeps the BGPLOG table at a reasonable size. The default clean up interval is 5 days which will result in a table size of about 54,000 records.

Refer to the following table for information about the settings associated with the BGPLOG_CLEANUP procedure.

**BGPLOG_CLEANUP Settings**

| Setting Description: The oldest records to keep in the BGPLOG table. |
|-------------------------|----------------------------------------------------------|
| Namespace               | database.cleanup.BackGroundProcessLog                    |
| Setting Name            | KeepInterval                                             |
| Default Setting         | 5d                                                       |
| Type                    | Interval                                                 |

REFRDEL_CLEANUP Procedure

This procedure deletes records from the REFRDEL table. REFRDEL_CLEANUP runs based on the frequency of data_monitor_job, which has a default frequency of one week. Alternatively, you can run REFRDEL_CLEANUP by itself if needed.

Refer to the following table for information about the settings associated with the REFRDEL_CLEANUP procedure:

**REFRDEL_CLEANUP Settings**

| Setting Description: Identifies the number of days that records are stored in the REFRDEL table before they can be removed. For example, the default setting keeps the REFRDEL records from the last five days. |
|-------------------------|-------------------------------------------------------------------------------------------------------------------|
| Namespace               | database.cleanup.Refrdel                                                                                           |
| Setting Name            | KeepInterval                                                                                                       |
| Default Setting         | 5d                                                                                                                 |
| Type                    | Interval                                                                                                           |

| Setting Description: Identifies the number of days that are set to be removed from the REFRDEL table starting with the oldest record in the table. |
|-------------------------|-------------------------------------------------------------------------------------------------------------------|
| Namespace               | database.cleanup.Refrdel                                                                                           |
| Setting Name            | DaysToDelete                                                                                                       |
| Default Setting         | 1                                                                  |
Type | Numeric
---|---
Setting Description: Determines the intervals of time (in minutes) in which data is grouped and removed from the REFRDEL table. The number of IntervalSteps is equal to DaysToDelete (in minutes) divided by IntervalStep.

| Namespace | database.cleanup.Refrdel |
| Setting Name | IntervalStep |
| Default Setting | 15 |
| Type | Numeric |

**CLEANUP_PRMQUEUE Procedure**

This procedure deletes records from the PRMQUEUE table based on the value of the KeepInterval setting. The remaining settings are similar to the REFRDEL_CLEANUP.

Refer to the following table for information about the settings associated with the CLEANUP_PRMQUEUE procedure:

**CLEANUP_PRMQUEUE Settings**

<table>
<thead>
<tr>
<th>Setting Description: The oldest records to keep in the PRMQUEUE table. Default is five days.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
</tr>
<tr>
<td>Setting Name</td>
</tr>
<tr>
<td>Default Setting</td>
</tr>
<tr>
<td>Type</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting Description: Determines whether the procedure will delete all of the PRMQUEUE records possible on each pass.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
</tr>
<tr>
<td>Setting Name</td>
</tr>
<tr>
<td>Default Setting</td>
</tr>
<tr>
<td>Type</td>
</tr>
</tbody>
</table>
Setting Description: Determines whether all of the records are cleaned. If the total record count is less than this number then all the records are cleaned.

<table>
<thead>
<tr>
<th>Namespace</th>
<th>database.cleanup.Prmqueue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Name</td>
<td>DeleteAllThreshold</td>
</tr>
<tr>
<td>Default Setting</td>
<td>1,000</td>
</tr>
<tr>
<td>Type</td>
<td>Numeric</td>
</tr>
</tbody>
</table>

Setting Description: Percentage of records to delete on each pass.

<table>
<thead>
<tr>
<th>Namespace</th>
<th>database.cleanup.Prmqueue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Name</td>
<td>DeletePercentage</td>
</tr>
<tr>
<td>Default Setting</td>
<td>10(%)</td>
</tr>
<tr>
<td>Type</td>
<td>Numeric</td>
</tr>
</tbody>
</table>

Setting Description: Maximum rows to delete on each pass.

<table>
<thead>
<tr>
<th>Namespace</th>
<th>database.cleanup.Prmqueue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Name</td>
<td>MaxRowsToDelete</td>
</tr>
<tr>
<td>Default Setting</td>
<td>10,000</td>
</tr>
<tr>
<td>Type</td>
<td>Numeric</td>
</tr>
</tbody>
</table>

**USESESSION_CLEAR_LOGICAL_DELETES Procedure**

This procedure physically deletes all logically deleted USESSION records. This procedure does not have settings associated with it: All logically deleted USESSION records are cleared.

**CLEANUP_LOGICAL_DELETES Procedure**

This procedure removes logically deleted rows based on the value of the KeepInterval setting. Records in the database can be marked as deleted (logically deleted) by setting the DELETE_SESSION_ID column to a non-null value. By default, records that were deleted more than 5 days ago will be deleted by this procedure.
Notes:

- The CLEANUP_LOGICAL_DELETES procedure will not delete records whose DELETE_SESSION_ID column is set to a negative value.
- This procedure will not delete records older than the earliest user session in USESSION, as determined by the minimum value in the login_date column.

Refer to the following table for information about the settings associated with the CLEANUP_LOGICAL_DELETES procedure:

<table>
<thead>
<tr>
<th>CLEANUP_LOGICAL_DELETES Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Description: The oldest logically deleted records to keep in tables.</td>
</tr>
<tr>
<td>Namespace</td>
</tr>
<tr>
<td>Setting Name</td>
</tr>
<tr>
<td>Default Setting</td>
</tr>
<tr>
<td>Type</td>
</tr>
</tbody>
</table>

Setting Description: Determines whether the procedure will delete all of the logically deleted records possible on each pass.

| Namespace | database.cleanup.LogicalDelete |
| Setting Name | DeleteAll |
| Default Setting | 0 (false) |
| Type | Boolean |

Setting Description: Maximum rows to delete on each pass.

| Namespace | database.cleanup.LogicalDelete |
| Setting Name | MaxRowsToDelete |
| Default Setting | 10,000 |
| Type | Numeric |

PRMAUDIT_CLEANUP Procedure

If the auditing feature is enabled, this procedure will physically delete records from the table based on the value of the KeepInterval setting.

Refer to the following table for information about the settings associated with the PRMAUDIT_CLEANUP procedure:

<table>
<thead>
<tr>
<th>PRMAUDIT_CLEANUP Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Description: The oldest logically deleted records to keep in tables.</td>
</tr>
<tr>
<td>Namespace</td>
</tr>
<tr>
<td>Setting Name</td>
</tr>
<tr>
<td>Default Setting</td>
</tr>
<tr>
<td>Type</td>
</tr>
</tbody>
</table>

Setting Description: Determines whether the procedure will delete all of the logically deleted records possible on each pass.

| Namespace | database.cleanup.LogicalDelete |
| Setting Name | DeleteAll |
| Default Setting | 0 (false) |
| Type | Boolean |

Setting Description: Maximum rows to delete on each pass.

| Namespace | database.cleanup.LogicalDelete |
| Setting Name | MaxRowsToDelete |
| Default Setting | 10,000 |
| Type | Numeric |
**PRMAUDIT_CLEANUP Settings**

Setting Description: Should the procedure attempt to clean up PRMAUDIT records.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
<th>Namespace</th>
<th>Setting Name</th>
<th>Default Setting</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>database.cleanup.auditing</td>
<td>Enabled</td>
<td>1 (true)</td>
<td>Boolean</td>
</tr>
</tbody>
</table>

Setting Description: The oldest audit records to keep in PRMAUDIT.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
<th>Namespace</th>
<th>Setting Name</th>
<th>Default Setting</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>database.cleanup.auditing</td>
<td>KeepInterval</td>
<td>30d</td>
<td>Interval</td>
</tr>
</tbody>
</table>

**CLEANUP_USESSAUD Procedure**

The CLEANUP_USESSAUD procedure deletes records from the USESSAUD table based on the KeepInterval parameter setting. All other settings are similar to the REFRDEL_CLEANUP procedure. The following table describes the settings associated with the CLEANUP_USESSAUD procedure.

**CLEANUP_USESSAUD Settings**

Setting Description: Determines the oldest records to keep in the USESSAUD table. Based on the logout time, data beyond the KeepInterval parameter value will not be deleted. The KeepInterval parameter setting overrides all other CLEANUP_USESSAUD settings.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
<th>Namespace</th>
<th>Setting Name</th>
<th>Default Setting</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>database.cleanup.Usessaud</td>
<td>KeepInterval</td>
<td>5d</td>
<td>Interval</td>
</tr>
</tbody>
</table>

Setting Description: Deletes all the REFRDEL records that satisfy the KeepInterval setting on each pass. The DeleteAll parameter setting overrides the settings of DeleteAllThreshold, DeletePercentage, and MaxRowsToDelete parameters.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
<th>Namespace</th>
<th>Setting Name</th>
<th>Default Setting</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>database.cleanup.Usessaud</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Setting Name

<table>
<thead>
<tr>
<th>Setting Name</th>
<th>DeleteAll</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Setting</td>
<td>0 (false)</td>
</tr>
<tr>
<td>Type</td>
<td>Boolean</td>
</tr>
</tbody>
</table>

**Setting Description:** Determines the minimum number of records to delete after satisfying the KeepInterval parameter setting. By default, a minimum of 1000 records are deleted. If the total record count is less than this setting, all records are deleted. The DeleteAllThreshold parameter setting overrides the settings of the DeletePercentage and MaxRowsToDelete parameters.

### Namespace
database.cleanup.Usessaud

### Setting Name

<table>
<thead>
<tr>
<th>Setting Name</th>
<th>DeleteAllThreshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Setting</td>
<td>1,000</td>
</tr>
<tr>
<td>Type</td>
<td>Numeric</td>
</tr>
</tbody>
</table>

**Setting Description:** Determines the maximum rows to delete on each pass after satisfying the KeepInterval parameter setting. The MaxRowsToDelete parameter setting overrides the DeletePercentage parameter setting.

### Namespace
database.cleanup.Usessaud

### Setting Name

<table>
<thead>
<tr>
<th>Setting Name</th>
<th>MaxRowsToDelete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Setting</td>
<td>10,000</td>
</tr>
<tr>
<td>Type</td>
<td>Numeric</td>
</tr>
</tbody>
</table>

**Setting Description:** Determines the percentage of records to delete on each pass after satisfying the DeleteAllThreshold and MaxRowsToDelete settings. However, the percentage of records deleted is limited to the default value of the MaxRowsToDelete setting.

### Namespace
database.cleanup.Usessaud

### Setting Name

<table>
<thead>
<tr>
<th>Setting Name</th>
<th>DeletePercentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Setting</td>
<td>10 (%)</td>
</tr>
<tr>
<td>Type</td>
<td>Numeric</td>
</tr>
</tbody>
</table>

---

**USER_DEFINEDBACKGROUND Procedure**

This procedure is an optional customer procedure that DAMON runs. This procedure does not have settings associated with it.
Oracle Database Performance

You can modify several Oracle Database settings to improve the performance of your P6 Professional database. Run the scripts as described below after you create the database.

Grant access to the V_$TRANSACTION view

V_$TRANSACTION is a system view in Oracle that lists the active transactions in the system. GET_SAFETY_DATE (a procedure in the Project Management schema) accesses this view to get the oldest start time of an active transaction. If the schema owner does not have privileges to this view, then it returns a safety date using the USESSION table. V_$Transaction tunes performance during a refresh action. USESSION records the login time of the logged in user, whereas data in the V_$Transaction view is recorded at a system level. The logged in user could be logged in for more than an hour (as seen from the USESSION table), but the V_$Transaction view has the current transaction datetime, regardless of the time the user logged in.

Note: Access to the V_$TRANSACTION view was built into the procedure to tune performance with refreshing operations; however, third-party functions could impact performance with database refresh operations that use an older time in the V_$TRANSACTION view.

To grant access to this view, connect to Oracle as SYS. Go to the \database\scripts\common folder and execute the run_as_sys.sql script. Alternatively, execute the following GRANT statement:

grant select on v_$transaction to admuser;

Gather statistics for cost-based optimization

Oracle 10g and later supports only cost-based optimization, which relies on accurate statistics to determine the optimal access path for a query. To gather the appropriate statistics for the optimizer, which improves database performance, go to the \database\scripts\common folder and execute the orpm_stats_gather.sql script.

Safe Deletes

The P6 Professional database normally handles restoring select deleted data using a safe delete setting. While using P6 Professional, the Undo command (Edit, Undo) allows users to restore certain types of data that have been deleted. Deleted data remains in the P6 Professional database until the CLEANUP_LOGICAL_DELETES procedure clears it (after 5 days, by default).

See the P6 Professional Help for more information about using undo.

Turning Off Safe Deletes

You can turn off safe deletes to save storage space. Turning off safe deletes disables undo functionality and instantly clears deleted data from the P6 Professional database.

To turn off safe deletes:
1) Verify the current state of your safe deletes setting. In the database, if the table ADMIN_CONFIG has the following row, a CONFIG_VALUE of 'N' means turn off safe deletes.

```
CONFIG_NAME = 'SAFEDELETE.ACTIVE' and CONFIG_TYPE = 'SETTINGS'
```

**Note:** This is only loaded at startup. If you change CONFIG_VALUE while a user is running P6 Professional, the setting will not apply until the user restarts the P6 Professional session.

2) Once you have determined the current state of your safe deletes setting, run one of the following statements.

- To turn off safe deletes for the first time:
  
  ```
  INSERT INTO ADMIN_CONFIG (CONFIG_NAME, CONFIG_TYPE, CONFIG_VALUE)
  VALUES ('SAFEDELETE.ACTIVE', 'SETTINGS', 'N')
  ```

- To turn on safe deletes after it has been turned off:
  
  ```
  UPDATE ADMIN_CONFIG SET CONFIG_VALUE = 'Y' WHERE CONFIG_NAME = 'SAFEDELETE.ACTIVE' AND CONFIG_TYPE = 'SETTINGS'
  ```

- To turn off safe deletes after it has been turned on:
  
  ```
  UPDATE ADMIN_CONFIG SET CONFIG_VALUE = 'N' WHERE CONFIG_NAME = 'SAFEDELETE.ACTIVE' AND CONFIG_TYPE = 'SETTINGS'
  ```

**Native Database Auditing**

Native database auditing permits you to log the edits, additions, and deletions made by users of P6 Professional applications. When users make changes, they create a Data Manipulation Language (DML) INSERT, UPDATE, or DELETE statement. Native database auditing uses the Data Manipulation Language (DML) INSERT, UPDATE, or DELETE statement being executed against tables in the database schema. Since every application table in the schema has its own auditing trigger, you can log changes made to each table regardless of who made the change or when the change was made. The database schema owner owns the auditing trigger: you can bypass trigger execution.
Auditing Level Configuration

You can adjust the amount of information that is logged by adjusting the audit level for each table. You can refine the audit further by setting the audit level individually for insert, updates, and deletes within each table.

Auditing Levels

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 0</td>
<td>No audit.</td>
</tr>
<tr>
<td>Level 1</td>
<td>Row-level audit. Audit only the operation without column details</td>
</tr>
<tr>
<td>Level 2</td>
<td>Column-level Audit without blobs. Audit changes to the data at the column level but without blob changes</td>
</tr>
<tr>
<td>Level 3</td>
<td>Full Audit. Audit changes to the data at the column level. For Oracle, column level changes to blobs are audited.</td>
</tr>
</tbody>
</table>

Simple Configuration

You can use two configuration procedures to provide simple control of the auditing feature:

- `auditing_enable(table_name, level)`
- `auditing_disable(table_name)`

You can set the audit level on an individual table or the same audit level for all of the tables. However, the simple configuration procedures do not allow for setting individual auditing levels for insert, update, or delete operations within a table.

Examples for Oracle

Use the following examples as a guide to use the simple audit configuration procedures to control the auditing feature.

- The following code snippet enables full auditing on all tables:
  
  ```sql
  exec auditing_enable(null,3);
  ```

- The following code snippet enables level one auditing on the task table:
  
  ```sql
  exec auditing_enable('TASK',1);
  ```

- The following code snippet disables auditing on PROJWBS:
  
  ```sql
  exec auditing_disable('PROJWBS');
  ```

- The following code snippet completely disables auditing across the entire database:
  
  ```sql
  exec auditing_disable(null);
  ```
Detailed Configuration

You can configure auditing trigger behavior by changing values in the settings table that enable or disable:

- The auditing feature itself
- The auditing of specific tables
- The auditing of table insert, update, or delete operations within each table

Auditing Status

You can enable or disable the auditing feature by using the `database.audit.Enable` setting. Use the `settings_write_bool` procedure to enable/disable the auditing feature.

To enable the auditing feature in Oracle, use the following code:

```sql
exec settings_write_bool(1,'database.audit','Enabled');
```

Options Setting

Each table's auditing settings are controlled by the Options setting in each table's auditing namespace (for example, `database.audit.TASK`). The Options setting is a three character string with a numeric value in each character position representing the audit level for insert, update, and delete.

<table>
<thead>
<tr>
<th>Auditing Level Options Setting by Table Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Level</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>
The following table provides some examples of the options setting:

<table>
<thead>
<tr>
<th>Setting the Auditing Level Options Setting by Table Operation Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namespace</td>
</tr>
<tr>
<td>--------------------</td>
</tr>
<tr>
<td>database.audit.TASK</td>
</tr>
<tr>
<td>database.audit.PROJWBS</td>
</tr>
<tr>
<td>database.audit.TASKRSRC</td>
</tr>
</tbody>
</table>

**SETTINGS_WRITE_STRING Procedure**

You can change table audit settings using the `settings_write_string` procedure.

**Oracle Example**

To set the table settings to fully audit insert and update operations but ignore any delete operations, use the following code for Oracle:

```sql
exec settings_write_string('330','database.audit.TASK','Options');
```

**Note:** Changes to auditing settings will not appear immediately in the application. The program will need to close the database connection and then reconnect to the database to get the new settings.

**The Audit Table**

Audit records are inserted into the PRMAUDIT table. One record is inserted into the audit table for each row changed in the database.

<table>
<thead>
<tr>
<th>PRMAUDIT Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column</td>
</tr>
<tr>
<td>audit_date</td>
</tr>
<tr>
<td>table_name</td>
</tr>
<tr>
<td>pk1, pk2, pk3, pk4</td>
</tr>
<tr>
<td>oper</td>
</tr>
<tr>
<td>Column Name</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>prm_user_name</td>
</tr>
<tr>
<td>audit_info</td>
</tr>
<tr>
<td>audit_info_extended</td>
</tr>
<tr>
<td>logical_delete_flag</td>
</tr>
<tr>
<td>rdbms_user_name*</td>
</tr>
<tr>
<td>os_user_name*</td>
</tr>
<tr>
<td>program*</td>
</tr>
<tr>
<td>host_name*</td>
</tr>
<tr>
<td>app_name*</td>
</tr>
<tr>
<td>netaddress*</td>
</tr>
</tbody>
</table>

* Values will differ for depending on your database.

**Note:** Grant select privileges to the administrative user on V_$SESSION to ensure correct values for several auditing table values.

**Session Auditing**

Activity for the USESSION table is audited with its own trigger and table. When an application user logs out of the system they logically delete, or mark, their session record in the USESSION table. One record is written to the USESSAUD table for each logout. The format of the USESSAUD table mirrors that of the USESSION table. This audit can be enabled using the usessaud_enable procedure and disabled using the usessaud_disable procedure.

**Column Audit Data**

The data changes for each audit are stored in the audit_info and audit_info_extended columns. The audit_info column contains all the row changes as long as they do not exceed 4000 characters. Changes over 4000 characters or any edit to a blob will be written to the audit_info_extended BLOB column.
Data in the two audit_info columns has a specific format. Each column audit within the data begins with either ":O" (old data) or ":N" (new data) to distinguish between the audit of the previous (old) or the changed (new) value (for BLOB columns the data starts with :BLOBO or :BLOBN). Directly after this is the name of the column in lowercase. Following the column name is the length of the audited value in a fixed four character field. Finally the actual data is placed in the audit record. Updates will have both an old and new value for each change. Inserts will have only a new value and deletes only an old value.

The following is an example of the audit record for TASK to change the task_code from 'A1010' to 'B102:'

```
audit_info =>:Otask_code: 5:A1010:Ntask_code: 4:B102
```

### P6 Professional Database Connections Using a Non-Default Microsoft SQL Server Port

If you use a port other than the default (1433) to connect to your Microsoft SQL Server P6 Professional database, you might have to perform additional configuration steps to allow users access to functions within P6 Professional that rely on the P6 Integration API (for example, Update Baseline). Not all users will experience access issues. See Configuring Client Machines for a Non-Default Microsoft SQL Server Port (on page 69).

Once you have determined which users are affected, you can either globally specify the connection string in the P6 Professional database SETTINGS table or install Microsoft SQL Server 2005 Backward Compatibility Components on each client machine.

See Database Administrator Settings for a Non-Default Microsoft SQL Server Port (on page 70) if you choose to specify the connection string.

### Configuring Client Machines for a Non-Default Microsoft SQL Server Port

If you use a port other than the default (1433) to connect to your Microsoft SQL Server P6 Professional database, you might have to perform additional configuration steps. To determine if you need to perform those steps, proceed as follows after installation of P6 Professional:

1) Launch P6 Professional from the client machine.
2) Choose Help, About Primavera P6 Professional.
3) From the About Primavera P6 Professional dialog box, click the System tab.
4) Under BRE Database, locate the database port number.
5) If the non-default port number appears, no further action is necessary.
   If port number 1433 is listed, the user does not have Microsoft SQL Server 2005 Backward Compatibility Components installed. Proceed to the next step.
6) Choose to either globally specify the connection string in the P6 Professional database SETTINGS table or install Microsoft SQL Server 2005 Backward Compatibility Components on each client machine.

   See Database Administrator Settings for a Non-Default Microsoft SQL Server Port (on page 70) if you choose to specify the connection string. If you choose to configure each client machine, proceed to the next step.

Database Administrator Settings for a Non-Default Microsoft SQL Server Port

To enable users to utilize P6 Integration API functionality within P6 Professional when using a non-default Microsoft SQL Server port, add an ADMINISTRATOR_SETTINGS row to the SETTINGS table for each Microsoft SQL Server database you use with P6 Professional. The table below summarizes the settings.

<table>
<thead>
<tr>
<th>ADMINISTRATOR_SETTINGS Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Description: Points to the JDBC connection URL for a P6 Professional Microsoft SQL Server database.</td>
</tr>
<tr>
<td>Namespace</td>
</tr>
<tr>
<td>Setting Name</td>
</tr>
<tr>
<td>Setting Value</td>
</tr>
</tbody>
</table>

When entering a value for *jdbc connection url* for Microsoft SQL Server, use the standard connection string. For example, *jdbc:sqlserver://servername:portnumber;database=databasename;*
Installing P6 Professional

This section describes how to install P6 Professional, the P6 Professional SDK, P6 Visualizer and Job Service. Run the Setup wizard on the client/desktop computers that will be used by project personnel.

Install P6 Professional only after you install and configure the database server. The Setup wizard needs to connect to the database server when installing P6 Professional.

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Database Client Software

Before you install P6 Professional, first install the client software for the database you will be using. The database client software enables the client computer to connect over the network to the database on the server computer.

