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PRIMAVERA

**P6 EPPM Administrator's Guide for an Oracle Database
Release 8.1**

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Oracle Primavera P6 EPPM Administrator's Guide for an Oracle Database

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Preface

Oracle provides comprehensive, multiproject planning and control software, built on Oracle and Microsoft® SQL Server databases for organization-wide project management scalability. The P6 EPPM solution includes P6, which provides comprehensive project and resource management, project analysis across the organization, and allows users to access project management data via the Internet; P6 Progress Reporter, which enables Web-based team communication and time keeping; and P6 Optional Client, which provides a client/server connection for P6 EPPM planning- and scheduling-focused users.

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Where to Get Documentation

For the most up-to-date versions of all manuals and technical documents related to installing, administering, and using P6 EPPM, go to:

http://download.oracle.com/docs/cd/E20686_01/index.htm

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

You can also access the versions of the product manuals and technical documents that were available at the time of the release from the P6 EPPM Documentation Center, located in the \Documentation\Documentation_library\<language> folder of the P6 EPPM physical media or download.

The following table describes the core documents available for P6 EPPM and lists the recommended readers by role. P6 EPPM roles are described in the *P6 EPPM Administrator's Guide*.

Title	Description
<i>P6 EPPM Administrator's Guide</i>	Explains how to set up the P6 EPPM database, servers, and modules; it also provides an overview of all the modules in the P6 EPPM solution. The guide describes the procedures required to administer P6 EPPM, including setting up security and configuring global preferences. The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.

Title	Description
<i>Tested Configurations</i>	Lists the configurations that have been tested and verified to work with P6 EPPM. The network administrator/database administrator and P6 EPPM administrator should read this document.
<i>P6 EPPM User's Guide</i>	This guide explains how to plan, set up, and manage projects in a multiuser environment. If you are new to P6 EPPM, start with this guide to learn how to use the software effectively to plan and manage projects. When you need more detail, refer to the P6 Help. The program manager, project manager, resource/cost manager, and team leader should read this guide.
<i>P6 Data Dictionary</i>	This data dictionary defines fields used in P6.
<i>P6 Team Member for iPhone App User's Guide</i>	This guide explains how to update status using the P6 Team Member for iPhone app.
<i>P6 Optional Client Help</i>	Explains how to use P6 Optional Client to plan, set up, and manage projects in a multiuser environment. If you are new to P6 Optional Client, use this Help to learn how to use the software effectively to plan and manage projects. The P6 Optional Client administrator, program manager, project manager, resource/cost manager, and team leader should read this Help.
<i>P6 Help</i>	Describes how to create, manage, plan, and schedule projects, group projects into portfolios, administer all enterprise data, application settings, user accounts, and security profiles, maintain both the organizational breakdown structure (OBS) and enterprise project structure (EPS), manage resources and roles, track risks, issues, and notebooks, create and reuse templates, evaluate budgets, analyze performance and ROI for project portfolios, participate in workflows and document reviews, approve timesheets, and generate reports. The operations executive, P6 EPPM and P6 administrator, program manager, project manager, resource/cost manager, and team leader should read this Help.
<i>P6 Progress Reporter Administrator Help</i>	Describes how to enter database connection information for the P6 Progress Reporter server and modify P6 Progress Reporter server and application settings. The P6 EPPM network administrator/database administrator should read this Help.
<i>P6 Progress Reporter Help</i>	Describes how to use P6 Progress Reporter to enter and update time spent on assignments. Team members should read this Help.

Title	Description
<i>Primavera Timescaled Logic Diagram Help</i>	Describes how to create, modify, and manage Timescaled Logic Diagrams. Timescaled Logic Diagrams condense the project schedule displayed in the Gantt Chart into a more readable, easier to understand format that provides a snapshot of the entire project plan and the chains of activities that drive the project schedule. The Timescaled Logic Diagram application can be used only with P6 Optional Client.
<i>P6 Integration API Administrator's Guide</i>	Explains how to install and configure the P6 Integration API, which allows direct access to P6 EPPM via Java. Those creating client code in Java and needing direct access to the P6 EPPM database should read this guide.
<i>P6 EPPM Web Services Administrator's Guide, P6 EPPM Web Services Programmer's Guide, and P6 EPPM Web Services Reference Manual</i>	Explains how to install and configure P6 EPPM Web Services, which enables organizations to seamlessly integrate P6 EPPM functionality into other applications using web services standards. The <i>P6 EPPM Web Services Programmer's Guide</i> , available as an HTML help system, describes how to invoke, use, and troubleshoot the available services/operations within supported environments. The <i>P6 EPPM Web Services Reference Manual</i> , also available as an HTML help system, describes all services and operations available in P6 EPPM Web Services in a comprehensive manner.
<i>P6 SDK Web-based documentation</i>	Describes how to use the P6 SDK to connect to the P6 EPPM database. The tables, fields, and stored procedures that you can access through the P6 SDK are described. Examples are also provided to show how you can use the P6 SDK to perform several basic tasks, such as creating a new project or assigning a resource to a project activity. The P6 EPPM network administrator/database administrator and P6 administrator should read this documentation, which is available in <i>local drive</i> \Program Files\Oracle\Primavera P6\P6 Optional Client\PMSDK\Doc\ by default. Double-click the INDEX.HTML file to open the Table of Contents.
<i>P3 to P6 EPPM Migration Guide</i>	This guide provides best practices for migrating your P3 data to P6 EPPM, and details how P3 functionality maps to P6 EPPM functionality.
<i>P6 Reporting Database Administrator's Guide</i>	This document explains how to install and configure the P6 Reporting Database application, and generate the ODS and Star database. It describes how to install and configure the Oracle Gateway if the P6 Reporting Database is installed on a Microsoft SQL Server. It also provides information about how to run the Configuration Utility.

Title	Description
<i>P6 Reporting Database User's Guide</i>	Provides information about using ODS and Star with the P6 EPPM database to extract data that you can use to create reports.
<i>P6 Analytics Administrator's Guide</i>	This guide is a step-by-step guide to installing and configuring P6 Analytics. This guide provides information about P6 Analytics administrative tasks. It also includes information for Star security configuration, OBI installation and configuration, Financial Periods installation and configuration, and for configuring the Secure Sockets layer.
<i>P6 Analytics User's Guide</i>	This guide explains how to use Star Schema Database (Star) to extract data for use in creating reports through the Oracle Business Intelligence Suite.
<i>P6 Extended Schema White Paper</i>	Provides an overview of the P6 Extended Schema and Publication Services. Provides information about configuration, sizing, performance, reporting, and eventing.

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>

Where to Get Support

If you have a question about using Oracle products that you or your network administrator cannot resolve with information in the documentation or help, go to:

<http://www.oracle.com/us/support/index.html>

This page provides the latest information on contacting Oracle Global Customer Support and the support renewals process.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit **<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info>** or visit **<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs>** if you are hearing impaired.

Layout of the P6 EPPM Administrator's Guide

This book is a step-by-step guide to installing and configuring P6 EPPM software modules. (This guide is not intended for users who plan to install and configure a standalone version. Those users should refer to a separate guide, the *P6 Optional Client R8.1 Standalone Installation and Configuration Guide*.)

This manual is organized as follows:

Overview

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

Database Installation and Configuration

Provides steps for using a wizard to automate the process of creating the P6 EPPM 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 EPPM.

Server Installation and Configuration

Provides steps for manually installing and configuring the server-based modules of the P6 EPPM solution, which include P6 and P6 Progress Reporter.

Client Installation and Configuration

This section explains how to:

- ▶ Install P6 Optional Client
- ▶ Install the P6 SDK (Software Development Kit)
- ▶ Create and run an unattended setup
- ▶ Configure module connectivity to the P6 EPPM database

P6 EPPM Application Administration

Describes how to customize P6 EPPM 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
- ▶ Configure P6 Progress Reporter to allow users to record their time in the P6 EPPM database

Tips

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 69) for more information about security guidelines.

Installation Process Overview

This chapter describes the modules that make up the P6 EPPM solution and reviews the installation and configuration process.

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About Oracle Primavera P6 Enterprise Project Portfolio Management

Oracle Primavera P6 Enterprise Project Portfolio Management (P6 EPPM) is a robust and easy-to-use integrated solution for globally prioritizing, planning, managing, and executing projects, programs, and portfolios. It optimizes role-specific functionality to satisfy each team member's needs, responsibilities, and skills. It provides a single solution for managing projects of any size, adapts to various levels of complexity within a project, and intelligently scales to meet the needs of various roles, functions, or skill levels in your organization and on your project team.

Thousands of companies rely on P6 EPPM to:

- ▶ Plan, schedule, and manage the right strategic mix of projects
- ▶ Make informed project, cost, and resource management decisions
- ▶ Enhance team collaboration and workflow productivity
- ▶ Maximize each project contributor's skills and responsibilities
- ▶ Track progress and optimize capacity for maximum profitability
- ▶ Deliver programs and projects on time and within budget
- ▶ Share data with human capital, financial management, and enterprise resource planning systems

Actual deployments require a variety of databases, servers, applications, and supporting technologies. Review the following topics below to get a general understanding of the primary components and functionality of the suite:

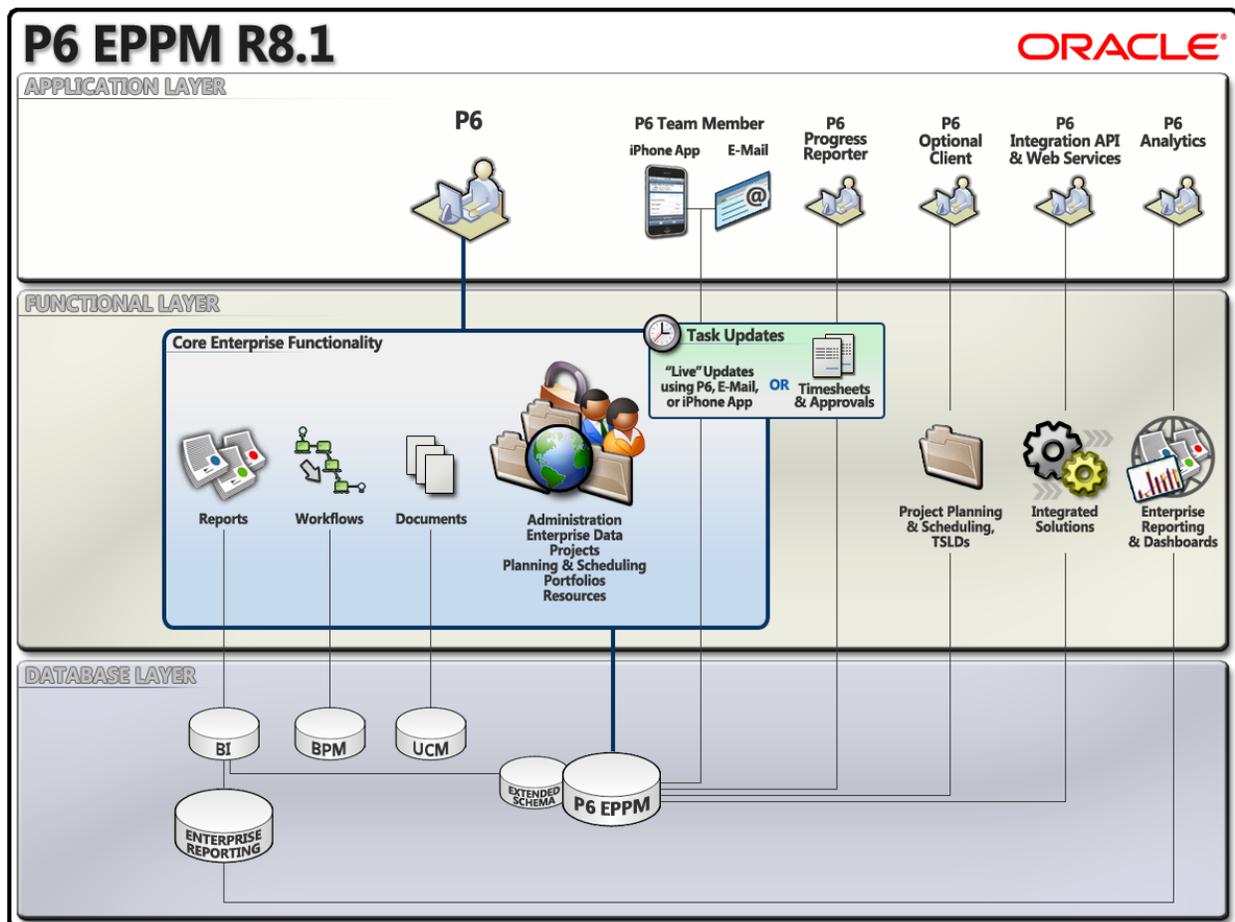
- ▶ **About P6** (on page 28)
- ▶ **About the P6 Team Member for iPhone App** (on page 29)
- ▶ **About Task Updates by E-Mail** (see "**About P6 Team Member E-mail Statusing Service**" on page 30)
- ▶ **About P6 Progress Reporter** (on page 31)
- ▶ **About Oracle Universal Content Management** (on page 31)

- ▶ **About P6 Optional Client** (on page 32)
- ▶ **About Oracle BI Publisher and the OBIEE Platform** (on page 32)
- ▶ **About P6 Reporting Database** (on page 32)
- ▶ **About P6 Analytics** (on page 33)
- ▶ **About the Oracle Business Process Management Suite** (on page 34)
- ▶ **About the P6 Integration API** (on page 35)
- ▶ **About P6 EPPM Web Services** (on page 35)

P6 EPPM also integrates with many other optional solutions such as Oracle Contract Management, Oracle Primavera Risk Analysis, Oracle PPM, and Oracle Cost Manager.

Working with the Oracle Primavera P6 EPPM Suite

Depending on your organization's specific deployment, P6 EPPM generally consists of the applications, functions, and databases depicted below.



Applications:

P6: Most users will rely almost exclusively on the P6 web application running in a standard web browser. Simply termed *P6*, it is the primary interface for administering and managing projects.

P6 Team Member for iPhone app: An optional companion mobile application for the Apple iPhone. The app allows team members to update their actual and remaining time on tasks while working "on the go".

Task Updates by E-Mail: Another optional companion to P6 for updating tasks using electronic mail. This method allows team members to update their actual and remaining time on tasks using any HTML or plain text e-mail application.

P6 Optional Client for EPPM: The P6 web application is the main interface for all project management functionality; however, you can also use the P6 Optional Client software to take advantage of its core project planning and scheduling functionality. The P6 Optional Client application and its features, including TSLDs, run on the Microsoft Windows operating system.

P6 Progress Reporter: P6 EPPM includes the P6 Progress Reporter integrated timesheet entry software. Resources use P6 Progress Reporter to record their time spent working on assignments via electronic timesheets, and approving managers use P6 to review and approve them.

P6 Integration API: A Java-based application programming interface (API) enabling your P6 EPPM deployment to interface with other components and systems.

P6 EPPM Web Services : P6 EPPM Web Services is an integration technology that extends P6 business objects and functionality. Based on open standards including SOAP, XML and WSDL, P6 EPPM Web Services enables developers to leverage standard interfaces to create integrated software solutions that interoperate with a wide variety of enterprise software applications running on a diversity of hardware and operating system platforms.

P6 Analytics: An optional integrated dynamic reporting tool with advanced visual features, including dashboards.

Functionality (included with P6 EPPM):

Core Enterprise Functionality: Use P6 for all of the following core enterprise functionality:

- ▶ **Administration and Enterprise Data:** Administer user accounts, preferences, views, application settings, and enterprise data.
- ▶ **Project, Portfolio, and Resource Management:** P6 provides an extensive array of features designed to optimize all phases of Project Management, Resource Management, and Portfolio Management. It includes full support for activities, work breakdown structures, planning and scheduling, costs, resource administration and assignment, roles, teams, portfolio analysis, capacity planning, ROI, and convenient dashboards for measuring performance at every level at any moment.
- ▶ **Documents:** P6 includes document management support with or without the optional document repository option. Use the optional document collaboration features to conduct document reviews with key stakeholders to keep projects moving or meet regulatory compliance.
- ▶ **Workflows:** The workflow engine bundled with P6 EPPM provides Business Process Modeling Notation (BPMN) compliant graphical notation that depicts the steps in your project initiation workflows. Use the integrated Workflows portlet to coordinate the sequence of tasks that flow between different process participants in a series of stages.
- ▶ **Reports:** Generate and view reports using your standard web browser running P6. Reports can be generated electronically and routed via e-mail, saved to a shared or local file, or printed to a traditional printer.

Planning and Scheduling: The P6 Optional Client component of the suite provides a robust set of features primarily for planners and schedulers, including reflections, Schedule Comparison (Claim Digger), and a report designer. Use the **Timescaled Logic Diagram (TSLD)** feature to create and customize condensed visual depictions of complex project schedule information.

Time Reporting: P6 EPPM includes P6 Progress Reporter, an optional integrated timesheet entry application with review and approval support in P6.

Integrated Solutions: Build or deploy other systems and use the P6 Integration API or P6 EPPM Web Services to integrate them with P6 EPPM.

Integrated Enterprise Reporting with P6 Analytics: Extend your solution by adding P6 Analytics with the Oracle Business Intelligence (OBI) metadata layer to facilitate the creation of ad-hoc reports and interactive custom dashboards reflecting trends and metrics for activities, portfolios, resource assignments, utilization, and project history. Also receive proactive alerts based on integrated report data mined from the ODS and Star databases.

Technology:

The P6 EPPM Database: The main database for all your P6 EPPM data. The EPPM database includes the P6 Extended Schema optimized for reporting.

BPM Workflow: The separate workflow engine bundled with P6 EPPM.

Oracle BI Publisher: The database server hosting the reporting library, templates, and views required to build complex reports with ease.

The Reporting Database: The P6 Reporting Database portion of the suite consists of the Star database and the Operational Data Store (ODS) database. Each of these pull data from the P6 EPPM Extended Views, which can then be used to create reports. The Star database accumulates project data over time, providing baselines for tracking trends and for advanced business intelligence. Users can view the data by using Oracle Business Intelligence Answers and Dashboards. The ODS database enables users to access denormalized, relational views of P6 EPPM data by using tools such as Oracle Business Intelligence Publisher.

Oracle Universal Content Management: This server hosts documents in a shared repository enabling collaborative functionality such as document check-in/check-out and versioning.

About P6

P6 is the main web application of the P6 EPPM solution. P6 provides enterprise-wide web access to features arranged into the following main sections:

- ▶ Dashboards
- ▶ Portfolios
- ▶ Projects
- ▶ Resources
- ▶ Reports
- ▶ Administration

P6 is a complete Enterprise Project Portfolio Management application with a powerful but easy-to-use interface. It completely tracks projects, portfolios, and resources across their full lifecycles capturing all related costs, issues, risks, and performance metrics along the way. It also supports project templates, allowing you to reuse projects in full or in part. It is designed for organizations that need to simultaneously manage multiple projects and support multi-user access across job sites and throughout the entire organization.

The user interface provides structured menus where you can access a wide range of data views and features that enable you to manage your projects from initial concept review and approval through to completion. You can customize your own web pages, called dashboards, to create a custom view of the specific projects and categories of project data that are most relevant to your role in managing projects and resources. Project workspaces and workgroups extend the model of customizable, focused data views by enabling designated project members to create a uniform view of data that relates to one specific project or to a subset of activities within a project.

Users update the actual and remaining status of their tasks in a browser running P6, an e-mail application exchanging messages with the P6 server, or the P6 Team Member for iPhone app. As an alternative to using any of these three methods for updating status, your organization may elect to use P6 Progress Reporter, the Web-based timesheet management application of P6 EPPM. P6 provides centralized resource administration, planning, and management, which even includes resource timesheet approval and the ability to communicate with project resources who use P6 Progress Reporter. Use P6 to match people with roles and proficiency levels, and then use that information to assign tasks effectively.

P6 includes robust reporting, workflow, e-mail notifications, events, and document collaboration and review features. It is also the single source for all core administrative functions, including centralized enterprise data, user accounts, application settings, and security for all users in P6 EPPM.

About the P6 Team Member for iPhone App

In order for project managers to evaluate the current level of progress for any project, individual contributors, or *team members*, must record the status of their assigned activities, or *tasks*. As a more flexible alternative to using P6 in a web browser or P6 Optional Client on a Windows PC, you can also use the companion P6 Team Member for iPhone app to update your status as a team member. The P6 Team Member for iPhone app offers the following advantages:

- ▶ Quick, convenient, and easy mobile access. You can update your status directly with P6 in real time.
- ▶ Focus only on what matters the most. For example, you can view a list of your tasks, update the actual hours spent, and estimate your remaining hours.
- ▶ You are not required to install, log into a browser, or learn any of the core P6 EPPM applications.
- ▶ You can send e-mail or share photos about a task.

In contrast with the way updates are first reviewed and approved and then applied using P6 Progress Reporter, the updates remote users make in the P6 Team Member for iPhone app are applied immediately in real time. It's an important distinction because the live updates made in the P6 Team Member for iPhone app do not undergo review or approval. Instead, any activity and assignment values in P6 are immediately changed without directly informing a Project Manager.

Note: Decide to use one of the following supported platforms for progressing tasks:

- P6 with optional support for updates via any e-mail application or the P6 Team Member for iPhone app
 - P6 Progress Reporter
-

Caution: If users need to use timesheets, they should use only P6 Progress Reporter and avoid using P6 Team Member for iPhone, P6 Team Member E-mail Statusing Service, or P6 to update their status.

About P6 Team Member E-mail Statusing Service

In order for project managers to evaluate the current level of progress for any project, individual contributors, or *team members*, must record the status of their assigned activities, or *tasks*. As a more flexible alternative to using P6 in a web browser or P6 Optional Client on a Windows PC, you can also use the companion *P6 Team Member E-mail Statusing Service* to update your status as a team member. Using e-mail offers the following advantages:

- ▶ Quick, convenient, and easy access from any device that supports e-mail.
- ▶ Requires no private network access.
- ▶ You can update your status directly with the P6 server in real time.
- ▶ Focus only on what matters the most. For example, you can view a list of your tasks, update the actual hours spent, and estimate your remaining hours.
- ▶ You are not required to install, log into a browser, or learn any of the core P6 EPPM applications.
- ▶ You can communicate with others about your tasks using your familiar e-mail application, including sharing attachments about a task.

In contrast with the way updates are first reviewed and approved and then applied using P6 Progress Reporter, the updates remote users make by e-mail are applied immediately in real time. It's an important distinction because the live updates made by e-mail do not undergo review or approval. Instead, any activity and assignment values in P6 are immediately changed without directly informing another user or manager for approval.

Note: Decide to use one of the following supported platforms for progressing tasks:

- P6 with optional support for updates via any e-mail application or the P6 Team Member for iPhone app
 - P6 Progress Reporter
-

Caution: If users need to use timesheets, they should use only P6 Progress Reporter and avoid using P6 Team Member for iPhone, P6 Team Member E-mail Statusing Service, or P6 to update their status.

About P6 Progress Reporter

The P6 Progress Reporter module is a Web-based project communication and timekeeping system. As a team-level tool for project participants, it helps project participants focus on the work at hand with a simple cross-project to-do list of their upcoming assignments. Project team members can record time worked and enter information about their project assignments. Regardless of location, team members can communicate timesheet and activity status directly to their managers.

Because all project participants can use P6 Progress Reporter to enter up-to-the-minute information about their assignments and to record the time they spent working on each one, project managers can make crucial project decisions with the confidence that only comes from having the most current information possible. Timesheet review and approval takes place directly from within P6.

In P6 Progress Reporter, actual hours are not applied directly to the schedule. Instead, the time is submitted and may undergo multiple levels of approval or rejection before being incorporated into the project schedule using the P6 *Apply Actuals* feature.

Note: Decide to use one of the following supported platforms for progressing tasks:

- P6 with optional support for updates via any e-mail application or the P6 Team Member for iPhone app
 - P6 Progress Reporter
-

Caution: If users need to use timesheets, they should use only P6 Progress Reporter and avoid using P6 Team Member for iPhone, P6 Team Member E-mail Statusing Service, or P6 to update their status.

About Oracle Universal Content Management

Integrated with P6, Oracle Universal Content Management (UCM) turns cluttered, often unstructured content into organized assets by making it easier to catalog, access, search, and reuse. All popular document formats such as HTML, XML, DOC, XLS, GIF, and PDF are supported.

Using P6 with UCM, project participants can better manage their documents. Specific functions include:

- ▶ Upload new documents for storage in the unified UCM database
- ▶ Categorize documents within folders for better organization
- ▶ Link projects, WBS elements, activities, and issues to documents
- ▶ Check in and check out documents (version control)
- ▶ Review documents

You can also extend UCM to deliver content via Web sites, desktops, RSS feeds, mobile devices, and P6 EPPM Web Services.

Note: Microsoft Sharepoint provides the same core functionality as UCM and can be seamlessly integrated with P6.

About P6 Optional Client

P6 Optional Client is a separate optional module that integrates traditional project management with streamlined resource and cost management. It is ideal for planners and schedulers.

Note: If you decide to use P6 Optional Client, you must still use P6 to administer user accounts, enterprise data, and other settings.

The P6 Optional Client software includes a subset of the P6 features, as well as several of its own specialized features. As a primary example, P6 Optional Client includes the Timescaled Logic Diagrams feature for the creation, viewing, and modification of timescaled logic diagrams (TSLDs). TSLDs condense the project plan displayed in the Gantt chart into a more concise visual snapshot illustrating the chain of activities that drive the project schedule.

Note: The TSLD feature is designed for use with the P6 Optional Client application and does not work with the P6 web application.

About Oracle BI Publisher and the OBIEE Platform

BI Publisher is integrated with the P6 EPPM Extended Schema to deliver on-demand web-based reporting through P6.

You have the option of expanding the capabilities of P6 EPPM using these components.

Oracle Business Intelligence Publisher: Oracle Business Intelligence Publisher (formerly XML Publisher) is an enterprise reporting solution allowing you to design, manage, and deliver highly formatted documents. Because it is built on open standards, your IT developers can create data models against practically any data source and use BI Publisher APIs to build custom applications leveraging existing data sources and infrastructure. BI Publisher users can design report layouts using familiar desktop tools, reducing the time and cost needed to develop and maintain reports. Extremely efficient and highly scalable, BI Publisher can generate documents with minimal impact to transactional systems. Using the convenient P6 web interface, reports can be viewed online or scheduled for delivery to a wide range of destinations.

Oracle Business Intelligence Enterprise Edition (OBIEE): Expand your business intelligence capabilities with this optional foundation platform. OBIEE enables your organization to buy and plug in ready-to-run analytics packages or to build your own applications on one common BI architecture.

About P6 Reporting Database

In addition to the native enterprise reporting available now with P6 EPPM, the P6 Reporting Database provides a powerful data warehouse solution that contains:

- ▶ A STAR schema that allows for multi-dimensional analysis of P6 EPPM data, including calculated fields as well as spread and historical information.

- ▶ An Operational Data Store (ODS) schema that provides a de-normalized, relational view of all your P6 EPPM data including calculated fields and spread information.

About P6 Analytics

P6 Analytics provides an in-depth and comprehensive method for gathering, analyzing, sharing, and storing project performance, project history, resource assignment, and utilization data. Use the P6 Analytics add-on application with P6 EPPM to create powerful custom dashboards and reports to help your organization make better business decisions. P6 Analytics requires Oracle Business Intelligence Enterprise Edition (OBIEE) or Oracle Business Intelligence Standard Edition One (OBISE One).

Built upon the Oracle Business Intelligence (OBI) suite, P6 Analytics delivers a catalog of requests called *Dashboards and Answers* that provide an interactive way of viewing, analyzing, and evaluating P6 EPPM data. In addition, it provides a Repository (RPD) file which contains the data mappings between the physical data and the presentation layer of OBI.

The dashboards provide detailed insight into your P6 EPPM data, through the use of analytical charts, tables, and graphics. Dashboards have the ability to navigate to other requests, to provide precise root cause analysis. In addition, you can configure individual requests with the P6 EPPM Action Link, which enables you to navigate directly to your P6 site for true "Insight to Action" capabilities. Reports created with Oracle BI Answers can be saved in the Oracle BI Presentation Catalog, and can be integrated into any Oracle BI home page or dashboard. Results can be enhanced through options such as charting, result layout, calculation, and drill-down features.

In summary, use P6 Analytics to:

- ▶ Perform root-cause analysis and employ management-by-exception.
- ▶ Gather critical insights into current and historical performance of all projects, programs, and portfolios.
- ▶ Make better decisions to eliminate project failure.
- ▶ Quickly visualize critical project performance in early stages from dashboards.
- ▶ Predict and identify cost trends early in project lifecycle to rescue troubled projects.
- ▶ Gain visibility into resource performance through s-curves in dashboards with interactive dashboards you can drill down to examine the root-cause problem.
- ▶ Show staffing needs by portfolio with early warning indicators for upcoming under-staffed project work.

Performance Data

P6 Analytics provides an RPD file to be used with the Oracle Business Intelligence suite. The RPD file contains:

- ▶ A physical representation of the Star schema.
- ▶ A business layer where customized calculations are performed.
- ▶ A presentation layer that groups all of the Star database fields into logical subject areas.

The RPD delivers an extensive amount of earned value, cost, unit, percent complete, and other key performance indicators. It enables data to be sliced by items such as time, project, eps, portfolios, activities, and resources.

P6 Analytics delivers a sample dataset (Star) from which the Dashboards and Answers requests in the catalog are built. This sample data can be used to view the power of Dashboards and Answers requests delivered in the catalog, which will give the user an idea of how the catalog can be integrated with their data. For information on configuring the sample dataset, see the SampleData.pdf document that is included in the P6Analytics\Sample folder on your release media pack or download.

The Star Database

The Star database enables your organization to perform advanced business analysis on project and portfolio data. It supplies a dimensional schema that organizes P6 EPPM hierarchical relationships, enables the highest level of query efficiency and flexibility in data analysis, and accumulates project data over time. This provides organizations with baselines for tracking trends and for advanced business intelligence.

About the Oracle Business Process Management Suite

The Oracle Business Process Management (BPM) Suite provides an integrated environment for developing, administering, and using business applications centered around business processes. BPM supports BPMN and BPEL standards from modeling and implementation to run-time and monitoring.

P6 directly integrates with BPM 10g and 11g allowing you to initiate and manage workflows. You can use a sample project initiation workflow that comes with the P6 sample database for BPM 10g.

Looking toward the future, you can expand your investment in BPM to include workflows representing more stages of your application, program, project, or product development life cycle from design-time and implementation to run-time and application management.

The Oracle BPM Suite enables you to:

- ▶ Create and customize business processes, models, and standards using pre-defined components for web-based applications.
- ▶ Collaborate between process developers and process analysts.
- ▶ Expand business process management to include flexible, unstructured processes.
- ▶ Add dynamic tasks and support approval routing using declarative patterns and rules-driven flow determination.
- ▶ Unify different stages of your development life cycle by addressing end-to-end requirements for developing process-based applications. Oracle BPM 11g unifies the design, implementation, run time, and monitoring stages based on a Service-Oriented Architecture (SOA) infrastructure. This allows different personas to participate through all stages of the workflow life-cycle.

Note: BPM 10g and 11g have their own guides. Make sure you are using the correct guide for your version of BPM.

About the P6 Integration API

The P6 Integration API is a Java-based Application Programming Interface (API) and server that enables developers to create application code aligned with P6 EPPM business rules in order to seamlessly access P6 EPPM data.

About P6 EPPM Web Services

P6 EPPM Web Services enables your organization to seamlessly integrate P6 EPPM functionality into other applications using open standards, languages, and protocols, including XML, SOAP, SOA, and WSDL. P6 EPPM Web Services enables your organization to share P6 EPPM data between applications independent of operating system or programming language. Use P6 EPPM Web Services when you need to extend or customize integrated functionality, for example, with BPM workflows, events, or forms-based applications.

P6 EPPM Release 8.1 New Feature Summary

This release provides significant enhancements to Enterprise Reporting, Resource Management, and Risk Management. Learn about these enhancements as well as additional features highlighted in the following topics.

Note: This *New Feature Summary* is intended solely to remind readers of various P6 EPPM documentation deliverables of the major new or changed features since the last release. Refer to the separate online help systems and individual documents for the various components that comprise the P6 EPPM suite to learn more about the features.

Enterprise Reporting

Related Topics

Improved Reporting and Publication Services (R8.1)	35
Improved Selection of Projects and Resources for Reports (R8.1)	37

Improved Reporting and Publication Services (R8.1)

The following enterprise reporting improvements make their debut in this release:

- ▶ **Publication Services:** New project and enterprise data *Publication Services* are introduced which run in the background to ensure that as changes are made to your core P6 EPPM data, the impact of these changes are reflected in the new *P6 Extended Schema*, an extension of the EPPM database which includes new tables and views. A number of administrative settings are introduced to control the frequency and throughput of the new *Publication Services*, allowing the system to be fine tuned to meet the needs of your particular installation.