Oracle Database Client Software

Use your Oracle installation CD to set up an application user and configure your Oracle Net Services client files to match your network. If you are unfamiliar with this process, please contact your database administrator.
Notes:
During the P6 Professional installation, use the Oracle EZCONNECT string (//server name:listen port/service name) to connect to the P6 Professional database. If you wish to use the TNSNAMES file instead of EZCONNECT, the TNSNAMES file will be in the Oracle home folder on the client machine, not in a shared location. Reference the TNSPING.EXE location in your path environment variable.

Ensure that all clients are configured to use TCP/IP as the default network protocol.

Configuring Client Machines for Oracle Instant Client
To configure a client machine for Oracle Instant Client:
1) Copy Oracle Instant Client to a local drive.
2) Go to System Properties, Advanced tab.
3) Click the Environment Variables button.
4) To the Path variable, add the location of the Oracle Instant Client specified in step 1.

Previous Versions of P6 Professional
P6 Professional replaces previous versions. To update to P6 Professional 15 R2 from R6.2.1, R7.0, R8.1, R8.2, R8.3, or R8.4, run Setup. Only P6 Professional is replaced; all previous versions of P6 Professional SDK and Job Services must be manually un-installed. P6 Professional will run alongside P6 Professional R8 and R8.1.

Note: To upgrade from R5.0, R6.0 or R6.2, first upgrade to R6.2.1. See the R6.2.1 documentation for more information.

See Troubleshooting Importing Projects from P3 to P6 Professional (P6 Professional Only) (on page 171) prior to P6 Professional installation if you plan to transfer data from/to P3. See Configuring Client Machines to Transfer Data Between P3 and P6 Professional (on page 80) after installation.

Tip
- Summary-Only projects are not supported in P6 Professional starting with R8. During the P6 Professional database upgrade, existing Summary-Only projects are converted to standard projects, but will lose all summary data. You can import the summary project from Microsoft Project into the converted blank project, and then summarize the data. See the P6 Professional Help.
About the P6 Professional Setup Wizard

Install P6 Professional, P6 Professional SDK, P6 Visualizer, and Job Service by running the Setup wizard. The first several steps of the installation process are the same for these applications. You do not have to install these applications separately; you can install all at the same time. The installation instructions are separated into sections to provide you with information that is relevant only to specific applications.

The Setup wizard displays the amount of disk space required to install P6 Professional, P6 Professional SDK, P6 Visualizer, and Job Service. Administrator rights are required to install these applications. Also, the network protocol TCP/IP must be installed on the client computer.

If you do not want to install P6 Professional manually, you can run an unattended setup. See Unattended Setup for P6 Professional (on page 95).

Notes:

- See Previous Versions of P6 Professional (on page 72) before running the Setup wizard if version 6.0 or later of P6 Professional is currently installed.
- Primavera P6 Visualizer will be automatically installed when you install P6 Professional.
- The P3 application is required for users with 32-bit operating systems to be able to import and export P3 data. Make sure that P3 is installed PRIOR to running the P6 Professional setup wizard. See Configuring Client Machines to Transfer Data Between P3 and P6 Professional (on page 80) after P6 Professional is installed for additional configuration procedures. See Troubleshooting Importing Projects from P3 to P6 Professional (P6 Professional Only) (on page 171) for instructions on how to manually register required files after the installations are complete if you install P3 after you install P6 Professional, if you do not want to install P3 on the same machine where P6 Professional is installed, or if you are using 64-bit operating systems.
- By default, help is not installed locally, and it is only available when you have an internet connection. To install a local copies of the help, follow the instructions under Installing Local Copies of P6 Professional Help (on page 76).

Installing the P6 Professional Application

**Note:** If you have a standalone database installed the installer will prompt you for your database credentials when installing P6 Professional. See the P6 Professional Standalone Installation and Configuration guide for details on completing a standalone installation or upgrade.

To install the application:

1) Download and extract the media zip file locally to the client computer.
2) In the extracted media zip file, double-click `setup.exe` in the **Client_Applications** folder to launch the installation wizard.

**Notes:**
- Click **Next** on each wizard dialog box to advance to the next step. Click **Cancel** at any time to exit the wizard.
- Microsoft .NET Framework, Windows Installer, and the Java Runtime Environment are required to run P6 Professional. If they are not installed, follow the prompts to install them and then restart your computer as needed. Allow `setup.exe` to run when your computer restarts and follow the prompts to complete installation of the required components.

3) On the **Welcome** screen, select the option to install either 32-bit version or the 64-bit version of P6 Professional.

**Note:** If you are using the 32-bit version of Microsoft Office and intend to use Excel Import/Export with P6 Professional, you must install the 32-bit version of P6 Professional.

4) Click **Next**.
5) On the **Choose Setup Type** screen, select **Typical**.
6) Click **Install** to begin the installation.

**Note:** During installation the Database Configuration wizard prompts you for your database credentials. If you prefer to supply database credentials later, click **Cancel**. You can run the database configuration tool from the Start menu at any time.

If the database is an Oracle SSL database installed on the client machine by a different user than the current system user, click **Cancel** and run the database configuration tool from the start menu after the installation is complete.

7) Click **Finish** to complete the installation.

### Configuring the Oracle Database Connection for P6 Professional

To configure the database connection for an Oracle Database and complete the P6 Professional installation process:

1) On the **Select or Create Alias** dialog box, select the alias and driver type of the database.
   - If you are changing the alias or database driver, type the new alias (for example, PMDB) or select the new driver type.

   **Note:** For information about the Primavera Compression Server driver type, see the **P6 Compression Server Administration Guide**.

2) Enter the new database connection settings:
a. On the **Configure ORACLE Connection** dialog box, enter the new database connection settings.
b. Type the Oracle EZCONNECT string; for example, //server name:listen port/service name.
   If using the TNSNAMES file, type the Oracle Database name.
   - **Note:** “//” is mandatory for API applications like Update Baseline, XML Export/import, and Schedule Comparison.

3) On the **Enter Public Login Information** dialog box, enter your public login information that was defined by your administrator.

4) On the **Validate Database Connection** dialog box, review the settings and click **Next** to test the database connection.

5) If the connection was not successful, click **Back** to revise the database information.
   If the connection was successful, click **Finish** to complete the database connection configuration.

6) Click **Finish** to complete the installation.

**Tips**

For instructions on how to configure P6 Compression Server, see the *P6 Compression Server Administrator’s Guide*.

---

### Enabling Excel Import/Export with the 64-Bit Version of P6 Professional

The 64-bit version of P6 Professional requires the Microsoft Access Database Engine 2010 Redistributable for Excel Import/Export.

- **Note:** If you installed the 32-bit version of P6 Professional, skip this procedure.

If you installed the 64-bit version of P6 Professional, complete the following steps:


2) Close all Microsoft Office applications.

3) If you have a previous version of Microsoft Access Database Engine installed, uninstall it using Windows Control Panel.

4) Open a command line and enter the following:

   `<downloaded directory_location>\AccessDatabaseEngine_x64.exe /passive`

   - **Note:** The Microsoft Access Database Engine 2010 Redistributable may already be installed on some systems depending on your version of Microsoft Office.
Set the Industry Type

The industry type that you choose determines the terminology and default calculation settings that display in P6 Professional.

An upgrade or a new installation of P6 Professional database leaves the industry type field blank and requires the system administrator to set it. So immediately after the installation, the administrator must use the Admin Preferences, Industry tab in P6 Professional to select an appropriate industry type.

Use the following steps to select the industry type:

1) Choose Admin, Admin Preferences.
2) Click the Industry tab.
3) Select the option that most closely aligns with your industry.

**Note:** If you set the industry type and later change it, the new industry setting is immediately effective for new users. However, the change will not take effect for users who have logged in since it was last set. For information on how to make it effective for existing users, refer to My Oracle Support's Knowledge article How To Change The P6 Industry Type In P6 PPM (Professional), P6 EPPM R8.2 And Later Releases (Doc ID 1386047.1)

The following table lists each industry type and its corresponding terminology and default settings:

<table>
<thead>
<tr>
<th>Industry Type</th>
<th>Industry Terminology Examples</th>
<th>Default project comparison tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Construction</td>
<td>Budgeted Units</td>
<td>Claim Digger</td>
</tr>
<tr>
<td></td>
<td>Budgeted Cost</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Original Duration</td>
<td></td>
</tr>
<tr>
<td>Government, Aerospace, and Defense</td>
<td>Planned Units</td>
<td>Schedule Comparison</td>
</tr>
<tr>
<td></td>
<td>Planned Cost</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planned Duration</td>
<td></td>
</tr>
<tr>
<td>High-Technology, Manufacturing</td>
<td>Planned Units</td>
<td>Schedule Comparison</td>
</tr>
<tr>
<td></td>
<td>Planned Cost</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planned Duration</td>
<td></td>
</tr>
<tr>
<td>Utilities, Oil, and Gas</td>
<td>Budgeted Units</td>
<td>Claim Digger</td>
</tr>
<tr>
<td></td>
<td>Budgeted Cost</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Original Duration</td>
<td></td>
</tr>
</tbody>
</table>

Installing Local Copies of P6 Professional Help

By default, P6 Professional help is available through OTN. Follow these instructions to install a local copies of P6 Professional Help.

1) Open Control Panel.
2) Navigate to Programs and Features.
3) Right-click P6 Professional and select Change.
4) On the Welcome dialog box, click Next.
5) On the Change, repair, or remove installation dialog box, choose Change.
6) Expand P6 Professional Common Components.
7) Expand P6 Professional.
8) Expand Internationalized PM Help.
9) Click the name of the language for the Help you want to install locally and select Will be installed on local hard drive.

Note: Except for Chinese (Simplified), French, German, and Japanese, all of the language selections install English Help. In order for the Help to work properly, you should select the language that matches the languages in which you use the P6 Professional user interface.

10) Click Next then click Install.

Installing Local Copies of Visualizer Help

By default Visualizer Help is available through OTN. Follow these instructions to install a local copy of Visualizer Help.
1) Double-click setup.exe in the Client_Applications folder of the physical media or download.
2) On the Welcome dialog box, click Next.
3) On the Change, repair, or remove installation dialog box, choose Change.
4) Expand P6 Professional Common Components.
5) Expand Visualizer.
6) Expand Internationalized Visualizer Help.
7) Click the language for the Help you want to install locally and select Will be installed on local hard drive.

Note: All of the language selections install English Help. In order for the Help to work properly, select the language that matches the languages in which you use the Visualizer user interface.

About the Database Configuration Wizard for P6 Professional

Use the Database Configuration wizard to change connection settings for the client module if your database server configuration changes. For example, if the database is moved to a new server, run the Database Configuration wizard to configure the connection to the new server.

Note: To be able to change database connection settings, the Database Configuration wizard must access the module’s PrmBootStrapV2.xml file. This file is located here:
Changing Oracle Database Connection Settings for P6 Professional

To change the Oracle Database connection settings:

1) From the client computer’s desktop, click **Start**, then choose the version-specific menu option, **Programs, Oracle - Primavera P6, P6 Professional, P6 Professional Help & Tools, Database Configuration**.

2) On the **Welcome** dialog box, click **Next**.

   **Note:** Click **Next** on each wizard screen to advance to the next step.

3) On the **Select Database Alias Task** dialog box, choose to either **Modify an existing database alias** or **Create a new database alias**.

4) On the **Select or Create Alias** dialog box, specify the following information:
   a. In the **Database alias** field, enter a new alias. For example, PMDB.
   b. In the **Driver type** field, select **Oracle**.

5) On the **Configure ORACLE Connection** dialog box, enter the new database connection settings for an Oracle Database.
   - In the **Oracle Connection String** field, enter the Oracle EZCONNECT string in the format, 
     `//server name:listen port/service name`. If using the TNSNAMES file, enter the Oracle Database name.

   **Note:** `//` is mandatory for API applications like Update Baseline, XML Export/import, and Schedule Comparison.

6) On the **Enter Public Login Information** dialog box, enter your public login information that was defined by your administrator.

7) On the **Validate Database Connection** dialog box, review the settings and click **Next** to test the database connection.

8) If the connection was not successful, click **Back** to revise the database information.
   If the connection was successful, click **Finish** to complete the database connection configuration.

Configuring the Oracle Database Connection From the Command Line

You can run the database configuration from the command line using the `dbconfig.exe` command. When you use the `dbconfig.exe` command, open the command window in administrative mode. (Run as Administrator.) For a 64-bit machine, open the command window from `SysWOW64` folder.

Go to `dbconfig.exe` default location:

- On a 32-bit operating system with a 32-bit installation: `local drive\Program Files\Oracle\Primavera P6\P6 Professional`
Installing P6 Professional

- On a 64-bit operating system with a 32-bit installation: `local drive:\Program Files (x86)\Oracle\Primavera P6\P6 Professional`
- On a 64-bit operating system with a 64-bit installation: `local drive:\Program Files\Oracle\Primavera P6\P6 Professional`

The following are the command line parameters for `dbconfig.exe`:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-a&lt;Alias Name&gt;</td>
<td>Where &lt;Alias Name&gt; is any valid Alias Name value.</td>
</tr>
<tr>
<td>-s&lt;Driver type&gt;</td>
<td>The following are valid values for &lt;Driver type&gt;: Oracle, MSSQL, or PrCSdrv. Driver Type values are case-sensitive.</td>
</tr>
<tr>
<td>-d&lt;Database Name&gt;</td>
<td>Specify the Oracle tnsname or Ezconnect string.</td>
</tr>
<tr>
<td></td>
<td>Specify the Ezconnect string as <code>&lt;//ServerName&gt;</code>, representing the server name, or as <code>&lt;//IP Address:PORT/ServiceName&gt;</code>, representing the IP address, port, and service name.</td>
</tr>
<tr>
<td></td>
<td>For a Compression Server, specify <code>&lt;CompressionServerDatabase Name&gt;&lt;@HostName&gt; or &lt;CompressionServerDatabase Name&gt;&lt;@IPaddress&gt;&lt;:Port[http]&gt;</code>.</td>
</tr>
<tr>
<td>-u&lt;Database pubuser name&gt;</td>
<td>Where &lt;Database pubuser name&gt; is the valid pubuser name.</td>
</tr>
<tr>
<td>-w&lt;Database pubuser's password&gt;</td>
<td>Where &lt;Database pubuser's password&gt; is the valid pubuser's password.</td>
</tr>
<tr>
<td>-b&lt;Public Group ID&gt;</td>
<td>Optional. A valid value is any integer. The default is 1.</td>
</tr>
</tbody>
</table>

Notes:
- The parameters can be positioned in any order.
- Ensure there is no space after each parameter keyword and its value, and ensure there is one space between each parameter. For example, this is correct: `-amyOracleAlias -sOracle`.
- The following example is incorrect because there is a space between the parameter keyword and its value: `-a myOracleAlias -s Oracle`.
- The following example is incorrect because there is no space between parameters: `-amyOracleAlias-sOracle`.

Examples
The following examples create or modify the oracle alias (`myOraAlias`).
- In this example, `xe` is the Oracle alias in `tnsnames.ora`. 
P6 Professional Administrator's Guide for Oracle Database

```
dbconfig -amyOraAlias -upubuser -wpubuser -sORACLE -dxe
```

- **In this example**, `10.140.179.3:1521/xe` is the Oracle Ezconnect string.

```
dbconfig -amyOraAlias -upubuser -wpubuser -sORACLE -d//10.140.179.3:1521/xe
```

The following example creates or modifies the compression server alias (`myCSAlias`):

```
dbconfig -amyCSAlias -upubuser -wpubuser -sPrCSdrv -dMyCompressionServer@10.140.162.174:5555[http]
```

where:

- **MyCompressionServer** is the value for the `CompressionServerDatabase Name` part of the `-d<Database Name>` parameter.
- **10.140.162.174** is the value for the `IPAddress` part of the `-d<Database Name>` parameter.
- **5555** is the value for the `Port` part of the `-d<Database Name>` parameter.

### Configuring Client Machines to Transfer Data Between P3 and P6 Professional

In order to use P3 import/export functionality in P6 Professional with 32-bit operating systems, you must have P3 installed on the same machine where P6 Professional resides.

**Note:** If you install P3 after you install P6 Professional, if you do not want to install P3 on the same machine where P6 Professional is installed, or if you are using 64-bit operating systems, direct your P3 users to use a separate P3/XER import/export utility available from the P6 Professional installation location. By default, the path is `local drive\Program Files\Oracle\Primavera P6\P6 Professional\Convert` or `local drive\Program Files (x86)\Oracle\Primavera P6\P6 Professional\Convert` (on a 64-bit operating system with a 32-bit installation). Refer to the My Oracle Support's Knowledge Articles for more information.

### P6 Visualizer

P6 Visualizer is installed by default when installing P6 Professional, but you may choose to install P6 Visualizer as a standalone application.

### Installing P6 Visualizer Only

To install the application:

1) Download and extract the media zip file locally to the client.
2) Double-click `setup.exe` in the `Client_Applications` folder of the P6 Professional physical media or download.

**Note:** Click **Next** on each wizard screen to advance to the next step. Click **Cancel** at any time to exit the wizard.
3) Microsoft .NET Framework, Windows Installer, and Java Runtime Environment are required to run P6 Professional. If they are not installed or if they have to be updated, follow the prompts to install them and then restart your computer when prompted. Allow setup.exe to run when your computer restarts and follow the prompts to complete installation of the required components.

4) On the Welcome screen, you are given a choice between 32-bit and 64-bit platforms. Choose your preference based on which P6 Professional components you need.

   Note: If you are using a 32-bit operating system, you must install 32-bit.

5) Click Next.

6) On the Choose Setup Type dialog box, choose Advanced Setup.

7) On the Advanced Setup screen, expand P6 professional Common Components, click P6 Professional Entire feature will be unavailable.

8) Click Next then click Install.

   Note: During installation the Database Configuration wizard will prompt you for your database credentials. If you prefer to supply database credentials later, click Cancel. You can run the database configuration tool from the start menu at any time.

   If the database is an Oracle SSL database installed on the client machine by a different user than the current system user, click Cancel and run the database configuration tool from the start menu after the installation is complete.

9) Click Finish to complete the installation.

### Installing Local Copies of Visualizer Help

By default Visualizer Help is available through OTN. Follow these instructions to install a local copy of Visualizer Help.

1) Double-click setup.exe in the Client_Applications folder of the physical media or download.

2) On the Welcome dialog box, click Next.

3) On the Change, repair, or remove installation dialog box, choose Change.

4) Expand P6 Professional Common Components.

5) Expand Visualizer.

6) Expand Internationalized Visualizer Help.

7) Click the language for the Help you want to install locally and select Will be installed on local hard drive.

   Note: All of the language selections install English Help. In order for the Help to work properly, select the language that matches the languages in which you use the Visualizer user interface.

8) Click Next then click Install.
Installing the P6 Professional SDK

The P6 Professional SDK makes P6 Professional data available for use by external applications. In addition to data, the P6 Professional SDK provides application business rules and calculated values, and enforces application security. The P6 Professional SDK supports the Open Database Connectivity (ODBC) standard for connecting to the P6 Professional database. ODBC-compliant interfaces, such as OLE DB, are also supported.

**Note:** The P6 Professional SDK is available under Advanced Options only when the 32-bit platform option is selected on a 32-bit or 64-bit Windows machine. The P6 Professional SDK is unavailable for 64-bit installations.

Installing the P6 Professional SDK Application

To install the application:

1) Download and extract the media zip file locally to the client.

2) Double-click `setup.exe` in the Client_Applications folder of the physical media or download.

   **Note:** Click Next or Install on each wizard dialog box to advance to the next step. Click Cancel at any time to exit the wizard.

3) Microsoft .NET Framework, Windows Installer, and Java Runtime Environment are required to run P6 Professional. If they are not installed or if they have to be updated, follow the prompts to install them and then restart your computer when prompted. Allow setup.exe to run when your computer restarts and follow the prompts to complete installation of the required components.

4) On the Welcome dialog box, click Next.

5) On the Choose Setup Type dialog box, choose Advanced.

   **Note:** These instructions assume that you have not already installed P6 Professional, if you have not, P6 Professional will be installed with this component unless you select Entire feature will be unavailable under P6 Professional. See Installing P6 Professional for instructions on completing P6 Professional installation.

6) Expand P6 Professional Common Components.

7) Click Software Development Kit and select Will be installed on local hard drive.

8) On the Ready to Install the Program screen, click Install to begin the installation.

9) On the Select or Create Alias dialog box, select the alias and driver type of the database.

   If you are changing the alias or database driver, type the new alias (for example, PMSDK) or select the new driver type (Oracle).

10) On the Configure ORACLE Connection dialog box, enter the new database connection settings.

    Type the Oracle EZCONNECT string; for example, `//server name:listen port/service name`. If using the TNSNAMES file, type the Oracle Database name.
11) On the **Enter Public Login Information** dialog box, enter your public login information that was defined by your administrator.

12) On the **Validate Database Connection** dialog box, review the settings and click **Next** to test the database connection.

13) Click **Finish** to exit the Setup Wizard.

---

**Installing the Job Service**

The Job Service enables you to automate certain functions. You can apply actuals, run a batch report, export projects, schedule projects, and summarize projects. These operations run in the background at specified intervals. The Job Service runs as a Windows 2003/2008 service and can support an unlimited number of jobs, each with its own schedule of execution. Jobs are defined in P6 Professional and stored in the organization’s project management database.

**Note:** The Job Service component is available under Advanced Options only when the 64-bit platform option is selected. The Job Service component is no longer available for 32-bit platforms.

---

**Installing the Job Service and Distributed Job Service**

To install the application:

1) Download and extract the media zip file locally to the client.

2) Double-click **setup.exe** in the Client_Applications folder of the physical media or download.

   **Note:** Click **Next** or **Install** on each wizard dialog box to advance to the next step. Click **Cancel** at any time to exit the wizard.

3) Microsoft .NET Framework, Windows Installer, and Java Runtime Environment are required to run P6 Professional. If they are not installed or if they have to be updated, follow the prompts to install them and then restart your computer when prompted. Allow setup.exe to run when your computer restarts and follow the prompts to complete installation of the required components.

4) On the **Welcome** dialog box, click **Next**.

5) On the **Choose Setup Type** dialog box, choose **Advanced**.

6) On the **Advanced Setup** dialog box, expand **Tools for P6 Professional Database (Only)**, click **Job Service** and select **Will be installed on local hard drive**.

**Notes:**

- These instructions assume that you have not already installed P6 Professional, if you have not, P6 Professional will be installed with this component unless you select **Entire feature will be unavailable** under **P6 Professional**. See Install P6 Professional for instructions on completing P6 Professional installation.

- If you want to run Job Service jobs in a language other than English, you must install P6 Professional on the Job Service machine. You can install it along with the Job Service, or you can install it at another time.
Job Services is Available for 64-bit P6 Professional.

Installing P6 Professional Job Services (PPMDB) is available for 64-bit. The Job Services tool is available as an advanced install option for P6 Professional (x64) installs only.

Job Services component is no longer available for 32-bit platforms.

If the Job Service Windows Service is to be run by a user other than the user that installed the software, the PrmBootStrapV2.xml file must be present in the other users profile.  The default location of PrmBootStrap.xml is  \\%PROGRAMDATA\\Oracle\Primavera P6\P6 Professional.