- ▶ **Real-Time Reporting:** The result of Publication Services is real-time or near real-time reporting without waiting until the separate Operational Data Store (ODS) and its associated Extract, Transform, and Load (ETL) process has run to incorporate recent P6 data changes such that they will be reflected in Oracle Business Intelligence (BI) Publisher reports. By default, BI Publisher reports now utilize an extended EPPMDB as their data source. As changes are made, the corresponding reporting data source tables and views within EPPMDB will be automatically updated to reflect the changes, allowing for near real-time access to changed data in reports.
- ▶ **Improved Storage and Direct Access:** All P6 EPPM data, including spreads and calculations, are stored in new tables and views, ready for reporting. The database in prior releases did not store all data. This means that when running reports from within the P6 web application itself, the P6 EPPM database, including the P6 Extended Schema, is now the primary source for report data. You no longer have to install and configure the separate Operational Data Store (ODS) and its associated Extract, Transform, and Load (ETL) process of the P6 Reporting Database for default web-based, BI Publisher reporting from P6. The BI Publisher web-based reporting dependency in release 8.0 on the ODS and its associated ETL process has been removed. The P6 Reporting Database now becomes a truly optional add-on component to the P6 EPPM suite, supporting P6 Analytics, third-party reporting tools, off-line analysis, and consolidation of P6 data into larger corporate data warehouses.
- ▶ **BI Publisher 11g Support:** In addition to version 10g, P6 now supports integration with BI Publisher 11g, which includes a number of report creation, content, and delivery enhancements. Only BI Publisher 10g was supported in Release 8.0. BI Publisher 11g includes a web-based, WYSIWYG report authoring tool that can be used to easily create high fidelity, pixel perfect reports. You can also continue to use the Microsoft Word or Adobe Acrobat report editor plug-ins. BI Publisher 11g also supports the creation of reports that combine data from more than one data source. For example, create a single report or form with data from P6 and additional data source providers such as SQL, MDX, XML, Web Services, or Microsoft Excel.
- ▶ **SQL Server Support:** In addition to Oracle databases, P6 now supports reporting against SQL Server databases. Only Oracle database installations were supported in the previous release. However, the ODS database still only supports Oracle installations.
- ▶ **Improved Security Model:** The P6 security model for reporting has changed to support using the P6 Extended Schema as the source for report data. The security model includes the new `PxRptUser` database user, which is added automatically when you install or upgrade to P6 Release 8.1.

Note: In addition to using P6, you can still generate reports using the ODS, P6 Reporting Database, or P6 Optional Client. Because the P6 Reporting Database ETL data transformation process is done in-place via a demand ETL process, performance time is significantly improved.

More About the New P6 Extended Schema and Publication Services

Publication Services address the need for the most up-to-date reporting data by allowing the administrator to configure P6 to automatically publish data to tables and views optimized for reporting purposes (administrators may refer to these as P6 Extended Schema tables and views).

The data is split into two general categories: *project* data and *global* data. Published project data includes all information about your projects, including summaries and calculations, and published global data includes enterprise data, resource and role data, portfolio data, and security data.

To summarize the new reporting process:

- 1) Users create new data or make changes to existing data in P6.
- 2) The P6 global and project data is published to P6 Extended Schema tables, automatically or manually.
- 3) Reports are generated from this refreshed data.

Often, certain projects should not be included in reports; for example, they could be what-if type projects not ready to be published or completed projects which you don't want to appear in your list of current projects. Individual projects can now be excluded from Publication Services so they are not visible to BI Publisher reporting and are not included in the P6 Reporting Database ETL process.

Improved Selection of Projects and Resources for Reports (R8.1)

When specifying resources or projects as report parameters, you can now easily organize, search, and select from groups of related projects or resources. For example, you can select all projects assigned to a specific project code or all resources assigned to a specific resource code.

In the **Select Project** dialog box in the report parameters table of the **Reports** section, P6 now allows you to group, search, and select projects by EPS, portfolio, or project code. In the **Select Resource** dialog box, you can now select resources by primary role, resource code, or resource team.

Resource Management

Related Topics

Improved Resource Assignments Detail Window on the Activities Page (R8.1).....	37
Resource Overallocation Service (R8.1).....	38
Enhancements to the Resource Assignments Page (R8.1)	38

Improved Resource Assignments Detail Window on the Activities Page (R8.1)

To enhance usability of the **Assignments** detail window on the **Activities** page, additional assignment date-related fields, previously only available from the **Resources** section, are now available in this view.

To accommodate for the number of additional fields in this detail window, you can choose to customize columns one at a time, or open the **Customize Columns** dialog box to select multiple columns at once.

Resource Overallocation Service (R8.1)

The new Resource Overallocation service enables you to run a report to easily identify where resource demand exceeds capacity.

When you initiate the service, you select the time period for which you need resource data analyzed. When you run this service, the Publish Projects service runs at the next scheduled interval to update data on all projects open in your view.

Once the data is up-to-date, the Resource Overallocation service analyzes usage data for all resources assigned to the projects open in your view. The service also pulls resource allocation data from all additional projects to which the resources are assigned, but are not currently open in your view.

The Notification button in the application footer opens a panel which displays messages from the service. If an overallocation exists, you can click on the message to open the Overallocation report.

This report provides a detailed list of all overallocated resources and the tasks, grouped by project, for which they are assigned within the selected time period. The usage totals for assignments on projects not open in the current view are shown as "Other Projects" in the report.

You can make updates directly to this report, including reassigning resources, changing assignment dates, updating units, or updating the remaining time/units.

Enhancements to the Resource Assignments Page (R8.1)

The **Select Resource** dialog box on the **Resource Assignments** page has been enhanced to make the process of staffing assignments even easier.

When you click **Assign Resource**, the **Select Resource** dialog box enables you to view resources by Active Resources, All Resources, Primary Role, Resource Codes, and Resource Teams. When you click **Assign Resource by Role**, the **Select Resource** dialog box displays only the resources that have the same role type as the assignment you are filling.

If you need to staff multiple assignments, you can now keep the **Select Resource** dialog box open and simply click on another assignment and make your next staffing assignment.

For convenience, if you have multiple assignments that require the same resource, simply select all the assignments using Ctrl+click, and select the resource to assign.

Risk Management

Related Topics

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Risk Exposure Fields (R8.1)	39
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UDF Bars in the Activities Gantt Chart to Support Oracle Primavera Risk Analysis Users (R8.1)	40

Improved Risk Categories (R8.1)

The **Risk Categories** page has been improved to allow you to organize risk categories in a hierarchy.

You can now create child categories (subcategories) under a parent category enabling you to organize and group categories in a way that makes sense for risk analysis practices at your company.

Risk Threshold Enhancements (R8.1)

Two new risk thresholds are now available: *Cost impact by percentage* and *Schedule impact by percentage*. The cost and schedule impact thresholds available in R8 are renamed *Cost impact by value* and *Schedule impact by value*.

Using the *by percentage* impact thresholds enables you to create one matrix that can be used across multiple projects where the absolute cost and schedule impacts vary. The cost impact threshold is defined as a percentage of the project's planned cost. The schedule impact threshold is defined as a percentage of the project's planned duration.

Use the *by value* impact thresholds when creating a risk scoring matrix where absolute monetary and schedule values are known and common for all projects assigned to the matrix.

Risk Exposure Fields (R8.1)

When managing project risks using the register on the **Risks** page, you can now clearly see the dates a project is exposed to a risk and the monetary impact a risk has on the project using the new risk exposure fields: *Exposure Start*, *Exposure Finish*, and *Exposure* (the monetary impact of the risk).

Risk exposure is calculated from the values selected for the probability and cost impact of each risk. Risk exposure fields are available for individual risks and risk response plans. Use the **Response Plans** detail window on the Risks page to create a risk response plan to see how your mitigation actions reduce the monetary impact for the risk.

Use the new *Project Risk Exposure* field to view the total exposure for all risks identified in the project available on the **EPS** page, and in a scorecard, bubble chart, or histogram portfolio view portlet on the **Dashboards** page.

Risk Identification Fields (R8.1)

Identified By and *Identified Date* fields are available to track when a risk was identified and by whom. Knowing who identified a risk enables you to consult with the source, if necessary. The identified date is helpful in a variety of ways, including tracking the time between when the risk was identified and when it started being tracked.

Enhancements to Risk Views (R8.1)

The risk register on the **Risks** page is enhanced to allow you to:

- ▶ View the new fields for Risk Exposure: *Exposure*, *Exposure Start*, and *Exposure Finish*.
- ▶ Edit the new identify fields: *Identified By* and *Identified Date*.
- ▶ Group by all available fields, except Exposure.
- ▶ Cut a risk and paste it to another project in the risk register.
- ▶ Easily identify which risks have active response plans, as indicated by a check mark in the *Active Response Plan* field.
- ▶ View additional activity-related fields on the **Activities** detail window.

The **Risks** detail window on the **Activities** page is enhanced to allow you to:

- ▶ View the new fields for Risk Exposure: *Exposure*, *Exposure Start*, and *Exposure Finish*.
- ▶ Edit the new identify fields: *Identified By* and *Date*.
- ▶ Easily identify which risks have active risk response plans, as indicated by a check mark in the *Active Response Plan* field.

Additionally, the *Project Risk Exposure* and *Project Risk Score* values are available for analyzing data in the **Portfolios** section or on related dashboards. These fields are also available for viewing on the **EPS** page.

UDF Bars in the Activities Gantt Chart to Support Oracle Primavera Risk Analysis Users (R8.1)

A *UDF Bar* is now available on the Activities Gantt chart. Use this bar to view the current schedule against selected Activity UDF start and finish dates.

UDF bars can be used to show a risk adjusted schedule using dates imported from Oracle Primavera Risk Analysis.

Web Administration and Configuration

Related Topics

Improved Security for Users With the Admin Superuser Profile (R8.1)	41
Activity Code Enhancements (R8.1)	41

Improved Security for Users With the Admin Superuser Profile (R8.1)

Only users with the *Admin Superuser* profile can add, edit, or delete other users with the *Admin Superuser* profile.

Activity Code Enhancements (R8.1)

To provide easier access to activity codes, each code type — EPS, Global, and Project — now has its own page, which you can access directly from the **Enterprise Data** pane.

Project and Portfolio Management

Related Topics

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Improved Visibility of WBS UDFs in Portfolio Views (R8.1)	41
Improved Convenience When Adding and Deleting EPS and WBS Elements (R8.1)	42

Service Enhancements (R8.1)

A number of enhancements were made for services, including:

- ▶ Two new date fields are now available in EPS views. The new fields store the date when the project was last scheduled or leveled. They are, respectively, **Last Scheduled Date** and **Last Leveled Date**. (These fields are also available in P6 Optional Client.)
- ▶ Log files for the *Recalculate Assignment Costs* and *Store Period Performance* services are now available in the **Service Status** dialog box. In addition, log files now contain the name of the user running the service.

Improved Visibility of WBS UDFs in Portfolio Views (R8.1)

User-defined fields at the WBS level are now available as columns in scorecards displayed in the following locations:

- ▶ On dashboards, in Portfolio View portlets. As a reminder, the scorecard field values are directly editable only when you maximize the portlet.
- ▶ On the **Portfolio Analysis** page, in scorecard portfolio views.
- ▶ On the **Create Portfolio View/Portfolio View Details** page.

Improved Convenience When Adding and Deleting EPS and WBS Elements (R8.1)

Adding and deleting EPS and WBS elements is easier to do in R8.1. You no longer need to show all levels of the EPS or WBS to add or delete an EPS or WBS element. As long as the view is grouped by EPS on the **EPS** page, or WBS on the **Activities** page, you can add the respective elements, regardless of other grouping options you may have applied.

P6 Team Member

Related Topics

Status Updates via the P6 Team Member for iPhone App or E-mail Statusing Service (R8.1) 42

Status Updates via the P6 Team Member for iPhone App or E-mail Statusing Service (R8.1)

Two new methods of directly updating status are now available, based on the widespread adoption of both e-mail and smart mobile applications.

The P6 Team Member for iPhone app offers the following advantages:

- ▶ Quick, convenient, and easy mobile access. You can update your status directly to P6.
- ▶ Focus only on what matters the most for team members. For example, you can view a list of your tasks, update the actual hours spent, and estimate your remaining hours.
- ▶ You are not required to install, log into a browser, or learn any of the core P6 EPPM applications.
- ▶ You can send e-mail or share photos about a task.

As a team member with assignments in P6, you can now request a list of your assigned activities directly from P6 via e-mail using P6 Team Member E-mail Statusing Service. This method offers all the advantages of the P6 Team Member for iPhone app with the added benefit of no specific device or private network requirements. However, you must follow syntax and formatting rules in your e-mail message.

In contrast with the way updates are first reviewed and approved and then applied using P6 Progress Reporter, the updates remote users make in the P6 Team Member for iPhone app are applied immediately in real time. It's an important distinction because the live updates made in the P6 Team Member for iPhone app do not undergo review or approval before they are applied to the schedule. Instead, any activity and assignment values in P6 are immediately changed without directly informing a Project Manager.

Note: Decide to use one of the following supported platforms for progressing tasks:

- P6 with optional support for updates via any e-mail application or the P6 Team Member for iPhone app
 - P6 Progress Reporter
-

Caution: If users need to use timesheets, they should use only P6 Progress Reporter and avoid using P6 Team Member for iPhone, P6 Team Member E-mail Statusing Service, or P6 to update their status.

User Productivity

Related Topics

Enhanced User Interface Design (R8.1) 43

Enhanced User Interface Design (R8.1)

The application interface has been enhanced with improved navigation and an expanded work area. The P6 navigation bar is now tabbed to enable you to clearly identify the area you are currently working in. Icons were removed from the navigation bar, which increases your working area.

Learning Assistance

Related Topics

Hosted Application Help (R8.1) 43

Hosted Application Help (R8.1)

P6 Help and P6 Progress Reporter Help are now hosted on the Oracle Technology Network by default. This ensures that the most up-to-date product help is available to application users as soon as it is posted on the Oracle Technology Network.

You may still choose to host help locally by following the instructions in the P6 EPPM Administrator's Guide.

P6 Optional Client

An overview of the new features available only in P6 Optional Client, designed for planners and schedulers, follows.

To learn more about the features included in or removed from this release of P6 Professional, see the P6 Professional online help topic *What's New in P6 Optional Client?*

Related Topics

What's New in P6 Optional Client (R8.1) 44

What's New in P6 Optional Client (R8.1)

P6 Professional is now named P6 Optional Client. The following features are new or improved in release 8.1 of P6 Optional Client.

Copy and Paste Risks

Copying and pasting activities within the same project now copies any associated risks. Copying and pasting a WBS within the same project will also copy its activities and any associated risks. Risks are not copied if you paste an activity or WBS to a different project.

Importing Risks Using XML

Risks can be imported using XML format.

P6 EPPM Release 8.0 New Feature Summary

Building on a tradition that includes worldwide sales and recognition spanning the last quarter century, this release of P6 EPPM offers significant new or improved functionality described in the following topics.

Note: This *New Feature Summary* is intended solely to remind readers of various P6 EPPM documentation deliverables of the major new or changed features since the last release. Refer to the separate online help systems and individual documents for the various components that comprise the P6 EPPM suite to learn more about the features.

Web Administration and Configuration

Related Topics

Easy Web Setup, Configuration, and Administration (R8.0)..... 44
Web-Based User Administration (R8.0)..... 45
One Source for All Enterprise Data (R8.0)..... 45

Easy Web Setup, Configuration, and Administration (R8.0)

Routine setup, configuration, and administration tasks can be achieved using only the P6 application from a single centralized new menu with the following options:

- ▶ **My Calendar:** Customize your personal work schedule.
- ▶ **My Preferences:** Customize P6 for the way you prefer to work. Personalize the units, formats, views, and other settings unique to each user.

- ▶ **Application Settings:** Configure global application settings for data limits, earned value calculations, timesheets, IDs, and time periods.
- ▶ **Enterprise Data:** Define the data entities, types, categories, and user-defined fields recognized by your industry or organization.
- ▶ **User Access:** Configure who will use the various modules of the P6 EPPM suite and the P6 application, and what permissions to assign to them.
- ▶ **User Interface Views:** In a single convenient location, configure the main menus and pages of the application users of each view are permitted to access. This improved feature helps you enforce a consistent enterprise-wide user experience.

Web-Based User Administration (R8.0)

Create and administer user accounts for all P6 EPPM users via the P6 web application. Set each user's contact and login information, and configure their security privileges, profiles, access, and user interface views. Configure the management hierarchy at your organization (the organizational breakdown structure, or OBS) and manage project assignments to reflect the areas of responsibility within your entire enterprise.

Also new in this release, you can use the P6 web application to define privileges for a set of global and project security profiles and then assign them to users to restrict access in accordance with your organization's information assurance and security policies.

In addition, the P6 web application now includes integrated Lightweight Directory Access Protocol (LDAP) support for user provisioning. In the previous release, a Windows PC was required to perform these tasks. You can now configure, search for, and add users directly from your company's central LDAP directory using P6 in your web browser. Enterprise deployments can also batch import multiple user accounts from an LDIF file.

The P6 EPPM Web Services module now supports single sign-on via Security Assertion Markup Language (SAML).

In summary, improvements have been made in this release to the native, single-sign on (SSO), LDAP, API, and Oracle Access Manager (OAM) features supporting more secure user authentication for P6.

One Source for All Enterprise Data (R8.0)

Use P6 as a one-stop shop for administering all the enterprise data used by P6 and P6 Optional Client users. Centrally manage all enterprise data grouped by category, including:

Global category

- ▶ Currencies
- ▶ Financial Periods
- ▶ Global Calendars
- ▶ Overhead Codes
- ▶ Timesheet Periods

Projects category

- ▶ Baseline Types

- ▶ Funding Sources
- ▶ Notebook Topics
- ▶ Project Calendars
- ▶ Project Codes
- ▶ Project User-Defined Fields
- ▶ WBS Categories
- ▶ WBS User-Defined Fields

Activities category

- ▶ Activity Codes
- ▶ Activity User-Defined Fields
- ▶ Cost Accounts
- ▶ Expense Categories
- ▶ Expense User-Defined Fields
- ▶ Step Templates
- ▶ Step User-Defined Fields

Resources category

- ▶ Assignment User-Defined Fields
- ▶ Rate Types
- ▶ Resource Calendars
- ▶ Resource Codes
- ▶ Resource Curves
- ▶ Resource User-Defined Fields
- ▶ Units of Measure

Risks category

- ▶ Risk Thresholds
- ▶ Risk Scoring Matrices
- ▶ Risk Categories
- ▶ Risk User-Defined Fields

Issues category

- ▶ Issue Codes
- ▶ Issue User-Defined Fields

Documents category

- ▶ Document Categories
- ▶ Document Statuses
- ▶ Document User-Defined Fields

Project and Portfolio Management

Related Topics

Web-Based EPS and Project Views (R8.0)	47
Enhanced Portfolio Filtering (R8.0).....	47
Schedule Preview (R8.0).....	47
Recalculate Assignment Costs (R8.0)	48
Project Baselines (R8.0).....	48

Web-Based EPS and Project Views (R8.0)

Configure the project hierarchy at your organization (the enterprise project structure, or EPS) and use it to structure projects and control user access to project and portfolio data. Project managers will also use the new web-based EPS features to create and edit projects, templates, preferences, baselines, and summaries. Other useful new features include configuring multi-user EPS views that target key data, importing and exporting Primavera XML, Microsoft Excel, and Microsoft Project 2007 data, and creating new projects and templates directly within the EPS hierarchy.

Similar to the traditional activity views users have relied on for multiple releases, this release now offers project managers more robust project views at the EPS level. Now, you will be able to configure the entire EPS and monitor the status of multiple projects, all from this single page.

The new EPS Gantt chart view on the web is also included. It shows a flat list or grouped list of projects on a timeline. You can choose to display multiple bars, such as current dates versus baseline dates for a comparison view. The timescale can be shown in increments of years (for a long-range view), quarters, months, all the way down to days (for a more granular view.)

Enhanced Portfolio Filtering (R8.0)

Automatic filter refreshing helps keep your portfolios in sync with the latest project data, without the need for user intervention. This release also supports an expanded number of filter parameters offering greater precision when configuring and comparing filtered portfolios.

Schedule Preview (R8.0)

When hundreds or thousands of activities appear in a Gantt chart, P6 allows you to add, modify, or delete them; however, historically, it wouldn't immediately update the results in order to maximize performance. You could reschedule the project in order to view the impacts of your changes and share them with other users, but what if you wanted to preview the results before applying them?

New in P6 for this release is the optional *Schedule Preview* feature which will instantly generate a preview of any schedule changes locally on your PC. This allows you to preview the impact of adding, deleting, or modifying activities on the overall project schedule before deciding to save the schedule changes or discard them.

Recalculate Assignment Costs (R8.0)

The web application now provides an optional command for updating resource and role assignment cost data in your project to reflect recent changes to one or more rates. Use this command during or after scheduling a project in case changes to dates cause assignments to span periods with more than one rate in effect. This command can also be run during leveling.

Project Baselines (R8.0)

In addition to supporting the administration of baseline types, this release of the P6 web application also enables you to convert projects into baselines and then restore baselines back into projects.

Project Templates

Related Topics

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Reusable Project Templates (R8.0)

The new templates feature in P6 represents a significant feature improvement for this release, replacing the Methodology Management functionality from the previous release.

A template is a stored copy of, or blueprint for, a project. It includes all the details, best practices, and de facto standards your organization associates with projects of a particular type. For example, use project templates to create a library of predefined project structures that can later be used as starting points for new projects. In addition, specific WBS branches and their activities can be inserted from templates into other templates or even into projects.

Organize your template projects within the EPS, assign them project codes, and provide them with descriptions to aid in reuse. Because templates and projects now share a common database and user interface, it is easy to create templates from projects or to create projects from templates. You can also create projects based on other projects, and templates based on other templates.

Note: Methodologies from the previous release can be converted into P6.

Resource Management

Related Topics

Completely Redesigned Interface for Resources and Roles (R8.0)	49
Improved Resource Planning and Analysis (R8.0).....	49
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Completely Redesigned Interface for Resources and Roles (R8.0)

The entire Resources section has been redesigned with a new, more intuitive interface that offers robust and responsive enterprise-wide resource management features. A single centralized resource page now provides point-and-click access to resource, role, and team administration, assignments, detailed and high-level planning, and resource and role usage and analysis. Editable tables and supplemental windows empower you to manage enterprise resource information quickly and efficiently. You'll see all resources at a glance and be able to edit details and make resource team and primary role assignments with ease.

Other new highlights include:

- ▶ Access important enterprise data for resources directly from a convenient new menu item and dialog box without navigating away from your current work.
- ▶ Ability to view an assigned resource's calendar.

Improved Resource Planning and Analysis (R8.0)

Navigate to a central location to view and evaluate resources by project, role, resource, allocation, or your own custom filter. Toggle between resource analysis and resource planning modes.

Optimized Resource and Role Team Handling (R8.0)

Select the resources that make up a team faster with fewer steps using the redesigned resource team components. Rather than creating and configuring new resource teams, save time by first duplicating the closest matching team and then simply editing its configuration. When you use this "copy and paste" technique for creating a resource team, all its resources are included in the new copy. You can also use copy and paste to create and manage role teams.

Risk Management

Related Topics

Qualitative Risk Management (R8.0)	49
Risk Scoring Matrix, Categories, and Thresholds (R8.0)	50

Qualitative Risk Management (R8.0)

Using the new Risk Register, project managers can now assess potential risks on a project plan, associate risks with activities, assign risk probabilities, calculate impacts to schedule and cost, and develop risk response and contingency plans to mitigate risks.

The application's built-in *qualitative* risk management features are complemented by the *quantitative* risk analysis features available with the full Oracle Primavera Risk Analysis solution, an optional integrated component.

Risk Scoring Matrix, Categories, and Thresholds (R8.0)

Define risk probability, tolerance, and impact thresholds using the new risk scoring matrix. When assigned to a project, users can assess risks in order to calculate relative project risk scores. This feature includes a new color-coded probability and impact diagram (PID), probability threshold scale, tolerance scale, and impact severity table.

Enhanced support for risk categories enables you to manage, track, and analyze your own particular conventions for grouping and managing risk. A new risk threshold page provides ways to configure color-coded assessment levels to measure the probability, cost, and schedule impacts of each risk.

Enterprise Reporting

Related Topics

Integrated On-Demand or Scheduled Reports (R8.0)..... 50

Integrated On-Demand or Scheduled Reports (R8.0)

This release of P6 includes the P6 Reporting Database integrated with Oracle Business Intelligence Publisher. BI Publisher is an enterprise reporting solution allowing you to design, manage, and deliver highly formatted documents. Report formats include Microsoft Word, Excel, OpenOffice, PDF, and support an array of familiar columnar and graphical styles. P6 provides more than 30 new reports dynamically generated when BI Publisher accesses P6 data in the Operational Data Store (ODS).

Other key features include:

- ▶ **Ready-to-Run Reports:** Run pre-defined reports to quickly get started
- ▶ **Room to Grow:** Create reports via data models or templates (also includes custom layout designer)
- ▶ **E-mail or save a report to a file:** E-mail reports to your predefined distribution lists. Reports can also be saved on your computer or a network server for shared access.
- ▶ **Deliver the same report in multiple formats to satisfy different users:** BI Publisher supports several file formats including HTML, PDF, Excel, PPT, MHTML, RTF, XML, and CSV. Each report can be published to all these formats or configured to only specific formats and will have a default format defined.
- ▶ **Schedule reports or generate ad hoc reports on-demand:** Schedule reports to be generated on a defined interval. Reports can be scheduled to execute once, daily, weekly or monthly. A report can have multiple schedule runs defined, each with its own interval, delivery recipients, template and parameters. Of course, any report can also be instantly generated on-demand.
- ▶ **Store archives and access report histories:** Previous runs of a report can be saved, providing a report archiving solution to allow for access to historical reports. Organizations can configure BI Publisher to save reports for a defined time period, and individuals can access the historical reports through BI Publisher.

- ▶ **Adjustable Parameters:** To further reduce the effort and cost of creating and maintaining reports, parameters can be defined within a report, and passed in during runtime. Parameters can be used to filter and organize the information on a report. By using parameters, a single report can meet the need of several project managers, planners and stakeholders. The new P6 reports also include easy lists of values you can browse to select the values you need to run your report.
- ▶ **Secure Access:** The new reporting capabilities provide three layers of security to ensure data is protected and individuals only have access to the reports they are permitted to run.
 - ▶ The entire reporting section can be hidden through the new Enterprise Reporting module access setting. Provisioning this new module will expose the reporting section and create database views in the ODS for each user.
 - ▶ The hierarchical folder structure used for organizing the reports can also define which reports each user has access to run.
 - ▶ Reports pulling project information from the ODS will only return data for projects a user has access to, as determined by P6 application security settings.

Also provided with this release are the ODS and its associated Extract, Transform and Load (ETL) process. The ODS is part of the P6 Reporting Database and provides secure access to information in an easy to use data schema.

Users seeking even greater leverage and analysis of their report data should consider deploying P6 Analytics, available separately from Oracle.

Note: Users of the previous version of P6 may notice the removal of the Project Reports and My Reports portlets. The new Reports section replaces those old features. Users still interested in viewing P6 Optional Client reports in a P6 portlet can select the **Store report in Work Products and Documents** option in P6 Optional Client when creating report batches or printing reports. See the *P6 Optional Client Help* for more information.

Workflow

Related Topics

Oracle BPM Integration (R8.0) 51

Oracle BPM Integration (R8.0)

Teams can collaborate with greater efficiency using workflows, which can be created and customized for P6, using the Oracle Business Process Management (BPM) Suite. Oracle BPM supports BPMN and BPEL at all stages from modeling and implementation to run time and monitoring.

In prior versions of P6, there were embedded workflow engines (jBPM or Interwoven) to automate only three P6 EPPM processes: project initiation, project processes, and document review. While easy to configure, these lacked the depth of functionality to truly model real-world processes. The prospect of using that legacy workflow integration to automate additional processes was limiting. Beginning with Release 8, P6 leverages Oracle's Unified Business Process Management (OBPM) solution to serve as the engine to automate any process related to the management of projects, programs, and portfolios.

All users participating in workflows are not required to use any other application besides P6. Users can initiate, participate, approve, reject, and continuously monitor any project workflow process by launching its associated form from within a P6 dashboard.

Note: BPM is not the only solution for deploying custom workflows in P6. This release also supports creation of an unlimited number of custom workflows using P6 EPPM Web Services and *P6 Events*.

Technological Advances

Related Topics

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Integrated LDAP Provisioning (R8.0)

The web application now directly includes Lightweight Directory Access Protocol (LDAP) provisioning support for seamless LDAP or SSO user authentication. In the previous release, a Windows PC was required to configure and add users from an LDAP repository. You can now configure, search for, and add users from your company's central LDAP directory using the P6 web application.

Note: Improvements have also been made in this release to the native, LDAP, single-sign on (SSO), API, and Oracle Access Manager (OAM) features supporting more secure user authentication for P6.

Enhanced and Expanded Job Services (R8.0)

The historic client/server job services architecture has been completely redesigned. Now, all jobs can be invoked and run in real-time from the web. Examples of on-demand jobs include *Recalculate Assignment Costs* and *Store Period Performance*.

In addition, job scheduling also takes place in a web-based environment. The following key jobs can be scheduled; for example, you might run these every Tuesday at a particular time:

- ▶ *Summarize Project*
- ▶ *Schedule Project*
- ▶ *Level Project Resources*
- ▶ *Apply Actuals*

Expanded Event Support (R8.0)

In alignment with all its new features, this release also supports an expanded number of events, triggered by interactions with various classes of objects that comprise the solution. For example, specific types of interactions with activities, projects, EPS elements, risks, documents, jobs such as *Apply Actuals*, and other special operations such as copying a project will now trigger events. Compared with the previous release, nearly three times as many events are available to developers at organizations where they are used for a variety of purposes such as workflows, notifications, data warehousing, or integrations with other enterprise software.

See the *Using Events with P6* manual for more information.

Integration Ready (R8.0)

P6 is now designed and tested to support major integrated enterprise management solutions, including Fusion PPM Bridge, Oracle Primavera Portfolio Management 8.0 (formerly ProSight), Oracle Enterprise Business Suite (EBS), JD Edwards, and other ERP products. Other popular integrations include P6 Progress Reporter for timesheets, Contract Management for contract management, and new in this release, BPM for workflows and BI Publisher or P6 Analytics for reporting.

P6 EPPM Web Services Security Enhancements (R8.0)

The P6 EPPM Web Services module now supports:

- ▶ Single sign-on via Security Assertion Markup Language (SAML)
- ▶ XML encryption
- ▶ Digital signatures

Improvements have also been made in this release to the native, single sign-on (SSO), LDAP, API, and Oracle Access Manager (OAM) features supporting more secure user authentication.

Platforms (R8.0)

With each release of P6 EPPM, the supported platforms are updated to reflect new technologies and the discontinuation of support for older technologies.

New Supported Platforms:

- ▶ Apple Mac OS X with Safari browser for P6
- ▶ Oracle Business Intelligence Publisher 10g for reporting
- ▶ Oracle BPM 10g & 11g for workflows
- ▶ HP Itanium database and application servers
- ▶ Oracle Enterprise Manager 11g for enterprise administration

Components or Versions No Longer Supported:

- ▶ JackRabbit previously used for document management
- ▶ jBPM previously used for workflows
- ▶ JBoss application server
- ▶ WebLogic 10g application servers
- ▶ Oracle HTTP 2.0 (10.1.3.2.0), IIS 6.0, and Apache 2.0 web servers
- ▶ SiteMinder previously used for Single Sign-On

User Productivity

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Auto-Complete Field Values (R8.0)

Available on select pages and dialog boxes, the new *Auto-Complete* feature offers helpful functionality while entering new values in fields. As you key in an entry in a field that only accepts values from a predefined list of existing values, including some calendar fields, the closest single matching value is automatically selected for you. If multiple values match your input, they are displayed in a list for you to make a selection.

Customizable Toolbars (R8.0)

On most pages of the application, fixed toolbars appear by default wherever they are needed based on your current selection. This functionality existed in the last release and was continued where needed for new pages in this release. However, on three of the most commonly used pages of the application, the Activities, EPS, and Resource Assignments pages, you can now customize the toolbars. Optimize your productivity by hiding the commands you rarely use to make room for the ones you use most often. In addition, you can rearrange and dock toolbars on these pages by clicking and dragging.

Enhanced Activity, Assignment, and EPS Filters (R8.0)

Apply filters to the Activities, Assignments, and EPS pages to constrain the number of activities, resource assignments, and projects, respectively, based on precise criteria you specify. Filter enhancements in this release include:

- ▶ Create, configure, and apply your own custom filters independent of the current activity view. Even apply multiple combinations of custom or shared filters at the same time. The filters you want to apply can also be saved with a customizable view, so they are automatically reapplied along with all the other settings stored in the view.

- ▶ Share filters globally with all users, designate them only for certain users, or keep them private for your own exclusive use.
- ▶ Cut, copy, and paste filters.
- ▶ Specify a greatly expanded number of filter criteria rules, a significant improvement over the previous release's 10-rule limit.
- ▶ Define nested logical filter rules for pinpoint accuracy when scanning rows of data. For example, define inclusive (*any* of the following) and exclusive (*all* of the following) rules.