7) Click **Next** then click **Install**. Setup will verify that the user has administrator rights on the computer. If the user does not have administrator rights, the Setup wizard will end.

8) On the **Job Service Alias** dialog box, type the database alias in the **DB Alias** field; for example, JSDB. Do not use dashes as part of the DB alias; otherwise, an error will occur.

9) Enter or select the program folder.

10) Click **Install** to begin the installation.

11) On the **Select Driver Type** dialog box, in the **Job Services Driver Type** field, choose the database server type.

12) On the **Configure ORACLE Connection** dialog box, use the Oracle EZCONNECT string (//server name:listen port/service name) to connect to the P6 Professional database. If you want to use the TNSNAMES file instead of EZCONNECT, the TNSNAMES file is in the Oracle home folder on the client machine, not in a shared location. Reference the TNSPING.EXE location in your path environment variable.

13) On the **Enter Public Login** dialog box, enter your public login information that was defined by your administrator; for example, a user name of pubuser, and a group ID of 1.

14) On the **Validate Database Connection** dialog box, click **Next** to validate the database connection. The DB alias that you specified is created.

15) On the **Connection Successful** dialog box, click **Finish**. You are prompted to test the Job Service alias.

**Caution:** If you are installing on a **SERVER** machine in a Distributed Job Services environment, DO NOT begin the test as described in the following step.

16) Click **Yes** to test the database connection. If the test fails, you can still continue the installation.

17) Click **Finish**.

Once the Job Service is installed on your computer and it is able to successfully connect to the database, the service will periodically run any user-defined jobs that are scheduled in P6 Professional. If you are using Windows 2008 Server, refer to required configuration instructions below.
Configuring Windows 2008 Server for Job Services

After installing Job Services, the following configuration steps are required for Windows 2008 Servers:

1) From the command line (or Start, Run utility), run dcomcnfg. The Component Services dialog box appears.
2) In the Component Services dialog box, expand the tree in the left panel by clicking Component Services, Computers, My Computer, DCOM Config.
3) Right-click on the \{9E521861-5A76-11D5-98F4-00C04F680F1F\} entry in the right panel and select Properties.
4) In the Properties dialog box, on the Identity tab, select the This User option. Enter the Password for a user who has administrative privileges on the machine you are using.
5) Click OK to close the dialog box.

Configuring Windows 2008/2012 Server R2 for Job Services

After installing Job Services, the following configuration steps are required for Windows 2008 R2 Servers:

1) From the command line (or Start, Run utility), run mmc -32
2) From the File menu select Add / Remove snap-in.
3) Select Component services from Available Snap-ins and Add it to selected snap-ins using Add button.
4) Click Ok.
5) Navigate to DCOM Config node in left hand side tree view.
6) On the right hand side pane you will be able to find the DCOM entry: \{9E521861-5A76-11D5-98F4-00C04F680F1F\}.
7) Right-click on the \{9E521861-5A76-11D5-98F4-00C04F680F1F\} entry in the right panel and select Properties.
8) In the Properties dialog box, on the Identity tab, select the This User option. Enter the Password for a user who has administrative privileges on the machine you are using.
9) Click OK to close the dialog box.

Set the Job Service Log On Account

1) From the Windows Control Panel, select Administrative Tools, Services.
2) Double-click the Primavera P6 Job Service.
3) On the Primavera P6 Job Service Properties dialog box, select the Log On tab.
4) Select the This Account option and enter the account and password of an operating system administrative user.
5) Click Apply, OK.
Configure the Job Service to Send Jobs Directly to a Printer

To send jobs directly to a printer, you must run the Job Service using an administrator account that can access a printer rather than the general system account. On the machine running the Job Service, complete the following steps to login to the Job Service using your administrator user name and password.

1) From the Windows Control Panel, select Administrative Tools, Services.
2) Double-click the Primavera P6 Job Service.
3) On the Primavera P6 Job Service Properties dialog box, select the Log On tab.
4) Select the This Account option and enter the account and password of an operating system administrative user.
5) Click Apply, OK.

Specify a Different Language for the Job Service

You can specify the output language for Job Service jobs. Complete the following steps to specify a language other than English:

1) Login to the Job Service using your administrator account rather than the system account.
2) If you did not install P6 Professional when you installed the Job Service install the P6 Professional module on the Job Service machine.
3) After P6 Professional is installed and the database configured, start the module by choosing Start, All Programs, Oracle - Primavera P6, P6 Professional <release level> from the Start menu.
4) Login to the P6 Professional using the same administrator account you used to login to the Job Service.
5) If the Welcome dialog box appears, choose Open Global Data Only.
6) Choose Tools, Set Language, then select the language.

Note: The Job Service will run jobs in the selected language assuming that the Job Service continues to run using the administrator account you used to log in. If, at any time, a different login is specified, you must repeat these steps using the alternate login. You cannot run Job Service jobs in a different language using the local system account.

Configuring Distributed Job Service

Use the Distributed Job Service (DJS) to run jobs independently on multiple Job Service servers at the same time. You can configure a controller server that manages the distributed Job Service by distributing jobs to multiple machines.
Distributed Job Service Overview

The Distributed Job Service (DJS) is an extension of the Job Service that enables a controller machine to manage multiple machines (servers) running job services. Non-distributed job services run jobs on a single machine; installing the non-distributed job service on multiple machines results in each service running independently on each machine.

With distributed job services, each designated server runs jobs as requested by the controller via DCOM communication. This distributes the job service load across multiple machines. The controller can also run jobs.

Prepare the Controller and DJS Servers for Installation and Configuration

Be sure to complete the following before you install and configure DJS on the Controller and servers:

- On the Controller and all DJS servers, define the “Temp” and “TMP” variables in Environment variables (both User variables and System variables).
- Synchronize the system clocks of the Controller and all DJS servers to have identical time stamps in the log files.

Installing the Distributed Job Service

Before installing the Distributed Job Service, identify the Controller and servers (maximum 10). Install the Job Service on each machine as described in Installing the Job Service (on page 83). When you finish the installation, return to this section to configure user access.

**Note:** Oracle recommends that the controller and all related servers be in the same network domain. Also, each machine should have a Windows Server operating system with Firewall turned off.

Disabling the Windows Firewall

The Windows Firewall, which is enabled by default on Windows systems, prevents DCOM connections from functioning. You must disable the firewall on the controller and each DJS server.

To disable the Windows Firewall, perform the following steps:

1) From the Windows Control Panel, click **Windows Firewall**.
2) In the **General** tab of the Windows Firewall dialog, select **Off**. then click **OK**.

Configure Access to the Distributed Job Service

Before configuring DCOM and the DJS, you must create users that have privileges to launch the Job Service, access the registry and path information on the Controller, and access applications across the network.
On the server that controls the domain in which the Controller and DJS servers reside, perform the following steps:

1) Create a user group (for example, PrmAdmins).

2) For the Controller and each DJS server, add a user name to the user group you just created. For example,
   - Name of Controller : ControllerUser
   - Name of Server1 (DCOM Server) : Server1User
   - Name of Server2 (DCOM Server) : Server2User
   - Name of Server3 (DCOM Server) : Server3User

3) On the Controller and each DJS server, add the group you created to the Local Administrator Group.

4) In the Security tab of the DCOM Configuration dialog, add the group you created to each Custom permission.

   **Note**: The example above illustrates a multi-user scenario. You can also configure single-user access. For example, you could create a single domain user (e.g., ControllerUser) and add that user to the Local Administrator group on the Controller and each DJS server. Then, when configuring DCOM, you could use the ControllerUser instead of the PrmAdmins user group shown above.

### Configure DCOM for the Distributed Job Service

To configure DCOM for the Distributed Job Service on servers running Windows Servers perform the following steps for the Controller and each DJS server.

1) From the command line (or Start, Run utility), run `dcomcnfg`. The Component Services dialog is displayed.

2) In the **Component Services** dialog, expand the tree in the left panel by clicking **Component Services, Computers, My Computer, DCOM Config**.

3) Right click on the `{9E521861-5A76-11D5-98F4-00C04F680F1F}` entry in the right panel and select Properties.

4) In the **Properties** dialog, **General** tab, set the **Authentication Level** to **Connect**.

   **Note**: Make sure the Controller and all DJS servers are set to the same Authentication Level. You can set Connect as the Default Authentication Level in the Default Properties tab of the Distributed COM Configuration Properties dialog.

5) In the **Properties** dialog, **Location** tab, select the **Run application on this computer** option.

6) In the **Properties** dialog, **Security** tab, ensure that the **Customize** options are selected for all permission types.

7) In the **Properties** dialog, **Security** tab, click the **Edit** button associated with **Launch and Activation Permissions**.
8) In the **Launch Permission** dialog, Security tab, click **Add**.

9) In the **Select Users, Computers, or Groups** dialog, enter the user group name you created previously (for example, PrmAdmins). Click **OK**.

10) In the **Launch Permission** dialog, Security tab, select the user group you added (for example, PrmAdmins), and select **Allow for all permissions**. Click **OK**.

11) In the **Properties** dialog, **Security** tab, click the **Edit** button associated with **Access Permissions**.

12) In the **Access Permission** dialog, Security tab, click **Add**.

13) In the **Select Users, Computers, or Groups** dialog, enter the user group name you created previously (for example, PrmAdmins). Click **OK**.

14) In the **Access Permission** dialog, **Security** tab, select the user group you added (for example, PrmAdmins), and select **Allow for all permissions**. Then click **OK**.

15) In the **Properties** dialog, **Security** tab, click the **Edit** button associated with Configuration Permissions.

16) In the **Change Configuration Permission** dialog, **Security** tab, click **Add**.

17) In the **Select Users, Computers, or Groups** dialog, enter the user group name you created previously (for example, PrmAdmins). Click **OK**.

18) In the **Change Configuration Permission** dialog, **Security** tab, select the user group you added (for example, PrmAdmins), and ensure that permissions are set as shown in the following figure. Then click **OK**.

19) In the **Properties** dialog, **Identity** tab, select the **This User** option. Enter the Password for a user who has administrative privileges on the machine you are using.

20) Click **OK** to close the dialog.

21) On the **Controller**, launch the **Services Control Panel**.

22) In the **Services** dialog, double-click the **P6 Job Service (JSDB)** to open the Properties dialog.

23) In the **Properties** dialog, select **This Account** and enter the password of an administrative user on the Controller.

   **Note**: Steps 21 - 23 enable the DJS to use the name and password of the administrator you specified during DCOM configuration as the launching user for all servers.

24) Click **OK** to close the dialog.

---

**Configure the Controller and DJS Servers**

Configure the Controller and DJS servers using the Distributed Job Services Configuration tool. Follow the instructions to access the configuration tool and configure the Controller and DJS servers.

1) On the Controller, run the `DistributedJobsAdmin.exe` from the following file location: C:\Program Files\Oracle\Primavera P6\P6 Professional\ or C:\Program Files (x86)\Oracle\Primavera P6\P6 Professional\ on a 64 bit operating system with a 32 bit installation.

   The Distributed Job Service Configuration dialog opens.
2) In the Distributed Job Service Configuration dialog, click Browse. Navigate to C:\Program Files\Oracle\Primavera P6\P6 Professional\ or C:\Program Files (x86)\Oracle\Primavera P6\P6 Professional\ on a 64 bit operating system with a 32 bit installation and select PrmJobSv.exe.

3) In the Distributed Job Service Configuration dialog, click Add. For each server listed, select the equivalent PrmJobSv.exe.

   **Note:** If you have already used the configuration tool, all servers you previously configured appear in the list of servers.

4) Set the Status (Enabled/Disabled) for the Controller and each DJS server.

   **Note:** You can disable the DJS on any machine (e.g., if you want to execute jobs only on the servers and not on the Controller). However, a disabled machine may still run jobs if no enabled machine is available (e.g., due to network problems).

5) Click **Test** to verify that the DCOM configuration and PrmJob installation is working correctly on each machine.

6) Click **Save Settings, Close.**

7) Reboot the Controller and all DJS servers.

   **Note:** When the Controller restarts, its job scheduling actions are listed in the Event Viewer. Log files for all jobs are located in the appropriate folder of the Controller (not on the servers).

   **Note:** After you reboot the Controller and DJS servers, if you modify the DCOM settings you specified in Configure DCOM for the Distributed Job Service, you must reboot the machines on which you made the modifications.

### Job Service Registry Settings

You can edit the registry settings that apply to the (Distributed) Job Service and the summarizer service (in both the Job Service and P6 Professional).

**Edit (Distributed) Job Service registry settings**

Type ‘regedit’ in the Start, Run utility to open the Registry Editor. In the Registry Editor, navigate to the following directory:

My Computer\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\PrmJobSv\Parameters

The following table summarizes the Job Services registry settings.
Installing P6 Professional

<table>
<thead>
<tr>
<th>Setting Name and Description</th>
<th>Default</th>
<th>Valid Ranges/Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>EstablishDBConnectionRetryCount</td>
<td>3</td>
<td>1-10</td>
</tr>
<tr>
<td>Number of times to try to connect to database on startup.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MaxNumRecurringJobs</td>
<td>4</td>
<td>1-(no maximum)</td>
</tr>
<tr>
<td>The maximum number of recurring (Project Management) jobs that can run simultaneously.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DeleteRemoteLog</td>
<td>1 (true)</td>
<td>0 (false)</td>
</tr>
<tr>
<td>[test purposes only] If set to false, log file &quot;Prm*.tmp&quot; will not be deleted.</td>
<td>1 (true)</td>
<td></td>
</tr>
</tbody>
</table>

Edit registry settings for summarizer jobs

Type ‘regedit’ in the Start, Run utility to open the Registry Editor. In the Registry Editor, navigate to the following directory:

My Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Primavera.

You can add any of the following settings as D Words and modify the defaults to the recommended value.

**Note**: The following settings apply to the Job Service and the P6 Professional. You would typically modify them to improve performance.

<table>
<thead>
<tr>
<th>Setting Name and Description</th>
<th>Default</th>
<th>Valid Ranges/Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>NumProjectsSummarizedAtATime</td>
<td>1</td>
<td>1-xx</td>
</tr>
<tr>
<td>Number of projects that can be summarized at the same time by the Job Service or the P6 Professional. To achieve the best possible performance, Oracle recommends that the value of this setting = 20.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PreQuerySummarizablePct  
The percentage threshold that determines how the summarizer will analyze a project’s need for summarization. If the value of the equation shown below is less than the threshold, each project is considered for summarization individually. If the value of the following equation is greater than the threshold, all projects to be considered for summarization are analyzed simultaneously. The equation that determines this behavior is:

\[
\frac{\text{# of projects to be summarized}}{\text{# of projects user can access}} \times 100
\]

MaxDurationToSummarize  
The maximum remaining duration or the maximum original duration, in hours, that an activity or activity assignment can have in order to be summarized. If an activity or activity assignment has a remaining duration greater than this threshold, it is ignored during summarization. To ensure that all activities are summarized, Oracle recommends that the value of this setting = 100000.

<table>
<thead>
<tr>
<th>[Summarizer settings]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Setting Name and Description</strong></td>
</tr>
</tbody>
</table>
| ResourceSummaries  
If true, resources are summarized.  
Applies to the Job Service and the P6 Professional. | 1 (true) | 0 (false)  
1 (true) |
| EnterpriseCommit  
Controls how frequently to commit EPS summary records to the database, based on the number of rows of data that have been processed. Useful for improving performance when summarizing large jobs.  
No value commits the EPS summary records when processing is complete. | 1000 for the Job Service  
No value for P6 Professional | 1-(no maximum) |
If you assign a value, this value is applied to both the Job Service and P6 Professional.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>PrmJobLogMemoryUsage</td>
<td>0 (false)</td>
<td>0 (false)</td>
<td>1 (true)</td>
</tr>
<tr>
<td>If true, logs memory usage of PrmJob in megabytes. Applies only to the Job Service.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RetrySleep</td>
<td>60000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>The time, in milliseconds, to wait between retry attempts when there is a connection failure. Applies only to the Job Service.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MaxRetries</td>
<td>10</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>The maximum number of retry attempts to make when there is a connection failure. Applies only to the Job Service.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DumpSettings</td>
<td>0 (false)</td>
<td>0 (false)</td>
<td>1 (true)</td>
</tr>
<tr>
<td>Set to true to log all settings to a Job.txt file for the summarization job. Applies only to the Job Service.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PreLoadTASKSUMFINForEPS</td>
<td>1 (true)</td>
<td>0 (false)</td>
<td>1 (true)</td>
</tr>
<tr>
<td>Preloads TASKSUMFIN records for all projects before summarizing the entire EPS. Set to false to use a &quot;load on demand&quot; approach that will conserve memory but will be much slower due to an increased number of SQL queries for TASKSUMFIN records. Applies to summarizing Financial Periods in the Job Service and P6 Professional. Does not affect the performance of summarization by Weeks or Months.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PreLoadTASKSUMFINForProject</td>
<td>1 (true)</td>
<td>0 (false)</td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Preloads TASKSUMFIN records for each project before summarizing that project.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set to false to use a &quot;load on demand&quot; approach that will conserve memory but will be much slower due to an increased number of SQL queries for TASKSUMFIN records.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applies to summarizing Financial Periods in the Job Service and P6 Professional. Does not affect the performance of summarization by Weeks or Months.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PreLoadTRSRCSUMFN</th>
<th>1 (true)</th>
<th>0 (false)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preloads TRSRCSUMFN records for each project before summarizing any project. Also, during summarization of the entire EPS, it preloads all TRSRCSUMFN records for one resource or role at a time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set to false to use a &quot;load on demand&quot; approach that will conserve memory but will be much slower due to an increased number of SQL queries for TRSRCSUMFN records.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applies to summarizing Financial Periods in the Job Service and P6 Professional. Does not affect the performance of summarization by Weeks or Months.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Unattended Setup for P6 Professional

This chapter provides instructions for performing unattended setup of P6 Professional. An unattended setup enables administrators to run setup in silent mode and ensures that each user receives the same configuration.

As an administrator, you have several options for installing P6 Professional on client machines using the unattended setup. For example, you can physically run the unattended setup on each machine, write scripts that will run the unattended setup on the client machines you specify, or provide these instructions to users with administrator privileges, who can run the unattended setup on his/her computer.

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Creating Database Connections for Unattended Setup ............... 97

Unattended Setup

An unattended setup allows an administrator to install P6 Professional on a client computer without having to answer the configuration prompts of the P6 Professional Setup wizard. All configuration details for the installation are specified in the command line. Unattended installations ensure that the client module is configured identically at setup.

To create an unattended setup, you format a command line to silently launch setup.

The unattended setup can be run by an administrator on client computers by entering the appropriate command lines. The unattended setup will silently install P6 Professional according to the parameters you specify in the command line.

The following prerequisites, available in the Client_Applications folder of the P6 Professional physical media or download, must be installed on each client computer before running unattended setup:

- Microsoft .NET Framework
- JRE

An administrator should push these prerequisites to client computers before running unattended setup. The versions of these prerequisites on the physical media or download work with this release; check the tested configurations document before using newer versions.

Running Unattended Setup

To run unattended setup:
Note: The P6 Professional installer has changed to use the Oracle Universal Installer, which does not use a response file. Instead, save your setup command line in a batch file in the install directory and execute the batch file for silent installs.

1) Copy the contents of the files in the Client_Applications folder to a local folder. Oracle recommends creating a new folder, such as 'Installer.' Do not include spaces in the folder name.

2) Open a command line by choosing Start, Run. Type cmd and click OK.

Note: Run cmd from the SysWOW64 folder.

3) On the command line window, enter the location of the Installer folder. For example, cd c:\Installer

4) On the command line window, enter the following commands:
   - setup /q
     This runs setup silently and there is no indication of the installer running. This will install to the default location: local drive\Program Files\Oracle\Primavera P6\P6 Professional.
   - Installing individual components only:
     Notes:
     - If you use the p6pro.msi from \x86\en-us folder, you will get P6 Professional (x86).
     - If you use the p6pro.msi from \x64\en-us folder, you get P6 Professional (x64).

Visualizer
   - For installing Visualizer only at the default location, enter the following command:
     msiexec /i p6pro.msi /l*v "<LogFileLocation>" REMOVE=PM ADDLOCAL=Visualizer
   - For installing Visualizer only at a non-default location, enter the following command:
     msiexec /i p6pro.msi /l*v "<LogFileLocation>" INSTALLDIR="<Programlocation>" REMOVE=PM ADDLOCAL=Visualizer

SDK
   - For installing SDK only at the default location, enter the following command:
     msiexec /i p6pro.msi /l*v "<LogFileLocation>" REMOVE=PM,Visualizer ADDLOCAL=PMSDK
   - For installing SDK only at a non-default location, enter the following command:
     msiexec /i p6pro.msi /l*v "<LogFileLocation>" INSTALLDIR="<Programlocation>" REMOVE=PM,Visualizer ADDLOCAL=PMSDK

P6 Professional Job Services
For installing P6 Professional Job Services only at the default location, enter the following command:

```command
msiexec /i p6pro.msi /l*v "<LogfileLocation>" REMOVE=PM,Visualizer
ADDDLOCAL=PrmJob
```

For installing P6 Professional Job Services only at a non-default location, enter the following command:

```command
msiexec /i p6pro.msi /l*v "<LogfileLocation>"
INSTALLDIR="<Programlocation>" REMOVE=PM,Visualizer
ADDDLOCAL=PrmJob
```

**Tips:**
- PM and Visualizer components will be installed by default if you do not use REMOVE/ADDDLOCAL parameters.
- Different combinations of components (PM,Visualizer,PMDK, PrmJob) can be specified separated by "," for REMOVE/ADDDLOCAL.
- All components are case-sensitive.
- To specify a directory other than the default directory use the following command:

  ```command
  msiexec /i p6pro.msi INSTALLDIR="<Programlocation>"
  ```

- To install with a log file use the following command:

  ```command
  msiexec /i p6pro.msi /l "<LogfileLocation>"
  INSTALLDIR="<Programlocation>"
  ```

  `<Programlocation>` = The location where you want to install the application

  `<LogfileLocation>` = The location where you want to save the logfile

- You may save your setup command line in a batch file in the install directory and run the batch file.
- Access documentation for command line parameters by typing `msiexec /help`.
- SDK is compatible with 32-bit installations only.
- P6 Professional Job Services is only compatible with 64-bit installations. Jobs can be submitted to P6 Job Services for both 32-bit and 64-bit clients.
Creating Database Connections for Unattended Setup

The database connection should be set on one administrator computer. After configuring the database connection, push PrmBootStrapV2.xml from the administrator computer (host computer) with database configuration details to each target client computer.

1) Install P6 Professional on one administrator computer (host computer).
2) Create the database connection on the host machine. Follow the instructions in About the Database Configuration Wizard for P6 Professional (on page 77).

The default location of PrmBootStrapV2.xml for the host computer is:

\%LOCALAPPDATA\%\Oracle\Primavera P6\P6 Professional

The default location of PrmBootStrapV2.xml for the target computer is:

\%PROGRAMDATA\%\Oracle\Primavera P6\P6 Professional
The Administration Configuration tool can be installed with P6 Professional. It provides the following capabilities:

- Ability to reset private database logins
- Ability to reset user passwords
- Ability to specify LDAP servers

LDAP authentication can be used for either a Project Management Professional (PPM) or Enterprise (EPPM) database.