E-mail Activity Views (R8.0)

Instantly capture one or more projects in your current multi-user view as a hyperlink you can e-mail to others so they can also view the same project, WBS, activity, and step data with all your customized settings applied.

Keyboard Shortcuts (R8.0)

The menus on the **EPS**, **Activities**, and **Resource Assignments** pages include new time-saving keyboard equivalents for important commands. The **Enterprise Data** pages in the administration section of the application also include keyboard equivalents for many of its popular commands (for example, press the **Insert** key to add a new item). Most pages and dialog boxes generally support **Tab** key traversal for easy access and navigation between fields.

Menus and Icons (R8.0)

New in this release, the **Activities**, **EPS**, and **Resource Assignments** pages now organize their feature-rich offering of commands within a series of standard menus titled **Actions**, **Edit**, and **View**. Throughout the entire suite, nearly 100 icons representing various commands have been redesigned and optimized for recognition and ease-of-use.

Redesigned Detail Windows (R8.0)

When a table of entries includes specific related information that supplements the data already shown on the page, P6 presents the detailed information in one or more detail windows. For added convenience, tabbed detail windows are minimized and restored collectively as a group. Users no longer need to open and close each detail window separately, although this level of individual customization is still supported on the EPS and Activities pages.

Overall, for improved efficiency, the application makes greater use of the consistent detail window design. For example, detail windows also appear when administering resources, user accounts, and security profiles. The new **EPS** page includes eight detail windows with specific supporting information related to EPS elements and projects. And finally, the **Activities** page adds three new detail windows for issues, risks, and general data. The detail windows on the **Activities** and **EPS** pages, two of the most widely used pages in the application, can individually be shown or hidden from view.

Learning Assistance

Related Topics

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Completely Redesigned Online Help (R8.0)

A new context-sensitive Online Help system is both re-authored and re-architected to provide instant support to users in a time-saving structured interface. Topics include descriptions for all screen elements, icons, and fields. Key concepts, related links, step-by-step tasks, and valuable reference information are provided. Also includes new hierarchical table of contents and search features.

UPK Multimedia Tutorials (R8.0)

Take advantage of the built-in integration with Oracle's User Productivity Kit (UPK) allowing you to launch context-sensitive tutorials. In addition to opening the P6 Online Help, the expanded **Help** menus and buttons in P6 also present options for viewing UPK multimedia simulations from within the P6 interface.

As your organization grows, expand your UPK investment to include custom tutorials developed exclusively for your particular environment, training needs, or business requirements. Oracle UPK must be purchased separately to create new simulations or modify existing ones.

P6 Professional

An overview of the new features available only in P6 Professional, designed for planners and schedulers, follows.

To learn more about the features included in or removed from this release of P6 Professional, see the P6 Professional online help topic *What's New in P6 Professional?*

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Timescaled Logic Diagrams (R8.0)

A much-anticipated new feature, *Timescaled Logic Diagrams* allows users to condense the project schedule into smaller snapshots. A convenient timescale logic viewer, seamlessly launched from within the P6 Professional application, facilitates the creation, customizing, saving, and printing of timescaled logic diagrams and Gantt charts.

Tabbed Views (R8.0)

By popular demand, users can now switch between open layouts, screens, or views by clicking their identifying tab. Tabs can also be grouped, splitting the window, and then merged back into a single group of tabs within a window. This means that all main windows in the entire application, including Projects, Activities, and Resources, can be displayed simultaneously as tabs and can be tiled horizontally, vertically, or some combination of both.

Customizable Menus (R8.0)

Users can now change the display order of menus, rearrange menu commands, delete menus and commands, and create custom menus.

Customizable Toolbars (R8.0)

An improved default arrangement of toolbars and command buttons reduces visual clutter. In addition, users can fully create and customize any toolbars in the client interface with the commands of most importance to their goals and assignments.

Page Breaks by Group Band (R8.0)

P6 Professional now supports page breaks within layouts. Similar to reports, layouts can be printed and page breaks determine if output will split your charts or other data onto separate pages. Page breaks can be set manually, on customary Page Setup dialog boxes, or automatically based on group band values.

Apply Actuals and Summarize Project Now Run as Services (R8.0)

Apply Actuals and *Summarize Project* jobs now run as java services. These jobs are no longer processed locally within P6 Professional. You can view the status of these services in the **Job Status** dialog box accessible from the **Tools** menu in P6 Professional and will be notified when a service completes or fails.

Auto-Refresh Grouped Data by Window (R8.0)

Enable and disable automatic refresh of grouped data per window. This setting applies to the active window only, and can be different for each open window.

Client-Web Delineation and Integration (R8.0)

This release offers greater web support and ease of use without sacrificing the raw power our P6 Professional users have found indispensable. The <P6 Professional client application's legacy administrative functionality has been shifted to a redesigned web interface to allow the client interface to focus entirely on planner/scheduler functionality. P6 Professional users can decide to continue to rely on the optional client application, with its strong core scheduling features, while most enterprise users will migrate to and benefit from the greatly-expanded capabilities and convenience now found in the P6 web application.

Streamlined Installer (R8.0)

P6 Professional now installs all of its files into a single directory with fewer required registry settings. (Note: Only certain secondary applications using the API and the optional SDK use registry settings.) The two main benefits of the new installer are that its footprint is simple and that it is generally easier for IT administrators to deploy (e.g., installations can be *pushed* over the network down to users' desktops).

Of interest to customers of P6 Professional version 7.0, the previous version, is the new supported capability of installing P6 Professional Release 8.0 side-by-side with a version 7.0 installation. Users requiring an upgrade to the P6 SDK would first have to uninstall the 7.0 version of the P6 SDK.

Improved HTML Editor (R8.0)

A new HTML editor provides an expanded set of formatting options for use with notebook and description fields.

Command Line Support (R8.0)

This release supports running batch report jobs and exporting projects from a command line.

Note: To view P6 Professional reports in P6, select the **Store report in Work Products and Documents** option when creating report batches or printing reports. See the *P6 Professional Help* for more information.

Who Should Help with the Installation?

The talents of several different types of employees might be required to install and configure P6 EPPM modules in your organization. The following section describes the basic roles and the responsibilities typically given to those roles during the installation process. Roles might vary or overlap depending on the structure of your organization.

Network administrators

Network administrators configure an organization's network environment (local- and wide-area networks) for optimal performance with P6 EPPM modules. They install and maintain the server and client modules in the P6 EPPM solution.  They manage user access to project data and develop and maintain a comprehensive security policy to ensure that project data is protected from unauthorized access, theft, or damage. Network administrators ensure that the hardware and software supporting P6 EPPM function reliably by

- ▶ Setting up and maintaining the network to ensure reliable connections and the fastest possible data transfer
- ▶ Creating and maintaining accurate lists of network resources and users so that each has a unique network identity
- ▶  Providing secure connections among modules using SSL/TLS to protect data in transit

Database administrators

Database administrators (DBAs) are responsible for setting up, managing, and assigning access rights for P6 EPPM. They set and oversee rules governing the use of corporate databases, maintain data integrity, and set interoperability standards. Database administrators ensure reliable access to P6 EPPM database by

- ▶ Installing, configuring, and upgrading database server software and related products as required
- ▶ Creating and implementing the databases
- ▶  Implementing and maintaining database security, including creating and maintaining users, roles, and privileges for the databases
- ▶ Monitoring database performance and tuning as needed
- ▶ Planning for growth and changes and establishing and maintaining backup and recovery policies and procedures

P6 EPPM administrators

P6 EPPM administrators are responsible for ensuring that P6 EPPM applications are implemented properly and that they operate smoothly. They play a key role during implementation by

- ▶ Working with senior management to establish the enterprise project structure, resource hierarchy, and organizational breakdown structure (OBS); set up basic calendars; and define organization-wide codes in P6
- ▶  Working with the network administrator to create user accounts and user groups for P6 EPPM
- ▶  Assigning security rights to P6 EPPM users in P6
- ▶ Working with the Human Resources (HR) department to keep the resource hierarchy in P6 up-to-date and complete, possibly through integration of an HR component from an enterprise resource planning (ERP) system
- ▶ Configuring User Interface Views in P6 to provide efficient, role-based navigation to features

Web Application administrators

Web Application administrators are responsible for installing, configuring, and deploying P6 EPPM on one of the supported Java application servers. Along with network administrators, they help to maintain server components in the P6 EPPM solution and configure access to P6 EPPM web applications.

Web application administrators ensure reliable access to P6 EPPM applications by:

- ▶ Installing, configuring, and upgrading application server software and related products
- ▶ Configuring secure access to all web applications, including proxy servers
- ▶ Monitoring server performance and tuning
- ▶ Planning for growth and changes
- ▶ Establishing and maintaining scalability

LDAP administrators

LDAP administrators are responsible for configuring unified access to P6 EPPM via existing LDAP connection details. They are also responsible for assisting web application administrators and network administrators when configuring single sign-on access to P6 EPPM.

Program and project managers

In some cases, program and project managers might also become involved in the initial configuration of the P6 EPPM solution, though they are not normally involved in the installation. They are responsible for managing one or more projects and use P6 or P6 Optional Client for

- ▶ Adding projects to the P6 EPPM database
- ▶ Prioritizing resources across projects
- ▶ Planning and managing projects

Installation Process Phases

The network administrator, database administrator, and P6 Administrator should work together to ensure that the P6 EPPM solution is successfully installed for your organization. These roles can be played by teams of people or by a few people sharing responsibilities.

Oracle recommends installing and configuring the P6 EPPM solution in phases. Each phase of the installation process is explained below.

Phase 1: Plan your P6 EPPM configuration

Before you begin the installation:

- ▶ Decide how your organization will implement the P6 EPPM solution.
- ▶  Identify the security requirements for your installation.
- ▶ Identify the servers and network hardware you will need to support the implementation.
- ▶ Install and configure the third-party database server software (Oracle), if necessary.
- ▶ Perform any upgrade procedures as needed to roll projects from previous versions into the new version.

Phase 2: Configure your P6 EPPM servers

Once you have set up your network and prepared your servers, you can begin to configure the servers. Start by setting up the P6 EPPM database on the database server. You can choose an automated or a manual method to complete this process.

Phase 3: Configure P6 Optional Client

Once your servers are configured and the databases are installed, you can begin to install P6 Optional Client modules on your client workstations according to your implementation plan. You can then perform application configuration tasks as needed for your implementation.

Planning Your Implementation

Read this chapter when you are ready to plan your P6 EPPM 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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Which Components Do I Need?

When planning your P6 EPPM implementation, you will first need to know which client modules and server components you will need to install and configure, 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.

Which relational database management system (RDBMS) will we use on our database server?

You can use either Oracle or Microsoft SQL Server on your database server for most P6 EPPM installations. If your P6 EPPM database is a Microsoft SQL Server database, you must first install and configure the Oracle Gateway to use P6 Reporting Database with P6 EPPM. Installation and configuration of the Oracle Gateway is explained in the P6 Reporting Database Administrator's Guide.

Which workstations will require P6 Optional Client?

All P6 Optional Client users will need access to the database server. If using Oracle as the RDBMS, you will need to install the Oracle client software on each computer that runs this client module. If using Microsoft SQL Server as the RDBMS, the required Microsoft SQL Server files have already been included with Windows.

Do we want our administrators to install P6 Optional Client 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 we need to integrate our 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 the P6 Integration API, P6 EPPM Web Services, or P6 SDK on computers that require access to the data. The P6 Integration API requires knowledge of Java programming. P6 EPPM Web Services seamlessly integrates P6 EPPM functionality into other applications via open standards, including XML, SOAP, and WSDL. The P6 SDK makes project data available to external applications through Open Database Connectivity (ODBC) interfaces, such as OLE DB.

Do some users require the ability to manage their projects in Microsoft Project while utilizing P6 EPPM to manage global data?

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

Will our team members use P6 Progress Reporter to submit timesheets to the project/resource managers? If so, will we require that resource and/or project managers review and approve resource timesheets?

If team members will use the P6 Progress Reporter, you will need to install P6 Progress Reporter 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 EPPM application server when you install P6, enables timesheet approval managers to review, approve, and reject timesheets, communicate with P6 Progress Reporter resources, and run timesheet reports. Once installed, you can configure access to Timesheet Approval from P6.



Do we want to utilize password security features?

When the authentication mode is set to "Native," most of P6 EPPM, with the exception of the P6 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. P6 offers additional password security enhancements when using Native mode, such as a login lockout count and login lockout duration. If using Single Sign-On or LDAP authentication, the security set on the host authentication server overrides the password security features in P6 EPPM.

What technologies do I need to support third party integrations?

You will need Oracle BI Publisher (or optionally, Oracle Business Intelligence) for reporting, Oracle BPM to support project initiations for Workflows, Oracle Universal Content Management or Microsoft SharePoint for Content Repository documents, Oracle AutoVue for visualization support in documents, and Oracle Configuration Management to remotely capture configuration information. Also, you can use Oracle Identity Manager to centrally administer user accounts and access privileges, and deploy a P6 EPPM-specific plugin in Oracle Enterprise Manager to display certain P6 EPPM metrics. More information about P6 EPPM's integration with Oracle Identity Manager and Oracle Enterprise Manager is available in the \Documentation\<language>Technical_Documentation folder of the P6 EPPM physical media or download.

If We Use P6 Progress Reporter, Which Version Should We Use?

P6 Progress Reporter consists of the P6 Progress Reporter client on the front end, the database server that contains your projects on the back end, and the application server hosting P6 Progress Reporter files in the middle, providing a link between P6 Progress Reporter clients and the database.

P6 EPPM facilitates project communication among team members across the organization by providing two types of interfaces for P6 Progress Reporter: a Java Web Start version and a Web Browser version. The Web Browser version is optional, depending on your configuration. The differences between the two interfaces are described below.

- ▶ **Java Web Start version** Enables users to access their timesheet data across the Internet as a *Java application*.

Java Web Start provides a secure and platform-independent deployment of P6 Progress Reporter, using the Java Network Launching Protocol (JNLP) technology. Java Web Start also ensures that users always launch the most recent version of P6 Progress Reporter under the correct JRE version, even if there is more than one JRE version present at the same time. Java Web Start automatically downloads the most recent version of P6 Progress Reporter to the user’s computer, so users never have to upgrade manually.

- ▶ **Web Browser version** Performs the same function as the Java Web Start version, but this version runs as a *Java applet*. This version is required when using Single Sign-On authentication.

To run the Web Browser version, users simply visit a specified URL, and the Java applet automatically downloads to their computers; the applet can then be run on their computer. When many users will need to use P6 Progress Reporter, running it as a Java applet can provide great administration time savings—no client-side installation is required, and software updates are automatically distributed. The primary disadvantage is the initial download time for the applet.

Required Server Components for Web-based Access in P6 EPPM

P6 provides access to project data via a Web browser. It supports the creation and management of projects within the company, provides resource availability and allocation details, and provides project portfolio reporting features to support strategic decision-making.

The following table lists each client component and the corresponding server-based components that it requires.

	RDBMS server	P6 Progress Reporter server	P6 server	Content and Workflows Repositories server
P6 Optional Client module	X ¹		X	
P6 Progress Reporter module	X	X	X	

P6 module	X	X ²	X	X ³
-----------	---	----------------	---	----------------

¹ If using Oracle as the RDBMS, these modules require the Oracle client software to be installed on the client computer.

² P6 Progress Reporter is an optional component in this case; it is only required if you are using P6 Progress Reporter functionality.

³ The Content and Workflows Repositories are optional components of P6. They can serve as aids in document management and project initiation processes.

Client and Server Requirements

After determining your P6 EPPM implementation plan, ensure that your hardware and software can support it. The following tables summarize supported configurations for P6 EPPM.

For the full list of system requirements, versions, and tested configurations, see the *P6 EPPM Tested Configurations* document. For guidance on hardware and software requirements, see the *P6 Enterprise Project Portfolio Management Performance and Sizing Guide* white paper.

Supported Platforms for P6 EPPM

For P6 and P6 Progress Reporter

- ▶ Microsoft Windows XP sp3
- ▶ Microsoft Windows Vista sp2
- ▶ Microsoft Windows 7
- ▶ Mac OS X Snow Leopard
- ▶ Ubuntu Linux 10.0 (P6 Progress Reporter only)

For P6 Optional Client

- ▶ Microsoft Windows XP sp3
- ▶ Microsoft Windows Vista sp2
- ▶ Microsoft Windows 7
- ▶ Citrix Presentation Server 4.5
- ▶ Citrix XenApp 5.0

Note: Requirements for the P6 Integration API, P6 EPPM Web Services, and the P6 SDK will vary depending on the requirements of the module that uses these applications to integrate with P6 EPPM databases.

Supported Configurations for Client Modules

For clients accessing P6

- ▶ Microsoft Internet Explorer (IE) 7, IE 8, Firefox 3.6, Safari 5.0.4, Chrome 8.0.552

- ▶ Sun JRE (the required version will be installed automatically with P6);  Always install the latest supported patch update with security fixes
- ▶ TCP/IP network protocol

For clients accessing P6 Progress Reporter

- ▶ IE 7, IE 8, Firefox 3.6, Safari 5.0.4, Chrome 8.0.552
- ▶ Sun JRE (the required version will be installed automatically with P6 Progress Reporter);  Always install the latest supported patch update with security fixes
- ▶ TCP/IP network protocol
- ▶ Optional software:
 - ▶ Java Access Bridge 2.01 (for 508 accessibility)
- ▶ P6 Progress Reporter has been tested with the following assistive technologies:
 - ▶ JAWS® for Windows screen reading software, version 7.0
 - ▶ ZoomText Magnifier 9.0

For database clients running P6 Optional Client

- ▶ Oracle 11.1.0.7.0 Runtime (only required for Oracle databases and only the 32-bit version is supported). Oracle 11G R2 is also supported.
- ▶ TCP/IP network protocol

Note: P6 Optional Client R8.1 is compiled with a /LARGEADDRESSAWARE option (also known as LAA) that can address additional virtual memory above 2GB. Applications like P6 Optional Client that are compiled with the /LARGEADDRESSAWARE option can take advantage of the 3GB switch in 32-bit Windows and can address up to 4GB of virtual memory in 64-bit Windows. For more information on the 3GB switch for the /LARGEADDRESSAWARE option, please contact Microsoft Support.

Supported Configurations for Servers

For the P6 EPPM database server

- ▶ Oracle 10.2.0.5.0
- ▶ Oracle 11.2.0.2.0
- ▶ Microsoft SQL Server 2005 sp3
- ▶ Microsoft SQL Server 2008 R2

For P6 and P6 Progress Reporter Operating Systems

- ▶ Microsoft Windows 2003 Server R2 sp2
- ▶ Microsoft Windows 2008 Server sp2
- ▶ Microsoft Windows 2008 Server R2
- ▶ Oracle Enterprise Linux 4
- ▶ Oracle Enterprise Linux 5.0 (5.3.0.0.0)

- ▶ Oracle Enterprise Linux 6 (6.0.0.0.0)
- ▶ Solaris 10 (Sparc)
- ▶ HP-UX RISC 11i v3
- ▶ IBM AIX 6.1
- ▶ HP UX (Itanium) 11i v3 (11.31)
- ▶ TCP/IP network protocol

For P6 and P6 Progress Reporter Java Application servers

- ▶ Oracle WebLogic 11g R1 (10.3.4)
- ▶ IBM WebSphere 7.0 fp15

For the Web server hosting Project Web Site files

- ▶ Microsoft Windows 2008 Server sp2 with Microsoft Internet Information Server (IIS) 7.0
- ▶ Microsoft TCP/IP networking protocol

For P6 and P6 Progress Reporter Web servers

- ▶ IBM HTTP 7 fp15
- ▶ Microsoft Windows 2003 Server R2 sp2 with Oracle HTTP 11.1.1.4.0 Server and Microsoft IIS (Internet Information Server) 7.0
- ▶ Microsoft Windows 2008 Server sp2 with Oracle HTTP 11.1.1.4.0 Server and IIS 7.0
- ▶ Oracle Enterprise Linux 4 with Oracle HTTP 11.1.1.4.0 Server
- ▶ Oracle Enterprise Linux 5 with Oracle HTTP 11.1.1.4.0 Server

Supported E-Mail Systems and Network Protocols

- ▶ Internet e-mail (SMTP)
- ▶ MAPI is supported for P6 Optional Client
- ▶ Network protocols depend only on database vendor
- ▶ Web site requires TCP/IP

Security Guidance

This chapter provides guidelines on creating an overall secure environment for P6 EPPM. 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 EPPM implementation.

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Security Guidance Overview

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

- ▶ Review all security documentation for applications and hardware components that interact or integrate with P6 EPPM. Hardening your environment is recommended. See **Additional Sources for Security Guidance** (on page 77) for links that can help you to get started.
- ▶ Read through the summary of considerations for P6 EPPM 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 EPPM 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 EPPM applications.

Safe Deployment of P6 EPPM

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

Administrative Privileges Needed for Installation and Operation

As the P6 EPPM Administrator, you should determine the minimum administrative privileges or permissions needed for installation, configuration, and daily operation of P6 EPPM. For example, to successfully install the required JRE for P6 EPPM Web applications (for example, P6 and P6 Progress Reporter), you must be an administrator on the client machine during this installation or update.

Minimum Client Permissions Needed for P6 and P6 Progress Reporter

Because P6 and P6 Progress Reporter are Web applications, users do not have to be administrators on their machines to run them. Instead, you can successfully run these applications with security at the highest level to create a more secure environment.

Minimum Client Permissions Needed for P6 Optional Client

Users do not have to be administrators on their machines to run P6 Optional Client. 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 Optional Client R8.1:

Files within Window Folders:

- ▶ *local drive*\Program Files\Oracle\Primavera P6\P6 Optional Client
 - dbexpsda40.dll
 - dbexpsda30.dll
 - dbexpint.dll
 - dbexpoda40.dll
 - dbexpoda30.dll
 - DbExpPrC.dll (only needed when using Compression Server)
 - dbexpsda.dll
 - dbxadapter30.dll (only needed when using Compression Server)
- ▶ Read&Execute/Read permission to access files needed to run P6 Optional Client applications and to create and modify database alias connections.
- ▶ *local drive*\Program Files\Oracle\Primavera P6\P6 Optional Client\pm.ini
 - Read&Execute/Read/Write permission to access the ini file, which is required to log into P6 Optional Client applications.
- ▶ *local drive*\Program Files\Oracle\Primavera P6\P6 Optional Client\Java\

dbconfig.cmd

admin.cmd

Read&Execute/Read permissions to run the Database Configuration setup, the P6 Administrator application, and API tools (Update Baseline and Schedule Comparison/Claim Digger).

Write permission may be required for the Database Configuration Setup utility (dbconfig.cmd) for the API tools if you need to create a new configuration and update the BREBootStrap.xml file with the new database configuration information.

For your reference, the following are the default installation locations for the PrmBootStrap.xml and BREbootstrap.xml files:

- ▶ Windows XP:
 - \%USERPROFILE%\Local Settings\Application Data\Oracle\Primavera P6\P6 Optional Client
- ▶ Windows Vista and 7:
 - \%LOCALAPPDATA%\Oracle\Primavera P6\P6 Optional Client

During installation, the PrmBootStrap.xml and BREbootstrap.xml files are also copied to one of the locations below, depending on your operating system. The files will never be modified during use of P6 Optional Client, so they can be copied to the current user location (USERPROFILE or LOCALAPPDATA) if you need to revert P6 Optional Client back to its original state (for example, if files become corrupted).

- ▶ Windows XP:
 - \%ALLUSERSPROFILE%\Application Data\Oracle\Primavera P6\P6 Optional Client
- ▶ Windows Vista and 7:
 - \%PROGRAMDATA%\Oracle\Primavera P6\P6 Optional Client
- ▶ Output directory for File > Export , Log output files
 - Read&Execute/Read/Write to create and write output files.

Registry Keys:

- ▶ HKEY_LOCAL_MACHINE\Software\Primavera
 - READ

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 EPPM

All hardware hosting P6 EPPM should be physically secured to maintain a safe implementation environment. Consider the following when planning your physical security strategy:

- ▶ Components of the intended environment should be properly installed, configured, managed, and maintained according to guidance in all applicable Administrator's Guides for P6 EPPM.

- ▶ Components of P6 EPPM should be installed in controlled access facilities to prevent unauthorized physical access. Only authorized administrators for the systems hosting P6 EPPM should have physical access to those systems. Such administrators include the Operating System Administrators, Application Server Administrators, and Database Administrators.
- ▶ Administrator access to client machines should only be used for installation and configuration of P6 EPPM modules.

Application Security Settings in P6 EPPM

P6 EPPM contains a number of security settings at the application level. All of these settings are detailed in the *P6 EPPM Administrator's Guide*. Use the Security Guidance icon  to quickly identify them.

To help you organize your planning, the following is a sampling of recommended options to consider:

- ▶ In your production environment, opt for empty data instead of sample data during the P6 EPPM database setup.
- ▶ Turn on Password Policy in Application Settings. An enabled Password Policy will increase the required length and quality of the password.
- ▶ In the P6 Administrator application:
 - ▶ evaluate the Login Lockout Count; the default is 5.
 - ▶ keep Multiple User for the Content Repository authentication mode.
 - ▶ use Security Accounts if using Oracle Universal Content Management for the Content Repository.
 - ▶ use STRONG for the Directory Services security level.
 - ▶ keep the Enable Cross Site Scripting Filter setting set to true.
 - ▶ enable LDAP or WebSSO for authentication.
 - ▶ if using WebSSO, set "Application\Logout URL" in the P6 Administrator application to your SSO logout URL to ensure that the SSO sessions end.
 - ▶ enable the HTTPS authentication setting.

Note: The HTTPS authentication setting requires that web server and application server settings support SSL.

Files to Protect after Implementation

While P6 EPPM requires specific files for installation and configuration, some are not needed for daily operations. Although not intended as a comprehensive list, the following are files that should be protected or moved to a secure location after installation and configuration:

- ▶ **DatabaseSetup.log**
Captures processes performed during P6 EPPM database installation.
Default Location = user home directory (for example, C:\Documents and Settings\Administrator)

- ▶ **adminpv.cmd** (or **adminpv.sh** for Linux)
Launches the P6 Administrator application.
Default location = P6 home directory, as specified during installation
- ▶ **dbconfigpv.cmd** (or **dbconfig.sh** for Linux)
Tool used to create the connection between the P6 EPPM database and P6.
Default location = P6 home directory, as specified during installation
- ▶ **p6-emplugin.jar**
A P6 EPPM-specific plug-in used to enable the display of P6 metrics in Oracle Enterprise Manager.
Default location = P6 home directory, as specified during installation

Manual Database Installation Admin Superuser Security

If you manually install your database, you will have the null your Admin Superuser password to login for the first time. If you automatically install or upgrade or manually upgrade your database, you can ignore this section.

Once you null your password, you need to immediately reset it in the application.

Note: Do not null the password until you are ready to login to application for the first time and change your Admin Superuser password.

Authentication Options for P6 EPPM

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

- ▶ **Native** authentication is the default mode for P6 EPPM. In this mode, when a user attempts to log into a P6 EPPM application, authentication is handled directly through the module with the P6 EPPM database acting as the authority.
- ▶ **Single Sign-On** authentication, which provides access control for Web applications, is available for P6 Progress Reporter and P6. In this mode, when a user attempts to log into a P6 EPPM application (protected resource), a Web agent intercepts the request and prompts the user for login credentials. The user's credentials are passed to a policy server and authenticated against a user data store. With Single Sign-On, a user logs on only once and is authenticated for all Web applications for the duration of the browser session (provided that all Web applications authenticate against the same policy server).
- ▶ **LDAP** (Lightweight Directory Access Protocol) is directory-based authentication and is available for all P6 EPPM applications. In this mode, when a user attempts to log into a P6 EPPM application, the user's identity is confirmed in an LDAP-compliant directory server database. Additionally, P6 EPPM supports the use of LDAP referrals with Oracle Internet Directory and Microsoft Windows Active Directory. Referrals chasing allows authentication to extend to another domain. You can also configure multiple LDAP servers to use for authentication. This allows failover support and enables you to search for users in multiple LDAP stores.

The use of Single Sign-On or LDAP will help you to create the most secure authentication environment available in P6 EPPM.

P6 EPPM Web Services offers its own authentication options. If you use SAML for P6 EPPM Web Services, you must use Single Sign-on or LDAP authentication for P6 EPPM. See **P6 EPPM Web Services Settings** (on page 323) and the *P6 Web Services Programmer's Guide* for more information on P6 EPPM Web Services authentication options.

Authorization for P6 EPPM

Appropriate authorization should be granted carefully to all users of P6 EPPM. The most secure application security options are detailed in the *P6 EPPM Administrator's Guide*.

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

- ▶ Use Module Access rights to limit access to P6 EPPM modules.
- ▶ 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 EPPM

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

- ▶ For data in transit, use SSL/TLS to protect network connections among modules. If LDAP or SSO authentication mode is used, ensure that LDAPS is used for the connection 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 EPPM

Measures should be taken to protect sensitive data in P6 EPPM, such as user names, passwords, and e-mail addresses. Use the process below as an aid during your security planning:

- ▶ Identify which P6 EPPM modules will be used.
- ▶ Determine which modules and interacting applications display or transmit data that your organization considers sensitive. For example, P6 allows the display of sensitive data, such as costs and secure codes.
- ▶ Implement security measures in P6 EPPM 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 EPPM, as detailed in the documentation included with those applications. For example, be sure to follow the security guidance provided with Oracle WebLogic.

Reliability for P6 EPPM

The following measures can be taken to protect against attacks that could cause a denial of service:

- ▶ Ensure that the latest security patches are installed.
- ▶ Replace the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier.
- ▶ Ensure that log settings meet the operational needs of the server environment. Refrain from using "Debug" log level in production environments.
- ▶ Document the configuration settings used for servers and create a process for changing them.
- ▶ Consider setting a maximum age for the session cookie on the application server.
- ▶ Protect access to configuration files with physical and file system security.

Cookies Usage in P6 EPPM

View the details below for information on when cookies are created and stored when using P6 and P6 Progress Reporter. As stated in **Reliability for P6 EPPM** (on page 75), consider setting a maximum age for the session cookie on the application server.

Cookies Usage in P6

When using P6, the following cookies are generated by the server and sent to the user's browser. They are stored on the user's machine, either temporarily by the browser, or permanently until they expire or are removed manually.

Cookie Name	Description	Scope	Retention	Encrypted?
ORA_PWEB_CLIENTLOCAL_1111	Browser client locale	/p6/	One year	No
ORA_PWEB_SELECTED_DBID_1111	The last database identifier selected by the user	/p6/	One year	No
ORA_PWEB_IA_HD_CODE_1111	IP and identifier of client machine	/p6/	One year	No
ORA_PWEB_LANGUAGE_1111	The translation selected by the user	/p6/	One year	No
ORA_PWEB_Composite_Cookie_1111	Login and user customizations accumulated throughout the session	/p6/	One year	No

ORA_PWEB_COMPOSITE_SESSION_COOKIE_1111	Statistics portlet customizations	/p6/	None (expires at end of session)	No
JSESSIONID	Session identifier	default	None (expires at end of session)	No
sw	Applies only for P6 Help systems. The last search term used in the search tab located on the table of contents frame.	Current working directory only on the current host (for example, if located at <code>http://host/p6help</code> , only valid for the <code>http://host/p6help</code> directory).	None (expires at end of session)	No
sm	Applies only for P6 Help systems. 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.	Current working directory only on the current host (for example, if located at <code>http://host/p6help</code> , only valid for the <code>http://host/p6help</code> directory).	None (expires at end of session)	No
style	Applies only for P6 Help systems. The current style for the help reference manual. Only valid values are "contrast" or "default".	Any location on the current domain.	One year	No

Cookies Usage in P6 Progress Reporter

When using P6 Progress Reporter, the following cookies are generated by the server and sent to the user's browser. They are stored on the user's machine, either temporarily by the browser, or permanently until they expire or are removed manually.

Cookie Name	Description	Scope	Retention	Encrypted?
ORA_PR_OPENMETHOD_1111	Saves the method to load activities into Timesheet in Progress Reporter based on user's selected options	/pr/	One year	No
ORA_PR_AUTOINC_1111	Selects the option for adding completed assignments in the dialog	/pr/	One year	No
ORA_PR_COPYADD_1111	Determines whether to select the add current option in the open dialog	/pr/	One year	No
ORA_PR_COPYINC_1111	Determines whether to select the copy completed option in the open dialog	/pr/	One year	No
ORA_PR_Highbandwidth_1111	Has the user specified that the network connection is fast?	/pr/	One year	No

Additional Sources for Security Guidance

The databases, platforms, and servers that you use for your P6 EPPM implementation should be properly secured. Although not intended as a comprehensive list, you might find the links below helpful when planning your security strategy.

Note: Due to the dynamic nature of the Web, the URLs below might have changed since publication of this guide.