After installing P6 Professional, use the Administration Configuration tool to set up LDAP servers if you are going to use LDAP authentication.

The Administration Configuration tool is installed using the Advanced option on the setup wizard. LDAP authentication can be used for either a Project Management Professional (PPM) or Enterprise (EPPM) database.

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- Resetting Private User Passwords ................................................................. 100
- Resetting Application User Passwords ................................................................. 100

### Installing the Administration Configuration Tool

To install the application:

1) Download and extract the media zip file locally to the client.
2) Double-click `setup.exe` in the Client_Applications folder of the physical media or download.

**Note:** Click **Next** or **Install** on each wizard dialog box to advance to the next step. Click **Cancel** at any time to exit the wizard.

3) Microsoft .NET Framework, Windows Installer, and Java Runtime Environment are required to run P6 Professional. If they are not installed or if they have to be updated, follow the prompts to install them and then restart your computer when prompted. Allow `setup.exe` to run when your computer restarts and follow the prompts to complete installation of the required components.

4) On the **Welcome** dialog box, click **Next**.
5) On the **Choose Setup Type** dialog box, choose **Advanced**.
Note: These instructions assume that you have not already installed P6 Professional, if you have not, P6 Professional will be installed with this component unless you select Entire feature will be unavailable under P6 Professional. See Installing P6 Professional for instructions on completing P6 Professional installation.

6) Expand Tools for P6 Professional Database (Only) then Click Administration Configuration and select Will be installed on local hard drive.

7) On the Ready to Install the Program screen, click Install to begin the installation.

8) Click Finish to exit the Setup Wizard.

### Resetting Private User Passwords

You can use the Administration Configuration tool to reset private user passwords.

1) Click Start, then choose Programs, Oracle - Primavera P6, P6 Professional R8.x, P6 Professional Help & Tools, Administration Configuration.

2) Enter a privileged user name and password for the P6 Professional database.

3) Enter the Server Name, Database Name, and Port Number for the P6 Professional database.

4) Click the Reset Private User Password tab.

5) In the Privileged Database User Name field, select a user whose password you want to reset.

6) In the New Password field, enter a new password for the selected user.

7) In the Confirm New Password field, enter the password again, to verify it.

8) In the Public Group ID field, change the number if necessary. In a standard configuration, the Public Group ID is 1.

9) Click Save to continue working or click Save and Close if you are finished.

### Resetting Application User Passwords

If P6 Professional is using native authentication mode, you can use the Administration Configuration tool to reset application user passwords.

1) Click Start, then choose Programs, Oracle - Primavera P6, P6 Professional R8.x, P6 Professional Help & Tools, Administration Configuration.

2) Enter a privileged user name and password for the P6 Professional database.

3) Enter the Server Name, Database Name, and Port Number for the P6 Professional database.

4) Click the Reset Application User Password tab.

5) In the Application User Name field, select a user whose password you want to reset.

6) In the New Password field, enter a new password for the selected user.

7) In the Confirm New Password field, enter the password again, to verify it.

8) Click Save to continue working or click Save and Close if you are finished.
About the Administration Configuration Tool

Notes:

- If the Enable password policy setting is selected in the Password Policy field of the Admin Preferences dialog box (P6 Professional Only), enter a password that is a minimum of 8 characters long, and that contains one alpha and one numeric character.
- If the Enable password policy setting is not selected, enter a password up to 20 characters long.
- If P6 Professional is running in LDAP authentication mode, password management is handled through the directory server. You cannot change your password through the Administration Configuration tool and the Reset Application User Password tab is not selectable.
- Passwords are case-sensitive.
- Passwords that were set before the new password policy was enabled are valid and usable.
Authentication in P6 Professional

This chapter describes the authentication modes for P6 Professional and outlines the steps required to implement an authentication scheme. It also details steps on how to import user information from an LDAP server.

Note: If you are using LDAP, you need to verify your field mappings and alter them to match the fields for your LDAP environment. See Provisioning LDAP User Information for the First Time (on page 104) for more information.

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Login Procedures and Authentication in P6 Professional .......................... 106
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About User Authentication Modes

P6 Professional provides support for the following authentication modes to validate user logins.

- **Native**: Native mode is the default user authentication scheme for all Oracle Primavera P6 Professional applications. When a user attempts to log on to a Primavera application, native mode confirms the user's identity in the database.

- **LDAP (Lightweight Directory Access Protocol)**: LDAP mode confirms a user's identity in the designated directory server database when a user attempts to log on to an application.

Configuring LDAP Servers

P6 Professional uses native authentication mode by default. If using LDAP mode, use the Administration Configuration tool to configure one or more LDAP servers.

To configure LDAP servers:

1) Click **Start**, then choose **Programs, Oracle - Primavera P6, P6 Professional R8.x, P6 Professional Help & Tools, Administration Configuration**.

2) Enter a privileged user name and password for the P6 Professional database.

3) Enter the Server Name, Database Name, and Port Number for the P6 Professional database.

4) Click the **LDAP Configuration** tab.

5) Click the **LDAP Servers** row then click the **Add** button.
6) Click the plus sign to expand rows. These settings represent what should be entered for an Oracle Internet Directory (OID) LDAP server and Microsoft Active Directory.

- In the USER_NAME field, enter the LDAP field name that holds the user's login ID. **Example:** uid or samaccountname (for Microsoft Active Directory)
- In the EMAIL_ADDR field, enter the LDAP field name that holds the user's email address. **Example:** mail
- In the ACTUAL_NAME field, enter the LDAP field name that holds the user's full name. **Example:** cn or displayname (for Microsoft Active Directory)
- Enter the details for your LDAP server by clicking the fields and entering the information in the right column. Specify the LDAP directory server host name or IP address, listening port, and base directory node.
- For **Base Directory Node**, specify the location in the directory information tree (DIT) that is the location from which to start the search for module users during login. **Base Directory Node** is also the location where the provisioning function begins the search for directory server users.
- SSL protocol is recommended for secure communication to the LDAP server. To use SSL protocol for communication with the LDAP server, select **True** for the **Enable SSL** option.
- Referrals chasing allows authentication to extend to another domain. To use referrals, select **True** for the **Chase Referrals** option.

**Note:** Referral chasing is supported with Oracle Internet Directory and Microsoft Windows Active Directory. For Oracle Internet Directories, referrals chasing only works when the directories are configured to allow anonymous searches.

7) If the LDAP server does not allow anonymous searches, type the user name of an LDAP server user who has search access for the Base Directory Node you specified.

8) Click **Test**. If you entered a user name you are prompted for the user's password.

**Notes:**
- The password is encrypted and stored in configuration data. The Administration Configuration tool does not unencrypt the password, so the password must be reentered every time **Test** is clicked.
- Test must be executed for each LDAP server you configure.

9) If you see a message saying Test Passed, your LDAP server is properly configured.

10) Click **Save & Close** to exit the Administration Configuration tool.

---

**Provisioning LDAP User Information for the First Time**

1) Follow the instructions in **Add new users (P6 Professional Only)** (on page 137) to add a new user (in Native mode) that exactly matches an LDAP server user with rights to read the LDAP directory. Make sure to assign a global profile that contains privileges to add new users and search the LDAP directory, and assign the appropriate project profiles and module access. The Admin Super profile has all appropriate privileges.

2) Log back into the **Administration Configuration** Tool.
3) From the **LDAP Configuration** tab select **True** for **Enable LDAP Authentication**.
4) Log into P6 Professional as the LDAP user created in step 1.
5) Choose Admin, Users.
6) Click **Add**, the Import Domain Users dialog box will appear:
7) Either click the Load LDIF button, or enter an LDAP query under LDAP User Search Criteria (for example, UID=* or samaccountname=*).
8) If you clicked the Load LDIF button, browse to the location of the LDIF file, and click Open. If you entered an LDAP query, click Search.
9) A list of users will appear, grouped by category. For example, LDAP repository users that do not exactly match P6 Professional users will be grouped together. If users exist in the LDAP repository, the Login Name, Personal Name, User EMail Address, and Office Phone fields are populated based on the field mappings in the LDAP configuration settings.
10) Select the Import option next to each Login Name that you with to import. New or modified users are automatically selected.
11) Click Import Users.
12) Click Close in the Users dialog box.

**Notes:**
- You must have the Add/Edit/Delete Users privilege and the Provision Users from LDAP privilege to search the LDAP directory. You do not need the Provision Users from LDAP privilege to import users from the LDIF file.
- The new users will be assigned the default global profile.

**Tip**

When you provision users, changed records are updated in the P6 Professional database and new users are added. However, users that have been deleted from the LDAP directory or LDIF file are not automatically removed from the P6 Professional database. You will need to manually delete these users.

### Configuring P6 Professional Internal Plug-ins for Authentication

P6 EPPM and P6 Professional come with built in applications, such as Schedule Comparison or Claim Digger, that use P6 Integration API technology. You must configure these plug-ins separately for Single Sign-On or LDAP authentication. These applications read a configuration stored in the database (called **INTERNAL_PLUGINS** by default) to determine how to authenticate.

**Note:** This procedure is not applicable for the P6 Professional Cloud Connect driver type.

This procedure uses two utilities:
- **dbconfig.cmd**: To create a new temporary configuration to launch the Internal API Administration utility, **admin.cmd**.
admin.cmd: To access and modify the INTERNAL_PLUGINS configuration used by the Internal API tools.

To change the authentication type, proceed as follows:

1) **Launch the Internal API Database Configuration utility, dbconfig.cmd.**
   - For P6 EPPM, the database configuration utility is located in `%P6PROFESSIONAL_HOME%\P6 Professional\EPPM\Java\dbconfig.cmd`
   - For P6 Professional, the database configuration utility is located in `%P6PROFESSIONAL_HOME%\P6 Professional\PRO\Java\dbconfig.cmd`

2) **Create a new temporary configuration called TEMP_CLIENT_SETUP, to access the administration utility.**

3) **Launch the Internal API administration utility admin.cmd.**
   - For P6 EPPM, the API administration utility is located in `%P6PROFESSIONAL_HOME%\P6 Professional\EPPM\Java\admin.cmd`
   - For P6 Professional, the API administration utility is located in `%P6PROFESSIONAL_HOME%\P6 Professional\PRO\Java\admin.cmd`

4) **Login using the Privileged Database username and password.**

5) **Click on the Authentication tab.**
   a. **Expand the INTERNAL_PLUGINS configuration.**
   b. In the Authentication folder, set the **Login Mode** equal to the authentication mode configured for P6.
   c. In the Database Instance: <your_instance_name> folder, set the **Authentication Mode** equal to the authentication mode configured for P6.

6) **In the Configurations tab, select the TEMP_CLIENT_SETUP configuration.**
   a. **Right-click and delete TEMP_CLIENT_SETUP.**
   b. **Click OK** in the Confirmation window.
   c. **Click Save**, and **OK** in the Confirmation window.

7) **Exit the administration utility, admin.cmd.**

8) **Delete the BREBOOTSTRAP.XML file located in `%P6PROFESSIONAL_HOME%\P6 Professional\EPPM\Java\`**

**Tip:**
For more information on P6 Integration API, refer to the *P6 Integration API Configuration Guide.*

---

**Login Procedures and Authentication in P6 Professional**

The authentication modes have different login procedures:

**In Native mode**

P6 Professional presents a login dialog that prompts for a user name and password. Depending on whether you enabled the password policy option in Application Settings in P6, the user may have to create a strong password.
In LDAP mode

- All P6 Professional applications and the P6 Professional SDK require a login password.
- Since the LDAP directory stores and authenticates passwords, users cannot change their passwords in P6 Professional.

Troubleshooting Login Errors

Users and Security

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Security Concepts in P6 Professional

Each person who will be using any module of P6 Professional must be registered as a "user" with the appropriate module access. Additional security privileges determine each user's access to data.

To ensure security at various levels of data, there are two sets of security profiles:

- **Global profiles** Define a user's access to application-wide information and settings, such as the enterprise project structure (EPS), resources, roles, and cost accounts. Each user must be assigned a global profile.
- **Project profiles** Define a user's access to project-specific information. It is not required that each user be assigned a project profile; however, users cannot access projects unless they are assigned: a project profile, the global profile Admin Superuser, or as a resource assignment when they are a project owner.

You can create a set of profiles that limit access to global information and then assign the appropriate global profile to each user. Similarly, to limit privileges for each project, you assign the appropriate project profile to each user via an organizational breakdown structure (OBS) element. When you create the EPS for your company, you must identify an OBS element, or person responsible, for each node and project within the EPS. This OBS element assignment determines the user's rights to the EPS level (and all levels below it). You can further control access to specific project data by assigning a responsible OBS element to each work breakdown structure (WBS) element within a project. Additionally, you can control user access to activity data via activity editing restrictions in user interface views, and you can control user access to resource data by implementing resource security.
The following diagram illustrates the relationships between a user, the OBS, EPS, and WBS.
Security Samples

Review the following portions of a sample EPS for Capital Improvement projects in Oak County and its corresponding portion of the OBS.
With these structures defined, you can map users to their corresponding roles in the OBS, which in turn can be assigned to each level in the EPS. The EPS level to which you assign the OBS determines the nodes/projects the associated user can access. For example, if you assign an OBS element to the root node of the EPS, the users associated with that OBS element can access the projects in the entire EPS. If you assign an OBS element to one branch of the EPS, the associated users can access only projects within that branch.

The project profile associated with each OBS element determines which data items in the projects the user can access. Only one OBS element can be assigned to each EPS level.

For example, suppose that two project profiles are defined: one that allows edit access to all data, including administration rights (Administrator profile), and one that allows viewing and editing of most, but not all, project data (Project Manager profile). Joe Nolan, the President of Labor Management, is assigned to the P6 Administrator profile. The OBS element, Labor Mgmt President, is assigned as the responsible manager at the Oak County node of the EPS, indicating that Joe Nolan has access to all nodes and projects within Oak County.
If Tim Ryan is the Director of the Department of Transportation (DOT), he can be assigned P6 Administrator rights to all projects under DOT.

You can further control the access to projects by assigning OBS elements at the project and/or WBS level. In the previous example, if Marie Ross is the Project Manager in the Engineering Division responsible for the Highway 101 project, you can assign her to that OBS element with a Project Manager profile. She would then have editing access to just that project.

As another example, if the Design Team needs access to only the design portion of the Highway 101 Project. You can assign the Design Team to just the WBS branch in the Highway 101 project that involves the project design.

You can assign multiple users to the same OBS element and/or you can assign each user to multiple OBS elements. This flexibility enables you to provide access to the same EPS branch or project to more than one responsible manager (OBS element), and it allows you to control access by the same user across different EPS nodes and projects.
For example, suppose Marie Ross, who is a Project Manager in the Engineering Division responsible for the Highway 101 project, also needs access to the Pine Avenue project; however, you want to limit her access to reviewing and editing financial data only. Also suppose that Jim Harkey, another Project Manager in the Engineering Division, is responsible for the Pine Avenue project. He needs Project Manager access to the Pine Avenue project, but he also needs to review financial information in Marie’s Highway 101 project.

You first would create another project profile that specifies viewing/editing rights to just project costs and financial data (Account Manager profile) and then make the following assignments:
To designate that Jim Harkey has Project Manager rights to the Pine Avenue project and Marie Ross has Account Manager rights to the Pine Avenue project, you would need to add another element to the OBS.

With these assignments, Jim Harkey and Marie Ross now have Project Manager rights to their primary projects and Account Manager rights to their secondary projects.

The following section provides guidelines for setting up users and administering security in P6 Professional.
Security Configuration Process in P6 Professional

Organization-wide project management involves a structured approach to managing several ongoing projects and teams across multiple locations at the same time. To ensure good results, up-front planning and coordination by various members of the organization are essential. Before you can use P6 Professional to manage your projects successfully, you must first administer users and set up structures, including the organizational breakdown structure (OBS), enterprise project structure (EPS), and resource hierarchy. Once users and structures are in place, you can implement security to restrict and/or provide access to project data.

The following bullets provide guidelines and a general process for administering users and security in P6 Professional. Because the structures are global across the company, some processes might require information from many participants. You can vary the order depending on your company’s implementation plan. Also, some of these processes, such as defining resource security and user interface views, are optional depending on the needs of your organization.

- Create global and project security profiles in P6 Professional.
  Define a standard set of profiles that determine access rights to global and project-specific data. Most likely, administrators perform this step.
- Add users in P6 Professional.
  You must add each user who needs access to any P6 Professional module. At a minimum, each user is assigned a login name, module access, and a global profile.
- Set up the OBS for your company.
  Identify your company’s management structure and include the roles or names of those who will be responsible for the projects and work to be completed.
- After setting up the OBS, assign the appropriate users and project profiles to each element of the OBS.
- Set up the EPS for your company.
  Identify your company’s project structure, which is global across the organization.
- After setting up the EPS, assign the responsible manager (OBS) to each EPS node.
- Define the resources necessary to complete the projects across the organization.
- Define user access to resource data.
- Add projects to the EPS and define the WBS for each project.
  Project managers usually perform this step. They can further control security within their own projects by assigning specific OBS elements to WBS levels.
- Set preferences for data in P6 Professional.

Useful P6 Professional Terms

Review the following P6 Professional terms to help you better understand how to administer users and security:

**User** Any person who needs access to P6 Professional.

**Resource** The people, materials, and/or equipment that perform the work on activities. You can build a resource hierarchy that includes the required resources across all projects in the organization. Resources are assigned to activities in P6 Professional.
**OBS** A global hierarchy that represents the managers responsible for the projects in your organization. The OBS usually reflects the management structure of your organization, from top-level personnel down through the various levels constituting your business. The OBS can be role-based or name-based.

**EPS** A hierarchy that represents the breakdown of projects in the organization. Nodes at the highest, or root, level might represent divisions within your company, project phases, site locations, or other major groupings that meet the needs of your organization, while projects always represent the lowest level of the hierarchy. Every project in the organization must be included in an EPS node.

**WBS** A hierarchical arrangement of the products and services produced during and by a project. In P6 Professional, the project is the highest level of the WBS, while an individual activity required to create a product or service is the lowest level. Each project in the EPS has its own WBS.

An OBS is not the same as a resource pool. While resources are assigned to activities, OBS elements are associated with EPS nodes and projects. The OBS element corresponding to an EPS node is the manager responsible for all work included in that branch of the hierarchy. In this way, an OBS supports larger projects that involve several project managers with different areas of responsibility.

### Admin superuser

A global profile that gives a user read/write privileges for application-wide information and features. This information includes all projects, resources, cost accounts, and users. An Admin superuser always has access to all resources. If resource security is enabled, resource access settings will be ignored.

### Project superuser

A project profile that gives a user read/write privileges for all project/OBS specific information and features.

### Working with and defining the OBS

#### Organizational breakdown structure (OBS) overview

The organizational breakdown structure (OBS) is a global hierarchy that represents the managers responsible for the projects in your enterprise. The OBS usually reflects the management structure of your organization, from top-level personnel down through the various levels constituting your business. You can associate the responsible managers with their areas of the EPS (Enterprise Project Structure) — either nodes or individual projects. When you associate a responsible manager with an EPS node, any projects you add to that branch of the EPS are assigned that manager element by default.

The OBS hierarchy is also used to grant users specific access privileges to projects and the WBS (work breakdown structure) levels within projects.
Setting up the OBS

Because the OBS is maintained as a separate, global hierarchy, you have flexibility in making your OBS assignments as responsibilities change throughout a project life cycle.

You may want to create your OBS to match each EPS node and project set up in the EPS. You could initially match OBS names to the EPS node and project names. You could then assign users, by their login names, to the OBS elements to grant access to the corresponding EPS nodes or projects.

The type of access granted to a user is determined by the project security profile assigned to the user.

View the OBS

You can view an organizational breakdown structure (OBS) in two ways. You can use the OBS chart to view a graphical display of information, and you can use the OBS table to view information in a column format.

1) Choose Enterprise, OBS.
2) If the Organizational Breakdown Structure dialog box currently displays the Chart View, click the Display Options bar and choose Table View.

To view the OBS hierarchy, click the OBS Name column label.

To list and sort OBS elements, click the OBS Name column label again.

OBS security

Project profiles define a user’s access to each project according to a specified OBS element. The specified OBS element determines which work breakdown structure (WBS) elements, activities, issues, and thresholds the user can edit in a project.

The OBS is a global hierarchy that represents the management responsible for the projects in your enterprise. The OBS hierarchy is used primarily to grant users specific access privileges to projects and to the WBS levels within projects. To access a project, a user must have access permissions for an OBS element within the project. This provides user access to WBS information for which the specified OBS element is responsible, as well as limits user access to WBS information that may lie beyond the user’s scope.

When P6 Professional is connected to a P6 Professional database, profiles and corresponding privileges are defined using the Security Profiles dialog box and are associated with the login name of the user. When P6 Professional is connected to a P6 EPPM database Profiles and corresponding privileges are defined using P6.

When you assign users to OBS elements using their login names, the security profile is automatically associated.

Note

- You can assign a user a security profile for any number of enterprise OBS nodes.
Add an OBS element

1) Choose Enterprise, OBS.

A root OBS element is automatically assigned to the root EPS node so that a default OBS element can be assigned to each project you add to the EPS root.

2) Click the OBS Name column label to display the OBS hierarchy.

   The outline symbol in the OBS Name column label indicates a hierarchy display.

3) Select the OBS element immediately above and at the same hierarchy level as the element you want to add, then click Add.

4) Click the General tab, type the OBS Name, then click Modify to type a description of the OBS element in an HTML editor.

   In the editor, you can format text, insert pictures and tables, copy and paste information from other document files (while retaining formatting), and add hyperlinks.

5) Click the Users tab to view the users and corresponding security profiles associated with an OBS element. You can also assign users from this tab, if you have appropriate access rights.

6) Click the Responsibility tab to quickly see where responsible managers (OBS elements) are assigned across the enterprise. Select the OBS name for whom you want to see assignments.

Tip

   To change the element's position in the OBS hierarchy, click the appropriate arrow buttons.

Assign an OBS element to a WBS element

1) Choose Project, WBS.

2) Select the WBS element to which you want to assign an OBS element.

3) Click the General tab, then click in the Responsible Manager field.

4) Select the OBS element you want to assign, then click the Select button.

Edit an OBS element

1) Choose Enterprise, OBS.

2) Click the OBS Name column label to display the OBS hierarchy.

   The outline symbol in the OBS Name column label indicates a hierarchy display.

3) Select the OBS element you want to edit.

4) To change the element's information, click the General tab and enter new information.

5) To change the element's position in the OBS, click the appropriate arrow buttons.
Copy and paste an OBS element

1) Choose Enterprise, OBS.
2) Click the OBS Name column label to display the OBS hierarchy.
3) Select the OBS element you want to copy, then click Copy.
4) Select the OBS element to which you want to add the copied OBS element, then click Paste.

Cut and paste an OBS element

1) Choose Enterprise, OBS.
2) Click the OBS Name column label to display the OBS hierarchy.
3) Select the OBS element you want to cut and paste, then click Cut.
4) Select the OBS element to which you want to add the cut OBS element, then click Paste.

Delete an OBS element

1) Choose Enterprise, OBS.
2) Click the OBS Name column label to display the OBS hierarchy.
3) Select the OBS element you want to delete, then click Del/Merge.

   If the OBS element you want to delete has work breakdown structure (WBS), issue or threshold assignments, you are prompted to merge the element with its parent OBS.

4) Click Yes.

Note
   ▶ If you delete a parent OBS element, all of the elements contained in the parent element are deleted.

View the OBS chart display

Use the OBS chart to view a graphical display of OBS information.
   ▶ Choose Enterprise, OBS, then click the Display Options bar and choose Chart View.

Tip
   ▶ To view the OBS table display again, click the Display Options bar, then choose Table View.

Change the OBS chart display

1) Choose Enterprise, OBS, then click the Display Options bar and choose Chart Font and Colors.
2) To change the appearance of the display's text, click Font, then select a new font.
3) To change the display's background color, click Back Color, then select a new color.
4) To change the display’s OBS box color, click Box Color, then select a new color.

**Tip**
- To change the displayed information, click the Display Options bar, choose Chart Box Template, then select Customize.

### Move around the OBS chart

You can change the level of detail that appears onscreen.
- Click the Display Options bar and choose Zoom. You can zoom in, zoom out, or zoom to best fit.

**Tip**
- You can also use your mouse to control the level of detail that appears onscreen:

<table>
<thead>
<tr>
<th>To Do This</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoom in</td>
<td>Hold down the Alt key, click the background, and then drag the pointer down while holding down the mouse button.</td>
</tr>
<tr>
<td>Zoom out</td>
<td>Hold down the Alt key, click the background, and then drag the pointer up while holding down the mouse button.</td>
</tr>
</tbody>
</table>

### Change the OBS chart information

1) Choose Enterprise, OBS, then click the Display Options bar and choose Chart Box Template, Customize.
2) Click Add.
3) In the Field Name field, select a template element.
4) Specify a width and height for the template element.
5) Click the up and down arrows to place the element within the OBS box.

**Tips**
- To remove an element from the OBS box, select the element, then click Delete.
- To revert to the default OBS box fields, click Default.

### Assign responsibility for an issue

1) Choose Project, Issues, then select the issue.
2) Display Issue Details, then click the General tab.
3) In the Responsible Manager field, click .
4) Select the name of the responsible OBS member, then click the Select button.
Assign responsibility for threshold-generated issues

1) Choose Project, Thresholds.
2) Select the threshold, then click the General tab.
3) In the Responsible Manager field, click 

4) Select the name of the OBS element, then click the Select button.

Setting up and starting to work with the EPS

Enterprise Project Structure overview

The Enterprise Project Structure (EPS) forms the hierarchical structure of your database of projects. Each EPS node (or folder) can be subdivided into multiple levels to represent the work that needs to be done in your organization. The number of levels and their structure depend on the scope of your projects and how you want to summarize data.

You can use the EPS to

- Perform top-down budgeting and resource and cost analysis
- Organize work breakdown and organizational breakdown structures into one common structure
- Manage multiple projects from the highest levels of the organization to the individuals that perform specific project tasks
- Implement coding standards for flexible reporting
- Maintain appropriate security throughout the enterprise

All projects in the enterprise exist within the EPS hierarchy, a graphical representation of your project structure.

When P6 Professional is connected a P6 EPPM database you can define the EPS using either P6 Professional or P6.

The levels and structure of your company’s EPS depends on the scope of your projects and how you want to summarize data. You can define one or multiple root nodes, up to 50 combined WBS/EPS levels and as many projects as necessary to complete the required work set forth by the operations executive and project managers in your organization.

Before you begin defining your company’s EPS, you should become familiar with the structures and procedures established for your enterprise, such as codes, calendars, and other company-wide standards. Once the EPS hierarchy is defined, you can begin to develop projects by adding information, activities, and resources.

Defining the Enterprise Project Structure

All projects in the enterprise exist within the EPS hierarchy, a graphical representation of your project structure. A root node is automatically created for the hierarchy during installation.
The levels and structure of your company’s EPS depends on the scope of your projects and how you want to summarize data. You can use the Admin Preferences, Data Limits tab to define one or multiple root nodes, up to 50 combined WBS/EPS levels and as many projects as necessary to complete the required work set forth by the operations executive and project managers in your organization.

Before you begin defining your company’s EPS, you should become familiar with the structures and procedures established for your enterprise, such as codes, calendars, and other company-wide standards. Once the EPS hierarchy is defined, you can begin to develop projects by adding information, activities, and resources.

**Set up the EPS structure**

You can use P6 Professional or P6 to set up the EPS. If you use P6 Professional, choose Enterprise, Projects to specify project details such as dates, resource and budget information, and so on.

When you create the enterprise project structure, you must identify an OBS element, or person responsible for each node and project within the EPS. For steps on defining the OBS.

1) Choose Enterprise, Enterprise Project Structure.
2) Click the EPS Name column where you want to add a new element.
3) Click Add.
4) Type an ID and name for the EPS node. In the Responsible Manager field, select an OBS element for the new element.
5) If necessary, you can change the hierarchical position of the new element by clicking the arrow keys.
6) Click Close.
7) Choose Enterprise, Projects then specify project details such as dates, resource and budget information, and so on.

**Note**

- A default root node displays in the top left position in the hierarchy. All projects listed below it are part of the same structure. You can also define multiple root nodes to separate various components of your enterprise. For example, you might want to exclude inactive or what-if projects from the main enterprise. To define a root node, click the left arrow key to move an EPS element to the top left position in the hierarchy, then add the hierarchy of projects below this node.

**Add a project to the EPS hierarchy**

Once you set up the EPS structure, you can add an unlimited number of projects as follows:

1) Choose Enterprise, Projects, then select the EPS node or root element to which you want to add a project.
2) Click on the Edit Toolbar or choose Edit, Add.
3) Follow the instructions in the Create a New Project Wizard.

   To quickly add a new project using the default settings, click Finish on the Create a New Project Wizard.

4) Use the detail tabs across the bottom of the Project window to add details specific to this project.

**Delete an EPS node or project**

1) Choose Enterprise, Projects, then select the EPS node or project that you want to delete. Choose Edit, Delete.
2) Click Yes to confirm.

**Tip**

- When you delete an EPS node, all projects in that branch of the hierarchy are also removed. To save projects in a branch before deleting it, first copy and paste those projects to another area of the hierarchy.

**Copy an EPS node or project**

1) Choose Enterprise, Projects, then select the EPS node or project you want to copy.
2) Choose Edit, Copy.
3) Click the location in the EPS where you want to paste the new EPS node/project.
4) Choose Edit, Paste.
5) Mark the checkboxes beside any optional information you want to include in the copied EPS node or project in the Copy Project Options, Copy WBS Options, and Copy Activity Options dialog boxes.

**Notes:**

- When connected to a P6 EPPM database: When you copy an EPS node, any template projects in that EPS are copied even though you cannot see them in P6 Professional.
- When connected to a P6 EPPM database: P6 Professional uses a job service to copy projects and EPS nodes. This means that you can carry on working while the project or EPS is copied in the background. To see the progress of the job, choose Tools, Job Status.
- The administrator should not assign any of the following privileges to users who should not have access to view cost information while copying and pasting project/EPS or assigning WBS and Fill Down on the WBS column in the Activities view: View Project Costs/Financials, Edit WBS Costs/Financials, and Edit EPS Costs/Financials.
- You must group the projects (to copy) by EPS in order to copy Summary Data.

**Tip**

When you select an EPS node to copy, all of the selected EPS node’s subordinate EPS nodes/projects are also copied, even if you do not select them.
Managing User Security (P6 Professional Only)

Setting up user security (P6 Professional Only)

For each user, you perform the following steps to implement access to P6 Professional.

1) Choose Admin, Users.
2) Click Add to add a user.
3) On the General tab:
   - Enter the user’s login name and personal name.
   - Click Password to enter the user’s password. The minimum password requirements depend on the status of the password policy, and are described in the Change Password dialog box.
4) On the Global Access tab:
   - Assign a global security profile to the user. Global security profiles determine the global actions the user can perform and are defined in the Security Profiles dialog box (choose Admin, Security Profiles).
   - Enable or disable resource security for the user. To enable access to all resources, mark the All Resource Access checkbox (Admin Superusers automatically get All Resource Access). To restrict resource access to a specific resource node, select the resource node. To disable access to all resources, clear the All Resource Access checkbox (if necessary), and do not select a resource node.
5) On the Project Access tab, click Assign to assign the user to an OBS element (responsible manager), then select an existing project security profile.

   This grants the user access to WBS elements (and associated activities) for which the assigned OBS element is responsible, in all projects. For the projects the user can access based on the user’s OBS assignment, the project security profile determines the actions the user can perform for these projects.
6) On the Module Access tab, mark the checkbox for P6 Professional. This enables the user to access the application.

Notes

- Only an Admin Superuser can add, edit, delete, cut, copy, or paste Admin Superusers or change an Admin Superuser’s password.
- Only an Admin Superuser can apply the Admin Superuser profile to a user, and only an Admin Superuser can apply the Project Superuser profile to a user.

Module access (P6 Professional Only)

The P6 Professional module access option controls whether users can attempt to log into the P6 Professional application.

The Visualizer module access option controls whether users can attempt to log into the Visualizer application.
For each defined user, a user with the required security privilege can enable or disable access to the products listed in the Users dialog box (choose Admin, Users, then click the Module Access tab).

### Security profiles

Security profiles determine a user's level of access to project information. The security profiles include both global profiles and project profiles. A global profile determines the user's access to application-wide information. A project profile determines the user's level of access to each project within the Enterprise Project Structure (EPS).

When connected to a P6 EPPM database: When you assign a project profile to a user as defined in P6, you also associate the project profile with an OBS element/responsible manager.

When connected to a P6 Professional database: When you assign a project profile to a user, you also associate the project profile with an OBS element/responsible manager.

The user's access privileges, as defined in the project profile, will then apply only to those elements of the EPS that are assigned to the OBS element/responsible manager you selected.

### Global profiles

P6 Professional requires that all users have a global profile. A global profile defines a set of privileges for access to global, or application-wide, information such as cost accounts, resources, and roles.

**When P6 Professional is connected to a P6 EPPM database:**

To control user access to global information, you create global profiles using P6, and then assign specific profiles to individual users.

To allow complete access to all global information and all projects (assuming all applicable options have been applied using P6), you can assign a global profile called **Admin superuser** (on page 117). You can assign the Admin Superuser profile to as many users as you like. However, since the Admin Superuser profile enables access to all information, you would typically restrict the number of users to whom you assign this profile. You cannot edit the Admin Superuser security profile.

**Note:** Only an Admin Superuser can apply the Admin Superuser profile to a user.

**When P6 Professional is connected to a P6 Professional database:**

To control user access to global information, you create global profiles, and then assign specific profiles to individual users.

To allow complete access to all global information and all projects (assuming all applicable checkboxes are marked on the Users dialog box, Module Access tab), you can assign a global profile called **Admin superuser** (on page 117).
Global Privilege Definitions (P6 Professional Only)

A global profile definition specifies the individual access privileges associated with the profile. For a global profile, access privileges apply to application-wide information and settings. The module requires you to assign a global profile to each user.

**Edit Global Change Definitions option**

Determines whether the profile will enable users to create, modify, and remove Global Change specifications available to all users in P6 Professional.

**Add/Edit/Delete Categories option**

Determines whether the profile will enable users to create, modify and remove categories data as defined in the Admin Categories dialog box.

**Delete Resources option**

Determines whether the profile will enable users to remove resource data. This privilege also selects the 'Add Resources' and 'Edit Resources' global privileges.

**Add Resources option**

Determines whether the profile will enable users to create resource data. This privilege also selects the 'Edit Resources' global privilege.

**Edit Resources option**

Determines whether the profile will enable users to modify resource data. This privilege also enables users to assign, modify, and remove role assignments. To display resources’ price/unit in reports, users must have this privilege and the 'View Resource and Role Costs/Financials' global privilege assigned to their profile. To display resource skill level (a resource’s role proficiency) in the application and in reports, users must have this privilege and the 'View Resource Role Proficiency' global privilege assigned to their profile.

**View Resource Role Proficiency option**

Determines whether the profile will enable users to display, group/sort, filter, search, and report on resource and role proficiency. To display resource skill level (a resource’s role proficiency), users must have this privilege and the Edit Resources global privilege assigned to their profile.

**Add/Edit/Delete Cost Accounts option**

Determines whether the profile will enable users to create, modify, and remove cost accounts data.

**Import Project Management XER, MPP, MPX, and P3 option**

Determines whether the profile will enable users to import projects, resources, and roles from XER, MPP, MPX, and P3 formats using P6 Professional. To create new projects when importing, users must also have the 'Create Project' project privilege assigned to their profile. Users must be an Admin or Project Superuser to update a project from XER or P3 formats.
Import XML option
Determine whether the profile will enable users to import projects from P6 Professional and Microsoft Project using XML format. To create new projects when importing, users must also have the 'Create Project' project privilege assigned to their profile.
Note: For Microsoft Project imports, you can only create a new project (not update an existing one) during import. Also, P6 Professional supports imports from Microsoft Project 2002.

Import XLS option
Determine whether the profile will enable users to import projects, resources, and roles from XLS files into P6 Professional. Users must also be a Project Superuser to update a project from XLS format.

Add/Edit/Delete Global Reports option
Determines whether the profile will enable users to create, modify, and remove global reports, including editing report groups and global report batches and saving global reports created or modified in P6 Professional.

Edit Global Tracking Layouts option
Determines whether the profile will enable users to create, modify, and remove global tracking layouts in P6 Professional.

Add/Edit/Delete Roles option
Determines whether the profile will enable users to create, modify, and remove roles data.

Edit Global Activity Codes option
Determines whether the profile will enable users to modify global activity codes data. This privilege also enables users to create, modify, and remove global activity code values and associated Visualizer colors.

Add Global Activity Codes option
Determines whether the profile will enable users to create global activity codes and code values data. This privilege also selects the 'Edit Global Activity Codes' global privilege.

Delete Global Activity Codes option
Determines whether the profile will enable users to remove global activity codes and code values data. This privilege also selects the 'Add Global Activity Codes' and 'Edit Global Activity Codes' global privileges.

Add/Edit/Delete Global Calendars option
Determines whether the profile will enable users to create, modify, and remove global calendars data.

Add/Edit/Delete Resource Calendars option
Determines whether the profile will enable users to create, modify, and remove resource calendars data. This privilege also enables users to edit Shifts in P6 Professional.
Users and Security

Add/Edit/Delete Security Profiles option
Determines whether the profile will enable users to create, modify, and remove global and project security profiles, which grant access to application-wide and project-specific information.

Add/Edit/Delete Users option
Determines whether the profile will enable users to create, modify, and remove P6 Professional user data. To search the LDAP directory when provisioning, users must also have the Provision Users from LDAP global privilege.

Add/Edit/Delete Global Activity and Assignment Layouts and Filters option
Determines whether the profile will enable users to create, modify, and remove global activity and resource assignment layouts and filters.

Add/Edit/Delete OBS option
Determines whether the profile will enable users to create, modify, and remove hierarchical data for the global Organizational Breakdown Structure.

Edit Project Codes option
Determines whether the profile will enable users to modify project codes data. This privilege also enables users to create, modify, and remove project code values.

Add Project Codes option
Determines whether the profile will enable users to create project codes and code values data. This privilege also selects the 'Edit Project Codes' global privilege.

Delete Project Codes option
Determines whether the profile will enable users to remove project codes and code values data. This privilege also selects the 'Add Project Codes' and 'Edit Project Codes' global privileges.

Edit Resource Codes option
Determines whether the profile will enable users to modify resource codes data. This privilege also enables users to create, modify, and remove resource code values.

Add Resource Codes option
Determines whether the profile will enable users to create resource codes and code values data. This privilege also selects the 'Edit Resource Codes' global privilege.

Delete Resource Codes option
Determines whether the profile will enable users to remove resource codes and code values data. This privilege also selects the 'Add Resource Codes' and 'Edit Resource Codes' global privileges.

Add/Edit/Delete Global Portfolios option
Determines whether the profile will enable users to create, modify, and remove global portfolios.
Administer Global External Applications option
Determines whether the profile will enable users to create, modify, and remove entries in the list of global external applications in P6 Professional.

Add/Edit/Delete Funding Sources option
Determines whether the profile will enable users to create, modify, and remove funding source data.

View Resource and Role Costs/Financials option
Determines whether the profile will enable users to display all values for labor, material, and nonlabor resource costs, price/unit values for roles, and costs for resource and resource assignments User Defined fields. For users who do not have this privilege assigned to their profile, all areas that display monetary values for labor, material, and nonlabor resources and roles will display dashes and cannot be edited. For resources, such areas include resource price/unit, values in resource spreadsheets and histograms in Resource Analysis and Team Usage, and Cost data types for Resource User Defined fields. For roles, the area is the price/unit value in roles data. To display resources’ price/unit, users must have this privilege and the 'Edit Resources' global privilege assigned to their profile.

Administer Job Services option
Determines whether the profile will enable users to set up the Apply Actuals, Batch Reports, Export, Schedule, and Summarize services to run at specific time intervals using the Job Service.

Add/Delete Secure Codes option
Determines whether the profile will enable users to create and remove all secure project codes, global and EPS-level activity codes, and resource codes and code values data, as well as all secure issue codes and code values data. This privilege also selects the 'Edit Secure Codes,' 'Assign Secure Codes,' and 'View Secure Codes' global privileges.

Edit Secure Codes option
Determines whether the profile will enable users to modify all secure project codes, global and EPS-level activity codes and associated activity code value colors, and resource codes and code values data, as well as all secure issue codes, and code values data. This privilege also selects the 'Assign Secure Codes' and "View Secure Codes" global privileges.

Assign Secure Codes option
Determines whether the profile will enable users to assign all secure project codes, global and EPS-level activity codes, and resource codes and code values data, as well as all secure issue codes and code values data. This privilege also selects the 'View Secure Codes' global privilege.

View Secure Codes option
Determines whether the profile will enable users to display all secure project codes, global and EPS-level activity codes, and resource codes and code values data, as well as all secure issue codes and code values data.
**Add/Edit/Delete Currencies** option
Determines whether the profile will enable users to create, modify, and remove currencies data.

**Add/Edit/Delete Categories** option
Determines whether the profile will enable users to modify administrative categories as defined in the Admin Categories dialog box.

**Edit Admin Preferences** option
Determines whether the profile will enable users to modify administrative preferences as defined in the Admin Preferences dialog box.

**Provision Users from LDAP**
Determines whether the profile will enable users to search the LDAP directory when provisioning. For users who do not have this privilege assigned to their profile, the option to load an LDIF file to provision users will still be enabled. To search the LDAP directory, users also must also have the ‘Add/Edit/Delete Users’ global privilege.

**Add/Edit/Delete Global Visualizer Layouts** option
Determines whether the profile will enable users to edit, rename, and delete global Visualizer layouts, and allows users to promote (add) layouts from the User or Project Layouts category. To promote layouts from the Projects Layout category, you also need the Add/Edit/Delete Project Visualizer Layouts privilege.

**Add/Edit/Delete Global Visualizer Filters** option
Determines whether the profile will enable users to create, modify, and remove global filters in Visualizer.

**View All Global/Project Data via SDK** option
Determines whether the profile will enable users to view All Global and Project Data via P6 Professional SDK. For Admin Superusers, access to the P6 Professional SDK will be read/write. For all other users, access will be read only.

**Add/Edit/Delete Resource Curves** option
Determines whether the profile will enable users to create, modify, and remove resource distribution curves definitions.

**Add/Edit/Delete User Defined fields** option
Determines whether the profile will enable users to create, modify, and remove User Defined fields. Even without this privilege, users can still display User Defined fields information.

**Add/Edit/Delete Global Project/WBS Layouts** option
Determines whether the profile will enable users to create, modify, and remove global project and WBS layouts.
Add/Edit/Delete Microsoft Project and Primavera Templates option
Determine whether the profile will enable users to create, modify, and remove templates that are used to import/export data from/to Microsoft Project or Primavera XML formats.

Add/Edit/Delete Activity Step Templates option
Determine whether the profile will enable users to create, modify, and remove Activity Step Templates, which are used to add a set of common steps to multiple activities.

Add/Edit/Delete Financial Period Dates option
Determine whether the profile will enable users to create, modify, and remove financial periods data. To edit period data, users must also have the 'Edit Period Performance' project privilege assigned to their profile.

Tips:
- P6 Professional includes a global profile called Admin Superuser. This profile automatically gives a user all of the preceding privileges for all projects and P6 Professional features (assuming all applicable checkboxes are marked on the Users dialog box, Module Access tab). To enable read/write privileges for all projects and features, you can apply the Admin Superuser profile to a user.
- The previous table groups each privilege by functionality. The privileges are listed in the same order as displayed in the Security Profiles dialog box. To view the privileges in alphabetical order in the Security Profiles dialog box, click the Privileges bar.

Project profiles
A project profile defines a set of privileges for access to project-specific information. Project profiles are assigned to users based on the OBS hierarchy. To control access to project-specific information, you create project profiles, and then assign specific OBS elements and associated project profiles to individual users. When P6 Professional is connected to a P6 EPPM database, you do those tasks using P6. The assigned OBS element determines the EPS and WBS elements for which the user can access project information. The assigned project profile determines the type of access privileges the user has to that project information.

All WBS elements must have an assigned responsible OBS. If a user's project profile assignment includes a WBS element's responsible OBS, then the user can access all activities and issues related to that WBS element. Similarly, all thresholds and project issues also have an assigned responsible OBS. If a user's project profile assignment includes a threshold or issue's responsible OBS, then the user can access that threshold or issue.

When P6 Professional is connected to a P6 Professional database:
The module does not require that each user have a profile for every project. However, unless a user's global profile is Admin Superuser, that user cannot access a project without a project profile. See Admin superuser (on page 117). To allow complete access to a project/OBS assignment, the module includes a project profile called Project Superuser. You can apply the Project Superuser profile to as many users and for as many projects as you like. See Project superuser (on page 117).

Note: Only an Admin Superuser can apply the Project Superuser profile to a user.
When P6 Professional is connected to a P6 EPPM database:

When each user does not require a profile for every project. However, unless a user's global profile is Admin Superuser, that user cannot access a project without a project profile. See Admin superuser (on page 117). To allow complete access to a project/OBS assignment, you can apply a project profile called Project Superuser. You can apply the Project Superuser profile to as many users and for as many projects as you like. See Project superuser (on page 117).

### Project Privilege Definitions (P6 Professional Only)

A project profile definition identifies the specific access privileges that are granted by the profile. Each project profile is associated with an organizational breakdown structure (OBS) element to determine which EPS structure elements an individual user can access.

**Add Projects** option

Determines whether the profile will enable users to modify EPS budget logs, funding sources, and spending plans.

**Delete Projects** option

Determines whether the profile will enable users to delete, cut, and paste projects within the EPS node.

**Summarize Projects** option

Determines whether the profile will enable users to summarize data for all projects in the EPS.