Oracle Database

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

Microsoft SQL Server 2005 Database

<http://www.microsoft.com/sqlserver/2005/en/us/security.aspx>

Microsoft SQL Server 2008 Database

<http://www.microsoft.com/sqlserver/2008/en/us/Security.aspx>

Microsoft Windows 2008 Server

[http://technet.microsoft.com/en-us/library/dd548350\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/dd548350(WS.10).aspx)

Microsoft Windows 2003 Server

<http://www.microsoft.com/downloads/details.aspx?familyid=8A2643C1-0685-4D89-B655-521EA6C7B4DB&displaylang=en>

Oracle WebLogic

http://download.oracle.com/docs/cd/E12839_01/web.1111/e13710/intro.htm#sthref8

http://download.oracle.com/docs/cd/E15523_01/web.1111/e13707/toc.htm

http://download.oracle.com/docs/cd/E15523_01/web.1111/e13705/intro.htm

http://download.oracle.com/docs/cd/E12840_01/wls/docs103/secmanage/ssl.html

Oracle Fusion Middleware Security Guides

http://download.oracle.com/docs/cd/E12839_01/security.htm

Automatic Database Installation

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

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Automatic Database Installation Overview

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

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

P6 EPPM supports Oracle and Microsoft SQL Server databases. See **Client and Server Requirements** (on page 66) 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. See **Manual Database Configuration** (on page 87) for the manual instructions.

Note: See **Automatic Database Upgrade** (on page 99) for details if you have previously installed and configured P6 EPPM databases and want to upgrade to the current version.

See **Database Administration** (on page 113) for additional tips and considerations related to database performance along with additional settings.

Oracle considerations

Before installing the P6 EPPM database, consider the following:

- ▶ If you intend to run P6 Optional Client 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 client, the TNSPING.EXE utility is automatically installed in the \oracle\ora_home\bin folder. This utility must be present for P6 EPPM 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 EPPM 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.
-

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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\jre6).
 - 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 P6 EPPM physical media or download) file before running it. For example:

```
export JAVA_HOME=/usr/java/jre1.6.0_24/
```

- 2) Run **dbsetup.bat** (dbsetup.sh for Linux) from the Database folder of the P6 EPPM physical media or download.

Note: Click Next on each wizard dialog box to advance to the next step.

- 3) On the **Primavera P6** dialog box:
 - a. Choose **Install a new database**.
 - b. Choose **Oracle** as the server type.
- 4) On the **Connection Information** dialog box:
 - a. In the **DBA user name** field, type the Oracle system user name to log on to the database.
 - b. In the **DBA password** field, type the password to log on to the database.
 - c. In the **Database host address** field, enter the server machine name or IP address where Oracle is installed.
 - d. In the **Database host port** field, enter the port number that Oracle is using. The default is 1521.
 - e. In the **Database name (SID)** field, enter the Oracle service name.

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

- 5) On the **Configure Oracle Tablespaces** dialog box:
 - a. Change the estimated tablespace sizes if needed.
 - b. Select the **Use existing tablespaces** option only if the database server to which you are connecting already has existing tablespaces. For a new database server, do not select this option. If you select this option, skip to step 2 on **Loading Application Data for Oracle** (on page 82).

- c. Click **Next** to accept the name for the Data, Index, LOB, and PX tablespace names and estimated tablespace sizes.
- 6) On the **Specify Oracle Tablespace Locations** dialog box:
 - a. Accept the default locations for the Oracle tablespaces (Data, Index, LOB, and PX) or specify different locations.
 - b. Click **Create**.

Clicking **Create** will begin the initial setup of the P6 EPPM database, so you will no longer be able to click Previous to change your prior selections. However, in **Loading Application Data for Oracle** (on page 82), you will have the option to either click Next or Cancel.

Loading Application Data for Oracle

To continue installing the Oracle database and load application data:

- 1) On the **Primavera Database Setup Wizard** dialog box, click **Next** when tablespace creation has completed.
- 2) On the **Create Oracle Users** dialog box, specify the Oracle database administrative, privileged, public, background, and PX Reporting user names and passwords.

Caution: Use a unique name for all your user names; do not use duplicate names. For example, do not enter privuser as the administrative user name or pubuser as your PX reporting user name. Repeating user names will cause conflicts.

Notes:

- P6 EPPM does not support passwords with multi-byte characters.
-  Oracle recommends using strong passwords. Strong passwords in P6 EPPM 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.
- Do not use special characters in the database name, privileged user, public user, or PX reporting user name, for example: { } [] ; < > , . ? ! @ # \$ % ^ & * () - _ | / \ ~ `

-
- 3) On the **Configuration Options** dialog box:
 - a. In the **Application User** section, enter the P6 EPPM 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 EPPM 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.

- 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 EPPM database.

Caution: You must choose the base currency in the following step if you do not want the database to use US dollars (\$) as the base currency. It is not possible to change the base currency once projects are in progress. See **The Base Currency** (on page 93) for more information on the base currency.

- 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** dialog box, 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 (for the P6 EPPM database), you can begin to install and configure P6 EPPM web applications and the client module. See **P6 Installation** (on page 135). See **P6 Progress Reporter Installation** (on page 335). See **Installing P6 Optional Client** (on page 373).

See **Database Administration** (on page 113) 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 in P6. The default base currency for P6 EPPM is US dollars (\$). The view currency is the monetary unit used to display cost data in P6 EPPM 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.

Private Database Logins for P6 EPPM

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 EPPM database is a private database login. You can add, modify, or delete existing logins using the Database Logins tool.

P6 EPPM R8.1 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** (on page 95) 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.

Related Topics

Adding Private Database Logins for P6 EPPM	84
Modifying Private Database Logins for P6 EPPM	85
Deleting Private Database Logins for P6 EPPM	85

Adding Private Database Logins for P6 EPPM

To add private database logins for P6 EPPM:

- 1) Run **databaselogins.bat** (databaselogins.sh for Linux) from the Database folder of the P6 EPPM physical media or download.
- 2) On the **Database Connection** dialog box:
 - a. Select the database, Oracle.
 - 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 instance name specific to your Oracle 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.
 - d. To reverse a change, click **Undo**. Undo will reverse any changes made during the current session.
 - e. Click **Save**.
 - f. Click **OK** to exit.

Modifying Private Database Logins for P6 EPPM

To modify private database logins:

- 1) Run **databaselogins.bat** (databaselogins.sh for Linux) from the Database folder of the P6 EPPM physical media or download.
- 2) On the **Database Connection** dialog box:
 - a. Select the database, Oracle.
 - 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 instance name specific to your Oracle 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.
 - e. To reverse a change, click **Undo**. Undo will reverse any changes made during the current session.
 - f. Click **Save**.
 - g. Click **OK** to exit the Database Logins tool.

Deleting Private Database Logins for P6 EPPM

To delete private database logins for P6 EPPM:

- 1) Run **databaselogins.bat** (databaselogins.sh for Linux) from the Database folder of the P6 EPPM physical media or download.
- 2) On the **Database Connection** dialog box:
 - a. Select the database, Oracle.
 - 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 instance name specific to your Oracle 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 EPPM database at all times.

- b. Click **Delete**.
- c. 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.

Manual Database Configuration

Read this chapter to manually set up the central P6 EPPM database on a server running Oracle or Microsoft SQL Server. The steps in this chapter should be performed by your database administrator (DBA).

See **Automatic Database Installation** (on page 79) to use a wizard that automatically creates the database structures and loads the data.

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Creating the Database Structure for Oracle and Loading Application Data.....	88
Changing the Database Base Currency	93
Private Database Logins for P6 EPPM	94

Manual Database Configuration Overview

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

P6 EPPM supports Oracle and Microsoft SQL Server databases. See **Client and Server Requirements** (on page 66) 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.

Notes:

P6 EPPM R8.1 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** (on page 95) 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 EPPM 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 EPPM applications. Do not delete it.

- ▶ See **Automatic Database Upgrade** (on page 99) for instructions on automatically upgrading your databases to the current version if you have manually configured P6 EPPM databases for an earlier version. If you want to manually upgrade your databases, see the *Manually Upgrading the P6 EPPM Database for Oracle* document or the *Manually Upgrading the P6 EPPM Database for Microsoft SQL Server* document.
- ▶  For security reasons, Oracle strongly recommends that you replace the default database users' (admuser, privuser, pubuser, bgjobuser, and PxRptUser) 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, public user, or PX Reporting user name for example: { } [] : ; < > , . ? ! @ # \$ % ^ & * () - _ | / \ ~ `
- ▶  Oracle recommends using strong passwords. Strong passwords in P6 EPPM 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 EPPM** (on page 85) 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. See **The Default Admin Superuser** (on page 415) for guidelines on this process.
- ▶ 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 EPPM database, then runs P6 EPPM SQL scripts, which create each database's structure (tables, indexes, relationships, and so on).

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 the software will not be affected. 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. All steps need to be completed 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 **Automatic Database Installation** (on page 79) for more information.

Oracle recommends that you use SQL Plus to run scripts referenced in the following instructions.

Related Topics

Creating the P6 EPPM Database Structure for Oracle.....	89
Dropping P6 EPPM Database Objects for Oracle.....	92
Modifying Your Admin Superuser Password for an Oracle Database	92

Creating the P6 EPPM Database Structure for Oracle

Complete the following steps to create the P6 EPPM Oracle database structure.

Related Topics

Copying the Script Files to a Local Drive for Oracle.....	89
Creating the Database Tablespaces for Oracle	89
Creating Users and Tables for Oracle	90
Installing Sample Data for Oracle	91
Creating Remaining Database Objects for Oracle	91
Initializing Background Jobs and Creating the Background Job User	92

Copying the Script Files to a Local Drive for Oracle

To copy the script files:

- 1) Copy the Database folder of the P6 EPPM physical media or download to a local drive.
- 2) Use the copy on the local drive for all instructions in this section.

Creating the Database Tablespaces for Oracle

To create database tablespaces:

- 1) Log into Oracle as a SYSTEM or other DBA privileged user.
- 2) Go to \database\scripts\install\PM_08_01_00 and execute the **orpm_init_db.sql** script.

This script creates the following tablespaces:

- ▶ PMDB_DAT1
- ▶ PMDB_NDX1
- ▶ PMDB_LOB1

If you want to change those names, you must modify the **orpm_init_db.sql** script.

Notes:

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

The scripts in this task are located in:

`\database\scripts\install\PM_08_01_00`

To create users and tables:

- 1) Log into the P6 EPPM database as a SYSTEM or other DBA privileged user.
- 2) Execute the **orpm_create_users.sql** script.

Notes:

- Running the `orpm_create_users.sql` script automatically creates database user names: `admuser`, `privuser`, `pubuser`, and `PxRptUser`. If you have created other user names and wish to use those when running P6 EPPM database scripts, make sure to replace the administrative, private, public, and PX reporting 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, public user, or PX reporting user name, for example: { } [] : ; < > , . ? ! @ # \$ % ^ & * () - _ | / \ ~ `

- 3) Log into the P6 EPPM database as `admuser`, or use your custom administrative user name if you created one.
- 4) Execute the **orpm_tables.sql** script.

Notes:

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

Installing Sample Data for Oracle

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) Execute a statement similar to one of the following:

- ▶ Use this command if you want to load sample data into a non-production environment.

```
rundataloader.bat sample:pmdb_mk.zip
admuser/password@oracle:host:port:instance
```

where *password* is the admuser password, *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)

- ▶  Use this command if you do not want to load sample data. Empty data is loaded in a secure state and includes only the basic information needed to run the P6 EPPM database.

```
rundataloader.bat sample:pmdb_mk_empty.zip
admuser/password@oracle:host:port:instance
```

where *password* is the admuser password, *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)

Creating Remaining Database Objects for Oracle

The scripts in this task are located in:

Install scripts: \database\scripts\install\PM_08_01_00

Source scripts: \database\scripts\source\PM_08_01_00

To create remaining database objects:

- 1) Log into the P6 EPPM database as admuser, or use your custom administrative user name if you created one.
- 2) Execute the **orpm_querylib.sql** install scripts.
- 3) Execute the **orpm_ins_aux.sql** install script.

Notes:

- If you changed the default PMDB_NDX1 tablespace and admuser, privuser, pubuser, and PxRptUser names, you must update the **orpm_ins_aux.sql** script with your custom PMDB_NDX1 tablespace and admuser, privuser, pubuser, and PxRptUser names.
- Do not use special characters in the database name, privileged user, public user, or PX reporting user name, for example: { } [] : ; < > , . ? ! @ # \$ % ^ & * () - _ | / \ ~ `

- 4) Execute the **orpm_src.plb** source script.
- 5) Execute the **orpm_secpac.sql** script.

- 6) Log into the P6 EPPM database as PXRptUser, or use your custom PX reporting user name if you created one.
Follow steps a-c if you changed the default admuser name.
If you did not change the default admuser name, skip a-c and go to the next step.
 - a. Go to \scripts\source\PM_08_01_00 and edit the **orpm_px_rpt_src.sql** script.
 - b. Replace the default admuser name with your custom admuser name.
 - c. Save and close the script file.
- 7) Execute the **orpm_px_rpt_src.sql** source script.
- 8) If you used a non-default privuser name, you must do the following:
 - a. Log into the **databaselogins.bat** (on Windows) or **databaselogins.sh** (on Unix) database as admuser, or use your custom administrative user name if you created one.
 - b. Update the privuser name and password to match what you used when you created users in **Creating Users and Tables for Oracle** (on page 90).
- 9) Execute the **orpm_database_version.sql** install script as admuser, or use your custom administrative user name if you created one.

Initializing Background Jobs and Creating the Background Job User

The scripts in this task are located in:

Install scripts: \database\scripts\install\PM_08_01_00

To initialize background jobs and create the background job user:

- 1) Log into the P6 EPPM database as admuser, or use your custom administrative user name if you created one.
- 2) Execute the **orpm_create_bguser.sql**.
- 3) Execute the **orpm_grantpriv_bguser.sql**.
- 4) Log into the P6 EPPM database as bgjobuser, or use your custom background job user name if you created one.
- 5) Execute the **orpm_init_bgjobs.sql**.

Dropping P6 EPPM Database Objects for Oracle

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

- 1) Go to \database\scripts\install\PM_08_01_00 and execute the **orpm_drop_users.sql** script. This will drop admuser, privuser, pubuser, bgjobuser, and PXRptUser and their objects.
- 2) Start over at **Creating Users and Tables for Oracle** (on page 90).

Modifying Your Admin Superuser Password for an Oracle Database

If you manually install your Oracle database, you will have the null your Admin Superuser password in the application to login to for the first time.

Warning: Do not complete any of the steps in "Modifying Your P6 Admin Password If You Manually Installed an Oracle Database" until you have installed P6 and are ready to login.

To null your password, see *Modifying Your P6 Admin Password If You Manually Installed an Oracle Database* (on page 414).

Changing the Database Base Currency

Caution: It is not possible to change the base currency once projects are in progress.

After manually creating and configuring the P6 EPPM database, you must change the base currency if you do not want the databases to use US dollars (\$) as the base currency.

Related Topics

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Reviewing Currency Choices.....	93
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The 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 in P6. The default base currency for P6 EPPM is US dollars (\$). The view currency is the monetary unit used to display cost data in P6 EPPM 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

The process to change the base currency involves editing and running a P6 EPPM 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 in the script for the currency that you require, review the list of available short names for P6 EPPM. To do so, run the following query on the P6 EPPM database:

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

Changing the Base Currency

To change the base currency:

- 1) On the P6 EPPM physical media or download:
 - a. Browse to \Database\scripts\common.
 - b. Copy one of the following scripts to a local drive:
For Microsoft SQL Server: **ss_set_currency.sql**
- 2) If the script was copied from physical media, turn off the script file's read-only attribute. Since files on physical media are read-only, this attribute is turned on when a file is copied from a CD or DVD.
 - a. In Windows Explorer, right-click the file.
 - b. Choose Properties.
 - c. Clear 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 EPPM

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 EPPM database is a private database login. You can add, modify, or delete existing logins using the Database Logins tool.

P6 EPPM R8.1 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** (on page 95) 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.

Related Topics

Resetting Private Database Passwords to Use the New Encryption Algorithm	95
Adding Private Database Logins for P6 EPPM	95
Modifying Private Database Logins for P6 EPPM	96
Deleting Private Database Logins for P6 EPPM	96

Resetting Private Database Passwords to Use the New Encryption Algorithm

To reset private database passwords to use the new encryption algorithm:

- 1) Run **databaselogins.bat** (databaselogins.sh for Linux) from the Database folder of the P6 EPPM physical media or download.
- 2) On the **Database Connection** dialog box:
 - a. Select the database, Oracle.
 - 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 instance name specific to your Oracle 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.
 - d. 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.

Adding Private Database Logins for P6 EPPM

To add private database logins for P6 EPPM:

- 1) Run **databaselogins.bat** (databaselogins.sh for Linux) from the Database folder of the P6 EPPM physical media or download.
- 2) On the **Database Connection** dialog box:
 - a. Select the database, Oracle.
 - 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 instance name specific to your Oracle 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.
 - d. To reverse a change, click **Undo**. Undo will reverse any changes made during the current session.
 - e. Click **Save**.
 - f. Click **OK** to exit.

Modifying Private Database Logins for P6 EPPM

To modify private database logins:

- 1) Run **databaselogins.bat** (databaselogins.sh for Linux) from the Database folder of the P6 EPPM physical media or download.
- 2) On the **Database Connection** dialog box:
 - a. Select the database, Oracle.
 - 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 instance name specific to your Oracle 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.
 - e. To reverse a change, click **Undo**. Undo will reverse any changes made during the current session.
 - f. Click **Save**.
 - g. Click **OK** to exit the Database Logins tool.

Deleting Private Database Logins for P6 EPPM

To delete private database logins for P6 EPPM:

- 1) Run **databaselogins.bat** (databaselogins.sh for Linux) from the Database folder of the P6 EPPM physical media or download.
- 2) On the **Database Connection** dialog box:
 - a. Select the database, Oracle.
 - 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 instance name specific to your Oracle 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 EPPM database at all times.

- b. Click **Delete**.
- c. 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.

Automatic Database Upgrade

Read this chapter to upgrade your P6 EPPM database to R8.1 when version 6.0 or later is already installed. You need to upgrade your database if you want to preserve your project data for use with the new version of P6 EPPM. A wizard automatically upgrades your database for you.

Oracle recommends that you upgrade your database automatically as described in this chapter; however, if you want to manually upgrade your database, instructions are included in the *Manually Upgrading the P6 EPPM Database for Oracle* document and the *Manually Upgrading the P6 EPPM Database for Microsoft SQL Server* document.

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Database Upgrade Process From Version 7.0 or Earlier to R8.1	101
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Database Upgrade Process from R8 to R8.1

You can upgrade your existing P6 EPPM R8 database to P6 EPPM R8.1. You must upgrade your P6 EPPM 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.

Procedures to Upgrade R8 to R8.1

The following list summarizes the procedures required to upgrade from P6 EPPM R8 to P6 EPPM R8.1:

- ▶ Back up your P6 EPPM database before beginning the upgrade process to ensure you will not lose any data due to unexpected problems.
- ▶ Run the validate file located in your 8.0 Database folder of the P6 EPPM physical media or download. Ensure you run the 8.0 validate file, not the 8.1 validate file.
- ▶ Run the Database wizard to automatically upgrade your existing P6 EPPM database. See ***Upgrading an Oracle Database to P6 EPPM*** (on page 107) if you are currently running P6 EPPM with Oracle.
- ▶ Test the new database to ensure that the upgrade succeeded.

Run the Validate Tool for an 8.0 Oracle Database

Use the validate tool to ensure there are no missing objects in your database that could cause the database to fail to upgrade. You must perform the steps below before you download the 8.1 media pack. If you run the 8.1 validate tool against your 8.0 database, it will not work.

- 1) Double-click **validate.bat** (validate.sh for Linux) in the 8.0 Database folder of the P6 EPPM physical media or download to start the validate tool.

Note: Ensure you use the validate file from your 8.0 Database folder, not the 8.1 database folder.

- 2) Provide the following:
 - a. In the **Username** field, enter your administrative user name (for example, admuser).
 - b. In the **Database host address** field, enter your database server name or TCP/IP address.
 - c. In the **Database host port** field, enter the port number that Oracle is using. The default is 1521.
 - d. In the **Database name field**, enter the Oracle Service Name. It can be found in the TNSNAMES.ORA file, which was created when you or your DBA set up the Oracle client.
- 3) View the HTML page that the tool creates to ensure your database is not missing objects.
- 4) In the 8.0 Database folder of the P6 EPPM physical media or download, go to \database\scripts\install\ to find the scripts you need to fix.

Procedures To Perform After Upgrading R8 to R8.1

The following list summarizes the procedures required and recommended to perform AFTER the upgrade to P6 EPPM R8.1:

- ▶  For security reasons, Oracle strongly recommends that you replace the default database users' (admuser, privuser, pubuser, bgjobuser, and PxRptUser) 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, public user, or PX Reporting user name for example: { } [] : ; < > , . ? ! @ # \$ % ^ & * () - _ | / \ ~ `
- ▶  Oracle recommends using strong passwords. Strong passwords in P6 EPPM 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 EPPM** (on page 85) 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.
- ▶ Install the new P6 and P6 Progress Reporter servers, P6 Optional Client, and any additional components as described in this guide.
- ▶ Assign new or modified privileges to users, as needed. See **Defining Global Security Profiles in P6 EPPM** (on page 395). See also **Defining Project Security Profiles in P6 EPPM** (on page 404).

Tips for Upgrading to R8.1

Consider the following tips when upgrading to R8.1:

- ▶ Summary-Only projects are not supported in P6 EPPM starting with R8. During the P6 EPPM 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 Optional Client Help or the P6 Help.
- ▶ P6 EPPM R8.1 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** (on page 95) 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.
- ▶ Starting with P6 EPPM R8, all user security and administration is performed in P6. Due to this change, all Admin Superusers will be granted Projects module access during the upgrade.
- ▶ Starting with P6 EPPM R8, all new users will be required to create a password with at least one character, regardless of whether Password Policy is enabled. Existing users will be prompted to follow the new requirement if they reset their password and Password Policy is disabled.
- ▶ Due to the removal of recurring job services for P6 Optional Client, use the Windows command line interface to run batch reports and export projects as a service. To view P6 Optional Client reports in P6, select the "Store report in Work Products and Documents" option when creating report batches or printing reports. See the *P6 Optional Client Help* for more information.
- ▶ 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.

Database Upgrade Process From Version 7.0 or Earlier to R8.1

You can upgrade your existing P6 EPPM database (version 6.0 and later, except for R8) to P6 EPPM R8.1. You must upgrade your P6 EPPM 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: These upgrade instructions apply only if you are upgrading from 6.0 or later. If you are upgrading from a version earlier than 6.0, you cannot directly upgrade to R8.1. For example, if you are on version 5.0, you will need to upgrade to 7.0 before you can upgrade to R8.1.

All risk data fields are migrated when upgrading; some existing fields are mapped to new fields and others will be mapped to text fields. See **Risks Migration** (on page 106) for more information.

Cautions:

- ▶ If you are a current Apache JackRabbit user and upgrade to P6 EPPM R8.1, JackRabbit documents data will not migrate automatically. Refer to My Oracle Support's Knowledge Articles for information on manually migrating JackRabbit documents to Oracle Universal Content Management. Oracle recommends that you migrate the data before upgrading to R8.1.
- ▶ If you are a current jBPM user and upgrade to P6 EPPM R8.1, workflows and reviews data will not be available. You might want to close out all workflows and reviews that are in progress before upgrading to P6 EPPM R8.1.

Procedures to Upgrade Version 7.0 or Earlier to R8.1

The following list summarizes the procedures required to upgrade from P6 EPPM version 6.0 or later to P6 EPPM R8.1:

- ▶ Back up your P6 EPPM database before beginning the upgrade process to ensure you will not lose any data due to unexpected problems. See **Data that is Not Migrated during the P6 EPPM Database Upgrade** (on page 104) for details on what information will not be upgraded.
- ▶ Run the validate file located in your current Database folder of the P6 EPPM physical media or download. Ensure you run your current validate file, not the 8.1 validate file.
- ▶ If you're upgrading from version 7.0 or earlier, convert your Methodology Management data to projects BEFORE you upgrade to P6 EPPM R8.1. See **Migrating Methodology Management to P6 Project Templates** (on page 105) for instructions on this process.
- ▶ Run the Database wizard to automatically upgrade your existing P6 EPPM database. See **Upgrading an Oracle Database to P6 EPPM** (on page 107) if you are currently running P6 EPPM with Oracle.
- ▶ Test the new database to ensure that the upgrade succeeded.

Run the Validate Tool for a 7.0 or Earlier Oracle Database

Use the validate tool to ensure there are no missing objects in your database that could cause the database to fail to upgrade. You must perform the steps below before you download the 8.1 media pack. If you run the 8.1 validate tool against your current database, it will not work.

- 1) Double-click **validate.bat** (validate.sh for Linux) in your current Database folder of the P6 EPPM physical media or download to start the validate tool.

Note: Ensure you use the validate file from your current Database folder, not the 8.1 database folder.

- 2) Provide the following:
 - a. In the **Username** field, enter your administrative user name (for example, admuser).
 - b. In the **Database host address** field, enter your database server name or TCP/IP address.
 - c. In the **Database host port** field, enter the port number that Oracle is using. The default is 1521.
 - d. In the **Database name field**, enter the Oracle Service Name. It can be found in the TNSNAMES.ORA file, which was created when you or your DBA set up the Oracle client.
- 3) View the HTML page that the tool creates to ensure your database is not missing objects.

- 4) Go to the 'Client Application' media pack, then locate the \install\database\scripts\ folder to find the scripts you need to fix.

Procedures to Perform After Upgrading From Version 7.0 or Earlier to 8.1

The following list summarizes the procedures required and recommended to perform AFTER the upgrade to P6 EPPM R8.1:

- ▶  For security reasons, Oracle strongly recommends that you replace the default database users' (admuser, privuser, pubuser, bgjobuser, and PxRptUser) 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, public user, or PX Reporting user name for example: { } [] : ; < > , . ? ! @ # \$ % ^ & * () - _ | / \ ~ `
- ▶  Oracle recommends using strong passwords. Strong passwords in P6 EPPM 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 EPPM** (on page 85) 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.
- ▶ Install the new P6 and P6 Progress Reporter servers, P6 Optional Client, and any additional components as described in this guide.
- ▶ Starting with P6 EPPM R8, all recurring job service functions are hosted by P6. Due to this change, after upgrading to P6 EPPM R8 or later, you must configure Scheduled Services settings in the P6 Administrator application to use this functionality. See **Services Settings** (on page 304) for details. Also, if you're upgrading from version 7.0 or earlier, you must RESUMMARIZE ALL PROJECTS to accurately reflect your summary data. See **Configuring a Separate Server for Job Services** (on page 271) for guidelines on setting up a dedicated server solely for job services.
- ▶  For security reasons, Oracle strongly recommends that you replace the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier. See **The Default Admin Superuser** (on page 415) for guidelines on this process.
- ▶ Assign new or modified privileges to users, as needed. See **Defining Global Security Profiles in P6 EPPM** (on page 395). See also **Defining Project Security Profiles in P6 EPPM** (on page 404).
- ▶ All previously defined module access, security profiles, OBS access, and resource security settings will still apply to existing users after the database upgrade, with the exception of Team Member module access. For users whose module access assignments include Team Member and only P6 Optional Client, both assignments will remain intact during the database upgrade; however, once these user accounts are edited post-upgrade, Team Member module access will be removed to comply with functionality implemented in P6 EPPM R8.1. For users whose module access assignments include Team Member and additional module access assignments other than only P6 Optional Client, Team Member module access will be cleared during the database upgrade; all other assignments will remain selected. See **Configuring Users in P6 EPPM** (on page 412) for information on defining module access, security profiles, OBS access, and resource security.

- ▶ During the upgrade to P6 EPPM R8.1, some P6 Activity Views settings will be reset. After the upgrade, use the Customize Detail Windows feature to modify the settings that should appear for each view. See the *P6 Help* for information on how to edit Activity Views.
- ▶ Starting with P6 EPPM R8, filter definitions are saved globally. Filters are still applied to Activity Views, but all standard filter assignments will be reset during the upgrade. Due to this change, views that had Standard Filters applied will show all activities after the upgrade. Reapply filters, as needed, after the upgrade is complete. See the *P6 Help* for information on how to edit Activity Views.

Tips for Upgrading to R8.1

Consider the following tips when upgrading to R8.1:

- ▶ Summary-Only projects are not supported in P6 EPPM starting with R8. During the P6 EPPM 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 Optional Client Help or the P6 Help.
- ▶ P6 EPPM R8.1 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** (on page 95) 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.
- ▶ Starting with P6 EPPM R8, all user security and administration is performed in P6. Due to this change, all Admin Superusers will be granted Projects module access during the upgrade.
- ▶ Starting with P6 EPPM R8, all new users will be required to create a password with at least one character, regardless of whether Password Policy is enabled. Existing users will be prompted to follow the new requirement if they reset their password and Password Policy is disabled.
- ▶ Due to the removal of recurring job services for P6 Optional Client, use the Windows command line interface to run batch reports and export projects as a service. To view P6 Optional Client reports in P6, select the "Store report in Work Products and Documents" option when creating report batches or printing reports. See the *P6 Optional Client Help* for more information.
- ▶ 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.

Data that is Not Migrated during the P6 EPPM Database Upgrade

When upgrading to P6 EPPM R8.1, the following data will not migrate from previous releases:

- ▶ Workflows Repository (supported configuration changed from jBPM to Oracle BPM).
- ▶ Content Repository (if previously an Apache JackRabbit user). Refer to My Oracle Support's Knowledge Articles for information on manually migrating JackRabbit documents to Oracle Universal Content Management.
- ▶ Top Down Estimation, including estimated weights (removed).

- ▶ Invited Users in the Project Workspace (removed).
- ▶ Issue Form Categories (removed).
- ▶ Summary Data (new summary tables incompatible with old summary tables). Refer to My Oracle Support's Knowledge Articles for information on manually migrating Scenarios data to the new summary tables.
- ▶ Methodology Management (replaced with Project Templates). See ***Migrating Methodology Management to P6 Project Templates*** (on page 105) for manual migration instructions.

Migrating Methodology Management to P6 Project Templates

Follow the steps below to migrate Methodology Management data to P6 Project Templates.

Related Topics

Converting Methodologies to Projects	105
Creating a Project Template From Projects	105

Converting Methodologies to Projects

To migrate Methodology Management version 7.0 or earlier data to P6 R8.1 Project Templates, you must first use Project Architect in the Project Management module (version 7.0 or earlier) to convert the data from a methodology to a project.

To convert Methodology Management data to a project:

- 1) Create a new EPS node in P6 Professional version 7.0 where you can store all your Methodology Management projects.
- 2) Use Project Architect in P6 Professional version 7.0 to create projects from Methodology Management data. For more information on using Project Architect, see version 7.0 of the *Oracle Primavera P6 Project Management Reference Manual*.

Note: You can create only one project at a time. If you want all of your Methodology Management data moved to P6 Project Templates, contact Oracle Consulting to automate the process.

- 3) After you have converted all your Methodology Management data to projects, upgrade P6 EPPM to 8.1.
- 4) Launch P6.
- 5) Convert your upgraded projects (formerly methodologies) to project templates. See ***Creating a Project Template From Projects*** (on page 105).

Creating a Project Template From Projects

After you have converted your Methodology Management data to projects and upgraded your database to 8.1, you can create your project templates.

To create a project template:

- 1) Click **Projects**.

- 2) On the **Projects** navigation bar, click **EPS**.
- 3) On the **EPS** page, click the **Actions** ▼ menu and select **Add ► Add Project Template**.
- 4) In the **Add Project Template** dialog box, choose the **General** tab.
- 5) On the **General** tab:
 - a. In the **Template ID** field, type in a unique ID for the template.
 - b. In the **Template Name** field, type in a unique name for the template.
 - c. In the **EPS** field, click the corresponding  and choose the EPS where you want to store the template.
 - d. In the **Responsible Manager** field, click the corresponding  and choose a responsible manager.
 - e. In the **Copy from existing project or template field**, click the corresponding  and choose the methodology project you created in **Converting Methodologies to Projects** (on page 105).
 - f. Click **Create**.

Risks Migration

The following table illustrates the risks data field mapping when upgrading from P6 EPPM database (version 6.0, 7.0, 7.0 service packs) to P6 R8.1.

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

P6 EPPM database (version 6.0, 7.0, and 7.0 service packs) Risks Fields	P6 EPPM R8.1 Risks Field
Risk Id	id
risk_name	name
risk_descr	description
status_code	status
risk_type_id	category_id
risk_control	notes
table_name	table_name
wbs_id	cause (with heading 'Applies to WBS' <WBS name>)
rsrc_id	cause (with heading 'Applies to Resource' <resource name>)
obs_id	cause (with heading 'Responsible Manager' <OBS name>)

P6 EPPM database (version 6.0, 7.0, and 7.0 service packs) Risks Fields	P6 EPPM R8.1 Risks Field
priority_type	cause (with heading 'Priority' <priority type>)
add_date	cause (with heading 'Date Identified' <add_date in mmm-dd-yyyy format >)
impact_date	cause (with heading 'Date Identified' <add_date in mmm-dd-yyyy format >)
prbly_pct	cause (with heading 'Probability' <prbly_pct>)
impact_work_qty	cause (with heading 'Impact - Labor Units' <impact_work_qty> - 2 decimals)
impact_equip_qty	cause (with heading 'Impact - Nonlabor Units' <impact_equip_qty> - 2 decimals)
impact_mat_qty	cause (with heading 'Impact - Material Units' <impact_mat_qty> - 2 decimals)
Impact_expense_cost	cause (with heading 'Impact - Expenses' <impact_expense_cost> - 2 decimals)

Upgrading an Oracle Database to P6 EPPM

If you want to use the database from Primavera 6.0 and later with P6 EPPM R8.1, you need to upgrade it by performing the following sets of steps. 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 EPPM database.