**Edit Project Details Except Costs/Financials** option

Determines whether the profile will enable users to edit fields in General, Dates, Defaults, Resources, and Settings tabs in Project Details. To assign a project baselines, users must also have the "Assign Project Baselines" project privilege assigned to their profile.

**Administer Project External Applications** option

Determines whether the profile will enable users to modify entries in the External Applications feature in P6 Professional.

**Schedule Projects** option

Determines whether the profile will enable users to schedule a project.

**Level Resources** option

Determines whether the profile will enable users to level resources.

**Apply Actuals** option

Determines whether the profile will enable users to apply actuals to activities in a project.

**Store Period Performance** option

Determines whether the profile will enable users to track an actual this period value for actual units and costs in a project. A user must be assigned the Add/Edit Activities Except Relationships project privilege before you can assign this privilege.
**Edit Period Performance** option
Determines whether the profile will enable users to modify period performance values for labor and nonlabor units as well as labor, nonlabor, material, and expense costs using P6 Professional. The 'Add/Edit Activities Except Relationships' and 'View Project Costs/Financials' project privileges are also required for this functionality.

**Maintain Project Baselines** option
Determines whether the profile will enable users to create, modify, and remove baselines for projects.

**Run Baseline Update** option
Determines whether the profile will enable users to update a project's baselines with new project information using the Update Baseline utility.

**Assign Project Baselines** option
Determines whether the profile will enable users to assign project baselines to projects. To assign project baselines, users must also have the 'Edit Project Details Except Costs/Financials' project privilege assigned to their profile.

**Add/Edit/Delete Work Products and Documents** option
Determines whether the profile will enable users to create, modify, and remove a project's work products and documents.

**View Project Costs/Financials** option
Determines whether the profile will enable users to display all monetary values for projects. For users who do not have this privilege assigned to their profile, all areas that display monetary values will display dashes and cannot be edited. To use the Recalculate Assignment Costs feature, users must also have the 'Add/Edit Activities Except Relationships' project privilege assigned to their profile. To display the resource price/unit, users must have the 'View Resource and Role Costs/Financials' global privilege assigned to their profile.

**Edit Project Activity Codes** option
Determines whether the profile will enable users to modify project activity codes data. This privilege also enables users to create, modify, and remove project activity code values and associated Visualizer colors.

**Add Project Activity Codes** option
Determines whether the profile will enable users to create project activity codes and code values data. This privilege also selects the 'Edit Project Activity Codes' project privilege.

**Delete Project Activity Codes** option
Determines whether the profile will enable users to remove project activity codes and code values data. This privilege also selects the 'Add Project Activity Codes' and 'Edit Project Activity Codes' project privileges.
Users and Security

**Edit EPS Activity Codes** option
Determines whether the profile will enable users to modify the name of EPS-level activity codes. This privilege also enables users to create, modify, and remove EPS-level activity code values and associated Visualizer colors.

**Add EPS Activity Codes** option
Determines whether the profile will enable users to create EPS-level activity codes and code values. This privilege also selects the ‘Edit EPS Activity Codes’ project privilege.

**Delete EPS Activity Codes** option
Determines whether the profile will enable users to remove EPS-level activity codes and code values data. This privilege also selects the ‘Add EPS Activity Codes’ and ‘Edit EPS Activity Codes’ project privileges.

**Monitor Project Thresholds** option
Determines whether the profile will enable users to run the threshold monitor for a project.

**Publish Project Web site** option
Determines whether the profile will enable users to publish a project’s Web site.

**Edit Project Reports** option
Determines whether the profile will enable users to edit a project’s reports, edit a project’s report batches, and export reports.

**Add/Edit/Delete Project Calendars** option
Determines whether the profile will enable users to create, modify, and remove calendars assigned to projects.

**Run Global Change** option
Determines whether the profile will enable users to run Global Change to update activity detail information.

**Check In/Check Out Projects and Open Projects Exclusively** option
Determines whether the profile will enable users to check projects out to work remotely and then check them back in. Also determines whether the profile will enable users to open projects exclusively.

**Import/View Contract Management Data** option
Determines whether the profile will enable users to import and display data from Contract Management in P6 Professional.

**Add/Edit/Delete WBS Except Costs/Financials** option
Determines whether the profile will enable users to create, modify, and remove WBS hierarchy nodes and other WBS level data including notebook entries, earned value settings, milestones, and dates. This privilege does not allow users to edit cost and financial data at the WBS level.
**Edit WBS Costs/Financials** option
Determines whether the profile will enable users to modify Project or WBS budget logs, funding sources, spending plan, and financial data at the project level. To edit costs and financials at the WBS level, including cost UDFs, users must also have the ‘Add/Edit/Delete WBS Except Costs/Financials’ project privilege assigned to their profile. The ‘Edit WBS Costs/Financials’ privilege also selects the ‘View Project Costs/Financials’ project privilege.

**Add/Edit/Delete EPS Except Costs/Financials** option
Determines whether the profile will enable users to create, modify, and remove EPS hierarchy nodes, edit EPS notebook, and edit all EPS-related data except financial information.

**Edit EPS Costs/Financials** option
Determines whether the profile will enable users to modify EPS budget logs, funding sources, and spending plans.

**Add/Edit/Delete Expenses** option
Determines whether the profile will enable users to create, modify, and remove expenses assigned to projects.

**Add/Edit/Delete Issues and Issue Thresholds** option
Determines whether the profile will enable users to create, modify, and remove thresholds and issues assigned to projects. The privilege also enables users to assign issue codes to project issues.

**Add/Edit/Delete Activity Relationships** option
Determines whether the profile will enable users to create, modify, and remove activity relationships assigned to projects.

**Add/Edit Activities Except Relationships** option
Determines whether the profile will enable users to create and modify all activity information in projects, except activity relationships. To modify activity IDs, users must also have the ‘Edit Activity ID’ project privilege assigned to their profile. To use the Recalculate Assignment Costs feature, users must also have the ‘View Project Costs/Financials’ project privilege assigned to their profile.

**Delete Activities** option
Determines whether the profile will enable users to remove activities from projects.

**Edit Contract Management Project Link** option
Determines whether the profile will enable users to create, edit, and delete a link to a Contract Management project.

**Edit Activity ID** option
Determines whether the profile will enable users to modify activity IDs. To modify activity IDs, users must also have the ‘Add/Edit Activities Except Relationships’ project privilege assigned to their profile.
Edit Future Periods option
Determines whether the profile will enable users to enter, modify, and delete future period assignment values in the Planned Units and Remaining (Early) Units fields of the Resource Usage Spreadsheet using P6 Professional. The 'Add/Edit Activities Except Relationships' project privilege is also required for this functionality.

Add/Edit/Delete Project Level Layouts option
Determines whether the profile will enable users to create, edit, and delete project level layouts in Activities, Assignments, or WBS views.

Add/Edit/Delete Project Visualizer Layouts option
Determines whether the profile will enable users to create, modify, and remove project layouts in Visualizer.

Add/Edit/Delete Risks option
Determines whether the profile will enable users to assign risks to activities and to create, modify, and remove risks.

Tips:
- A project profile, Project Superuser, automatically gives a user all of the above privileges for each project, according to the specified OBS element.
- To allow read-write privileges for all aspects of a project, you can assign a user to a project's root OBS element and then apply the Project Superuser profile to the project/OBS assignment.
- The previous table groups each privilege by functionality. The privileges are listed in the same order as displayed in the Security Profiles dialog box. To view the privileges in alphabetical order in the Security Profiles dialog box, click the Privileges bar.

Note: To view resources' price/unit in reports, users must have "Edit Resources" and "View Resource and Role Costs/Financials" global privileges assigned to their profile.

Add new users (P6 Professional Only)

1) Choose Admin, Users.
2) Click Add.
3) What appears next depends on your security configuration:
   a. If P6 Professional is running in Native authentication mode, the Add User dialog box will appear:
      1. Fill in the Login Name, Personal name, Enter new password, and Confirm new password fields.
      2. Click OK.
      3. If the ability to edit a personal resource calendar is required, you can select an associated resource from the Resource ID / Resource Name for Personal Calendar field, or you can create the link when you add resources.
      4. Click the Contact tab. Enter the user's e-mail address and office phone number.
      5. Click Close.
Notes:

- If you intend to use BI Publisher, avoid using commas when creating data other than Project names. The way that data other than Project names is passed to BI Publisher can cause a comma to be interpreted as a delimiter between data items.
- Login names must be between 1 and 255 characters long. If the Enable Password Policy check box is cleared in the Admin Preferences dialog box, passwords must be between 1 and 20 characters long. If the Enable password policy check box is selected in the Admin Preferences dialog box, enter a password that is a minimum of 8 characters long, and that contains at least one alpha and one numeric character.
- If P6 Professional is running in LDAP authentication mode, the Password button does not appear since password management is handled through the directory server.
- Users you create will not have access to any projects or features until you assign them a security profile.
- If a user is also a resource, the e-mail address and office phone number you type in the Users dialog box overwrites the e-mail address and office phone number recorded in the Resources window General tab, if that information is different. Likewise, e-mail and phone information you enter in the Resources window overwrites the information in the Users dialog box.

b. If P6 Professional is running in LDAP authentication mode, the Import Domain Users dialog box will appear:

1. Either click the Load LDIF button, or enter an LDAP query (for example, UID=*) under LDAP User Search Criteria.
2. If you clicked the Load LDIF button, browse to the location of the LDIF file, and click Open. If you entered an LDAP query, click Search.
3. A list of users will appear, grouped by category. For example, LDAP repository users that do not exactly match P6 Professional users will be grouped together. If users exist in the LDAP repository, the Login Name, Personal Name, User EMail Address, and Office Phone fields are populated based on the field mappings in the LDAP configuration settings.
4. Select the Import option next to each Login Name that you wish to import. New or modified users are automatically selected.
5. Click Import Users.
6. Click Close in the Users dialog box.

Notes:

- You must have the Add/Edit/Delete Users privilege and the Provision Users from LDAP privilege to search the LDAP directory. You do not need the Provision Users from LDAP privilege to import users from the LDIF file.
The new users will be assigned the default global profile.

Resource Security

Resource security allows the administrator to restrict a user's resource access. By default, new users do not have access to resources. To change the new user resource access click the Global Access tab.

Notes

- Login names must be between 1 and 255 characters long. If the Enable Password Policy check box is cleared in the Admin Preferences dialog box, passwords must be between 1 and 20 characters long. Otherwise, they are required to be a minimum of 8 characters long, including at least one alpha and one numeric character.
- If P6 Professional is running in LDAP authentication mode, the Password button does not appear since password management is handled through the directory server.
- Users you create will not have access to any projects or features until you assign them a security profile.
- If a user is also a resource, the e-mail address and office phone number you type in the Users dialog box overwrites the e-mail address and office phone number recorded in the Resources window General tab, if that information is different. Likewise, e-mail and phone information you enter in the Resources window overwrites the information in the Users dialog box.
- Oracle recommends the use of strong passwords. Strong passwords in P6 Professional are defined as passwords containing between 8 to 20 characters and at least one numeric and one alpha character. To further strengthen the password, use a mixture of upper and lower case letters.

List number of users having access to P6 Professional (P6 Professional Only)

1) Choose Admin, Users.
2) Click Count.

The Count dialog box displays the number of users and the user name of each user assigned access to P6 Professional. Expand a module to display the user name of each user assigned access to a module.

3) If you want to print the displayed information, click Print. Otherwise, click Close.

Tip

- When you click Print, the table prints the same as it appears on the screen. So collapsed nodes are not expanded for printing, and expanded nodes print the entire list of users.

Change user security profiles (P6 Professional Only)

1) Choose Admin, Users.
2) Select the user whose security profiles you want to change.
3) To change a global profile, click the Global Access tab and select a new global profile.

4) To change a project profile, click the Project Access tab.

To remove the user’s current access to project information associated with a specific responsible manager, select the manager, then click Remove.

To grant the user access to project information associated with a specific responsible manager, click Assign. Double-click the OBS element to which you want to grant access, then click Close.

To change the user’s security profile for a project, double-click the security profile you want to change, then select a new project profile.

**Change user passwords (P6 Professional Only)**

1) Depending on your global profile, you may be able to change a user’s password or your own.

2) Choose Admin, Users.

3) Select the General tab.

4) Select the user who requires a change of password.

5) Click Password.

6) In the New Password field, enter the new password.

7) In the Confirm New Password field, enter the password again, to verify it.

8) Click OK.

**Notes**

- If the Enable password policy setting is selected in the Password Policy field of the Admin Preferences dialog box, enter a password that is a minimum of 8 characters long, and that contains one alpha and one numeric character.
- If the Enable password policy setting is not selected, enter a password up to 20 characters long.
- If P6 Professional is running in LDAP authentication mode, password management is handled through the directory server. You cannot change your password through the module and the Password button does not appear on the Users dialog box General tab.
- Passwords are case-sensitive.
- Passwords that were set before the new password policy was enabled are valid and usable.

**Enable or disable user access to P6 Professional (P6 Professional Only)**

1) Choose Admin, Users.

2) Select the user for whom you want to enable or disable module access, then click the Module Access tab.

3) In the Access column, mark or clear the checkbox for the modules you want to enable or disable for the selected user.
Remove users (P6 Professional Only)

1) Choose Admin, Users.
2) Select the user you want to remove, then click Delete.
3) Click Yes.

Create global profiles (P6 Professional Only)

1) Choose Admin, Security Profiles.
2) Choose Global Profiles, then click Add.
3) Type the new profile's name.
4) To make the new profile the default global profile, mark the Default checkbox.
5) Mark the appropriate checkboxes to grant specific privileges to the profile.

Assign global profiles (P6 Professional Only)

1) Choose Admin, Users.
2) Select the user to whom you want to assign a global profile.
3) Click the Global Access tab, then select a global security profile.

Tips

- A global profile, Admin Superuser, allows complete access to global information, features, and all projects. To grant the user read/write privileges for all projects and features, select Admin Superuser as the global profile. You can apply the Admin Superuser profile to as many users as you like.
- Only an Admin Superuser can apply the Admin Superuser profile to a user.
- To verify which privileges are associated with a particular global profile, open the Security Profiles dialog box (choose Admin, Security Profiles).

Change global profiles (P6 Professional Only)

1) Choose Admin, Security Profiles.
2) Choose Global Profiles.
   
   To change a profile's name, double-click the profile, then type a new name.
   
   To make a profile the default profile, mark its corresponding Default checkbox.
   
   To change a profile's privileges, select the profile, then mark or clear the checkboxes to grant or deny each privilege.

Delete global profiles (P6 Professional Only)

1) Choose Admin, Security Profiles.
2) Choose Global Profiles.
3) Select the profile, then click Delete.
4) Click Yes.

**Create project profiles (P6 Professional Only)**

1) Choose Admin, Security Profiles.
2) Choose Project Profiles, then click **Add**.
3) Type the new profile's name.
4) To make the new profile the default project profile, mark the Default checkbox.
5) Mark the appropriate checkboxes to grant specific privileges to the profile.

**Note**
- Unless a user’s global profile is Admin Superuser, a user cannot access any projects without a project profile.

**Assign project profiles (P6 Professional Only)**

1) Choose Admin, Users.
2) Select the user to whom you want to assign a project profile, then click the Project Access tab.
3) Click Assign.
4) Double-click the OBS element/responsible manager whose project information you want to allow the user to access, then click Close.
5) Double-click the Security Profile field, then select a profile.
6) Repeat steps 3 through 5 for all projects to which you want the user to have access.

**Tips**
- A project profile, Project Superuser, allows complete access to a project/OBS assignment. To grant the user read/write privileges for all aspects of a project, select Project Superuser as the user’s profile. Only an Admin Superuser can apply the Project Superuser profile to a user.
- To verify which privileges are associated with a particular project profile, open the Security Profiles dialog box (choose Admin, Security Profiles).

**Note**
- A user is not required to have a profile for every OBS element. However, unless a user’s global profile is Admin Superuser, a user cannot access project information without a project profile.

**Change project profiles (P6 Professional Only)**

1) Choose Admin, Security Profiles.
2) Choose Project Profiles.

To change a profile's name, double-click the profile, then type a new name.

To make a profile the default profile, mark the Default checkbox.

To change a profile's privileges, select the profile, then mark or clear the checkboxes to grant or deny each privilege.

Delete project profiles (P6 Professional Only)

1) Choose Admin, Security Profiles.
2) Choose Project Profiles.
3) Select the profile you want to delete, then click Delete.
4) Click Yes.

Managing Resource Security (P6 Professional Only)

Introduction to Resource Security

When P6 Professional is connected to a P6 EPPM database, the administrator, using P6, can restrict a user's access to resource information.

When P6 Professional is connected to a P6 Professional database, the administrator can restrict a user's access to resource information.

The administrator can enable or disable resource security for each user. When resource security is disabled, the user has access to all resources. When resource security is enabled, the user has access to either none of the resources or a selected part of the resource hierarchy.

How does resource security work?

To enable resource security, the administrator assigns each user to a resource node in the resource hierarchy. This is the user's root node. Then, the position of the root node in the resource hierarchy determines the resources to which the user has access. Once assigned to a resource node, the user has access only to the root node and all of its children.

The administrator can give each user access to the following:

- **All Resources**
  The user has access to all resources with no restriction. This option disables resource security.
  For Admin superusers, resource security access settings are ignored; they are always granted All Resources access.

- **No Resources**
  The user has no access to resources. This is the default resource access to new users.
  Also, if a resource is deleted from the resource hierarchy, users that previously had been assigned to the deleted resource automatically get no access to resources.
  If a user has no resources access, all global resource-related privileges are ignored.
Resource node (Selected Resources)
The user has access to the assigned resource node and its children. You can assign only one node to a user. Multiple resource nodes are not supported.

Notes
- When connected to a P6 EPPM database: You need the appropriate global privilege to manage resource security.
- When connected to a P6 Professional database: You need Add/Edit/delete Users global privilege to manage resource security.
- In the Resource Assignments window you still have access to current project resources.

Example
The following examples illustrate how resource security applies to users assigned to different resource nodes:

<table>
<thead>
<tr>
<th>A) User has access to all resources. Resource security is disabled.</th>
<th>B) User is assigned to resource node MIS. This user has access only to root node MIS and its children.</th>
<th>C) User is assigned to resource node SADM. This user has access only to root node SADM and its children.</th>
</tr>
</thead>
</table>

Implementing Resource Security (P6 Professional Only)
Before you implement resource security in your organization, you should know about the impact of restricting resource access in P6 Professional. Users with restricted resource access may experience the impact of the feature in the following major areas:

Resources View
If resource security is enabled, the Resources View’s Filter By options display the following resources:
- All active resources
  Displays all active resources that you have access to in a hierarchy. Those current project resources that are outside of your resource root node are not displayed.
All resources
Displays all resources that you have access to in a hierarchy. Those current project resources that are outside of your resource root node are not displayed.

Current Project's Resources
Displays only those current project resources that you have access to. In other words, those current project resources, who are under your root resource node. (Resources that you do not have access to are not displayed even if they are current project resources.)

**Resource Assignments View**

In the Resource Assignments View you still have access to all current project resources even if they are not under your root node. If you have the proper privilege, you can modify their assignments or reassign any resource to new activities.

**Importing and Exporting Resources/Projects**

If you have no resource access, you cannot import new resources or activity resource assignments, or issues associated with new resources. If you have limited resource access, new resources are imported under your root node and you can update existing resources only if you have access to them.

**Enable Resource Security (P6 Professional Only)**

Resource security allows the administrator to restrict a user’s resource information access by assigning the user to a resource node in the hierarchy. That resource node is the user’s root node. Once assigned to that root node, the user has access only to that resource node and all of its children.

Resource security settings are honored the next time the user logs in. Thus, if you modify your own resource security settings, the changes will not take place until you exit the module and login again.

To enable resource security by assigning the user to a resource node:
1) Choose Admin, Users.
2) Click the Global Access tab.
3) Select a user from the list.
   
   The bottom of the Global Access tab displays the selected user's current resource access information.
   
   4) To enable resource security, click the browse button in the Resource Access field, and assign a resource node to the current user.
   
   The current user gets access only to the selected resource and its children after the next login.

To enable resource security by giving the user no access to any resources:
1) Choose Admin, Users.
2) Click the Global Access tab.
3) Select a user from the list.

The bottom of the Global Access tab displays the selected user’s current resource access information.

4) To give the current user no access to resources:

- Clear the All Resources Access checkbox, if it is marked.
- Delete the Resource Access field, if it is not empty.

The current user gets no access to any resources after the next login. This is the default for new users.

Notes

- The All Resources Access option disables resource security and gives the user access to all resources.
- Admin Superuser always has All Resources access, regardless of the resource security access settings.
- If you have restricted or no resource access, you cannot give All Resource access. This option is enabled only for users with all resource access.

Disable Resource Security (P6 Professional Only)

Resource security allows the administrator to restrict a user’s resource information access by assigning the user to a resource node in the hierarchy. That resource node is the user’s root node. Once assigned to that root node, the user has access only to that resource node and all of its children.

To disable resource security:
1) Choose Admin, Users.
2) Click the Global Access tab.
3) Select the user from the list.

The bottom of the Global Access tab displays the selected user’s current resource access information.

4) Select All Resources.

- All Resources
  This option disables resource security for the selected user and gives access to all resources.

Note

- Admin Superuser always has All Resources access, regardless of the resource security access settings.
Displaying Resource Access Information (P6 Professional Only)

The Global Access tab in the Users dialog displays the selected user’s resource access settings. The same settings can be displayed as columns as well. To view resource access information, add the Resource Access and All Resources Access columns to display in the Users dialog box. These columns are not displayed by default.

- **All Resources Access**

  The All Resource Access column displays a checkbox for each user. If the checkbox is marked, the user has access to all resources. This option disables resource security.

  This column is available only for users with all resource access or Admin superusers.

- **Resource Access**

  The Resource Access column displays the user’s assigned node. The user has access to this resource node and all its children.

  If the Resource Access column is empty and the All Resources Access checkbox is unmarked, the user has no access to any resources.

Change Resource Security (P6 Professional Only)

You can change each user’s resource access in the Users dialog any time. The new settings apply when the user logs in.

**To change resource security:**

1) Choose Admin, Users.
2) Click the Global Access tab.
3) Select a user from the list.

   The bottom of the Global Access tab displays the selected user's current resource access information.

4) Change the user's resource access settings.

**Note**

- Since a user’s resource access depends on the position of the assigned resource in the hierarchy, changing that position also means changing the user’s resource access.
Application Settings and Global Data

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Defining Administrative Preferences (P6 Professional Only)

Administrative preferences (P6 Professional Only)

Your organization can define a series of application-wide parameters and values that apply to all projects. Your organization can use these settings to customize your project to meet specific project management requirements and standards. While all users can view these settings, a user must have special security privileges to edit them. There are two types of settings: Administrative Preferences and Administrative Categories.

Application administrators use the Admin Preferences dialog box to establish default settings. You can use this dialog box to check the defaults that have been defined.

Change the global code separator (P6 Professional Only)

The global code separator is the character that separates cost account and activity codes to indicate hierarchy levels. The global code separator is used to indicate work breakdown structure (WBS) hierarchy levels if you do not specify a code separator for a project.

1) Choose Admin, Admin Preferences.
2) Click the General tab, then type a new code separator character in the Code Separator section.

Set the week start day (P6 Professional Only)

You can specify the day on which the calendar week begins.

1) Choose Admin, Admin Preferences.
2) Click the General tab.
3) In the Starting Day of Week section, select the day on which you want the workweek to begin.

Note

- This setting applies to all global, project, and resource calendars.
**Set a default activity duration (P6 Professional Only)**

You can specify the default activity duration for new activities added in all projects.

1) Choose Admin, Admin Preferences.
2) Click the General tab.
3) In the Activity Duration section, type a default activity duration in minutes, hours, days, weeks, months, or years.

**Note**
- If you change the default activity duration setting, the new default applies only to activities added after the change; existing activities are not affected.

**Define maximum hierarchy levels (P6 Professional Only)**

1) Choose Admin, Admin Preferences.
2) Click the Data Limits tab.
3) Specify the number of hierarchy levels each hierarchy may have.

**Note**
- If you change maximum hierarchy level settings, your change only applies when you add new elements or edit existing elements.

**Define maximum project activity codes (P6 Professional Only)**

1) Choose Admin, Admin Preferences.
2) Click the Data Limits tab.
3) In the bottom section, specify the maximum number of activity codes per project.

**Define maximum baselines (P6 Professional Only)**

1) Choose Admin, Admin Preferences.
2) Click the Data Limits tab.
3) In the bottom section of the tab, specify the maximum number of baselines per project.

**Define maximum ID lengths (P6 Professional Only)**

1) Choose Admin, Admin Preferences.
2) Click the ID Lengths tab, then specify the number of characters each code may have. Valid values are 1-40.

**Note**
- If you change the maximum number of characters in a code length, your change only applies when you add new codes or edit existing codes.
Set default workhours (P6 Professional Only)

P6 Professional calculates and stores time unit values in hourly increments, but users can set preferences to display time units in other increments, such as days or weeks. The values specified for Hours per Time Period are used to convert hours to other time increments for display, and to convert all non-hourly time increments to hours for storage in the database. As an administrator, you can globally specify the conversion factors, or you can enable the Hours per Time Period settings defined for each calendar to control how units and durations are converted and stored.

1) Choose Admin, Admin Preferences.
2) Click the Time Periods tab.
3) If you want to globally specify conversion factors, in the Hours per Time Period section, type the default number of workhours you want to use for each time period.

If you want to use the Hours per Time Period settings defined in each calendar as conversion factors, mark the "Use assigned calendar to specify the number of work hours for each time period" checkbox.

Set abbreviations for displaying time (P6 Professional Only)

1) Choose Admin, Admin Preferences.
2) Click the Time Periods tab.
3) In the Time Period Abbreviations section, type the abbreviations you want to use when displaying each time period.

Define default earned value settings (P6 Professional Only)

1) Choose Admin, Admin Preferences.
2) Click the Earned Value tab.
3) In the Technique for Computing Performance Percent Complete section, select the default completion percentage method you want to use for computing earned-value percent complete when calculating an activity's earned value.
4) In the Technique for Computing ETC section, select the default method for computing earned value estimate-to-complete you want to use when calculating an activity's Estimate to Complete (ETC) value.
5) In the Earned Value Calculation section, choose how you want to calculate earned value. Choose to use the baseline's At Completion values and current dates, planned values with planned dates, or planned values with current dates when calculating earned value from a baseline.

The current dates options use the Start/Finish dates for an activity or resource assignment.

Tip

- For each project, earned value is calculated using the project baseline or each user's defined primary baseline, depending on a preference setting on the Settings tab of Project Details.
Set global summarization options (P6 Professional Only)

In addition to specifying summarization options per project (Project Details, Settings tab), if you have administrator rights, you can specify global summarization options for storing resource spreads at the activity and resource levels.

1) Choose Admin, Preferences.
2) Select the Options tab.
3) In the ‘Select summarization periods’ section, choose how you want to summarize and store resource data: By calendar, By financial period, or both.

   If you choose to summarize and store resource data by calendar intervals, in the WBS Level field, choose the time interval, such as week or month, for storing summarized activity data. Then, in the Resource/Role Assignment Level field, choose the time interval, such as week or month, for storing summarized resource data.

   If you choose to summarize and store resource data by financial period intervals, activity and resource data is stored in financial period intervals that correspond to the financial periods defined in the Financial Periods dictionary. Choosing this option enables P6 Professional to display all activity and resource data (including non-past period actual data) in financial period timescale intervals.

Tips:

- If you want all project data in the database to be summarized by financial period (including closed projects), you must create financial periods that span the date range of all projects in the database. For example, if the oldest project in your database has a project start date of October 1st, 2001, your financial periods should begin on or before that date.

- If you choose to summarize data by financial period, you must summarize closed projects at least once to store project data in financial period intervals. Doing so ensures that data will display accurately in profiles and spreadsheets when users choose to display data for all projects in a financial period timescale interval (rather than open projects only).

Notes:

- If you choose to summarize by both calendar and financial period intervals, the runtime of summarizer jobs will increase.

- If you summarize projects with the 'By calendar' option selected, then clear the checkbox and summarize projects again, the previously existing summary activity and resource spreads are not removed; you must remove them manually.

- If financial periods are not defined in the Financial Periods dictionary, you can select the 'By financial period' option but data will not be summarized by financial period.

Set the Online Help location (P6 Professional Only)

1) Choose Admin, Admin Preferences.
2) Click the Options tab.
3) In the P6 Professional Online Help URL field:

- Leave the default URL to launch the Oracle Technology Network (OTN) site when Online Help is selected from the Help menu.
- Remove the URL to disable the Online Help option from the Help menu for all users. Users will only be able to access the local version of the help.
- Specify a new URL location to launch when Online Help is selected from the Help menu.

4) The Always launch Online Help for the F1 shortcut key and context-sensitive help option is not selected by default. To always launch online help for F1 key and help shortcuts, select this option.

**Notes:**
- Using OTN ensures that you always have the most current help content.
- Clicking on Online Help will launch the URL specified in Admin Preferences.
- If the P6 Professional Online Help URL field is blank, the Always launch Online Help for the F1 shortcut key and context-sensitive help option is disabled.
- When connected to a P6 Professional database: Use P6 to set the online help location.

### Set the Industry Type

The industry type that you choose determines the terminology and default calculation settings that display in P6 Professional.

An upgrade or a new installation of P6 Professional database leaves the industry type field blank and requires the system administrator to set it. So immediately after the installation, the administrator must use the **Admin Preferences, Industry** tab in P6 Professional to select an appropriate industry type.

Use the following steps to select the industry type:

1) Choose **Admin, Admin Preferences**.
2) Click the **Industry** tab.
3) Select the option that most closely aligns with your industry.

**Note:** If you set the industry type and later change it, the new industry setting is immediately effective for new users. However, the change will not take effect for users who have logged in since it was last set. For information on how to make it effective for existing users, refer to My Oracle Support’s Knowledge article How To Change The P6 Industry Type In P6 PPM (Professional), P6 EPPM R8.2 And Later Releases (Doc ID 1386047.1)

The following table lists each industry type and its corresponding terminology and default settings:
### Defining Administrative Categories (P6 Professional Only)

**Administrative categories (P6 Professional Only)**

Your organization can define a series of application-wide parameters and values that apply to all projects. Your organization can use these settings to customize your projects to meet specific project management requirements and standards. While all users can view these settings, a user must have the Add/Edit/Delete Categories global privilege to edit them.

Use the Admin Categories dialog box to define standard categories and values you can apply across all projects, including custom categories and category values for projects, resources, and WBS elements.

Use the following tabs to establish the following default categories and values:

**Baseline Types**: Create, edit, and delete baseline types. Use these categories to standardize and categorize baselines, and to help benchmark performance across projects.

**Expense Categories**: Create, edit, and delete expense categories. Use these categories to standardize and categorize project expenses, and organize and maintain expense information.

**WBS Category**: Create a WBS category and create, edit, and delete WBS category values. Use this category to standardize and categorize WBS elements.

**Document Categories**: Create, edit, and delete categories for work products and documents. Use these categories to standardize and categorize work products and documents, and organize and maintain work product and document information.

**Document Status**: Create, edit, and delete document status types. Use these status types to identify the current status of work products and documents within a project.

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<table>
<thead>
<tr>
<th>Industry Type</th>
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<td>Budgeted Units</td>
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<tr>
<td>Utilities, Oil, and Gas</td>
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<tr>
<td></td>
<td>Budgeted Cost</td>
<td></td>
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<tr>
<td></td>
<td>Original Duration</td>
<td></td>
</tr>
</tbody>
</table>
**Risk Categories**: Create, edit, and delete risk categories. Use these categories to classify risk types and to organize risks.

**Notebook Topics**: Create, edit, and delete notebook topics. Use notebook topics to organize related notes about an activity.

**Units of Measure**: Add, delete, and organize units of measure.

### Baseline Types (P6 Professional Only)

#### Create a baseline type

When P6 Professional is connected to a P6 EPPM database, you can use P6 to create baseline types that you can assign to baselines in any project. You can use baseline types to standardize baselines for all projects.

When P6 Professional is connected to a P6 Professional database, you can create baseline types that you can assign to baselines in any project. You can use baseline types to standardize baselines for all projects.

1. Choose Admin, Admin Categories.
2. Click the Baseline Types tab, then click Add.
3. Type the name of the new baseline type.

#### Edit a baseline type (P6 Professional Only)

1. Choose Admin, Admin Categories.
2. Click the Baseline Types tab.
3. Double-click the baseline type you want to change, then enter a new baseline type.

**Tip**

- To change the order in which baseline types are listed, select the baseline type you want to move, then click Shift Up or Shift Down.

**Note**

- If you change a baseline type, your change applies to all baseline assignments.

#### Delete a baseline type (P6 Professional Only)

1. Choose Admin, Admin Categories.
2. Click the Baseline Types tab.
3. Select the baseline type you want to delete, then click Delete.
4. Click Yes.
Expense Categories (P6 Professional Only)

Create expense categories (P6 Professional Only)
You can create expense categories that you can assign to expenses in any project. You can use these categories to organize and maintain your expense information.

1) Choose Admin, Admin Categories.
2) Click the Expense Categories tab, then click Add.
3) Type the name of the new expense category.

Rename expense categories (P6 Professional Only)

1) Choose Admin, Admin Categories.
2) Click the Expense Categories tab.
3) Double-click the category whose name you want to change, then type the expense category's new name.

Tip
- To change the order in which expense categories are listed, select the expense category you want to move, then click Shift Up or Shift Down.

Note
- If you change an expense category's name, your change applies to all expense item assignments.

Delete expense categories (P6 Professional Only)

1) Choose Admin, Admin Categories.
2) Click the Expense Categories tab.
3) Select the category you want to delete, then click Delete.
4) Click Yes.

WBS Category (P6 Professional Only)

Edit the WBS category (P6 Professional Only)
You can use a custom work breakdown structure (WBS) category to organize and maintain WBS information in all projects.

1) Choose Admin, Admin Categories.
2) Click the WBS Category tab, which displays the current name of the WBS category, for example Project Phase. Project phase is the default WBS category. (See the graphic below.)
3) In the WBS Category field, type the new WBS category name. (This name will appear in the associated tab on the left side of this dialog box.)

**Note**
- The category's current values and value assignments do not change when you change the WBS category.

### Create WBS category values (P6 Professional Only)
1) Choose Admin, Admin Categories.
2) Click the tab that displays the name of the current WBS category, then click Add.
3) Type the new value.
4) Use the Shift Up and Shift Down arrows to position the new value in the Category Value list.

### Assign WBS Category values (P6 Professional Only)
You can assign a WBS category value from the Work Breakdown Structure window.
1) Display a column for the WBS category, if it is not already displayed.

   Click the Display Options bar, choose Columns, and then choose Customize. In the Available Options section, under the General subsection, choose the WBS category. Click , then click OK.

2) In the WBS table, select the WBS element to which you want to assign a WBS category value, then double-click in the WBS category column.
3) Double-click the category value you want to assign.

### Change WBS category values (P6 Professional Only)
1) Choose Admin, Admin Categories.
2) Click the tab that displays the name of the current WBS category.
3) Double-click the value you want to change, then type the new value.

**Note**
- If you change a category value, your change applies to all WBS assignments.

### Delete WBS category values (P6 Professional Only)
1) Choose Admin, Admin Categories.
2) Click the tab that displays the name of the current WBS category.
3) Select the value you want to delete, then click Delete.
4) Click Yes.
### Document Categories (P6 Professional Only)

#### Create document categories (P6 Professional Only)
You can set up categories to assign to work products and documents.

1) Choose Admin, Admin Categories.
2) Click the Document Categories tab, then click Add.
3) Type the name of the new document category.

**Tip**
- To change the order in which document categories are listed, select the document category you want to move, then click Shift Up or Shift Down.

#### Rename document categories (P6 Professional Only)

1) Choose Admin, Admin Categories.
2) Click the Document Categories tab.
3) Double-click the category whose name you want to change, then type the document category’s new name.

**Tip**
- To change the order in which document categories are listed, select the document category you want to move, then click Shift Up or Shift Down.

**Note**
- If you change a document category’s name, your change applies to all document item assignments.

#### Delete document categories (P6 Professional Only)

1) Choose Admin, Admin Categories.
2) Click the Document Categories tab.
3) Select the category you want to delete, then click Delete.
4) Click Yes.

### Document Statuses (P6 Professional Only)

#### Create a document status (P6 Professional Only)
You can create status types that you can assign to documents in any project. A document's status helps you determine which documents are approved work products and documents, standards, and deliverables, and if they can be assigned to activities or work breakdown structure elements.

1) Choose Admin, Admin Categories.
2) Click the Document Status tab, then click Add.
3) Type the name of the new status.
Tip

- To change the order in which document statuses are listed, select the document status you want to move, then click Shift Up or Shift Down.

**Change document status names (P6 Professional Only)**

1) Choose Admin, Admin Categories.
2) Click the Document Status tab.
3) Double-click the status whose name you want to change, then type the new name.

Tip

- To change the order in which document statuses are listed, select the document status you want to move, then click Shift Up or Shift Down.

**Note**

- If you change the name of a document status, your change applies to all document assignments.

**Delete a document status (P6 Professional Only)**

1) Choose Admin, Admin Categories.
2) Click the Document Status tab.
3) Select the status you want to delete, then click Delete.
4) Click Yes.

**Risk Categories (P6 Professional Only)**

**Create risk categories (P6 Professional Only)**

You can create hierarchical risk categories of possible risks that you can assign to risks. Risk categories are a classification of risk types customized to your specific project or business that are used to categorize and organize risks. Categorizing risks enables you to analyze the types of risks occurring and see trends within the project or across multiple projects.

1) Choose Admin, Admin Categories.
2) Click the Risk Categories tab, then click Add.
3) Type the name of the new risk category.

Tip

- To change the hierarchical order in which risk categories are listed, select the risk category you want to move, then click Shift up, Shift down, Shift Right, or Shift Left, as applicable.

**Edit risk categories (P6 Professional Only)**

1) Choose Admin, Admin Categories.
2) Click the Risk Categories tab.
3) Double-click the category you want to change, then enter the new risk category name.
Tip
- To change the hierarchical order in which risk categories are listed, select the risk category you want to move, then click Shift up, Shift down, Shift Right, or Shift Left, as applicable.

Note
- If you change a risk category, your change applies to all risk assignments.

Delete risk categories (P6 Professional Only)
1) Choose Admin, Admin Categories.
2) Click the Risk Categories tab.
3) Select the risk category you want to delete, then click Delete.
4) Click Yes.

Note: Deleting a risk category deletes all children and their assignments.

Notebook Topics (P6 Professional Only)

Create notebooks (P6 Professional Only)
Use notebooks to set up general categories for activity, project, EPS, and WBS notes. You can assign notebooks in any project.
1) Choose Admin, Admin Categories.
2) Click the Notebook Topics tab, then click Add.
3) Type the name of the new notebook.
4) Mark the checkbox in the appropriate column to make the new notebook available in EPS, Project, WBS, or Activity views.

Tip
- To change the order in which notebook topics are listed, select the notebook topic you want to move, then click Shift Up or Shift Down.

Change notebook names (P6 Professional Only)
1) Choose Admin, Admin Categories.
2) Click the Notebook Topics tab.
3) Double-click the notebook whose name you want to change, then enter the notebook’s new name.

Tip
- To change the order in which notebook topics are listed, select the notebook topic you want to move, then click Shift Up or Shift Down.

Note
- If you change a notebook’s name, your change applies to all assignments.
Delete notebooks (P6 Professional Only)
1) Choose Admin, Admin Categories.
2) Click the Notebook Topics tab.
3) Select the notebook topic you want to delete, then click Delete.
4) Click Yes.

Units of Measure (P6 Professional Only)

Define the units of measure for material resources (P6 Professional Only)
A unit of measure describes the quantity of a particular resource. Labor resources are often measured in units of time, such as hours or days; materials can be measured in cubic or linear feet, or perhaps in tons or kilos; items used one-by-one can be measured individually (EA) or as shipped: a box, a case, a pallet. Money is generally measured in monetary units, such as dollars, Euros, or yen.

1) Choose Admin, Admin Categories.
2) In the Units of Measure tab, click Add.
3) In the Unit Abbreviation column, type the abbreviation to use as the label for the new unit of measure.
4) In the Unit Name column, type the name of the new unit of measure.

Delete Units of Measure (P6 Professional Only)
You can delete any available unit of measure.
1) Choose Admin, Admin Categories.
2) Select the Units of Measure tab, then select a Unit Abbreviation or Unit Name.
3) Click Delete.

Note
- If the units of measure you attempt to delete is in use, a message will prompt you that the unit of measure is still in use. Click Yes to continue deleting. The unit of measure is deleted from the resource, but the resource remains.

Defining Currencies (P6 Professional Only)

Currencies (P6 Professional Only)
You can specify the monetary unit or base currency used to store costs for all projects in the database, as well as the monetary unit or view currency used to display costs in windows and dialog boxes.

The exchange rate for the base currency is always 1.0. If you select a different currency than the base currency to view costs, the base currency value is multiplied times the current exchange rate for the view currency to calculate the values displayed in cost fields.
For example, if the base currency is U.S. Dollars, the view currency is Euros, and the exchange rate is €0.75 = $1, a value of $10 stored in the database is displayed as €7.5 in cost fields in windows and dialog boxes. Similarly, if you enter €7.5 in a cost field, it is stored in the database as $10.

Notes

- Only a user with Admin Superuser privileges can change the base currency and define additional view currency types.
- When you enter values in cost fields, they are always displayed in the view currency.
- If you are upgrading from a previous version, you should set up the base currency in the new version before you start adding and changing projects.

Add a view currency (P6 Professional Only)

1) Choose Admin, Currencies.
2) Click Add.
3) Click the General tab, then type an ID that clearly identifies the currency type.
4) Type the currency’s name.
5) Enter the symbol used to identify the currency.
6) Enter the global exchange rate for the currency.
7) Click the Appearance tab, then select the symbol used to separate whole values from decimal values in the currency display, for example, 500.5 or 500,5.
8) Select the symbol used to separate groups of digits in the currency display, for example, 300,000 or 300-000.
9) Select the number of decimal places to display in currency values, for example, none (70), one (70.1), or two (70.14).
10) Select the format used to display positive and negative currency values.

Define a base currency (P6 Professional Only)

The base currency, by default, is U.S. dollars.

1) Choose Admin, Currencies.
2) Select the current base currency, then click the General tab.
3) Type the new ID, name, and symbol over the existing values, to define the new base currency.
4) Click the Appearance tab.
5) Select the symbol used to separate whole values from decimal values in the currency display, for example, 500.5 or 500,5.
6) Select the symbol used to separate groups of digits in the currency display, for example, 300,000 or 300-000.
7) Select the number of decimal places to display in currency values, for example, none (70), one (70.1), or two (70.14).
8) Select the format used to display positive and negative currency values.
Tip

- If you want to view costs in the old base currency, you will need to add it back to the list of available currencies.

Note

- The Base checkbox indicates which currency is used to store cost data. You cannot mark or clear this checkbox.

Setting User Preferences

Define user preferences

1) Choose Edit, User Preferences.
2) Click the Time Units tab and define how to display time information.
3) Click the Dates tab and specify a format for dates.
4) Click the Currency tab and select a view currency. Also, specify how to format currency data.
5) Click the E-mail tab and enter your e-mail settings.
6) Click the Assistance tab and specify which wizards to use.
7) Click the Application tab and set your startup options. You can also select how you want labels on grouping bands to display and define the range of financial periods that are available for display as columns. In addition, you can set the time interval that P6 Professional polls the database for job alerts, which are created every time a job you submit completes or fails.
8) Click the Password tab and modify your password.

If P6 Professional is running in LDAP authentication mode, password management is handled through the directory server. You cannot change your password through the module and the Password tab does not appear in the User Preferences dialog box.

9) Click the Resource Analysis tab. Define the parameters for viewing all project data in the Resource Usage profile and how to display and calculate time-distributed data.
10) Click the Calculations tab and choose how you want the units, duration, and units/time calculated when adding or removing multiple resource assignments on activities. You can also choose to always use a resource's or role's units/time, overtime factor, and price/unit when a resource and role share an assignment on the same activity.
11) For Oracle or SQL Server installations, click the Startup Filters tab and choose to display current project data or all data in the enterprise. You can also choose whether resource summary data will load at startup.

Tip:

- See Future period bucket planning FAQ for information on how user preference settings affect your planning if you manually plan future period resource allocation in the Resource Usage Spreadsheet.
Define how to display time information

You can specify how to display time information, such as time units, activity durations, resource rates, and resource availability.

1) Choose Edit, User Preferences.
2) Click the Time Units tab.
3) In the Units Format section, select the unit of time you want to display for work efforts, and resource prices and availability.
4) Mark the Sub-unit checkbox to display sub-units in the next smaller time increment.
5) Select the number of decimal places to display for time unit values.
6) Mark the Show Unit Label checkbox to display the time unit abbreviation with the time value.
7) Type an example of the time unit.
8) In the Durations Format section, select the unit of time you want to display for activity duration values.
9) Mark the Sub-unit checkbox to display sub-units in the next smaller time increment.
10) Select the number of decimal places to display for activity duration values.
11) Mark the Show Duration Label checkbox to display the time unit abbreviation with the duration value.
12) Type an example of the duration value.
13) Choose how to display resource units per time, either as a percentage or as units per duration.

Tip
   - If you manually plan future period resource/role allocation in the Resource Usage Spreadsheet, you should set the Units Format and Durations Format according to the time periods in which you plan your work. For example, if you plan future work in daily time periods, you should set the Units Format to Hour and the Durations Format to Day. Similarly, if you plan future work in weekly time periods, you should set the Units Format to Hour or Day, and the Durations Format to Week.

Specify a format for dates

1) Choose Edit, User Preferences.
2) Click the Dates tab.
3) In the Date Format section, select the order in which you want all dates to appear.
4) In the Time section, specify how or whether you want to display time.
5) In the Options section, select the date formatting options you want to apply.