Oracle Requirements

The following should be noted if you are upgrading an Oracle database:

- ▶ 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).

Related Topics

Upgrading an Oracle P6 EPPM Database 108

Upgrading an Oracle P6 EPPM Database

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

Note: Click Next on each wizard dialog box to advance to the next step.

- 3) On the **Primavera P6** dialog box:
 - a. Choose **Upgrade an existing database**.
 - b. Choose **Oracle** as the server type.
- 4) On the **Connection Information** dialog box:
 - a. In the **Administrative User Name** field, log on to the database as an administrative user, such as admuser. The user name must have DBA privileges and must be the owner of the application tables. The database must also have the Oracle compatible parameter set to 10.2 or greater.
 - b. In the **Administrative Password** field, type the password associated with the User Name you entered.
 - c. In the **Database Host Address** field, enter the server machine name or IP address where Oracle is installed.
 - d. In the **Database Host Port** field, enter the port number that Oracle is using. The default is 1521.
 - e. In the **Database Name (SID)** field, enter the Oracle Service Name. It can be found in the TNSNAMES.ORA file, which was created when you or your DBA set up the Oracle client.
- 5) On the **Upgrade Options** dialog box:
 - a. Select your privileged and public user names for the database; for example, privuser and pubuser.
 - b. Enter the user name (for example, bgjobuser) and password for the background job user.
- 6) On the **Create PX Users** dialog box:

- a. Specify the PX Reporting User name and password.
 - b. Select the **Use existing tablespaces** option or specify your own PX tablespace name, size, and location.
- 7) On the **Ready to Begin Upgrading Data** dialog box:
- a. Verify that the current version of your existing database is listed correctly.
 - b. Choose **Yes, upgrade my database**.
 - c. Click **Upgrade**.
- The upgrade process could take several minutes, depending on its size.
- 8) On the **Primavera Database Setup Wizard** dialog box, click **Next** after the process has completed.

Note: If the database upgrade 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.

- 9) On the **Finish** dialog box, click **Finish** to exit the wizard.
Your database is now ready to use with P6 EPPM R8.1.

Private Database Logins for P6 EPPM

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 EPPM database is a private database login. You can add, modify, or delete existing logins using the Database Logins tool.

P6 EPPM R8.1 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** (on page 95) 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.

Related Topics

Adding Private Database Logins for P6 EPPM	109
Modifying Private Database Logins for P6 EPPM	110
Deleting Private Database Logins for P6 EPPM	110

Adding Private Database Logins for P6 EPPM

To add private database logins for P6 EPPM:

- 1) Run **databaselogins.bat** (databaselogins.sh for Linux) from the Database folder of the P6 EPPM physical media or download.

- 2) On the **Database Connection** dialog box:
 - a. Select the database, Oracle.
 - 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 instance name specific to your Oracle 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.
 - d. To reverse a change, click **Undo**. Undo will reverse any changes made during the current session.
 - e. Click **Save**.
 - f. Click **OK** to exit.

Modifying Private Database Logins for P6 EPPM

To modify private database logins:

- 1) Run **databaselogins.bat** (databaselogins.sh for Linux) from the Database folder of the P6 EPPM physical media or download.
- 2) On the **Database Connection** dialog box:
 - a. Select the database, Oracle.
 - 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 instance name specific to your Oracle 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.
 - e. To reverse a change, click **Undo**. Undo will reverse any changes made during the current session.
 - f. Click **Save**.
 - g. Click **OK** to exit the Database Logins tool.

Deleting Private Database Logins for P6 EPPM

To delete private database logins for P6 EPPM:

- 1) Run **databaselogins.bat** (databaselogins.sh for Linux) from the Database folder of the P6 EPPM physical media or download.
- 2) On the **Database Connection** dialog box:
 - a. Select the database, Oracle.
 - 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 instance name specific to your Oracle 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 EPPM database at all times.

- b. Click **Delete**.
- c. 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.

Database Administration

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

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Background Processes and Clean Up in P6 EPPM

Because clean up tasks can be resource intensive and time consuming, in P6 EPPM, 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 further optimization is required, you can use the background job processes user to change the settings to tune the behavior of the background jobs for specific environments.

PX Tables Clean Up Procedure

To avoid operational problems for P6, PX table entries are not automatically deleted when you delete data from P6 tables. You can use the following clean up procedure to clear the obsolete entries in PX tables.

- 1) Use the CLEAN_PX_DELETE stored procedure to purge obsolete entries in the PX tables.

Note: You can run this procedure any time you want or you can run it as a database background job and schedule a specific time for it to run.

2) To delete batch size and max delete from each table in a single run, run the following queries:

Note: You can specify the delete batch size and max delete from each table in a single run. Delete batch size is the number of rows deleted before a commit. Max delete is the max number of rows that will be deleted from a table in a single run. They have default values if you do not provide your own. They're used to avoid resource problems with the P6 operations.

- ▶ `insert into settings (namespace, setting_name, setting_value) values setting_value into v_batchsize from settings where namespace = 'PxService.Cleanup' and setting_name = 'DeleteBatchSize' and setting_value = '5000';`
- ▶ `insert into settings (namespace, setting_name, setting_value) values setting_value into v_limit from settings where namespace = 'PxService.Cleanup' and setting_name = 'DeleteMaxSize' and setting_value = '100000';`

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.

P6 EPPM uses DBMS_SCHEDULER to schedule background jobs in Oracle. No parameter changes are needed for P6 EPPM R8.1.

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 one of the following types:

- ▶ **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 1: Interval Subtype

	Unit portion	Example	Meaning
Numeric portion +	d	'30d'	Thirty day interval
	h	'2h'	Two hour interval
	m	'10m'	Ten minute interval
	s	'30s'	Thirty second interval

- ▶ **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.**

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

Settings can be configured 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 are used to 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 databases demonstrate how the `SETTINGS_WRITE_STRING` procedure is used to set the value of the `ExpiredSessionTimeout` setting to twelve hours.

To set the value of the `ExpiredSessionTimeout` setting to twelve hours in an Oracle database, use the following procedure:

- 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 is run it will update the `SETTINGS` table for the `setting_name = 'HeartBeatTime.'` The job can update this value multiple times during the execution. The maximum difference between this time and the current date can be monitored to assure that the job is running promptly. Refer to the High Level Status Settings table below for information about the `HeartBeatTime` setting.

High Level Status Settings

Last date and time background job SYMON was executed.	
Namespace	database.background.Symon
Setting Name	HeartBeatTime

Default Setting	N/A
Last date and time background job DAMON was executed.	
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

Column	Description	Value
Log_time	Time when log entry was made by background process	Datetime
Source	Program generating log entry	"system_monitor", "data_monitor"
Type	Type of message	INFORMATION, ELAPSED TIME, ERROR
Description	Message from the background process	A variable message followed by a number in parenthesis which represents the number of rows that were processed. As an example, the message "Complete BGPLOG (40)" indicates that forty rows were processed.

SYMON (System Monitor) Procedures

SYMON is meant to run simple P6 EPPM tasks on a relatively quick schedule. By default the job is scheduled to run every minute and the tasks assigned to this job should not take more than a few seconds to complete on each run. The default interval of one minute should not be changed for this procedure.

Procedures performed by SYMON

The procedures run by SYMON perform the following tasks:

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

Additionally, you can manually run queries to assist you with tracking concurrent usage of P6 EPPM.

OBSPROJ_PROCESS_QUEUE Procedure

The OBSPROJ_PROCESS_QUEUE procedure processes the PRMQQUEUE entries for Project Security. It is used to defer processing of OBSPROJ updates by queuing the updates to the PRMQQUEUE table.

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

OBSPROJ_PROCESS_QUEUE Settings

Setting Description: Maximum project-level queue records to process on each run.	
Namespace	database.obsproj.queue
Setting Name	MaxProjectUpdates
Default Setting	1000
Type	Numeric
Setting Description: Maximum EPS-level queue records to process on each run.	
Namespace	database.obsproj.queue
Setting Name	MaxEpsUpdate
Default Setting	25
Type	Numeric
Setting Description: Maximum times to re-process a failed entry before marking it as an error.	
Namespace	database.obsproj.queue

Setting Name	MaxRetries
Default Setting	50
Type	Numeric

USESSION_CLEANUP_EXPIRED Procedure

The USESSION_CLEANUP_EXPIRED procedure 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.

The clean up of expired sessions is controlled by a value in the SETTINGS table. 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

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 user logs into P6.	
Namespace	database.cleanup.Usession
Setting Name	ExpiredSessionTimeout
Default Setting	2h
Type	Interval
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 users. Operations that are considered job-like are:	
<ul style="list-style-type: none"> ▶ Scheduling 	

<ul style="list-style-type: none"> ▶ Leveling ▶ Apply Actuals ▶ Update Progress ▶ Copy/Paste Project ▶ Create Project from Template ▶ Maintain Baselines (create new baseline) ▶ Approve Timesheets ▶ Summarize ▶ PX Publish ▶ Export ▶ Import 	
Namespace	database.cleanup.Usession
Setting Name	ExpiredLongSessionTimeout
Default Setting	12h
Type	Interval

Tracking Concurrent Usage of P6 EPPM

As an aid in tracking concurrent usage of P6 EPPM, you can run queries against the USESSION and USESSAUD tables to perform self-audits. Example queries are provided below.

Note: See *DAMON (Data Monitor) Procedures* (on page 121) for information on how to set up the USESSAUD procedure; however, to ensure accuracy of these queries, make sure to 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:

```
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 EPPM product at a given time:

```
select count (*) from usession where delete_session_id is null and
app_name=' P6 EPPM product name'
```

where *P6 EPPM product name* is the application abbreviation.

Note: You can view all available application abbreviations by running the following query as an administrative database user: `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 EPPM on a specific date during a specified time range. You can alter the date, time range, and P6 EPPM product as needed. The following example will search for all users who logged into P6 Optional Client on February 17, 2010 between 9am and 10am:

```
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'
```

Tips

See **Counting Users** (on page 429) for information on how to view the total number of licenses assigned for each module.

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 clean up processes required by the application that can potentially take a relatively long time to run.

Oracle

DAMON runs weekly on every Saturday, by default. It uses the Oracle DBMS_SCHEDULER package to schedule the jobs, and the schedule can be controlled by an Interval setting which accepts the same parameters as the DBMS_SCHEDULER interval. For more information, refer to your Oracle database documentation.

Procedures performed by DAMON

The procedures run by DAMON perform the following tasks:

- ▶ Cleaning up the BGPLOG table containing the background logs.
- ▶ Cleaning up the REFRDEL table.
- ▶ Cleaning up the PRMQUEUE table.
- ▶ Physically cleaning up remaining USESSION records.
- ▶ Cleaning up logically deleted records.
- ▶ Cleaning up the PRMAUDIT table.
- ▶ Cleaning up the USESSION audit table (USESSAUD).

Additionally, the functionality of the DAMON process can be dynamically extended via the user-defined procedure, USER_DEFINED_BACKGROUND.

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 physically deletes records from the REFRDEL table based on the value of the KeepInterval setting. The default setting keeps the REFRDEL records from the last five days.

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

REFRDEL_CLEANUP Settings

Setting Description: The oldest records to keep in the REFRDEL table.	
Namespace	database.cleanup.Refrdel
Setting Name	KeepInterval
Default Setting	5d
Type	Interval
Setting Description: Identifies the maximum number of minutes up to which records are to be deleted from the REFRDEL table.	
Namespace	database.cleanup.Refrdel
Setting Name	DaysToDelete
Default Setting	1d
Type	Interval
Setting Description: Determines the number of minutes for each step interval.	
Namespace	database.cleanup.Refrdel

Setting Name	IntervalStep
Default Setting	15m
Type	Interval

CLEANUP_PRMQUEUE Procedure

This procedure physically 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

Setting Description: The oldest records to keep in the PRMQUEUE table. Default is five days.	
Namespace	database.cleanup.Prmqueue
Setting Name	KeepInterval
Default Setting	5d
Type	Interval
Setting Description: Determines whether the procedure will delete all of the PRMQUEUE records possible on each pass.	
Namespace	database.cleanup.Prmqueue
Setting Name	DeleteAll
Default Setting	0 (false)
Type	Boolean
Setting Description: Determines whether all of the records are cleaned up. If the total record count is less than this number then all the records are cleaned up.	
Namespace	database.cleanup.Prmqueue
Setting Name	DeleteAllThreshold

Default Setting	1,000
Type	Numeric
Setting Description: Percentage of records to delete on each pass.	
Namespace	database.cleanup.Prmqueue
Setting Name	DeletePercentage
Default Setting	10(%)
Type	Numeric
Setting Description: Maximum rows to delete on each pass.	
Namespace	database.cleanup.Prmqueue
Setting Name	MaxRowsToDelete
Default Setting	10,000
Type	Numeric

USESSION_CLEAR_LOGICAL_DELETES Procedure

This procedure physically deletes all logically deleted USESSION records. There are no settings associated with this procedure: 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 physically deleted by this procedure.

Note: The CLEANUP_LOGICAL_DELETES procedure will not physically delete records whose DELETE_SESSION_ID column is set to a negative value.

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

CLEANUP_LOGICAL_DELETES Settings

Setting Description: The oldest logically deleted records to keep in tables.	
Namespace	database.cleanup.LogicalDelete
Setting Name	KeepInterval
Default Setting	5d
Type	Interval
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:

PRMAUDIT_CLEANUP Settings

Setting Description: Should the procedure attempt to clean up PRMAUDIT records.	
Namespace	database.cleanup.auditing
Setting Name	Enabled
Default Setting	1 (true)

Type	Boolean
Setting Description: The oldest audit records to keep in PRMAUDIT.	
Namespace	database.cleanup.auditing
Setting Name	KeepInterval
Default Setting	30d
Type	Interval

CLEANUP_USESSAUD Procedure

This procedure physically deletes records from the USESSAUD table based on the KeepInterval. The remaining settings are similar to the REFRDEL_CLEANUP procedure.

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

CLEANUP_USESSAUD Settings

Setting Description: The oldest records to keep in the USESSAUD table.	
Namespace	database.cleanup.Usessaud
Setting Name	KeepInterval
Default Setting	5d
Type	Interval
Setting Description: Determines whether the procedure delete all the REFRDEL records possible on each pass.	
Namespace	database.cleanup.Usessaud
Setting Name	DeleteAll
Default Setting	0 (false)
Type	Boolean
Setting Description: Determines whether all of the records are cleaned up. If the total record count is less than this number then all records are cleaned up.	
Namespace	database.cleanup.Usessaud
Setting Name	DeleteAllThreshold

Default Setting	1,000
Type	Numeric
Setting Description: Percentage of records to delete on each pass.	
Namespace	database.cleanup.Usessaud
Setting Name	DeletePercentage
Default Setting	10 (%)
Type	Numeric
Setting Description: Maximum rows to delete on each pass.	
Namespace	database.cleanup.Usessaud
Setting Name	MaxRowsToDelete
Default Setting	10,000
Type	Numeric

USER_DEFINED_BACKGROUND Procedure

This procedure is an optional customer procedure that is run by DAMON. There are no settings associated with this procedure.

Oracle Database Performance

There are several Oracle database settings you can modify that will improve the performance of your P6 EPPM 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 select 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. Run the RUN_AS_SYS.SQL script located in the \Database\scripts\common folder of the P6 EPPM physical media or download, or run 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 will improve database performance, run the GATHER_STATS.SQL script located in the \Database\scripts\common folder of the P6 EPPM physical media or download.

Safe Deletes

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

See the *P6 Optional Client 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 EPPM 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 Optional Client, the setting will not apply until the user restarts the P6 Optional Client 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 EPPM applications. Native database auditing takes advantage of the fact that every change made by a user results in a 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: trigger execution cannot be bypassed.

Auditing Level Configuration

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

Auditing Levels

Level	Description
Level 0	No audit.
Level 1	Row-level audit. Audit only the operation without column details
Level 2	Column-level Audit without blobs. Audit changes to the data at the column level but without blob changes
Level 3	Full Audit. Audit changes to the data at the column level. For Oracle, column level changes to blobs are audited.

Simple Configuration

There are two configuration procedures available that provide for the simple control of the auditing feature:

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

These procedures allow for setting 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 using the simple audit configuration procedures to control the auditing feature.

- ▶ The following code snippet enables full auditing on all tables:
`exec auditing_enable(null,3);`
- ▶ The following code snippet enables level one auditing on the task table:
`exec auditing_enable('TASK',1);`
- ▶ The following code snippet disables auditing on PROJWBS:
`exec auditing_disable('PROJWBS');`
- ▶ The following code snippet completely disables auditing across the entire database:
`exec auditing_disable(null);`

Detailed Configuration

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

- ▶ 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 itself by using the `database.audit.Enable` setting. Use the `settings_write_bool` procedure to enable/disable the overall auditing feature.

Oracle Example:

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

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

Options Setting

Each individual 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, respectively.

Auditing Level Options Setting by Table Operation

	Operation			Description
	Insert	Update	Delete	
Level	0	0	0	No audit.
	1	1	1	Row-level audit. Audit only the operation without column details

	2	2	2	Column-level audit without blobs. Audit changes to the data at the column level but without blob changes
	3	3	3	Full Audit. Audit changes to the data at the column level. For Oracle, column level changes to blobs are audited.

The following table provides some example uses of the options setting:

Setting the Auditing Level Options Setting by Table Operation Examples

Namespace	Setting	Value	Description
database.audit.TASK	Options	330	Fully audit any insert and update operations. Do not audit any delete operations.
database.audit.PROJWBS		001	Row-level audit on deletes only.
database.audit.TASKRSRC		333	Fully audit.

SETTINGS_WRITE_STRING Procedure

Individual table audit settings can be changed 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:

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

Note: Changes to auditing settings will not necessarily be reflected immediately in the application. In general 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.

PRMAUDIT Table

Column	Type	Description
audit_date	Date	Date and time of change
table_name	String(30)	Table Name
pk1, pk2, pk3, pk4	String(255)	Primary key values for audited record
oper	String(1)	I=Insert, U=Update, D=Delete
prm_user_name	String(32)	P6 EPPM user name if the change was made in P6 EPPM applications
audit_info	String(4000)	Column changes up to 4000 characters (Level 2 and 3 only)
audit_info_extended	BLOB	Blob changes and overflow from audit_info (Level 2 and 3 only)
logical_delete_flag	String(1)	Flag for deletes that are logical (marked) rather than a physical delete
rdbms_user_name*	String(255)	Database user name (usually privuser)
os_user_name*	String(255)	Operating system user name of connected session
program*	String(255)	Name of program connecting to the database
host_name*	String(255)	Computer name of connected session
app_name*	String(25)	Name of application connected to the database
netaddress*	String(24)	IP or MAC address of connected session
* Values will differ from Microsoft SQL Server and Oracle		

Note: Select privileges should be granted to the administrative user on V_\$SESSION to assure 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 a change to the TASK to change the `task_code` from 'A1010' to 'B102':

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


P6 Installation

This chapter describes how to install P6 on supported application servers. In addition, this chapter explains how to use the P6 Administrator application of P6 to review, modify, add, and delete application server configurations for P6.

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P6 Installation Process

P6 is a web-based module that you can use to view and update project, portfolio, and resource data across the enterprise. P6 connects to the P6 EPPM database via an application server.

Installing the P6 server and fulfilling server administration tasks involve the following processes, which are described in this chapter:

- ▶ (upgrades only) Uninstalling the current version of myPrimavera, Primavera's Web Application, or P6 Web Access. See **Uninstalling Previous Versions of P6** (on page 136).
- ▶ Creating the P6 environment, which includes installing one of the supported application servers, installing P6, and configuring and deploying the application server. See **Creating the WebLogic Environment for P6** (on page 141). See **Creating the WebSphere Environment for P6** (on page 216).
- ▶ Reviewing and modifying configuration settings via the P6 Administrator application. See **About the P6 Administrator application** (on page 266).

See **Users and Security in P6 EPPM** (on page 389) and **Application Settings and Global Enterprise Data in P6 EPPM** (on page 441) after installing and configuring the P6 server to fulfill application administration tasks for P6 EPPM.

Tips

- ▶ If you have a high latency network, you might want configure a front-end Web server for P6, and on this Web server, set the modification of Expires header (with the exception of .png files) to a larger value in order to improve performance.
- ▶ See **Client and Server Requirements** (on page 66) for a list of supported application servers with version numbers. For a full list of tested configurations for the P6 server, see the *P6 EPPM Tested Configurations* document.

Uninstalling Previous Versions of P6

Before upgrading P6, you should upgrade the P6 EPPM database to R8.1. See **Automatic Database Upgrade** (on page 99) for details on how to upgrade your database and for information on potential impact areas to your environment. For the full list of tested configurations for P6, go to the \Documentation\<language>\Tested_Configurations folder of the P6 EPPM physical media or download.

You must uninstall any previous versions of P6 before upgrading to R8.1.

Cautions:

- ▶ If you are a current Apache JackRabbit user and upgrade to P6 EPPM R8.1, JackRabbit documents data will not migrate automatically. Refer to My Oracle Support's Knowledge Articles for information on manually migrating JackRabbit documents to Oracle Universal Content Management. Oracle recommends that you migrate the data before upgrading to R8.1.
- ▶ If you are a current jBPM user and upgrade to P6 EPPM R8.1, workflows and reviews data will not be available. You might want to close out all workflows and reviews that are in progress before upgrading to P6 EPPM R8.1.
- ▶ Starting with P6 EPPM R8, all recurring job service functions are hosted by P6. Due to this change, after upgrading to P6 EPPM R8 or later, you must configure Scheduled Services settings in the P6 Administrator application to use this functionality. See **Services Settings** (on page 304) for details. Also, if you're upgrading from version 7.0 or earlier, you must RESUMMARIZE ALL PROJECTS to accurately reflect your summary data. See **Configuring a Separate Server for Job Services** (on page 271) for guidelines on setting up a dedicated server solely for job services.

Tips

- ▶  For security reasons, Oracle strongly recommends that you replace the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier. See **The Default Admin Superuser** (on page 415) for guidelines on this process.
- ▶ Summary-Only projects are not supported in P6 EPPM starting with R8. During the P6 EPPM 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 Optional Client Help or the P6 Help.
- ▶ During the upgrade to P6 EPPM R8.1, some P6 Activity Views settings will be reset. After the upgrade, use the Customize Detail Windows feature to modify the settings that should appear for each view. See the *P6 Help* for information on how to edit Activity Views.
- ▶ Starting with P6 EPPM R8, filter definitions are saved globally. Filters are still applied to Activity Views, but all standard filter assignments will be reset during the upgrade. Due to this change, views that had Standard Filters applied will show all activities after the upgrade. Reapply filters, as needed, after the upgrade is complete. See the *P6 Help* for information on how to edit Activity Views.

Uninstalling P6 from Tomcat

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

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

Related Topics

Uninstalling P6 from Tomcat on Windows Platforms.....	137
Uninstalling P6 from Tomcat on UNIX Platforms.....	137

Uninstalling P6 from Tomcat on Windows Platforms

To uninstall P6 from Tomcat on Windows platforms:

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

Uninstalling P6 from Tomcat on UNIX Platforms

To uninstall P6 from Tomcat on UNIX platforms:

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

Uninstalling P6 from JBoss

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

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

Note: Starting with P6 R8, JBoss is no longer a supported application server.

Uninstalling P6 from WebLogic

Use the following sections to uninstall P6 from WebLogic.

Related Topics

Uninstalling P6 7.0 and Earlier from WebLogic.....	138
Uninstalling P6 R8.0 or Later.....	138

Uninstalling P6 7.0 and Earlier from WebLogic

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

- 1) Do one of the following:
 - ▶ On Windows platforms, from the Start menu, choose Programs, *app name*, Uninstall *app name*.
 - ▶ On Unix platforms, run the `uninstall.sh` script in the `weblogic_home/user_projects/domain` directory.
- 2) Create a new domain. Use the new domain during the procedures detailed in **Creating a WebLogic Domain for P6** (on page 146).

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

Tips

If you will use the same `p6home` directory for the new deployment, the existing WAR or EAR file should be deleted from that directory to avoid conflict with the new `p6.ear` file.

Uninstalling P6 R8.0 or Later

To uninstall P6 8.0 or later, you must uninstall it with the Oracle Universal Installer, then remove it from the application server.

Using Oracle Universal Installer to Uninstall P6

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


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

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


```
chmod 755 runInstaller
chmod 755 unzip
./runInstaller
```
- 2) On the **Welcome** screen, click **Deinstall Products**.

- 3) On the **Inventory** dialog box, under the **Contents** tab, select the P6 version you want to uninstall.
- 4) Click **Remove**.
- 5) On the **Confirmation** dialog box, click **Yes**.
- 6) Click **Close** then **Cancel** to exit the dialog box and Oracle Universal Installer.

Deleting P6 from WebLogic

To delete P6 from WebLogic:

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

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

- 2) In the **Welcome** window, log in using the user name and password that you created when you created your WebLogic domain.
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane, click **Deployments**.
- 5) In the **Summary of Deployments** pane, in the **Control** tab:
 - a. Select the option next to **p6**.
 - b. Click **Stop, Force Stop Now**.
- 6) On the **Force Stop Application Assistant** pane, click **Yes**.
- 7) In the **Summary of Deployments** pane, in the **Control** tab:
 - a. Ensure the **State** column shows **Prepared**.
 - b. Select the option next to **p6**.
 - c. Click **Delete**.
 - d. On the **Delete Application Assistant** pane, click **Yes**.
- 8) In the **Change Center** pane, click **Activate Changes**.
- 9) Logout of the **Administration Console**.
- 10) If you will use the same *p6home* directory for the new deployment, delete the existing WAR or EAR file from that directory to avoid conflict with the new p6.ear file.
- 11) If you installed the p6help and P6Tutorials, repeat these steps.

Uninstalling P6 from WebSphere

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

- 1) Do one of the following:
 - ▶ On Windows platforms, from the Start menu, choose Programs, *app name*, Uninstall *app name*.
 - ▶ On Unix platforms, change to the `installableApps/app name` directory under the WebSphere install directory and run the `uninstallws.sh` script.
- 2) Launch the **WebSphere Application Console**.

- 3) For 6.1 and earlier installations, remove the current "myPrimavera" deployment.
For 6.2 installations, remove the current "primaveraweb" deployment.

Tips

If you will use the same *p6home* directory for the new deployment, the existing WAR or EAR file should be deleted from that directory to avoid conflict with the new p6.ear file.

Using Oracle Universal Installer to Uninstall P6

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

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

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

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

Deleting P6 from WebSphere

To delete P6 from WebSphere:

- 1) Start the WebSphere Application Server.
- 2) Launch the WebSphere Application Server **Administrative Console**.
- 3) On the **Administrative Console Main** screen:
 - a. In the left-hand navigation, expand **Applications**.
 - b. Click **WebSphere enterprise applications**.
- 4) Select the option next to p6.
- 5) Click **Uninstall**.
- 6) In the message or in the task menu, click **Save**.
- 7) On the **Save to Master Configuration** screen, click **Save**.

Creating the WebLogic Environment for P6

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

- ▶ Installing the application server. See **Prerequisites for P6** (on page 141).
- ▶ Installing the P6 application on the server. See **About the P6 Setup Wizard** (on page 143).
- ▶ Configuring the application server. See **Configuring WebLogic for P6** (on page 146).
- ▶ Deploying the application server. See **Deploying P6 in WebLogic** (on page 161).
- ▶ Starting the application server. See **Starting the WebLogic Admin Server for P6** (on page 151).

Other configuration tasks covered in this section are optional, depending on your organization's needs.

Tips

- ▶ See **Creating the WebSphere Environment for P6** (on page 216) for WebSphere instructions.
- ▶ See **Client and Server Requirements** (on page 66) for a list of supported application servers with version numbers. For a full list of tested configurations for P6, see the *P6 EPPM Tested Configurations* document.

Related Topics

Prerequisites for P6	141
About the P6 Setup Wizard.....	143
Configuring WebLogic for P6	146
Deploying P6 in WebLogic.....	161
Precompiling P6	166
Application Server Plug-Ins for P6 EPPM	167
Configuring the Content Repository for P6.....	167
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Prerequisites for P6

Review the prerequisites below before installing P6.

Note: Clustering of the Content Repository is only supported when using WebLogic for the P6 application server.

WebLogic 11g R1 Installation

Consult WebLogic's documentation for installation instructions. Visit <http://oracle.com/technology/documentation/bea.html>.

Tips

On Windows, it is recommended that you install the application server to a folder with a short name.

JDK Installation on WebLogic

WebLogic 11g R1 automatically installs Oracle JRockit 1.6.0_20_D1.1.0-18 and Sun Java 2 JDK version 6.0 update 21 (1.6.0_21) for Windows; however, specific versions are supported based on your configuration. For a list of tested configurations for the P6 JDK, see the *P6 EPPM Tested Configurations* document.

The following guidance may be helpful, which is current at the time of publication:

- ▶ To use the Sun JDK, version 6.0 update 24 (1.6.0_24) is required. The JDK is not provided by Oracle. As of now, update 24 is available at <http://www.oracle.com/technetwork/java/javase/downloads/index-jsp-138363.html>. As new releases of the software are made available, update 24 can be found at <http://www.oracle.com/technetwork/java/archive-139210.html>.
- ▶ To use JRockit, JRockit R28 for Java SE 6 (1.6.0_22) is required. JRockit R28 for Java SE 6 is included in the Microsoft Windows and Linux platform versions of the P6 EPPM media pack. For more information, see the *P6 EPPM Quick Install Guide* and <http://oracle.com/technology/documentation/bea.html>.

Content Repository Installation

The Content Repository allows users to collaboratively share and manage documents in P6. In order for P6 EPPM users to utilize the enhanced document management functionality, you must install either Oracle Universal Content Management or Microsoft SharePoint. Refer to the documentation included with those applications for installation instructions.

Note: Clustering of the Content Repository is only supported when using WebLogic for the P6 application server.

After installation of the Content Repository application and P6, perform the following tasks to complete the Content Repository setup:

- ▶ Configure the Content Repository server based on your organization's needs. See **Configuring Oracle Universal Content Management** (on page 168). See **Configuring Microsoft SharePoint** (on page 169).
- ▶ Enter the appropriate Database/Instance/Content Repository P6 Administrator application settings. See **Database Settings** (on page 277) for detailed information about these settings.

Workflows Repository Installation

The Workflows Repository helps users to keep track of project initiations in P6. In order for P6 users to utilize the project initiation functionality, you must install the supported Workflows Repository application, Oracle BPM. Refer to the documentation included with the Oracle BPM application for installation instructions.

After installation of Oracle BPM and P6, perform the following tasks to complete the Workflows Repository setup:

- ▶ Enter the appropriate Database/Instance/BPM settings in the P6 Administrator application. See **Database Settings** (on page 277) for detailed information about these settings.
- ▶ For complete configuration instructions, see the *P6 Oracle BPM Integration Administrator's Guide*.

About the P6 Setup Wizard

Caution: Due to the global nature of the OUI (Oracle Universal Installer), the OUI online help is not applicable for installing or uninstalling P6 or for references to P6 EPPM documentation. Instead, refer to the installation instructions in this section.

Before installing or upgrading to P6 R8.1, you should install the R8.1 version of the P6 EPPM database, or upgrade your current version. See **Automatic Database Installation** (on page 79) or **Manual Database Configuration** (on page 87) for information on installing the P6 EPPM database. See **Automatic Database Upgrade** (on page 99) for information on upgrading a database for compatibility.

If you have previously installed an earlier version of P6, Primavera's Web Application, or myPrimavera, you must uninstall the previous version before installing P6 R8.1. See **Uninstalling Previous Versions of P6** (on page 136) for more information.

The installer for P6 provides a wizard to guide you through the installation process, which includes:

- ▶ Identifying the application server used for P6
- ▶ Installing P6 and P6 Administrator application files
- ▶ Setting up and configuring the database for P6

Note: P6 will not appear in the "Add or Remove Programs" list in Windows. If you need to uninstall P6, run the OUI (Oracle Universal Installer) again.

Installing P6

To install P6:

- 1) From the P6 folder of the physical media or download location, run one of the following depending on your system type:

- ▶ If you are installing on a Microsoft Windows system, navigate to the **win\Disk1\install** directory, and then double-click on the **setup.exe** file.
- ▶ If you are installing on a non-Microsoft Windows system, type the following command:

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

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

```
chmod 755 runInstaller
chmod 755 unzip
./runInstaller
```

- 2) On the **Welcome** screen, click **Next**.

Note: Click Next on each wizard dialog box to advance to the next step.

- 3) On the **Specify Home Details** dialog box, type a name for the installation. For the path, browse to the location of the P6 home folder (for example, *c:\p6home*).

Note: The application EAR file (*p6.ear*) is copied to the P6 home folder. You must then use the application server's deployment tools to deploy the EAR file. Also, make sure that the supported JDK is set as an environment variable in your path to provide access to the *java* command.

- 4) On the **Available Product Components** dialog box, select the **Oracle Configuration Management** option if you want to install Oracle Configuration Management (OCM) support files.

The OCM support files enable remote machines running OCM to capture configuration information for the P6 application server.

Note: The OCM version 10.3.4.0.0 is installed with P6. After installation, Oracle's update utility will upgrade OCM to the latest versions as they are available. See **Configuring OCM for Use with P6 EPPM** (on page 274) for information on how to configure P6 to work with OCM.

- 5) On the **Information** dialog box, review the text.
- 6) On the **Java Home Directory** dialog box, type or browse to the location where Java is installed. By default, the location is *local host\Program Files\Java* directory (or *usr/Java/* on non-Windows platforms).
- 7) On the **Summary** dialog box, click **Install**.
After the P6 files are installed, the **Configuration Assistants** dialog box opens. Do not close this dialog box. After a short time, the **Setup and Configuration of the Primavera P6 Database** dialog box opens.

Configuring the Database Connection for P6

To configure the database connection and finish installing P6:

- 1) On the **Setup and Configuration of the Primavera P6 Database** dialog box, select the database type, Oracle.
- 2) On the **Please enter the following information. . .** dialog box:

- a. Specify the database connection parameters. Type your database user name (for example, pubuser) and password, the database name, host address, and host port. The database name, host address, and host port are specific to your Oracle installation. The Database Host Port field displays the default port for the database type you selected. You can edit this port.
- b. To use the SSL protocol to securely communicate between the P6 application server and the database server, select the SSL option. If you select the SSL option, you must specify an SSL-enabled port number in the Database Host Port field.

Notes:

- See the appropriate database server documentation and the My Oracle Support's Knowledge Articles for information on configuring SSL.
 - Using the SSL protocol will impact database performance.
- c. Ensure that the Public Group ID is 1 for a standard configuration.
- 3) If there is an existing Primavera configuration, on the **The installer has detected. . .** dialog box, choose whether you want to use it, or create a new configuration.

Note: If you are upgrading from a previous version of P6 against the same database, choose the option to create a new configuration. This is necessary to accommodate newly added configuration settings. See **About the P6 Administrator application** (on page 266) for more information about configurations.

If there is no existing Primavera configuration, the **The installer has detected. . .** dialog box does not appear and the installation process automatically creates a default configuration named Primavera P6 Configuration. You can edit the settings for this configuration through the P6 Administrator application.

Note: After installation, you can use the Database Configuration Setup wizard to choose a different configuration, if necessary. See **About the Database Configuration Wizard for P6** (on page 213) for more information.

- 4) When the message displays to confirm that the database configuration has completed successfully, click **OK**.
- 5) On the **End of Installation** screen, click **Exit**.

Note: P6 will not appear in the "Add or Remove Programs" list in Windows. If you need to uninstall P6, run the OUI (Oracle Universal Installer) again.

Configuring WebLogic for P6

This section details the basic configuration steps for P6 in a WebLogic environment when opting for an Admin Server and Managed Server deployment. Oracle recommends that you create a Managed Server deployment. When creating a Managed or clustered environment, in addition to following the instructions in this section, you will need to copy the BREBootstrap.xml file from the P6 home directory on the Admin Server machine to the new location on each Managed Server or clustered machine in order to connect to the same P6 EPPM database. If your Admin, Managed, and clustered servers are all on the same machine, you will not need to copy the BREBootstrap.xml file. This section assumes that P6 and P6 Progress Reporter will be set up in separate domains; however, as with other applications, you can create one domain and configure both P6 EPPM web applications to run in this domain.

Although not required for the P6 server set up, WebLogic has additional settings that can be used to enhance the environment. For example, when using clustering, enabling the session replication setting will seamlessly transfer users to another server in case of an unexpected server shutdown.

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

Related Topics

Creating a WebLogic Domain for P6	146
The P6 Help Directory	149
The P6 Tutorials Directory	150
Starting and Stopping the Admin Server and Managed or Clustered Servers.....	151
Setting Arguments for P6	154

Creating a WebLogic Domain for P6

To create a WebLogic Domain:

- 1) Run the WebLogic **Configuration Wizard**.
- 2) In the **Welcome** window:
 - a. Select **Create a new WebLogic domain**.
 - b. Click **Next**.
- 3) In the **Select Domain Source** window, click **Next** to accept the default selections.

Note: If available, ensure the **Oracle JRF** (Java Required File) option is clear. Only the **Basic WebLogic Server Domain** option should be selected.

- 4) In the **Specify Domain Name and Location**:
 - a. Enter the domain name (for example, p6 for P6 or pr for P6 Progress Reporter).
 - b. Enter the domain location.
 - c. Click **Next**.
- 5) In the **Configure Administrator User Name and Password** window:

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

Notes:

-  Oracle recommends you always use SSL in a production environment for secure communications.
-  Starting with P6 EPPM R8, HTTPS settings are available in the P6 Administrator application. If you have set the HTTPS/Enabled setting to true, ensure that your application server or front-end Web server is listening on the specified HTTPS port. See **Authentication Settings** (on page 329) for more information on the HTTPS settings.

-
- 9) In the **Configure Managed Servers** window:
- a. Click **Add**.
 - b. Enter the **Name** and select the **Listen address** information.
 - c. (Optional) Select the **SSL enabled** option and set the SSL listen port.

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

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

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

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

Note: For information on setting up clusters, use Oracle's WebLogic Server documentation:
http://download.oracle.com/docs/cd/E11035_01/wls100/cluster/setup.html.

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

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

12) In the **Configure Machines** window:

- a. Select the **Machine** or **Unix Machine** tab.
- b. If you select the **Machine** tab:
 1. Click **Add**.
 2. (Required) Enter a valid machine name.
 3. (Optional) Select the **Node manager listen address** from the list.

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

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

Notes:

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

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

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

- a. In the **Machine** list, select the machine where you want to assign a WebLogic Server instance.
- b. Assign WebLogic Server instances to the selected machine.
The name of the WebLogic Server instance is removed from the **Server** list and added below the name of the target machine in the **Machine** list.
- c. Repeat steps a and b for each WebLogic Server instance you want to assign to a machine.
- d. Review the machine assignments.
If necessary, you can remove a WebLogic Server instance from a machine, and the WebLogic Server instance will be removed from the **Machine** list and restored to the **Server** list.

14) In the **Configuration Summary** window, click **Create**.

If given the option, you can click **Done** now. Otherwise, continue to the next step.

15) If you are using Windows, in the **Creating Domain** window:

- a. Select **Start Admin Server**.
- b. Click **Done**.

16) When prompted, enter the user name and password that you entered in step 5.

The P6 Help Directory

You have two options for deploying and using P6 Help.

Use the Default P6 Help URL (Recommended):

The default URL will take you to the Oracle Technology Network (OTN) site. OTN houses Oracle's most up-to-date documentation. If there are any changes to P6 functionality, those changes will be represented in the help documentation on OTN.

The default P6 Help URL is in the P6 Administrator application:

http://download.oracle.com/docs/cd/E20686_01/p6help.

Note: You can choose not to use the default help URL, but you will have to manually copy the p6help.war into your P6 home directory, deploy it in WebLogic, and enter the server URL into the P6 home directory. If any updates are made to the help, these will not be visible if you are using the p6help.war file.

Use the P6 Help WAR File:

To use the P6 Help WAR file:

Copy the P6 Help WAR (p6help.war) file from the P6 folder of the physical media or download to the P6 home directory.

Notes:

- For the P6 Help to launch, you must enter the server URL in the P6 Administrator application. See **Application Settings** (on page 299) for more information.
 - Use the instructions in **Deploying P6 in WebLogic** (on page 161) or **Deploying P6 in WebSphere** (on page 224) to deploy the help and tutorials files in WebLogic or WebSphere.
-

Tips

If you receive a "server not found" or a similar error when accessing the P6 Help in P6, it means one of the following:

- ▶ The application server cannot access the Internet.
- ▶ The help site is not available.

If the application server cannot access the Internet, check your P6 Administrator application settings and ensure they are configured to the correct URL.

If the URL is configured correctly, but you still can't access the P6 Help, you will need to use the local help (p6help.war). Use the instructions in **The P6 Help Directory** (on page 149), and **Deploying P6 in WebLogic** (on page 161) or **Deploying P6 in WebSphere** (on page 224) to deploy the help file in WebLogic or WebSphere.

The P6 Tutorials Directory

Copy the P6 Tutorials (P6Tutorials.war) WAR file from the P6 folder of the physical media or download to the P6 home directory.

Notes:

- For the P6 Tutorials to launch, you must enter the server URL in the P6 Administrator application. See **Application Settings** (on page 299) for more information.
 - Use the instructions in **Deploying P6 in WebLogic** (on page 161) or **Deploying P6 in WebSphere** (on page 224) to deploy the tutorials file in WebLogic or WebSphere.
-

Starting and Stopping the Admin Server and Managed or Clustered Servers

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

Related Topics

Starting the WebLogic Admin Server for P6	151
Stopping the WebLogic Admin Server for P6.....	152
Starting and Stopping Managed Servers	152

Starting the WebLogic Admin Server for P6

Follow the instructions below to start the WebLogic Admin Server for P6. These procedures must be performed to launch the WebLogic Administration Console. Once you launch the WebLogic Administration Console, you can follow the steps outlined in **Setting Arguments for P6** (on page 154) and **Deploying P6 in WebLogic** (on page 161).

Related Topics

Starting WebLogic on Windows Platforms	151
Starting WebLogic on UNIX Platforms.....	151

Starting WebLogic on Windows Platforms

To start WebLogic on Windows:

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

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

Starting WebLogic on UNIX Platforms

To start WebLogic on UNIX platforms:

- 1) Change to the *weblogic_home/user_projects/domain* directory.
- 2) Run the startWebLogic.sh script.
- 3) If prompted for a user name and password in the WebLogic console window, type in the admin user name and password you specified when creating the domain.

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

Stopping the WebLogic Admin Server for P6

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

Stopping WebLogic on Windows Platforms

To stop WebLogic on Windows:

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

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

Stopping WebLogic on UNIX Platforms

To stop WebLogic on UNIX platforms:

- 1) Change to the *weblogic_home/user_projects/domain* directory.
- 2) Run the stopWebLogic.sh script.
- 3) If prompted for a user name and password in the WebLogic console window, type in the admin user name and password you specified when creating the domain.

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

Starting and Stopping Managed Servers

You have several options for starting and stopping managed servers. Oracle recommends that you use the startNodeManager file and start the server in the WebLogic Administration Console (see **Starting a Managed or Clustered Server** (on page 153)). However, you can view other ways to stop and start managed servers at "Managing Server Startup and Shutdown for Oracle WebLogic Server" at http://download.oracle.com/docs/cd/E14571_01/web.1111/e13708/overview.htm.

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

Related Topics

Starting a Managed or Clustered Server	153
Stopping a Managed or Clustered Server	153

Starting a Managed or Clustered Server

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

- 1) Run the **startNodeManager** file.
 - ▶ In Windows, the file is named "startNodeManager.cmd" and is located in:
weblogic_home\wlserver_10.3\server\bin
 - ▶ In Unix, the file is named "startNodeManager.sh" and is located in:
weblogic_home/wlserver_10.3/server/bin/
- 2) Launch the WebLogic **Administration Console**.

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

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

Stopping a Managed or Clustered Server

Your managed or clustered server will stop running when you close the startNodeManager file.

You can also stop the managed or clustered server in the WebLogic Administration Console.

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

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

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

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

Setting Arguments for P6

If you use a Managed Server or cluster to deploy P6, follow the instructions in **Setting Arguments in the WebLogic Administration Console** (on page 154).

If you are using the Admin Server as the only place where you deploy P6, follow the instructions in **Editing the setDomainEnv File for P6** (on page 159).

Note: Oracle recommends that you use a Managed Server or cluster to deploy P6 instead of deploying P6 in the Admin Server.

Setting Arguments in the WebLogic Administration Console

Follow these steps to set arguments in the WebLogic Administration Console:

- 1) Start WebLogic. (See **Starting WebLogic on Windows Platforms** (on page 151) or **Starting WebLogic on UNIX Platforms** (on page 151).)
- 2) Start your Managed Server. (See **Starting a Managed or Clustered Server** (on page 153).)
- 3) Set the arguments. (See **Setting Arguments in the WebLogic Administration Console for P6** (on page 156).)

Related Topics

Starting WebLogic on Windows Platforms	154
Starting WebLogic on UNIX Platforms	155
Starting a Managed or Clustered Server	155
Setting Arguments in the WebLogic Administration Console for P6	156

Starting WebLogic on Windows Platforms

To start WebLogic on Windows:

- 1) From the Start menu, navigate to the Oracle WebLogic submenu.

- 2) Choose User Projects, *domain*, Start Server.
- 3) If prompted for a user name and password in the WebLogic console window, type in the admin user name and password you specified when creating the domain.

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

Starting WebLogic on UNIX Platforms

To start WebLogic on UNIX platforms:

- 1) Change to the *weblogic_home/user_projects/domain* directory.
- 2) Run the startWebLogic.sh script.
- 3) If prompted for a user name and password in the WebLogic console window, type in the admin user name and password you specified when creating the domain.

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

Starting a Managed or Clustered Server

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

- 1) Run the **startNodeManager** file.
 - ▶ In Windows, the file is named "startNodeManager.cmd" and is located in:
weblogic_home\wlserver_10.3\server\bin
 - ▶ In Unix, the file is named "startNodeManager.sh" and is located in:
weblogic_home/wlserver_10.3/server/bin/
- 2) Launch the WebLogic **Administration Console**.

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

- 3) In the **Welcome** window, log in using the user name and password that you created when you created your WebLogic domain.
- 4) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 5) In the **Domain Structure** pane:
 - a. Expand **Environment**.
 - b. Click **Servers**.
- 6) In the **Summary of Servers** pane:
 - a. Select the **Control** tab.
 - b. Select the option for your managed server.

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

Setting Arguments in the WebLogic Administration Console for P6

Use these instructions if you will deploy P6 in a Managed or clustered server. To continue configuring WebLogic for P6, add the following arguments to your Managed or clustered server in the WebLogic Administration console:

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

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

- 2) In the **Welcome** window, log in using the user name and password that you created in **Creating a WebLogic Domain for P6** (on page 146).
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane:
 - a. Expand **Environment**.
 - b. Click **Servers**.
- 5) In the **Summary of Servers** pane, select your managed server name.
- 6) In the **Settings for ...** pane, select the **Server Start** tab.
- 7) Locate the **Arguments** field and set the following:
 - a. Set the Primavera bootstrap system property (it should be all one line with no space between "-" and "Dprimavera").
 - In Windows, the line should look similar to the following (all one line):
`-Dprimavera.bootstrap.home=p6home`
where *p6home* is the P6 home directory that was set during installation (for example, c:\p6home).
 - In UNIX, the line should look similar to the following (all one line):
`-Dprimavera.bootstrap.home=p6home`
where *p6home* is the P6 home directory that was set during installation (for example, /usr/p6home).
 - b. For improved performance when starting the P6 domain in WebLogic, add the following JVM argument (as all one line) immediately after the Primavera bootstrap property with one space between them:
`-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFactory`
 - For example, in Windows:
`-Dprimavera.bootstrap.home=p6home`
`-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFactory`
 - For example, in Unix:

```
-Dprimavera.bootstrap.home=p6home
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFact
ory
```

Note: Be sure to include a space before the `-Djavax` argument. Properties after the bootstrap can be in any order.

- c. (For Unix servers) If you don't have a graphical environment installed, you must set the server's JVM to bypass server-side rendering optimizations. If you don't add the argument, you may not be able to see graphics on pages, and the server logs will report **NoClassDefFoundError** errors.

Add this JVM argument:

```
-Djava.awt.headless=true
```

For example, in Unix:

```
-Dprimavera.bootstrap.home=p6home
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInput
tFactory -Djava.awt.headless=true
```

- d. If using the Sun JDK, set the Java Virtual Machine by entering the following flag at the beginning of the arguments you just added:

```
-server
```

- In Windows, the line should look similar to the following:

```
-server -Dprimavera.bootstrap.home=p6home
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFact
ory
```

- In Unix, the line should look similar to the following:

```
-server -Dprimavera.bootstrap.home=p6home
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFact
ory
```

- e. If using the Sun JDK, increase the JVM MaxPermSize setting to avoid Out-of-Memory errors. The MaxPermSize setting should be set to at least 256m. Also, modify memory settings to maximize performance. To do this, add the following lines after the `-Dprimavera` line to set the NewSize, MaxNewSize, and SurvivorRatio and the total Initial (`-Xms`) and Maximum heap size (`-Xmx`).

The complete line could look similar to the following if using the Sun JDK (all one line):

- In Windows, the line should look similar to the following:

```
-server -Dprimavera.bootstrap.home=p6home
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFact
ory -XX:MaxPermSize=256m -XX:NewSize=256m -XX:MaxNewSize=256m
-XX:SurvivorRatio=8 -Xms2048m -Xmx2048m
```

- In Unix, the line should look similar to the following:

```
-server -Dprimavera.bootstrap.home=p6home
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFact
ory -XX:MaxPermSize=256m -XX:NewSize=256m -XX:MaxNewSize=256m
-XX:SurvivorRatio=8 -Xms2048m -Xmx2048m
```

Note: Be sure to include a space before the -XX: specification. Properties after the bootstrap can be in any order.

- f. (Optional) If using the Sun JDK and running Publication Services on a larger database, change the JVM parameters to increase the GC Time Ratio; add the following JVM setting (as all one line) immediately after the setting you just added:

```
-XX:+UseParallelGC -XX:+UseParallelOldGC -XX:GCTimeRatio=19
```

Notes:

- Be sure to include a space before the -XX:+ specification. Properties after the bootstrap can be in any order.
 - R8.1 can run publication services through the P6 EPPM Extended Schema. See *Improved Reporting and Publication Services (R8.1)* (on page 35), *Configuring P6 for Reporting* (on page 170), and *Working with Publication Services for Reporting* (on page 187) for more information on Publication Services.
-
- In Windows, the line should look similar to the following:


```
-server -Dprimavera.bootstrap.home=p6home  
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFact  
ory -XX:MaxPermSize=256m -XX:NewSize=256m -XX:MaxNewSize=256m  
-XX:SurvivorRatio=8 -Xms2048m -Xmx2048m -XX:+UseParallelGC  
-XX:+UseParallelOldGC -XX:GCTimeRatio=19
```
 - In Unix, the line should look similar to the following:


```
-server -Dprimavera.bootstrap.home=p6home  
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFact  
ory -XX:MaxPermSize=256m -XX:NewSize=256m -XX:MaxNewSize=256m  
-XX:SurvivorRatio=8 -Xms2048m -Xmx2048m -XX:+UseParallelGC  
-XX:+UseParallelOldGC -XX:GCTimeRatio=19
```
- g. If using the JRockit JDK, modify memory settings to maximize performance. Add the following lines after the -Dprimavera line to set the total Initial (-Xms) and maximum heap (-Xmx) size. The complete line would look similar to the following if using the JRockit JDK (all one line):
- For Windows:


```
-Dprimavera.bootstrap.home=p6home  
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFact  
ory -Xms2048m -Xmx2048m
```
 - For Unix:


```
-Dprimavera.bootstrap.home=p6home  
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFact  
ory -Xms2048m -Xmx2048m
```
- 8) Click **Save**.
- 9) In the **Change Center** pane, click **Activate Changes**.
- 10) Restart your managed server:

- a. In the **Domain Structure** pane:
 1. Expand **Environment**.
 2. Click **Servers**.
 - b. In the **Summary of Servers** pane:
 1. Select the **Control** tab.
 2. Select the option for your managed server.
 3. Click **Shutdown**.
 4. In the **Server Life Cycle Assistant** pane, click **Yes**.
 5. Select the option for your managed server.
 6. Click **Start**.
 - c. In the **Server Life Cycle Assistant** pane, click **Yes**.
 - d. In the **Summary of Servers** pane, click the 'Start Refresh' icon in the middle of the pane to see when the **State** column says 'RUNNING.'
- 11) Repeat these steps for each managed server.

Tips

Once you have finished setting the arguments, you will use the following sections to deploy P6 and to start your managed or clustered server: **Deploying P6 in WebLogic** (on page 161) and **Starting and Stopping Managed Servers** (on page 152).

Editing the setDomainEnv File for P6

Use these instructions if you will deploy P6 in the Admin Server. To continue configuring WebLogic for P6, edit the setDomainEnv file:

- 1) Make a backup copy of the **setDomainEnv** file in case you need to undo any changes.
 - ▶ In Windows, the file is named "setDomainEnv.cmd" and is located in:
`weblogic_home\user_projects\domains\your_domain\bin\`
 - ▶ In Unix, the file is named "setDomainEnv.sh" and is located in:
`weblogic_home/user_projects/domains/your_domain/bin/`
- 2) Right-click the **setDomainEnv** file and select **Edit**.
- 3) Locate the line that begins with one of the following:
 - ▶ In Windows:
`call "%WL_HOME%/common/bin/commEnv.cmd"`
 - ▶ In Unix:
`${WL_HOME}/common/bin/commEnv.sh`
- 4) Add a new **JAVA_OPTIONS=** line below the line you located to set the Primavera bootstrap variable (it should be all one line with no space between "-" and "Dprimavera").
 - ▶ In Windows, the line should look similar to the following (all one line):
`set JAVA_OPTIONS=%JAVA_OPTIONS% -Dprimavera.bootstrap.home=p6home`
where *p6home* is the P6 home directory that was set during installation (for example, c:\p6home).
 - ▶ In UNIX, the line should look similar to the following (all one line):

```
JAVA_OPTIONS="$${JAVA_OPTIONS} -Dprimavera.bootstrap.home=p6home"
```

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

- 5) For improved performance when starting the P6 domain in WebLogic, add the following JVM argument (as all one line) immediately after the Primavera bootstrap variable with one space between them:

```
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFactory
```

- ▶ For example, in Windows:

```
set JAVA_OPTIONS=%JAVA_OPTIONS% -Dprimavera.bootstrap.home=p6home  
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFactory
```

- ▶ For example, in Unix:

```
JAVA_OPTIONS="$${JAVA_OPTIONS} -Dprimavera.bootstrap.home=p6home  
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFactory"
```

Note: Be sure to include a space before the -Djavax specification. Properties after the bootstrap can be in any order.

- 6) (For Unix servers) If you don't have a graphical environment installed, you must set the server's JVM to bypass server-side rendering optimizations. If you don't add the argument, you may not be able to see graphics on pages, and the server logs will report **NoClassDefFoundError** errors.

Add this JVM argument (as all one line) immediately after the previous variable with one space between them:

```
-Djava.awt.headless=true
```

For example, in Unix:

```
JAVA_OPTIONS="$${JAVA_OPTIONS} -Dprimavera.bootstrap.home=p6home  
-Djavax.xml.stream.XMLInputFactory=weblogic.xml.stax.XMLStreamInputFactory  
-Djava.awt.headless=true
```

- 7) If using the Sun JDK:

- a. Add new memory settings to maximize performance and increase the JVM MaxPermSize setting to avoid Out-of-Memory errors. (The MaxPermSize setting should be set to at least 256m.) To do this, add a USER_MEM_ARGS line so you can set the following values for NewSize, MaxNewSize, MaxPermSize, SurvivorRatio, total Initial size (-Xms), and Maximum heap size (-Xmx):

```
-XX:NewSize=256m -XX:MaxNewSize=256m -XX:MaxPermSize=256m  
-XX:SurvivorRatio=8 -Xms2048m -Xmx2048m
```

Add the line immediately below the JAVA_OPTIONS line you created (all one line):

- In Windows, the line should look similar to the following:

```
set USER_MEM_ARGS=-XX:NewSize=256m -XX:MaxNewSize=256m  
-XX:MaxPermSize=256m -XX:SurvivorRatio=8 -Xms2048m -Xmx2048m
```

- In Unix, the line should look similar to the following:

```
USER_MEM_ARGS="-XX:NewSize=256m -XX:MaxNewSize=256m -XX:MaxPermSize=256m
-XX:SurvivorRatio=8 -Xms2048m -Xmx2048m"
```

- b. (Optional) If using the Sun JDK and running PX services on a larger database, change the JVM parameters to increase the GC Time Ratio; add the following JVM setting to the USER_MEM_ARGS line (as all one line):

```
-XX:+UseParallelGC -XX:+UseParallelOldGC -XX:GCTimeRatio=19
```

Notes:

- Be sure to include a space before the -XX:+ specification. Properties after the bootstrap can be in any order.
 - R8.1 can run publication services through the P6 EPPM Extended Schema. See *Improved Reporting and Publication Services (R8.1)* (on page 35), *Configuring P6 for Reporting* (on page 170) and *Working with Publication Services for Reporting* (on page 187) for more information on Publication Services.
-
- In Windows, the line should look similar to the following:


```
set USER_MEM_ARGS=-XX:NewSize=256m -XX:MaxNewSize=256m
-XX:MaxPermSize=256m -XX:SurvivorRatio=8 -Xms2048m -Xmx2048m
-XX:+UseParallelGC -XX:+UseParallelOldGC -XX:GCTimeRatio=19
```
 - In Unix, the line should look similar to the following:


```
USER_MEM_ARGS="-XX:NewSize=256m -XX:MaxNewSize=256m -XX:MaxPermSize=256m
-XX:SurvivorRatio=8 -Xms2048m -Xmx2048m -XX:+UseParallelGC
-XX:+UseParallelOldGC -XX:GCTimeRatio=19"
```
- c. Set the Java Virtual Machine by entering a variable for JAVA_VM. Add the line immediately below the USER_MEM_ARGS line you created.
- In Windows, the line should look similar to the following:


```
set JAVA_VM=-server
```
 - In Unix, the line should look similar to the following:


```
JAVA_VM="-server"
```

- 8) If using the JRockit JDK, modify memory settings to maximize performance. To do this, add a USER_MEM_ARGS line so you can set the following values for total Initial (-Xms) and Maximum heap (-Xmx) size.

Add the line immediately below the JAVA_OPTIONS line you created (all one line):

- ▶ For Windows:

```
set USER_MEM_ARGS=-Xms2048m -Xmx2048m
```

- ▶ For Unix:

```
USER_MEM_ARGS="-Xms2048m -Xmx2048m"
```

- 9) Save the changes to the setDomainEnv file and close it.
10) Stop and restart the Admin Server.

Deploying P6 in WebLogic

Follow the instructions below to deploy P6 into the WebLogic domain.

Note: Consult WebLogic's documentation for additional methods of deploying a Web application, such as using a Managed Server or Clustering.

Related Topics

Adding P6 as a WebLogic Application	162
Starting the P6 Application in WebLogic	163
Adding the Deployment Plan to WebLogic	164

Adding P6 as a WebLogic Application

To add P6 as a WebLogic application:

Note: These steps assume that you have set the arguments in the WebLogic Administration Console (see **Setting Arguments for P6** (on page 154)) and that the Admin Server and Managed Servers are running (see **Starting and Stopping the Admin Server and Managed or Clustered Servers** (on page 151)).

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

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

- 2) In the **Welcome** window, log in using the user name and password that you created when you created your WebLogic domain.
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane, click **Deployments**.
- 5) In the **Summary of Deployments** pane, click **Install**.
- 6) In the **Install Application Assistant** pane:
 - a. Navigate to the P6 home directory.
 - b. Select the **p6.ear** file.
 - c. Click **Next**.
- 7) In the **Install Application Assistant** pane:
 - a. Select **Install this deployment as an application**.
 - b. Click **Next**.
- 8) In the **Install Application Assistant** pane:
 - a. Click the server or cluster where you want to deploy the application.
 - b. Click **Next**.
- 9) In the **Install Application Assistant** pane, click **Next** to accept the default options.
- 10) Review the configuration settings you have chosen, then click **Finish** to complete the installation.

- 11) In the **Settings for P6** window, click **Save**.
- 12) Proceed to **Starting the P6 Application in WebLogic** (on page 163).

Starting the P6 Application in WebLogic

To start the P6 application in WebLogic:

- 1) In the **Change Center** pane, click **Activate Changes**.
- 2) In the **Domain Structure** pane, click **Deployments**.
- 3) In the **Summary of Deployments** pane, select **p6**.
- 4) In the **Summary of Deployments** pane:
 - a. Click the down arrow to the right of the **Start** button.
 - b. Click **Servicing all requests**.
- 5) In the **Start Application Assistant** pane, click **Yes**.
- 6) In the **Summary of Deployments** pane, view the link in the **State** column of the row that contains 'p6.' Wait a few minutes, then click **Refresh**.
The p6 State column should show **Active**.
- 7) Repeat the **Deploying P6 in WebLogic** (on page 161) process for the 'p6help.war' (optional, see notes below) and 'P6Tutorials.war' files.

Notes:

- Do not do this step for the 'p6help.war' file if you want to use OTN for your help. The OTN link is the default link in the P6 Administrator application. OTN will have the most up-to-date documentation for the P6 Help.
- When repeating the process for the P6 Help and Tutorials file in **Adding P6 as a WebLogic Application** (on page 162), navigate to the location of the help and tutorials files as determined in **The P6 Help Directory** (on page 149) and **The P6 Tutorials Directory** (on page 150).

-
- 8) Verify that the **State** column for both files shows **Active**.
 - 9) Logout of the **Administration Console**.

Tips

- ▶ If you did not deploy the p6help.war and are using OTN instead, you do not need to configure anything in the P6 Administrator application.
If you deploy the p6help.war file, a P6 Administrator application setting must be populated to complete the P6 Help configuration. See the Help Server URL setting in **Application Settings** (on page 299).
- ▶ If you delete a p6.ear, p6help.war, or a P6Tutorials.war file from WebLogic and then redeploy any of those files, check `weblogic_home\user_projects\domains\your_domain\config\` for a folder called "fmwconfig." If the folder is there, delete it.
- ▶ If you do not use anything other than P6, see **Precompiling P6** (on page 166).

Adding the Deployment Plan to WebLogic

If you are using P6 and P6 Progress Reporter in the same server but different WebLogic domains, you will need to create a deployment plan so you can run P6 and P6 Progress Reporter in the same browser. If you do not create and deploy the deployment plan, P6 and P6 Progress Reporter will close each other out when you try to open them in the same browser. You will need to do the following to run your deployment plan:

Note: If P6 and P6 Progress Reporter are in two separate servers or if they are in the same WebLogic domain, you do not need to add the deployment plan.

- 1) Create an XML file. See **Creating an XML File for Your Deployment Plan** (on page 164).
- 2) Deploy your XML file in WebLogic. See **Adding Your Deployment Plan to Your P6 Deployment in WebLogic** (on page 165).

Creating an XML File for Your Deployment Plan

To create an XML file for your deployment plan:

- 1) Open Notepad or other text editor.
- 2) Save the new file as P6R81DeploymentPlan.xml in your P6 home directory (for example, C:\p6home in Windows or /usr/p6home in UNIX).

Note: You can save your XML file in another location, but saving it in your P6 home directory will make it easier to find when you deploy it in WebLogic.

- 3) Enter the following information into your P6R81DeploymentPlan.xml file:

```
<?xml version='1.0' encoding='UTF-8'?>
<deployment-plan xmlns="http://xmlns.oracle.com/weblogic/deployment-plan"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.oracle.com/weblogic/deployment-plan
http://xmlns.oracle.com/weblogic/deployment-plan/1.0/deployment-plan.xsd"
global-variables="false">
  <application-name>p6</application-name>
  <variable-definition>
    <variable>
      <name>SessionDescriptor_cookie_http_only</name>
      <value>>false</value>
    </variable>
    <variable>
      <name>SessionDescriptor_cookie_path</name>
      <value>/p6</value>
    </variable>
  </variable-definition>
</module-override>
```