Specify a format for currency

1) Choose Edit, User Preferences.
2) Click the Currency tab.
3) Mark the Show Currency Symbol checkbox to display the currency symbol before currency values.
4) Mark the Show Decimal Digits checkbox to display decimals for currency values.

**Select a view currency**

1) Choose Edit, User Preferences.
2) Click the Currency tab.
3) Select the currency in which to view cost data.
4) Indicate whether to show the currency symbol and decimal digits for the selected currency.

**Enter e-mail settings**

You can access your e-mail account to send e-mail messages.

1) Choose Edit, User Preferences.
2) Click the E-Mail tab.
3) Select the mail protocol for your e-mail system.
4) Type the profile name, login, or username you use to access your e-mail server.
5) Click Password, then type your password for the e-mail server.
6) Type the SMTP server name or address to use to send outgoing e-mail.
7) Type the e-mail address to which you want your return e-mail sent.

If you do not enter a return e-mail address, all e-mail is returned to the address you used to send the e-mail.

**Set wizard options**

You can specify whether you want wizards to help you add activities and resources.

1) Choose Edit, User Preferences.
2) Click the Assistance tab.
3) To use the New Resource wizard, mark the Use New Resource Wizard checkbox.
4) To use the New Activity wizard, mark the Use New Activity Wizard checkbox.

**Change my password**

1) Choose Edit, User Preferences.
2) Click the Password tab.
3) Click Password.
4) Type a new password.
5) Type the password again to verify it.
6) Click OK.

**Notes**

When connected to a P6 Professional database:
If the Enable password policy setting is selected in the Password Policy field of the Admin Preferences dialog box, you must enter a password that is between 8 and 20 characters and contains at least one number and one letter.

If the Enable password policy setting is not selected, enter a password between 1 and 20 characters long.

**When connected to a P6 EPPM database:**

- When the Password Policy is disabled in Application Settings in P6, the password must be between 1 and 20 characters. P6 does not allow blank passwords.
- When the Password Policy is enabled in Application Settings in P6, the password must be between 8 and 20 characters and contain at least one number and one letter.
- If P6 Professional is running in LDAP authentication mode, password management is handled through the directory server. You cannot change your password through the module and the Password tab does not appear in the User Preferences dialog box.
- Passwords are case-sensitive.
- Passwords that were set before the new password policy was enabled are valid and usable.
- Passwords are required.

### Set startup options

You can specify the window you want to display each time you start the application.

1) Choose Edit, User Preferences.
2) Click the Application tab.
3) In the Startup Window section, select the window to display each time you start the module.
4) Mark the Show the Issue Navigator Dialog at Startup checkbox to view the Issue Navigator each time you open the module.
5) Mark the Show the Welcome Dialog at Startup checkbox to view the Welcome dialog box each time you open the module.

### Create a log of tasks

You can record internal function calls, or the actions you perform, in an ERRORS.LOG file. This file is created in the user's My Documents folder.

1) Choose Edit, User Preferences.
2) Click the Application tab.
3) In the Application Log File section, mark the Write Trace of Internal Functions to Log File checkbox.

**Note**

- You should use this option only when investigating an application error with the assistance of Oracle Customer Support staff.
Define the range of financial periods to display in columns

If your organization stores past period actuals in financial periods, you must define the range of financial periods you want to display when you choose to display financial period columns (for example, in the Activity Table). For example, if your organization stores past period actuals in weekly financial periods and financial periods have been defined for the previous year and the next year, you can choose to display a subset of these weekly financial periods as columns to facilitate easier viewing of past period actual data.

To define the range of financial periods:

1) Choose Edit, User Preferences.
2) Select the Application tab.
3) In the Columns section, click to select the financial periods that represent the first and last financial period in the range of financial periods you want to display as columns.
4) Click Close.

Note:
- If you do not select a range of financial periods to display, no financial period columns will be available for display.

Set resource analysis options

1) Choose Edit, User Preferences.
2) Click the Resource Analysis tab.
3) In the All Projects section, specify the extent of information you want to gather from closed projects when calculating remaining units and costs for spreadsheet, profiles, and tracking layouts. (Closed projects are any projects in the enterprise project structure (EPS) that are not currently open.)
4) To include live data from all open projects and stored summary data from all closed projects (excluding those with a what-if status), choose All Closed Projects (Except What-If Projects).
5) To include live data from all open projects and stored summary data from all closed projects with a specific leveling priority, choose Closed All Projects with Leveling Priority Equal/Higher Than, then specify the leveling priority you want to use. (Specify the leveling priority per project in the General tab of the Projects window.) This value is used to consider applicable external projects’ (those not included in the current layout) when deducting from resource availability immediately during leveling.
6) Choose Open Projects Only to exclude resource data from external (closed) projects in the remaining units and cost values for resource profiles/spreadsheets and tracking layouts.
7) In the Time-Distributed Data section, choose a starting point for calculating remaining units and costs for resource profiles and spreadsheet displays and in tracking layouts.
8) To focus on the current remaining estimate, choose Remaining Early Dates.
9) To focus on values calculated from a forecast date, choose Forecast Dates.
10) Select the interval at which live resource and cost calculations are performed for resource profiles and spreadsheets and in tracking layouts—hour, day, week, or month. Profiles, spreadsheets, and layouts are affected only if their timescale interval is set lower than the interval set in the Interval for Time-Distributed Resource Calculations field.

11) Choose to display role limits based on custom role limits defined in the Roles dictionary or the calculated limit of each role's primary resource. You can view role limits in spreadsheets, charts, and histograms that display role data in P6 Professional.

Tip

- If you manually plan future period resource/role allocation in the Resource Usage Spreadsheet, your selections in the Time-Distributed Data section may affect your planning.

How? If you choose to display time-distributed Remaining Early units and costs according to forecast dates rather than remaining early dates, you cannot enter or edit values in the Remaining Units field in the Resource Usage Spreadsheet.

Additionally, if the displayed timescale intervals in the Resource Usage Spreadsheet are smaller than the minimum timescale interval used for time-distributed resource calculations, you cannot enter or edit future period values in the Resource Usage Spreadsheet. For example, if this option is set to Week, you can only enter or edit data in weekly, monthly, quarterly, yearly, or financial period future period buckets.

Select Startup Filters

1) Choose Edit, User Preferences.
2) Click the Startup Filters tab.
3) Select the appropriate option for each data element listed. You can choose to view data for your current projects only or all data in the enterprise.

Note:

- Startup filters are available for Oracle and SQL Server installations. Startup filters are disabled for stand-alone installations.

Select calculation options for resource and role assignments

1) Choose Edit, User Preferences.
2) Click the Calculations tab.
3) In the Resource Assignments section, specify how to calculate remaining values when new resource assignments are added to or removed from activities.
   - Choose Preserve the Units, Duration, and Units/Time for existing assignments if you want units, durations, and units/time to remain constant when additional resources are assigned to an activity.
   - Choose Recalculate the Units, Duration, and Units/Time for existing assignments based on the activity Duration Type if you want to calculate a resource assignment's remaining values based on the activity's duration type specified in the Activity Details General tab.
4) In the Assignment Staffing section, specify how you want the module to calculate costs for an assignment when you replace a resource on an existing activity assignment or when you assign both a resource and a role to the same activity assignment.

When replacing a resource on an existing activity assignment, choose to always use the units/time and overtime factor of the current assignment or of the new resource replacing the existing assignment; or, choose to be prompted to select which units/time and overtime factor you want to use each time you replace a resource on an existing activity assignment.

When assigning a resource to an existing role assignment or when assigning a role to an existing resource assignment, choose to always use the price/unit of the resource or role; or, choose to be prompted to select which price/unit you want to use each time you assign a resource and a role to an activity assignment.

Tip
- If you manually plan future period resource allocation in the Resource Usage Spreadsheet, your selections on the Calculations tab can affect the values you manually enter in future periods for an assignment.

Notes
- For Fixed Duration and Units activities P6 Professional will not recalculate the actual units for existing resource assignments if they have negative units/time, units, or cost values.
- If you choose to always use the role's price/unit, the Rate Source is set to Role in the Activity Details, Resources tab. If you choose to always use the resource's price/unit, the Rate Source is set to Resource. The price/unit value used to calculate costs for the assignment is determined by the rate type you select in the Rate Type field (rate types are resource- and role-specific).
Troubleshooting Importing Projects from P3 to P6 Professional (P6 Professional Only)

Use this section to troubleshoot importing P3 projects if you have experienced the following:

- You cannot import P3 projects due to the option being grayed out.
- The option was not grayed out, but you received any of the following error messages:
  - Event Code ICSPI-1034-6 Invalid class string, ProgID: "p3session32" when trying to Import a P3 Project into P6 Professional.
  - COM exception caught. Value = 0 when trying to Import multiple P3 Projects into P6 Professional.
  - Typing REGSVR32 RA32.DLL from the windows command prompt returns "LoadLibrary(ra32.dll) failed- cannot find desired module when P3 or SureTrak are not installed on the workstation.

In This Section

What Causes the P3 Import Option to Be Grayed Out or Send an Error Message? (P6 Professional Only)

Importing Projects from P3 if You Own a Licensed Copy of P3 or SureTrak (P6 Professional Only)

Message when Starting Import or Export (P6 Professional Only)

What Causes the P3 Import Option to Be Grayed Out or Send an Error Message? (P6 Professional Only)

This issue can occur when any of the following conditions exist:

- The workstation which has P6 Professional installed does not have P3 or SureTrak installed.

Notes:

- The P6 Professional installer no longer includes the BTRIEVE database engine files necessary to import P3 file format. These files were removed from the P6 Professional installer due to licensing issues with BTRIEVE software.
- Prior to Project Management version 6.2, users could Import/Export P3 data without having P3 or SureTrak installed on the machine; however, with Project Management version 6.2 and later releases, P3 Import/Export functions are disabled unless P3 or SureTrak is installed on the same computer.
The workstation did not have P3 or SureTrak installed, but P3 or SureTrak was installed after P6 Professional was installed.

The workstation is using a 64-bit operating system and selected the 64-bit platform option during installation.

**Importing Projects from P3 if You Own a Licensed Copy of P3 or SureTrak (P6 Professional Only)**

If you never installed P3 on the workstation hosting the P6 Professional application and you own a licensed copy of P3 or SureTrak:

1) Install P3 or SureTrak on the same machine as P6 Professional.
2) Enable the option to import P3 files using one of the following options:
   - Option 1: Install P3 or SureTrak.
   - Option 2: Uninstall P6 Professional. Reinstall P3 or SureTrak first, then install P6 Professional again (in the listed order).
3) If you choose not to install the entire P3 or SureTrak product, install only the BTRIEVE database engine files. Copy the following files from your P3 installation disk to your "\Windows\System32" Directory. The files are located on P3 install CD \Btrieve\win32 dir:
   - W32MKDE.EXE
   - W32MKRC.DLL
   - WBTRV32.DLL
4) (Optional) For the MicroKernel Setup utility that is used to modify registry settings for the BTRIEVE engine, copy the following files from your P3 installation disk to your "\Windows\System32" Directory. The files are located on P3 install CD \Btrieve\Win32\Tools dir:
   - W32MKSET.DLL
   - W32MKSET.EXE
   - W32MKSET.HLP

**Message when Starting Import or Export (P6 Professional Only)**

You may see the following message when starting import or export using P6 Professional:

PM.exe - Unable To Locate Component
This application has failed to start because wbtrv32.dll was not found.
Re-installing the application may fix this problem.

If you see this message click OK to ignore it, when the import or export dialog appears, proceed with the import or export process.

**Note:**
- You may have to click OK several times to dismiss the error.
- This message can appear when there are multiple versions of P6 Professional installed.
Overview of Terminal Services and Citrix

P6 Professional fully supports Microsoft Windows 2008 SP2 Terminal Services along with Citrix XenApp (Citrix), check the tested configurations for supported versions.

Running P6 Professional under Windows Terminal Services, published through Citrix is recommended in the following cases:

- P6 Professional users running thru a WAN connection are having performance issues whereas users on the local LAN are achieving acceptable performance.
- The connect speed between the desktop client and database server is a T1/T3 WAN link or slower with 50 Milliseconds or more of Latency.
- You have sensitive project data that you want to secure thru an SSL connection (Citrix supports SSL/High RCA encryption technologies).
- You do not want to upgrade the hardware of all your desktop clients or maintain remote client configurations, but would rather centralize your users for easier administration.

Windows Terminal Server with Citrix provides users with the ability to run P6 Professional over slower asynchronous dial up or WAN connection from Windows, UNIX and Mac terminals and get better performance since only screen refreshes and key strokes are sent across the communication line. Windows Terminal Server 2008 without Citrix can also be used to run P6 Professional but other considerations need to be taken into account.

The Citrix add-on enhances Terminal Server by adding the ICA protocol which supports IPX/SPX, NetBIOS as well as TCP/IP protocols. Using Citrix adds support for UNIX, Linux, and Macintosh, as well as Microsoft clients. Also, Citrix automatically configures client’s as they connect and has the ability to auto-configure local printers.

In This Section

Pre-Installation Considerations
Installing P6 Professional on Terminal Services
Setting PM.ini to Terminate a Current Session

Pre-Installation Considerations

Considerations:

- You need a knowledge of Windows 2008 Terminal Services and Citrix
- You need the Local Administrator account for software installation and Citrix publishing
It is recommended that a shared drive be used on the LAN local to the terminal services server for project imports and exports due to WAN performance considerations.

It is recommended that the users' home directories reside on the same LAN as the Terminal Server/Citrix server due to potential performance issues across various functions in P6 Professional

**P6 Professional User requirements:**

To run on Windows Terminal Services published through Citrix,

- Each P6 Professional user must use a unique Windows account
- Each P6 Professional user must use a unique account in P6 Professional.

**Home Directories**

**Windows 2008 Terminal Server Home Directories (Local Profiles)**

Windows 2008 Terminal Services creates local directories (on the Terminal Server) for each client in \C:\Users\ (default). In most cases, you will use these default Home directories when storing P6 Professional user specific files under the manually created Windows Folder.

For example, \C:\Users\Default User\Windows\PM.INI

You can also configure each Terminal Services user to use a different location for the Home directory – either on the Local Terminal Server or on shared network drive. Do this under:

*Local Group Policy Editor /Computer Configuration/Administrative Templates/Windows Components/Terminal Services/Terminal Server/Profiles*

Each local account on the Windows 2008 Terminal Server could have a common letter drive mapped to their own unique folder.

**Windows Domain Accounts Home Directories (Roaming Profiles)**

Terminal Server/Citrix ICA clients can connect to the Terminal Server/Citrix server using a domain account. For Windows 2008 Active Directory domains, home directories can be configured at the Active Directory Data Store/Global Catalog using the "Active Directory Users and Computers" console.

The domain account's profile can be configured to map a letter drive to a network share and folder upon login. The same result can be accomplished using login scripts for each domain user. The common letter drive should be applied for all users to map to a unique folder for each domain account. For example:

- When User1 logs in, his Terminal Server/Citrix ICA Client shows the P:\ drive mapped to \SERVER\Share\user1
- When User2 logs in, Terminal Server/Citrix ICA Client shows the P:\ drive mapped to \SERVER\Share\user2.
- Provided that each client sees their own unique location when logging into the Terminal Server/Citrix ICA Client, any available drive letter can be used.

For more information on assigning letter drives via user profiles or login scripts please refer to Microsoft documentation for Windows 2008 Server at [http://www.microsoft.com/](http://www.microsoft.com/).
Installing P6 Professional on Terminal Services

To install P6 Professional, the Administrator or an account in the local Administrators group must log into the Terminal Server.

Prerequisites

Install Oracle or SQL Server Client drivers as appropriate on the Windows Terminal Servers as described in their respective docs.

If using an Oracle database platform, confirm the *Create Global Objects* Windows Security Policy is setup on the Terminal Servers and add the domain Users or Groups of the end-users who will be accessing the published application. If the local security policy is not setup, the following steps can be used to add the policy:

1) Click *Start, Programs, Administrative Tools*, and then click *Local Security Policy*.
2) Expand Local Policies, and then click *User Rights Assignments*.
3) In the right pane, double-click *Create Global Objects*.
4) In the Local Security Policy Setting dialog box, click *Add*.
5) In the Select Users or Group dialog box, select the user group that these end-users are a part of, click *Add*, and then click *OK*.
6) Click *OK*.

If using an Oracle database platform, the Oracle client software also requires that you give the *Authenticated User Group, Read and Execute* privilege to the Oracle Home Directory and ALL its subdirectories and files on the Terminal Servers.

Installation Steps:

1) Run the P6 Professional setup.

   **Note:** Terminal Services Automatically runs setup in Terminal Services install mode.

2) Install P6 Professional.
3) When setup completes, click the Finish dialog to the Terminal Services install mode.
4) Copy PM.INI into each user’s respective \home\user_name\windows\ directory.
   The default PM.INI location is:
   %ProgramData%\Oracle\Primavera P6\P6 Professional

   **Note:** On 64 bit operating systems the path is Program files (x86). Be sure to Display Hidden files in this directory, since Default user may be hidden.

5) Rename the above mentioned .INI file from PM.INI to PMINI.OLD on the terminal service server, otherwise each user’s unique*.INI file will be ignored.
6) After configuring database connections as described in the installation documentation, deploy PrmBootStrapV2.xml to the ALLUsers appdata folder from the admin user’s appdata folder, so that users who launch P6 for the first time will inherit the PrmBootStrap.xml file with existing database configurations. Change DeploymentVersion in the header of PrmBootStrap.xml file to force a new deployment of PrmBootStrap.xml.
**Note**: Force a new deployment of the PrmBootstrapV2.xml file to users who have an existing PrmBootstrapV2.xml by incrementing the deployment version one number higher in the PrmBootstrap.xml which exists in the ALLUSERS profile. Never change MajorVersion or MinorVersion. If the deployment version is not incremented and a user already has a PrmBootstrap.xml file in their local profile, it will use the existing file rather than deploy a new copy from the ALLUSERS profile. Example incrementing the deployment version from 0 to 1:

```xml
<BootStrap MajorVersion="8" MinorVersion="2" PatchVersion="0"
DeploymentVersion="1"
Default PRMBootStrapV2.xml location:
\%ALLUSERSPROFILE%\Oracle\Primavera P6\P6 Professional
```

7) Test the application by logging up to 2 users into the Terminal Server. If errors occur, contact Oracle Support for assistance.

**Note**: The Citrix Administrator Application can also publish the application through Citrix.

---

**Setting PM.ini to Terminate a Current Session**

If you are running P6 Professional using Citrix or in a cluster of Windows Terminal servers, you may need to set the session to terminate on the database engine. In that case, complete the following steps to update the PM.ini file in the Citrix Home Directory or the Windows directory in the terminal Server user profile:

1) Open PM.ini in a text editor.
2) Add the following setting to the PM.ini file under the **Database** section:

```
DeleteCurrentUserSessions=TRUE
```

**Note**: You must enter the "TRUE" value in all uppercase letters.

If any sessions are active when the setting is added to the PM.ini file, the user receives the following message:

"[User] already logged in at a terminal [machine] under Windows login account [windows login] Do you want to clear this user?"

3) Select **Yes** to continue.
Using Oracle Secure Global Desktop

You can use Oracle Secure Global Desktop to publish P6 Professional and P6 Professional to remote users.

Check the tested configurations for supported versions of Oracle Secure Global Desktop.


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Setting PM.ini to Terminate a Current Session

If you are running P6 Professional using Citrix or in a cluster of Windows Terminal servers, you may need to set the session to terminate on the database engine. In that case, complete the following steps to update the PM.ini file in the Citrix Home Directory or the Windows directory in the terminal Server user profile:

1) Open PM.ini in a text editor.
2) Add the following setting to the PM.ini file under the Database section:
   DeleteCurrentUserSessions=TRUE

   **Note**: You must enter the "TRUE" value in all uppercase letters.

   If any sessions are active when the setting is added to the PM.ini file, the user receives the following message:
   
   "[User] already logged in at a terminal [machine] under Windows login account [windows login] Do you want to clear this user?"

3) Select **Yes** to continue.
For More Information

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Where to Get Support ............................................................................. 181

Where to Get Documentation

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


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 Professional 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 lists the core documents available for the release, and identifies recommended readers by role. P6 Professional roles are described in the P6 Professional Administrator’s Guide. Other, more technical documents are available on the media pack and OTN site, but are not listed below.

<table>
<thead>
<tr>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>What’s New in P6 Professional</td>
<td>Highlights the new and enhanced features included in this release. You can also use the P6 Professional Cumulative Feature Overview Tool to identify the features that have been added since a specific release level. All users should read this guide.</td>
</tr>
<tr>
<td>P6 Professional Administrator’s Guide</td>
<td>☢ Explains how to set up the P6 Professional database, servers, and components; it also provides an overview of all the components in the P6 Professional solution. The guide describes the procedures required to administer P6 Professional, including setting up security and configuring global preferences. The P6 Professional network administrator/database</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
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<tr>
<td>--------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Tested Configurations</strong></td>
<td>Lists the configurations that have been tested and verified to work with P6 Professional. The network administrator/database administrator and P6 Professional administrator should read this document.</td>
</tr>
<tr>
<td><strong>P6 Professional Standalone Installation and Configuration Guide</strong></td>
<td>Explains how to install and configure P6 Professional as a standalone application. All administrators should read this guide.</td>
</tr>
<tr>
<td><strong>P6 Professional Help</strong></td>
<td>Explains how to use P6 Professional to plan, set up, and manage projects in a multiuser environment. If you are new to P6 Professional, use this Help to learn how to use the software effectively to plan and manage projects. The P6 Professional administrator, program manager, project manager, resource/cost manager, and team leader should read this Help.</td>
</tr>
<tr>
<td><strong>P6 Professional User's Guide</strong></td>
<td>Explains how to plan, set up, and manage projects in a multiuser environment. If you are new to P6 Professional, 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 Professional Help. The program manager, project manager, resource/cost manager, and team leader should read this guide.</td>
</tr>
<tr>
<td><strong>P6 Visualizer Help</strong></td>
<td>Describes how to create, modify, and manage Timescaled Logic Diagrams and Gantt charts. All users should read this Help.</td>
</tr>
</tbody>
</table>
P6 Professional SDK Help

Expects how to use the P6 Professional SDK to connect to the P6 Professional database. Describes the tables, fields, and stored procedures that you can access through the P6 Professional SDK. Provides examples that show how you can use the P6 Professional SDK to perform several basic tasks, such as creating a new project or assigning a resource to a project activity.

To open the help file, double-click the p6_pro_sdk.chm file, which is available in local drive\Program Files\Oracle\Primavera P6 Professional\PMSDK\Doc\ by default.

The P6 Professional network administrator/database administrator should read this documentation.

P3 to P6 Professional Migration Guide

This guide provides best practices for migrating your P3 data to P6 Professional, and details how P3 functionality maps to P6 Professional functionality.

All administrators should read this guide if your organization is moving from P3 to P6.

Distributing Information to the Team

You can copy the online documentation to a network drive for access by project participants. Each team member can then view or print those portions that specifically relate to his or her role 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

To get the latest information about Critical Patch Updates, visit

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/us/corporate/accessibility/support/index.html.

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

Oracle Primavera P6 Professional Administrator’s Guide for Oracle Database

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