```

<module-name>p6.ear</module-name>
<module-type>ear</module-type>
<module-descriptor external="false">
  <root-element>weblogic-application</root-element>
  <uri>META-INF/weblogic-application.xml</uri>
<variable-assignment>
  <name>SessionDescriptor_cookie_http_only</name>
  <xpath>/weblogic-application/session-descriptor/cookie-http-only</xpath>
</variable-assignment>
</module-descriptor>
</module-override>
<module-override>
  <module-name>p6.war</module-name>
  <module-type>war</module-type>
  <module-descriptor external="false">
    <root-element>weblogic-web-app</root-element>
    <uri>WEB-INF/weblogic.xml</uri>
    <variable-assignment>
      <name>SessionDescriptor_cookie_path</name>
      <xpath>/weblogic-web-app/session-descriptor/cookie-path</xpath>
    </variable-assignment>
  </module-descriptor>
</module-override>
</deployment-plan>

```

- 4) Save the file and close it.

Adding Your Deployment Plan to Your P6 Deployment in WebLogic

To add your deployment plan to your p6.ear deployment:

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

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

- 2) In the **Welcome** window, log in using the user name and password that you created in **Creating a WebLogic Domain for P6** (on page 146).
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane, click **Deployments**.
- 5) In the **Summary of Deployments** pane:
 - a. Select the **p6** option.
 - b. Click **Update**.

- 6) In the **Update Application Assistant** pane, click **Change Path** in the **Deployment plan path** field.
- 7) In the **Update Application Assistant** pane:
 - a. Navigate to the location where your deployment plan is in your local file system and select the XML file you created (for example, c:\p6home\p6R81DeploymentPlan.xml).
 - b. Click **Next**.
- 8) In the **Update Application Assistant** pane:
 - a. Choose **Update this application in place with new deployment plan changes. (A deployment plan must be specified for this option)**.
 - b. Click **Next**.
- 9) In the **Update Application Assistant** pane:
 - a. Review your choices.
 - b. Click **Finish**.
- 10) In the **Change Center** pane, click **Activate Changes**.
- 11) Verify that the **State** column for 'p6' shows **Active**.
- 12) Logout of the **Administration Console**.

Precompiling P6

Although not required for P6, precompilation helps to reduce the amount of time it takes for users to load P6 pages for the first time. The following instructions apply to all application servers supported by P6 EPPM and need to be performed while the application server is running.

Note: Your application server must be listening on a HTTP port (non-SSL) for the precompile utility to work. You can later disable the HTTP port after precompilation if you will only be using HTTPS.

To precompile P6:

- 1) Copy the `precompile_utility` directory from the P6 folder of the physical media or download to the server where P6 is installed.
- 2) Open a command prompt and go to the newly created "precompile" directory.
- 3) Run a command similar to the following:

```
java -jar JSPPrecompile.jar -u baseURL -f inputfile
```

where *baseURL* is the P6 URL and *inputfile* is the location of the P6 EAR file.

Note: The file path of the P6 EAR file cannot contain spaces.

For example, assuming a standard P6 installation on WebLogic, the command should look similar to the following:

```
java -jar JSPPrecompile.jar -u http://localhost:7001/p6 -f  
p6home/p6.ear
```

Application Server Plug-Ins for P6 EPPM

Application servers offer a variety of plug-ins that enable you to configure a front-end Web server other than the one provided with the application server. For procedures on configuring a Web server plug-in, refer to the application server's documentation.

Configuring the Content Repository for P6

After installing P6 and before entering Content Repository P6 Administrator application settings, decide which authentication mode to use and then configure the Oracle Universal Content Management or Microsoft SharePoint server for use with P6 EPPM.

Refer to the documentation included with the content repository application for detailed instructions on how to complete the guidelines in this section.

Related Topics

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Content Repository Authentication Modes

P6 EPPM offers two content repository authentication modes. Authentication can be configured for either single user authentication or multiple user authentication. In single user authentication mode, all P6 EPPM users access the repository using a single administrator user login that is set during repository configuration. In multiple user authentication mode, each P6 EPPM user is authenticated based on their individual login.

Single User authentication mode is useful when you want users to have full access to the content repository through P6 EPPM without having to maintain an equivalent list of users for both P6 EPPM and the repository. This allows a repository administrator to maintain one set of credentials for the repository without having to share those credentials with all users. Single user authentication is also useful for quickly setting up test repositories that can be accessed by testers with minimal fuss.

 **Multiple User** authentication mode is the default mode. Multiple user authentication mode provides increased security by restricting content repository access on an individual user basis. Because it uses native auditing fields it also allows a clear audit of who has created and modified files.

Note: When using multiple user authentication mode, Oracle Universal Content Management Guest Access should be disabled. If Guest Access is enabled and the guest user does not have the "admin" role assigned in UCM, P6 repository functionality will not be available to that user.

See **Database Settings** (on page 277) for more information about Single User and Multiple User settings.

Configuring Oracle Universal Content Management

Except where noted, the guidelines below are recommendations. Depending on your organization's needs, you can choose to use existing configurations or your own naming conventions. Refer to the documentation included with Oracle Universal Content Management for detailed instructions on how to complete the guidelines in this section.

To configure Oracle Universal Content Management:

- 1) (*required*) Establish a Trusted Connection to the P6 EPPM database by adding the P6 EPPM machine name or IP address as a trusted server in the Universal Content Management server's configuration file.
- 2) (*required*) Create a P6 EPPM documents home folder on the Universal Content Management server by adding a unique path to Contribution Folders.

Example: \\Contribution Folders\Production\Oracle Primavera\

- 3) Create a P6 EPPM Security Group in Universal Content Management and grant the appropriate rights for P6 EPPM users. Security considerations include the following:
 - ▶ P6 EPPM user names must match the Universal Content Management user names, unless using "Single User" for the Authentication Mode.

Note: "Single User" Authentication Mode will log all P6 EPPM users into Universal Content Management via the administrator user created in step 4 below and/or as specified in the Database\Instance\Content Repository setting in **Database Settings** (on page 277).

- ▶ All P6 EPPM-related Universal Content Management user names must have appropriate assignments to Universal Content Management Roles and Users. For a quick setup, you can simply create one P6 EPPM-specific Role to map to, with full privileges (Read, Write, Delete, Admin).
 - ▶ All P6 EPPM-related Universal Content Management user names must have access to the P6 EPPM Security Group, either directly or through a role.
- 4) For the P6 EPPM Security Group in UCM, create an administrative user and assign it a role with full privileges (Read, Write, Delete, Admin). You must have a user account with administrative privileges to access P6 EPPM documents when using "Single User" Authentication Mode. You also need it to create or change the P6 EPPM document organization when using either "Single User" or "Multiple User" Authentication Mode.

Note: When using "Single User" for Authentication Mode, users will have the ability to browse for documents outside of the P6 EPPM documents home folder, as long as the administrator user is granted access to all appropriate Security Groups, including the P6 EPPM Security Group.

- 5)  If the use of Security Accounts is enabled, create a P6 EPPM Security Account. For example, depending on your organization's needs, you might need to set up a Security Account for performance and storage reasons. Security considerations, similar to those made for step 3 above, include the following:
 - ▶ P6 EPPM user names must match the Universal Content Management user names, unless using "Single User" for the Authentication Mode.

- ▶ All P6 EPPM-related Universal Content Management user names must have appropriate assignments to Universal Content Management Roles and Users. For a quick setup, you can simply create one P6 EPPM-specific Role to map to, with full privileges (Read, Write, Delete, Admin).
 - ▶ All P6 EPPM-related Universal Content Management user names must have access to the P6 EPPM Security Account.
- 6) Create a Document Type for P6 EPPM documents in Universal Content Management.

For example:

- ▶ For UCM 10g, enter the Document Type as ADACCT.
- ▶ For UCM 11g, enter the Document Type as Document.

Note: These document types are the defaults in their repositories.

- 7) (*required*) Create the following metadata text fields, exactly as specified (including case), in Universal Content Management for P6 EPPM:

- ▶ PrmUserId
- ▶ PrmProjectId
- ▶ PrmWorkgroupId
- ▶ PrmWorkflowId
- ▶ PrmWorkflowStatus
- ▶ PrmWorkflowAction
- ▶ PrmSecurityPolicy
- ▶ PrmTemplate (clear the "Enabled" and "Searchable" attributes)
- ▶ PrmCheckedOutUserId
- ▶ PrmCheckedOutDate
- ▶ PrmLocalFilePath (make Type = Long Text)
- ▶ PrmAuthorId

The use of "Prm" as a prefix is optional and can be any prefix of your choosing. If a prefix is not used, ensure that none of the P6 EPPM metadata fields are in conflict with existing metadata fields.

- 8) (*required*) Enter the appropriate settings in the P6 Administrator application. See the Database\Instance\Content Repository\Oracle Universal Content Management section in **Database Settings** (on page 277) for setting details.

Configuring Microsoft SharePoint

Except where noted, the guidelines below are required. Depending on your organization's needs, you can choose to use your own naming conventions. Refer to the documentation included with Microsoft SharePoint for detailed instructions on how to complete the guidelines in this section.

Note: Oracle recommends that you install the P6 SharePoint Connector on the same Internet Information Server (IIS) Server where SharePoint is installed. However, if you want to install it on a different server, you must install the P6 SharePoint Connector on an IIS server where it can continually connect to the SharePoint server and Web Access Server in the same Local Area Network.

To configure Microsoft SharePoint:

- 1) Create a new site named "WS_FPRPC" (*recommended name*) on the Microsoft IIS using the IIS Admin.
- 2) Install Microsoft .Net Framework 3.5 SP1 if not already installed. You can download it from this Web site: <http://msdn.microsoft.com/en-us/netframework/cc378097>.
- 3) From the \Tools\SharePoint_Connector folder of the P6 EPPM physical media or download, launch **setup.exe** to install the P6 EPPM Web Services on the site created in step 1.
- 4) During the web service installation, make sure to retain the default virtual directory. For example, on the **Select Installation Address** dialog box, enter the following:
Site = WSFPRPC
Virtual Directory = WS_FPRPC
Application Pool = DefaultAppPool
- 5) Once the installation is complete, test the installation by launching the following URL:
`http://host:port/virtual_dir/WS_FPRPC.asmx`
where *host* is the server machine name or IP address where SharePoint is installed, *port* is the port number that SharePoint is using (the default is 80), and *virtual dir* is the default virtual directory from step 3.
- 6) From the \Tools\SharePoint_Connector folder of the P6 EPPM physical media or download, upload one of these templates, **P6WebAccessLibraryTemplate.stp** for SharePoint 2007 or **P6WebAccessLibraryTemplate2010.stp** for SharePoint 2010, to the SharePoint server (go to **Site Actions**, **Site Settings**, **List Templates**) to create a SharePoint document library for P6 EPPM.
- 7) Enter the appropriate settings in the P6 Administrator application. See the Database\Instance\Content Repository\SharePoint section in **Database Settings** (on page 277) for setting details.

Configuring P6 for Reporting

P6 relies on BI Publisher and the P6 EPPM Extended Schema to produce reports. To be able to run reports in P6, the following tasks are required:

- ▶ If not already set up, create a BI Publisher environment to manage reports. See the documentation included with BI Publisher.
- ▶ Populate BI Publisher settings in the P6 Administrator application. See **Database Settings** (on page 277).
- ▶ Configure and deploy the Publication Services required to populate the reporting views in the P6 EPPM Extended Schema. See **Working with Publication Services for Reporting** (on page 187) and **Publishing P6 Data for Reports** (on page 191).

For Publication Services, you will also need to configure the P6 Administrator application settings. You can configure publication settings for General Data, Time Distributed Data, Blob Data, and Log retention. You can also configure publication services settings for Project Arbiter, Projects, Enterprise Data, Enterprise Summaries, Resource Management, and Security. For more information, see the Publication section in **Services Settings** (on page 304).

- ▶ When you begin working in P6, you can configure your application settings and global scheduled services. See **Working with Application Settings** (on page 442) for more information.
- ▶ Provide users with the 'Edit EPS Costs/Financials' project privilege if they need to view project costs in a report generated from the P6 EPPM Extended Schema. See **Defining Project Security Profiles in P6 EPPM** (on page 404).

The following task is recommended:

- ▶ Configure BI Publisher to allow the use of parameter keys in P6 so that users do not have to manually enter field values for reports. The following sections will provide information on how to add and use the special parameters for reports in BI Publisher.

Why Do I Need Parameters?

P6 supports parameter keys in BI Publisher. These parameters will be used in the P6 Reports section when running and scheduling reports. For most of the parameters that you add, picklists will be provided for users when they are entering the value. The default behavior for an unrecognized parameter will be to provide a plain text box. The user will then need to type in the correct value, and if the value is not in the format the report expected, the report will fail to run.

Adding parameters to your reports allows users that run or schedule a report to select or filter what data to include without having to create additional reports or data templates for reports in advance. For example, consider this scenario:

- ▶ You have a report on activities and each activity has an activity code value assigned to it to determine the location of the team working on it.
- ▶ You want each team to be able to run the report, but they want to see only the activities for their location.

Without parameters, you would need to create a different report and data template for each team. All of these reports would be almost the same, except that each select statement to pull the activity data would have a different join to the activity code table to match the correct location. With parameters, you can do this with just one report and data template.

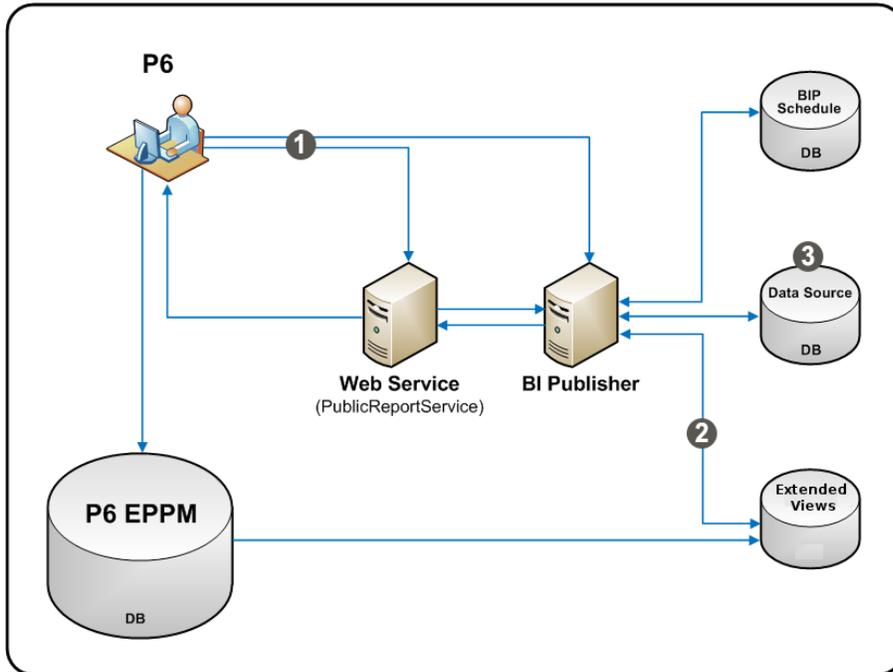
Getting Started with BI Publisher Reports

These sections supplement the pre-packaged reports shipped with P6, which provide examples and support for BI Publisher.

Before getting started, familiarize yourself with the way reports are handled in BI Publisher. P6 populates its list of reports from the Report Definitions that are loaded from the web services of BI Publisher. When you need to create or modify a report, you will be doing so in BI Publisher. The documentation on BI Publisher will help you understand how BI Publisher works. Before continuing with the following sections, you need to learn about the following Report Definitions from the BI Publisher documentation:

- ▶ Data Model
 - ▶ Writing sql queries and data templates
- ▶ Parameters
 - ▶ The basic types (Text, Menu, Date, Boolean)
 - ▶ How "List of Values" work with the parameters
 - ▶ The different settings that can be set on them
- ▶ Templates

The graphic below will help you understand the basic flow between BI Publisher and P6.



BI Publisher Diagram

Item	Description
①	Log in with BIP Security admin credentials and impersonate a P6 user.
②	Call the P6 EPPM Extended Schema with the PXRptUser. The PXRptUser must be in the same instance as the admuser.
③	You can add many other data sources for reports.

The data source you will work with to create reports will be the P6 EPPM Extended Schema database. Note that the Publication Services populate the tables and views used for reporting in the P6 EPPM Extended Schema. You should not run any report that uses the P6 EPPM Extended Schema until you configure the Publication Services and execute them for the first time. For more information on configuring Publication Services, see ***Working with Publication Services for Reporting*** (on page 187), ***Services Settings*** (on page 304), and ***Services Page*** (on page 446).

Note: Oracle recommends you use the P6 EPPM Extended Schema database for reporting, but you can still work with the ODS database if you purchased the P6 Reporting Database. The P6 Reporting Database now becomes a truly optional ad-on component to the P6 EPPM suite, supporting P6 Analytics, third-party reporting tools, off-line analysis, and consolidation of P6 data into larger corporate data warehouses.

Security for the P6 EPPM Extended Schema and Reports

In P6 EPPM R8.1, the security model for reporting against the P6 EPPM Extended Schema starts with the new PXRptUser database user. PXRptUser is added automatically when you install or upgrade to P6 EPPM R8.1 for an Oracle or Microsoft SQL Server database.

PXRptUser accesses the logical views in the P6 EPPM Extended Schema, which include existing P6 database tables and the new extended schema tables. You must configure a data source in BI Publisher to connect to the P6 EPPM Extended Schema using the PXRptUser account. When you launch a report from P6 or BI Publisher, BI Publisher must first make the connection to the P6 EPPM Extended Schema with PXRptUser. The user logged into either application is then passed as a security context to the P6 EPPM Extended Schema to apply security to the data set being returned in the BI Publisher report.

When you implement the P6 EPPM Extended Schema, you must create a security context in BI Publisher to establish security for P6 reports. Follow the instructions in the next section to configure your security.

Configuring Security for the P6 EPPM Extended Schema and Reports on an Oracle Database

For an Oracle database, security is embedded in the P6 EPPM Extended Schema.

Notes:

- If you are using Oracle BI Publisher 10G, you must have the latest Oracle BI Publisher Enterprise Patch installed. You must have patch 10623023 or later. See patch 11931697 in My Oracle Support's Knowledge Articles for the latest patch.
 - These instructions focus only on configuring security for the P6 EPPM Extended Schema and reports. They do not focus on anything else you can do in BI Publisher. For more information on BI Publisher, see the BI Publisher documentation.
-

- 1) Login to BI Publisher as an administrative user.

Note: Some steps vary depending on whether you are using BI Publisher 10g or 11g. The steps distinguish between 10g and 11g if they differ.

- 2) In BI Publisher 10g, click the **Admin** tab.
In BI Publisher 11g, click the **Administration** link at the top of your screen.
- 3) Under **Data Sources**, click the **JDBC Connection** link.
- 4) Click **Add Data Source** or choose the data source name you want to use.
- 5) In the **General** section:
 - a. In the **Data Source Name** field, enter the data source name.
 - b. In the **Driver Type** field, select your Oracle database version.
 - c. In the **Database Driver Class** field, enter the JDBC driver class for your database.
 - d. If you are using BI Publisher 10g, skip this step.
In BI Publisher 11g, select the **Use System User** option if you are connected to the Oracle BI Server and want to use this option.
 - e. In the **Connection String** field, enter your JDBC connection string.
 - f. In the **Username** field, enter your PxRptUser name.
 - g. In the **Password** field, enter your PxRptUser password.
 - h. In the **Pre Process Function** field, enter the following:
`Secpac.SET_BIP_USER(:xdo_user_name)`
 - i. Clear the **Use Proxy Authentication** option for this data source definition.
 - j. Click **Test Connection**.
- 6) In the **Security** section, move your preferred roles from **Available Roles** to **Allowed Roles**.
- 7) Click **Apply** towards the top.
- 8) To verify that each report has security, log out of BI Publisher then log back in as a user with restricted P6 EPPM Extended Schema access. Ensure that the user can only see what they're allowed to see.

Tips

Refer to the sample reports included with P6 R8.1 for examples on how to create BI Publisher reports to use with P6 on an Oracle database.

You can find sample reports in the **P6reports.zip** folder of the P6 EPPM physical media or download.

- ▶ For BI Publisher 10g, use the **P6reportsOraBIPub10g\Samples** folder.
- ▶ For BI Publisher 11g, use the **P6reportsOraBIPub11g\Samples** folder.

Defining Parameters in BI Publisher

When adding a new parameter in BI Publisher you will see the following fields:

- ▶ **Identifier** – The key for the parameter. Determines whether the parameter is supported by a picklist.

- ▶ **Data Type – String** should be the default type. When using a supported parameter, select String for the type. See *Primitive Parameters* (on page 185) for more on Date, Boolean, and Integer parameters.
- ▶ **Default Value** – The value entered in this field will be the default for the parameter whenever the report is run. Users will be able to see this value in P6.
- ▶ **Parameter Type** – Text, Menu, and Date will be the most used types. Unless otherwise specified, Text should be the default for the supported parameters. In the case of multiple value selection, use Menu.
- ▶ **Display Label** – The text that displays in P6 for the parameter. If it is not set, the identifier is displayed.

Supported Parameters in P6

You can use any parameter for BI Publisher, but users will then have to ensure that they enter the value correctly, or else the SQL statements in the data template will fail. Using supported parameters will allow you to provide a user interface to enter the values for parameters. Supported parameters for P6 fall into one of three categories: enumeration, dynamic, or primitive.

Enumeration parameters have static lists that users can pick from. Dynamic parameters will generate the list dynamically at run time. For example, when focusing on Project ID, users will be presented with a Project picklist that pulls the current projects from the P6 EPPM database. Primitive parameters support basic selections. For example, if a parameter is a boolean, an option will appear for users to select or clear a text box instead of typing true or false.

The following are the supported parameters for P6, grouped by category:

Enumeration Parameters

- ▶ Activity Priority
- ▶ Assignment Proficiency
- ▶ Activity Status
- ▶ Activity Type
- ▶ Constraint Type
- ▶ Duration Type
- ▶ Percent Complete Type
- ▶ Project Status
- ▶ Rate Source
- ▶ Rate Type
- ▶ Resource Type
- ▶ Risk Status
- ▶ Risk Type

Dynamic Parameters

- ▶ Activity Code Value
- ▶ User Defined Activity Code (type and value)
- ▶ Cost Account
- ▶ EPS
- ▶ Expense Category

- ▶ Funding Source
- ▶ Portfolio
- ▶ Project
- ▶ Project Code Value
- ▶ User Defined Project Code (type and value)
- ▶ User Defined Resource Code
- ▶ Resource Code Value
- ▶ Resource Team
- ▶ Resource ID
- ▶ Responsible Manager
- ▶ Risk Category
- ▶ RoleRole
- ▶ Role Team
- ▶ Timesheet Period
- ▶ User

Primitive Parameters

- ▶ Date
- ▶ Boolean
- ▶ Integer
- ▶ Float

Custom Parameters

- ▶ List of Values

Enumeration Parameters

Enumeration parameters are mapped to fields that have a set list of possible values. When running a report with a configured enumeration parameter, P6 will offer a picklist to select one of the values. Users will see the properly localized text for the descriptions of the enumeration values; however, the return value will be the English description of the enumeration, which is the value that is stored in the PX Views database.

Descriptions of enumeration parameters are in the following format:

Parameter: *Name of the parameter.*

- ▶ **Identifier:** *The value you must enter in the identifier field in BI Publisher when creating the parameter for the report.*
- ▶ **Details:** *A description and technical details of the parameter.*
- ▶ **Values:** *The values that will be available in P6.*
- ▶ **Maps to field:** *The database field the return value maps to in the PX Views database. It could match multiple fields in the database, so only the primary table is listed.*
- ▶ **Use case:** *An example of how you might use the parameter in a report.*

Supported Enumeration Parameters

Parameter: Activity Priority

- ▶ **Identifier:** p_activity_priority
- ▶ **Details:** Allows users to select the leveling priority of an activity.
- ▶ **Values:** Top, High, Normal, Low, Lowest
- ▶ **Maps to field:** ACTIVITY.LEVELINGPRIORITY
- ▶ **Use case:** Filter activity data by leveling priority.

Parameter: Assignment Proficiency

- ▶ **Identifier:** p_assignment_proficiency
- ▶ **Details:** Allows users to select a value for assignment proficiency.
- ▶ **Values:** Master, Expert, Skilled, Proficient, Inexperienced
- ▶ **Maps to field:** RESOURCEASSIGNMENT.PROFICIENCY
- ▶ **Use case:** Filter resource assignment data by the proficiency of the assignment.

Parameter: Activity Status

- ▶ **Identifier:** p_activity_status
- ▶ **Details:** Allows users to select activity status.
- ▶ **Values:** Not Started, In Progress, Completed
- ▶ **Maps to field:** ACTIVITY.STATUS
- ▶ **Use case:** Filter activity reports based on a certain status.

Parameter: Activity Type

- ▶ **Identifier:** p_activity_type
- ▶ **Details:** Allows users to select the activity type.
- ▶ **Values:** Task Dependent, Resource Dependent, Level of Effort, Start Milestone, Finish Milestone, WBS Summary
- ▶ **Maps to field:** ACTIVITY.TYPE
- ▶ **Use case:** Filter activity reports based on the type of the activity.

Parameter: Constraint Type

- ▶ **Identifier:** p_constraint_type
- ▶ **Details:** Allows users to select an activity constraint type.
- ▶ **Values:** Start On, Start On or Before, Start On or After, Finish On, Finish On or Before, Finish On or After, As Late As Possible, Mandatory Start, Mandatory Finish
- ▶ **Maps to field:** ACTIVITY.PRIMARYCONSTRAINTTYPE and ACTIVITY.SECONDARCONSTRAINTTYPE
- ▶ **Use case:** Filter activities in a report by the activity primary or secondary constraint type.

Parameter: Duration Type

- ▶ **Identifier:** p_duration_type
- ▶ **Details:** Allows users to select the duration types of an activity.
- ▶ **Values:** Fixed Units/Time, Fixed Duration & Units/Time, Fixed Units, Fixed Duration & Units

- ▶ **Maps to field:** ACTIVITY.DURATIONTYPE
- ▶ **Use case:** Filter activities in a report based on their duration type.

Parameter: Percent Complete Type

- ▶ **Identifier:** p_percent_complete_type
- ▶ **Details:** Allows users to select the percent complete type of an activity.
- ▶ **Values:** Physical, Duration, Units
- ▶ **Maps to field:** ACTIVITY.PERCENTCOMPLETETYPE
- ▶ **Use case:** Filter activities in a report based on the percent complete type of the activity.

Parameter: Project Status

- ▶ **Identifier:** p_project_status
- ▶ **Details:** Allows users to select the status of a project.
- ▶ **Values:** Planned, Active, Inactive, What If, Requested, Template
- ▶ **Maps to field:** PROJECT.STATUS
- ▶ **Use case:** Filter the projects in a report based on the desired type. For example, you might want to use this for a report that needs to display information only on planned projects.

Parameter: Rate Source

- ▶ **Identifier:** p_rate_source
- ▶ **Details:** Allows users to select the rate source of an assignment.
- ▶ **Values:** Resource, Role, Override
- ▶ **Maps to field:** RESOURCEASSIGNMENT.RATESOURCE
- ▶ **Use case:** Filter resource assignments that are included in a report based on the rate source of the assignment.

Parameter: Rate Type

- ▶ **Identifier:** p_rate_type
- ▶ **Details:** Allows users to select the rate type of an assignment.
- ▶ **Values:** Price/Unit, Price/Unit 2, Price/Unit 3, Price/Unit 4, Price/Unit 5
- ▶ **Maps to field:** RESOURCEASSIGNMENT.RATETYPE
- ▶ **Use case:** Filter resource assignments that are included in a report based on the rate type of the assignment.

Parameter: Resource Type

- ▶ **Identifier:** p_resource_type
- ▶ **Details:** Allows users to select the resource type of an assignment.
- ▶ **Values:** Labor, Nonlabor, Material
- ▶ **Maps to field:** RESOURCEASSIGNMENT.RESOURCE TYPE
- ▶ **Use case:** Filter resource assignments included in a report based on the resource type of the assignment.

Parameter: Risk Status

- ▶ **Identifier:** p_risk_status

- ▶ **Details:** Allows users to select the status of a risk.
- ▶ **Values:** Proposed, Open, Active, Rejected (Closed), Managed (Closed), Impacted (Closed)
- ▶ **Maps to field:** RISK.RISKSTATUS
- ▶ **Use case:** Filter risks in a report based on the status of the risk.

Parameter: Risk Type

- ▶ **Identifier:** p_risk_type
- ▶ **Details:** Allows users to select the type of a risk.
- ▶ **Values:** Threat, Opportunity
- ▶ **Maps to field:** RISK.RISKTYPE
- ▶ **Use case:** Filter risks in a report based on the type of risk.

Dynamic Parameters

Dynamic parameters are mapped to fields that have a varying list of possible values. When running a report with a configured dynamic parameter, P6 will offer a picklist to select one of the available values.

Descriptions of dynamic parameters are in the following format:

Parameter: *Name of the parameter.*

- ▶ **Identifier:** *The value you must enter in the identifier field in BI Publisher when creating the parameter for the report. In some cases, identifiers can pass in context by appending short names to the end of the identifier. The character in quotations is the separator that the code splits and <name> represents the context you are trying to pass in.*
- ▶ **Details:** *A description and technical details of the parameter.*
- ▶ **P6:** *What the editor for the parameter will be in the Reports section of P6.*
- ▶ **Return Value:** *The values that will be available in P6.*
- ▶ **Maps to field:** *The database field the return value maps to in the PX Views database. It could match multiple fields in the database, so only the primary table is listed.*
- ▶ **Use case:** *An example of how you might use the parameter in a report.*

Supported Dynamic Parameters

Parameter: Activity Code Value

- ▶ **Identifier:** p_activity_code_value_only ":" <short name>
- ▶ **Details:** Enables users to select an activity code value via a picklist. Context is passed into the parameter by appending a dash ":" followed by the short name of the activity code type you want to set.
- ▶ **P6:** Provides a picklist that displays the Activity Code Values for the Activity Code type passed in the context.
- ▶ **Return value:** Short name of the Activity Code (unique per code type).
- ▶ **Maps to field:** ACTIVITYCODE.CODEVALUE

- ▶ **Use case:** Create a report that displays some basic information about activities. There are five main locations that need to run the report, but they only want to see the data for activities with codes matching their location. Instead of creating five reports hard coding the location (for example, location=L1) on each report, you can create one report and add this parameter to it (for example, p_activity_code_value_only:Location).

In the data template for the report, filter the activities based on this parameter. Hard code the left side of the activity filter to match the activity code you selected, which in this case is location.

Example query: CODETYPENAME='Location' &
CODEVALUE=:p_activity_code_value_only:Location

If you did not have a parameter for this, you would need different templates for each location.

Parameter: User Defined Activity Code

- ▶ **Identifier:** p_activity_code_value "." <number> p_activity_code_type "." <number>
- ▶ **Details:** Enables users to select a user defined Activity Code. The user defined Activity Code is two parameters on the report in BI Publisher, but will only be displayed as one row in the report settings parameter table.
- ▶ **P6:** Provides a picklist that displays all global Activity Code types. When users expand a type, the values for that type will also be listed. By selecting a value, it will return both the type and value to the report.
- ▶ **Return value:** Short name for the Activity Code Value, primary key for the Activity Code type.
- ▶ **Maps to field:**
 - p_activity_code_value maps to ACTIVITYCODE.CODEVALUE
 - p_activity_code_type maps to ACTIVITYCODE.CODETYPEOBJECTID
- ▶ **Use case:** Create a report that can have a variable Activity Code. You have a report that pulls activities and displays some basic statistics of the activities. The data template for the report must accommodate setting both sides of the query. While a typical parameter just sets the IN clause for a user defined field, this parameter must set both sides. The "Activity Code Value" parameter **Use case** example shows where it hard codes the CODETYPENAME to be **Location**. This parameter enables multiple user defined activity codes to be used on the same report. For each parameter you use, you must add p_activity_code_value.1 and p_activity_code_type.1. There must be a pair of numbers to ensure that the editor works properly.

Parameter: Cost Account

- ▶ **Identifier:** p_cost_account
- ▶ **Details:** Enables users to select Cost Accounts. The P6 user must have access to view Cost Accounts in order for the picklist to populate.
- ▶ **P6:** Provides a picklist that displays all Cost Accounts in a hierarchical tree.
- ▶ **Return value:** Short name of the cost account (unique).
- ▶ **Maps to field:** COSTACCOUNT_FULL.NAME
- ▶ **Use case:** Can be used to filter items using certain Cost Accounts, or to generate information on the Cost Accounts themselves.

Parameter: EPS

- ▶ **Identifier:** p_eps_id
- ▶ **Details:** Enables a user to select an EPS.
- ▶ **P6:** Provides a picklist that displays all of the EPS nodes to which the logged in user has access.
- ▶ **Return value:** The short name of the EPS.
- ▶ **Maps to field:**
 - EPS_FULL.NAME
 - EPS_U.NAME
- ▶ **Use case:** A parameter for EPS could be used to filter a query to load all projects under an EPS for a report.

Parameter: Expense Category

- ▶ **Identifier:** p_expense_category
- ▶ **Details:** Enables a user to select Expense Category to which the user has access.
- ▶ **P6:** Will provide a picklist that displays all of the Expense Categories.
- ▶ **Return value:** The short name of the Expense Category (unique).
- ▶ **Maps to field:**
 - EXPENSECATEGORY_FULL.NAME
 - EXPENSECATEGORY_U.NAME
- ▶ **Use case:** Run a report filtered by assignments that use a certain Expense Category associated with them.

Parameter: Funding Source

- ▶ **Identifier:** p_funding_source
- ▶ **Details:** Enables a user to select a Funding Source.
- ▶ **P6:** Provides a hierarchical picklist filled with Funding Sources to which a user has access.
- ▶ **Return value:** The short name of the Funding Source (unique).
- ▶ **Maps to field:**
 - FUNDINGSOURCE_FULL.NAME
 - FUNDINGSOURCE_U.NAME
- ▶ **Use case:** Filter the report data to only include projects that have the selected Funding Source assigned.

Parameter: Portfolio ID

- ▶ **Identifier:** p_portfolio_id
- ▶ **Details:** Enables a user to select a Portfolio to which the user has access.
- ▶ **P6:** Provides a picklist of Portfolios to which the user has access.
- ▶ **Return value:** The portfolio short name (unique).
- ▶ **Maps to field:** PROJECTPORTFOLIO_FULL.NAME
- ▶ **Use case:** Filter the report data to only include the projects that are contained in a Portfolio.

Parameter: Project ID

- ▶ **Identifier:** p_project_id
- ▶ **Details:** Enables a user to select one or more projects to which the user has access.
- ▶ **P6:** Click the **Projects** ▼ menu, and select **Open Project** to display the Project picklist. Enables switching between Template and Regular projects.
- ▶ **Return value:** The project short name (unique).
- ▶ **Maps to field:** PROJECT_FULL.ID
- ▶ **Use case:** Run a report where the data is pulled from selected projects.

Project Code Value

- ▶ **Identifier:** p_project_code_value_only"-<short name>
- ▶ **Details:** Select a Project Code value.
- ▶ **P6:** Provides a picklist containing the project code values for the Project Code whose short name matches the second part of the parameter. For example: If the short name was Scope, and there were four values – Local, Regional, Country, and Global – the picklist would display Local, Regional, Country, and Global in the list.
- ▶ **Return value:** Activity code value short name (unique per code type).
- ▶ **Maps to field:** PROJECTCODE_FULL.CODEVALUE
- ▶ **Use case:** Filter the set of projects loaded to those projects that have the user-selected Project Code Value assigned to them.

Parameter: User Defined Project Code

- ▶ **Identifier:** p_project_code_value"."<number> p_project_code_type"."<number>
- ▶ **Details:** Similar to the User Defined Activity Code, this parameter consists of two parameters in BI Publisher: One parameter returns the selected Project Code Value, and the other parameter returns the Project Code type ID. For each parameter you use, you must add both **p_project_code_value.#** and **p_project_code_type.#** There must be a pair of numbers in order for the editor to work properly. You can have multiple sets to allow for more than one User Defined Code Value.
- ▶ **P6:** Provides a picklist populated with all the global Project Codes as the first level. Expanding a Project Code type will list all the values for the type. In the parameter table, only one row will represent both parameters. After you select a Project Code Value, both parameters will be set.
- ▶ **Return value:** The short name for p_project_code_value and the object id for p_project_code_type.
- ▶ **Maps to field:**
 - p_project_code_value maps to PROJECTCODE_FULL.CODEVALUE
 - p_project_code_type maps to PROJECTCODE_FULL.CODETYPEOBJECTID
- ▶ **Use case:** Create a report that enables the projects to be filtered based on a Project Code that the user defines. Unlike the Project Code Value parameter, the report creator need not hard code the Project Code type. Instead, the query should be written to enable the p_project_code_type.1 parameter to determine the Project Code type. This lets a report be more flexible in the filter criteria.

Parameter: User Defined Resource Code

- ▶ Identifier: p_resource_code_value "." <number> p_resource_code_type "." <number>
- ▶ **Details:** Similar to the other user-defined codes this parameter consists of two parameters on the report in BI Publisher: One parameter returns the selected Resource Code Value, and the other parameter returns the Resource Code type ID. For each parameter you use, you must add both **p_resource_code_value.#** and **p_resource_code_type .#** There must be a pair of numbers in order for the editor to work properly. You can have multiple sets to allow for more than one user-defined code value.
- ▶ **P6:** Provides a picklist populated with the Resource Codes as the first level. Expanding a Resource Code type will list all the values for the type. In the parameter table, only one row will represent both parameters. After you select a Resource Code Value, both parameters will be set.
- ▶ **Return value:**
 - p_resource_code_value: short name for the code value
 - p_resource_code_type: object id for the code type
- ▶ **Maps to field:**
 - p_resource_code_value maps to RESOURECECODE_FULL.CODEVALUE
 - p_resource_code_type maps to RESOURECE_CDOE_FULL.CODETYPEOBJECTID
- ▶ **Use case:** Create a report that allows for the resources to be filtered based on a Resource Code Value and type that the user defines. Unlike the Resource Code Value parameter, the report creator need not hard code the resource code type. Instead, the query should be written to enable the p_resource_code_type.1 parameter to determine the resource code type. This allows a report to be more flexible in the filter criteria.

Parameter: Resource Code Value

- ▶ **Identifier:** p_resource_code_value_only ":" <short name>
- ▶ **Details:** Select a Resource Code value to use for filtering loaded resources for a report.
- ▶ **P6:** Provides a picklist populated with the resource code values for the resource code type indicated by the <short name> at the end of the parameter. For example: If the short name was Department, the picklist would display Engineering, Marketing, Research, and Development as the values in the list.
- ▶ **Return value:** The short name of the Resource Code Value (unique per code type).
- ▶ **Maps to field:** RESOURECECODE_FULL.CODEVALUE
- ▶ **Use case:** Create a report where the resources loaded are filter based on the resources that match the user-selected Resource Code Value for a particular Resource Code type. The report data query must hard code the Resource Code type for matching resources to the returned code value.

Parameter: Resource Team

- ▶ **Identifier:** p_resource_team
- ▶ **Details:** Enables resource team selection.
- ▶ **P6:** Provides a picklist populated with resource teams that the user has access to view.
- ▶ **Return value:** The short name of the resource team (unique).

- ▶ **Maps to field:** RESOURCETEAM_FULL.NAME
- ▶ **Use case:** Filter a report to load resources that are on the selected resource team.

Parameter: Resource ID

- ▶ **Identifier:** p_resource_id
- ▶ **Details:** Select a resource on which to filter a report.
- ▶ **P6:** Provides a picklist populated with resources that the user has access to view.
- ▶ **Return value:** The short name of the resource (unique).
- ▶ **Maps to field:** RESOURCES_FULL.NAME
- ▶ **Use case:** Filter the activities in a report based on the user-selected resource being assigned to the activity.

Parameter: Responsible Manager

- ▶ **Identifier:** p_responsible_manager
- ▶ **Details:** Select a responsible manager (OBS).
- ▶ **P6 GUI:** Provides a picklist populated with the OBS structure that the user has access to view.
- ▶ **Return value:** The short name of the OBS (unique).
- ▶ **Maps to field:** PROJECT_FULL.OBSNAME and OBS_FULL.NAME
- ▶ **Use case:** Filter a report to only load the projects that have the user-selected responsible manager.

Parameter: Risk Category

- ▶ **Identifier:** p_risk_category
- ▶ **Details:** Select a Risk Category.
- ▶ **P6:** Provides a picklist populated with all the Risk Categories that the user has access to view.
- ▶ **Return value:** The name of the Risk Category (unique).
- ▶ **Maps to field:** RISK_FULL.RISKTYPE
- ▶ **Use case:** Filter a report to only load the Risks of the user-selected category.

Parameter: Role Team

- ▶ **Identifier:** p_role_team
- ▶ **Details:** Select a Role Team.
- ▶ **P6:** Provides a picklist populated with all the Role Teams that the user has access to view.
- ▶ **Return value:** The name of the Role Team (unique).
- ▶ **Maps to field:** ROLLTEAM_FULL.NAME
- ▶ **Use case:** Filter a report of Resources to only include the Resources that are assigned to the user-selected Role Team.

Parameter: Role

- ▶ **Identifier:** p_p6_role_id
- ▶ **Details:** Select a Role

- ▶ **P6:** Provides a picklist populated with all the Roles that the user has access to view.
- ▶ **Return value:** The short name of the Role (unique).
- ▶ **Maps to field:** ROLL_FULL.ID
- ▶ **Use case:** Filter a report of Resources to only include the Resources that have the user-selected Role.

Parameter: Timesheet Period

- ▶ **Identifier:** p_timesheet_period_start and p_timesheet_period_end
- ▶ **Details:** This parameter consists of two parameters on the report in BI Publisher, but is represented by a single row in parameter list for P6. The user will select a timesheet period, and it will set the Start Date to p_timesheet_period_start and the End Date to p_timesheet_period_end.
- ▶ **P6:** Drop down menu of the Timesheet Periods in the database. Selecting a Timesheet Period will return the Start Date and End Date in the parameters.
- ▶ **Return value:** The Start Date and End Date of the Timesheet Period selected by the user.
- ▶ **Maps to field:** N/A
- ▶ **Use case:** Filter a report to look for date between two dates of a Timesheet Period. Instead of adding two date parameters, and making the user manually enter the Start and End of the period, a drop down is provided with the Timesheet Periods in the database.

Parameter: User

- ▶ **Identifier:** p_p6_user_id
- ▶ **Details:** Select a P6 EPPM user name.
- ▶ **P6:** Provides a picklist populated with the P6 users that the logged-in user has access to view.
- ▶ **Return value:** The user name (unique).
- ▶ **Maps to field:** USERS_FULL.NAME

Primitive Parameters

In BI Publisher, when you create a parameter, a field Data Type allows the following options: String, Integer, Boolean, Float. The default type is String and should be used for all the supported enumeration and dynamic parameters. For primitive parameters, select the appropriate option for the parameter that you are configuring.

Type: Date

- ▶ **Editor:** The P6 date picker will be used to select the date.
- ▶ **Return:** The date string in the format that was entered in BI Publisher.

Type: Boolean

- ▶ **Editor:** A check box editor will be used.
- ▶ **Return:** Either true (selected) or false (cleared).

Type: Integer

- ▶ **Editor:** A default text box will be used with no validation.

- ▶ **Return:** The text that was entered in the box.

Type: Float

- ▶ **Editor:** A default text box will be used with no validation.
- ▶ **Return:** The text that was entered in the box.

Allowing for Multiple Values Returned via a Picklist

If you need a supported parameter to return a comma separated list of values for an IN clause in the data template, do the following:

- 1) In BI Publisher, set the parameter type to **Menu**. This will allow you to link it to a list.
- 2) Create a hard coded list or a query to get the possible values for the parameter.
See examples of this within the pre-packaged reports.
- 3) Select the list of values you just created for the parameter.
- 4) Check the **Multiple Selection** box in the options for the parameter.

If a parameter allows for multiple selection, P6 will allow selecting multiple values from the picklist or allow users to continue to assign values without closing the picklist. Values will be appended by commas to the end of the parameter value that is returned.

About Publication Services and Reporting

Before reports can be generated, data must be refreshed and calculations must be made in precisely arranged tables and fields. *Publication Services* address these reporting needs by gathering and calculating data as close as possible to real-time. To make this happen, you can configure P6 to automatically publish data to reporting tables. Depending on the type of data published, reports may still be generated using P6 tables, or a combination of P6 and reporting tables. An administrator must configure settings for Publication Services before reporting data is published.

Your organization's P6 EPPM data is split into two general categories: *project* data and *global* data. Published project data includes all information about your projects, including summaries and calculations, and published global data includes enterprise data, resource and role data, portfolio data, and security data.

To summarize the reporting process:

- 1) Users create new data or make changes to existing data in P6.
- 2) The P6 global and project data is published, automatically or manually, to tables for reporting.
- 3) Reports are generated directly from the collective P6 EPPM database with the P6 Extended Schema reporting tables.

Working with Publication Services for Reporting

To achieve near real-time reporting, you can configure P6 to automatically publish your data to tables that store updated data, including calculations and summary data. These tables also permit the synthesis of this data into views essential for generating reports. The P6 data is split into two general categories: *project* data and *global* data. Project data includes all information about your projects, including summaries and calculations, and global data includes enterprise data, as well as resource and role, portfolio, and security data. The image below summarizes the key concepts in the publication and reporting process.

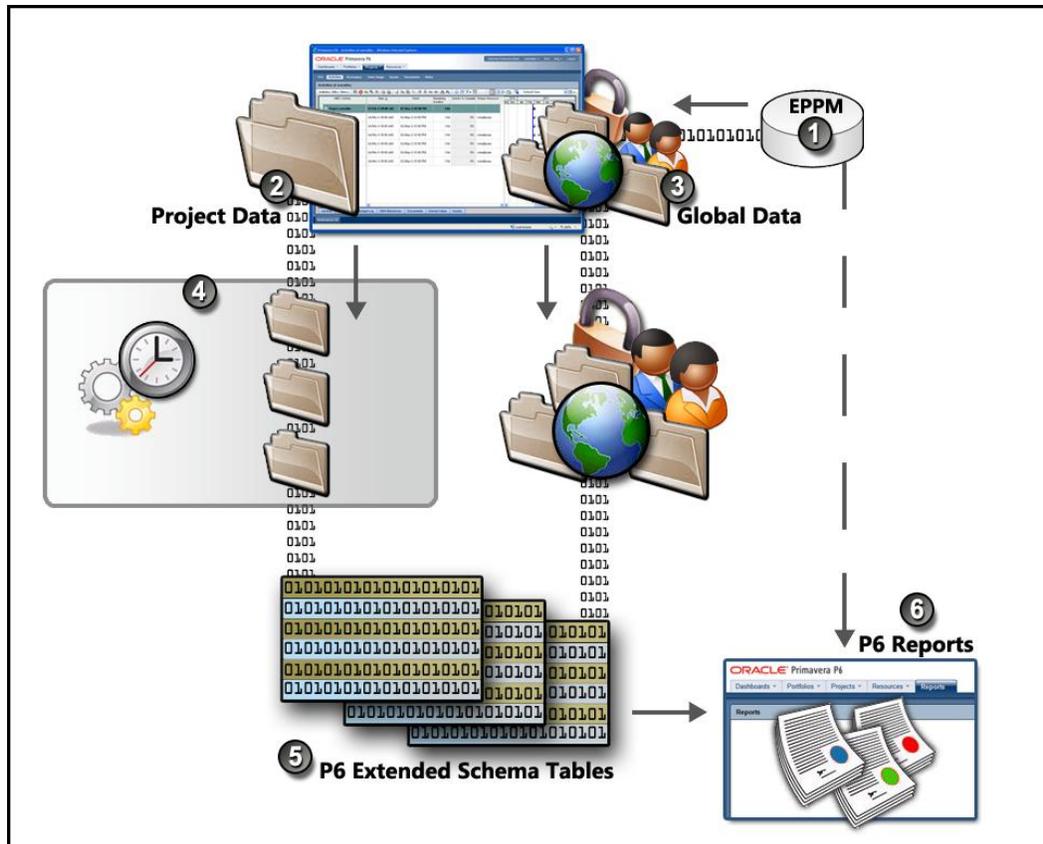


Table of Key Publication Services Concepts

Item	Description
1	EPPM Database: The EPPM database captures all the new and changed data your organization generates every second of every day. However, the raw data in the EPPM database is not structured for immediate use in reporting.
2	Project Data: You can configure P6 to automatically publish a project based on publication thresholds. Based on options you select, projects can also be ordered for publication in a prioritized queue. If necessary, you can also manually add a project to the queue.

Item	Description
3	Global Data: You can configure services in P6 to schedule the publication of global data based on recurring intervals that you specify. If necessary, you can also immediately publish this data manually.
4	Project Queue: Projects are published in sequential order based on priority. Processing options your administrator can control take over and determine which projects are added to the publishing queue, when, and in what order. These options ensure the project data you need most is available for P6 reporting in near real-time.
5	P6 Extended Schema Tables: The project and global services recalculate certain logical fields in the P6 EPPM database and store them as physical fields in the P6 Extended Schema tables so that they are available for reporting and other purposes. Some fields in P6, such as durations, are calculated in real time as related field data is changed and are not stored in the database. Publication services recalculate these fields and store their values in the extended schema tables. Other fields, such as note fields, are not stored in the database in a format suitable for reporting. For these fields, publication services will convert them to a format more suitable for reporting.
6	P6 Reports: You can then run reports directly against P6 Extended Schema table views and P6 tables.

P6 provides administrators with complete control over the project and global publication process, which can be summarized in three main illustrated points below.

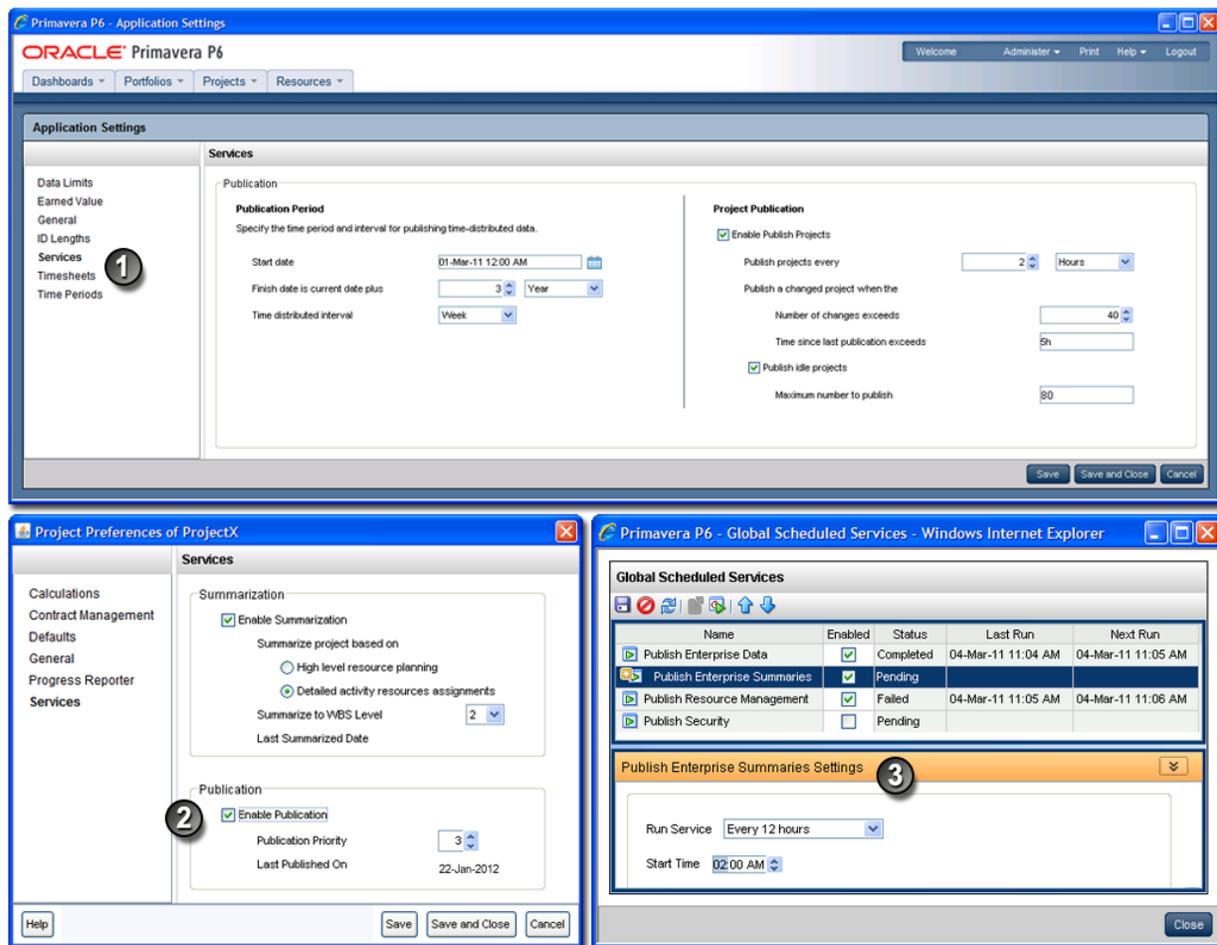


Table of Key Publication Services Elements

Item	Description
1	Application Settings for Publication Services: Located under the Administer menu, begin by clicking Application Settings , and then choose Services . On the Services page, specify the start date, period of time to add to the current publication date to determine a finish date, and time-distributed interval for publication. In the Project Publication section, you can enable the <i>Publish Projects</i> services to refresh project data according to a time interval you set. You can further determine a change threshold, time threshold, and even decide if idle projects should be added to the queue, and if so, set a maximum limit to the concurrent number of idle projects being published.

Item	Description
2	Project Preferences for Publication Services: Then, navigate to the EPS page in the Projects section. Click a project, and select Set Project Preferences from the Actions menu. On the Services page, select the Enable Publication option to indicate you want this project to be included in the <i>Publish Projects</i> services. All new projects are enabled for publication by default. Clear the option if you do not want the project's data to be published. On this page, you can also set the project's priority relative to other projects entering the publication queue.
3	Global Scheduled Publication Services: Finally, return to the Administer menu and navigate to the Global Scheduled Services dialog box to enable the types of global data services you want to schedule. Below each service you enable, specify the recurring interval and start time in the detail window.

Defining Publication Periods

Before publishing global or project data for reporting, define the publication period. The publication period you define should be large enough to capture all the project data you need to include in reports.

Warning: You can perform these steps again at any time to modify your settings. However, if an *Admin Superuser* modifies the **Start date**, **Time distributed interval**, or **Finish date is current date plus** fields, all data will be fully recalculated. Oracle recommends that you only reconfigure publication options on weekends or during off-peak hours to prevent the disruption of other P6 features.

To define the publication period:

- 1) Click the **Administer** ▼ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, click **Services**.
- 3) On the **Services** page, in the **Publication Periods** section:
 - a. In the **Start date** field, click  to select the exact month, day, year, and time to mark the initial start of the data publication period. Select any date in the past that represents a reasonable amount of historical spread data for your organization. For example, in order for users to be able to produce time-distributed reports for any date range, enter the earliest project start date at your organization.
 - b. In the **Finish date is current date plus** fields, select a numeric quantity and unit of time to construct a dynamic period of time. Whenever a publication service runs, this period of time is added to the current date to determine the finish date for the publication of data. For example, if the value is 5 years, time-distributed data will always be published covering the period of time that begins with the value in the **Start Date** field and extends five years into the future each time a service runs.
 - c. In the **Time distributed interval** field, select the unit of time in which time distributed data will be recalculated and published. Set this to **Week** if performance is of primary importance and daily granularity of the published data is not necessary.
 - d. Click **Save**.

Publishing P6 Data for Reports

Reports based on P6 data require timely access to the most current data in order to be accurate. For example, report recipients expect to see updated enterprise data and project data including any calculations. In order to provide this data, P6 generates and stores data in reporting tables (the *P6 Extended Schema*). You can configure P6 to automatically publish essential data to the tables or manually generate it so that the most current data is available for reporting.

The data is split into two general categories: *project* data and *global* data. Project data includes all information about your projects, including summaries and calculations, and global data includes enterprise data, resource and role data, and security data.

Related Topics

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Enabling Automatic Publishing of P6 Project Data for Reports

Perform the following procedure to enable projects for publication, and to set options for automatic project publication. Then, as you work, P6 automatically detects the changes to your projects that trigger the publication of their data.

To enable Publication Services for project data:

- 1) Click the **Administer** ▼ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, select **Services**.
- 3) On the **Services** page, in the **Project Publication** section:
 - a. Select **Enable Publish Projects** to enable automatic project publication based on defined thresholds. Selecting this option also allows users to manually publish projects.
 - b. In the **Publish projects every** field, select an interval by which projects are polled to be published.
 - c. Enter a number in the **Number of changes exceeds** field. This threshold setting determines the number of edits users can make to the project data before P6 publishes its data. Assuming a constant rate of change among projects, a lower value will result in more frequent publication of project data. If you enter a value of 0, projects with tracked changes will be automatically published.
 - d. Enter a time period for the **Time since last publication exceeds** field. This threshold setting determines how often the publication of project data should occur. For example, if you enter 12 hours, the project data will be published every 12 hours unless the threshold for the number of changes has already been reached.
 - e. Select **Publish idle projects** to add projects to the service queue that are enabled for publication but have not been changed during the time threshold. This setting is only valid for the initial run of the service.

- f. In the **Maximum number to publish** field, enter the maximum number of pending idle *Publish Project* services that can be present at once in the service queue. This prevents performance problems during peak demand when enabling the publication of a large number of projects. For example, if the service runs and queues 40 projects that have exceeded specified thresholds and must be published, or that have been manually published, and you have set the maximum to 100, P6 will schedule up to 60 idle projects for publication.
- g. Click **Save**.

Tips

- ▶ If your organization is upgrading to P6, select **Publish idle projects** to add your migrated projects to the service queue after your database is upgraded. This will publish all your projects in the queue and refresh the available data for reporting. After an upgrade, this setting is no longer applicable, and projects will be submitted to the service queue based on threshold values specified on the **Application Settings** page.
- ▶ Clear the **Publish idle projects** option if your organization does not report against completed projects.
- ▶ The **Maximum number to publish** field is only applicable immediately following an upgrade, when all projects are considered idle. When all projects have been published, the service queue will no longer be constrained based on this setting.
- ▶ A project will be automatically submitted to the service queue if you change the project baseline, calendar, or data date. Projects are also automatically submitted to the queue if you select or clear **Calculate Activity % Complete from activity steps** option, or modify the default price/unit value for assignments without activities, from the **Set Project Preferences** dialog box available from the **Actions** menu on the **EPS** page.
- ▶ For threshold settings, projects are added to the service queue based on tracked changes to data. Only changes to activities, resource/role assignments, relationships, and the WBS are tracked.

Configuring Publication Service Settings for Projects

After enabling automatic publishing, perform the following procedure to configure settings for each individual project in *Publication Services*. Then, as you work, P6 automatically detects the changes to your project that trigger the publication of its data in the service queue.

To configure Publication Service settings for a project:

- 1) Click **Projects**.
- 2) On the **Projects** navigation bar, click **EPS**.
- 3) On the **EPS** page:
 - a. Select a project.
 - b. Click the **Actions** ▼ menu and select  **Set Project Preferences....**
- 4) On the **Project Preferences** pane, select **Services**.
- 5) On the **Services** page, in the **Publication** section:
 - a. Select the **Enable Publication** option.

Note: By default, all projects are enabled for publication. The **Enable Publication** setting only needs to be modified if you wish to disable publication for a project or re-enable publication of a previously disabled project.

- b. Adjust the relative **Publication Priority** up or down between 1 and 100 with 50 being the default priority value, 1 being the highest priority, and 100 being the lowest.
- c. Click **Save and Close**.

Tip

If you wish to modify publication settings for many projects at one time, you can display the **Enable Publication**, **Last Published On**, and **Publication Priority** fields as columns in your EPS view.

Enabling Automatic Publishing of P6 Global Data for Reports

Perform the steps below to configure P6 to automatically publish any of the following types of global data to reporting tables.

- ▶ Enterprise Data
- ▶ Enterprise Summary Data including portfolio data
- ▶ Resource Management Data
- ▶ Security Data

To automatically publish P6 global data:

- 1) Click the **Administer** ▼ menu and select **Global Scheduled Services**.
- 2) In the **Global Scheduled Services** dialog box:
 - a. Select a service, then configure its settings in the **Service Settings** detail window. For example, you might specify that the service runs daily on Wednesdays with a start time of 10:15 PM.

Note: Oracle recommends running the **Publish Security** service first if the **Run After Previous** option is selected in the **Run Service** list for other publication services.

- b. Select the **Enabled** option for any of the four global services listed.
- c. If you choose to run one or more services with the relative frequency value of *After previous service*, click  **Move Up** (Ctrl+Alt+Up) or  **Move Down** (Ctrl+Alt+Down) to arrange the services in your preferred sequence.
- d. Click **Close**.

Manually Publishing P6 Project Data for Reports

Perform the steps below to publish the data from one or more projects to the reporting tables so it is ready for reporting. P6 will automatically publish project data; however, you may want to publish the data manually in special cases such as when generating an important report at a specific time.

To manually publish P6 project data:

- 1) Click **Projects**.
- 2) On the **Projects** navigation bar, click **EPS**.

- 3) On the **EPS** page, select one or more projects, or select an EPS node to publish all of its subordinate projects.
- 4) On the **Actions** menu, click  **Publish Projects**.

Tips

- ▶ In order to manually publish project data from the EPS page, *Publication Services* must be enabled and configured.
- ▶ You can publish all open projects by clicking  **Publish Projects** on the **Run** submenu on the **Actions** menu of the **Activities** page. You can also publish projects by selecting one or more projects on the **EPS** page, and then using the right-click menu.
- ▶ Projects are not immediately published. Instead, they will be added to the queue of projects being processed for publication the next time the Publish Projects service runs. View settings for the Publish Projects service, including how often the service runs, on the **Services** page, which is located on the **Application Settings** pane. Depending on your security privileges, the **Application Settings** pane may not be accessible. You can check the status of the Publish Projects service after it has been added to the service queue by selecting **View Service Status** from the **Actions** menu on the **Activities** page.
- ▶ If some of the selected projects are not enabled for publication, only those projects enabled for publication will be submitted to the service queue. If none of the selected projects are enabled for publication, you will not be able to click  **Publish Projects**.
- ▶ A project will be automatically submitted to the service queue if you change the project baseline, calendar, or data date. Projects are also automatically submitted to the queue if you select or clear the **Calculate Activity % Complete from activity steps** option, or modify the default price/unit value for assignments without activities from the **Set Project Preferences** dialog box available from the **Actions** menu the **EPS** page.

Manually Publishing P6 Global Data for Reports

Perform the steps below to manually publish any of the following types of global data to the reporting tables.

- ▶ Enterprise Data
- ▶ Enterprise Summary Data including portfolio data
- ▶ Resource Management Data
- ▶ Security Data

P6 will automatically publish global data; however, you may want to publish the data manually in special cases such as when generating an important report at a specific time.

To manually publish P6 global data:

- 1) Click the **Administer**  menu and select **Global Scheduled Services**.
- 2) In the **Global Scheduled Services** dialog box:
 - a. Select any of the four global services listed.
 - b. Click  **Run Service** on the **Global Scheduled Services** toolbar.
 - c. In the resulting message box, click **OK**.
 - d. Click **Close**.

Tips

- ▶ If the service listed under the manually selected service is configured to run **After previous service**, it will run automatically when the selected service finishes.
- ▶ You must have the global security privilege, *Administer Global Scheduled Services*, to run a service from the **Global Scheduled Services** dialog box.

Back Filling the REPORTDATE Table

If you change the start date in the Publication settings, you will need to delete the contents in the REPORTDATE table. When you delete the content from the REPORTDATE table, the publication services will refill the table the next time you run the Publish Enterprise Data service.

To delete content from the REPORTDATE table, the database administrator will need to:

- 1) Login to the database.
- 2) Run one of the following commands:
 - ▶ `DELETE FROM REPORTDATE;`
 Or
 - ▶ `TRUNCATE TABLE REPORTDATE;`

About the P6 Team Member for iPhone App

In order for project managers to evaluate the current level of progress for any project, individual contributors, or *team members*, must record the status of their assigned activities, or *tasks*. As a more flexible alternative to using P6 in a web browser or P6 Optional Client on a Windows PC, you can also use the companion P6 Team Member for iPhone app to update your status as a team member. The P6 Team Member for iPhone app offers the following advantages:

- ▶ Quick, convenient, and easy mobile access. You can update your status directly with P6 in real time.
- ▶ Focus only on what matters the most. For example, you can view a list of your tasks, update the actual hours spent, and estimate your remaining hours.
- ▶ You are not required to install, log into a browser, or learn any of the core P6 EPPM applications.
- ▶ You can send e-mail or share photos about a task.

In contrast with the way updates are first reviewed and approved and then applied using P6 Progress Reporter, the updates remote users make in the P6 Team Member for iPhone app are applied immediately in real time. It's an important distinction because the live updates made in the P6 Team Member for iPhone app do not undergo review or approval. Instead, any activity and assignment values in P6 are immediately changed without directly informing a Project Manager.

Note: Decide to use one of the following supported platforms for progressing tasks:

- P6 with optional support for updates via any e-mail application or the P6 Team Member for iPhone app
-

- P6 Progress Reporter
-

Caution: If users need to use timesheets, they should use only P6 Progress Reporter and avoid using P6 Team Member for iPhone, P6 Team Member E-mail Statusing Service, or P6 to update their status.

Configuring Team Member Web Services in WebLogic

Before you can begin using the P6 Team Member for iPhone app, you must configure Team Member Web Services to work with WebLogic. To configure Team Member Web Services, follow the steps in these chapters:

- 1) (Optional) **Setting the Bootstrap Location if Your Team Member Web Services Are in a Different WebLogic Domain from Your P6 Home Directory** (see "**Setting the Bootstrap Location if Team Member Web Services Are in a Different WebLogic Server from Your P6**" on page 196).
- 2) **Adding Team Member Web Services to WebLogic** (on page 198).
- 3) **Starting Team Member Web Services in WebLogic** (on page 198).

Once Team Member Web Services is configured with P6, you can verify that it works with the instructions in these chapters:

- 1) **Downloading the P6 Team Member for iPhone App From the App Store** (on page 199).
- 2) **Configuring Login and Authentication Settings to Use the P6 Team Member for iPhone App** (on page 199).

Related Topics

Setting the Bootstrap Location if Team Member Web Services Are in a Different WebLogic Server from Your P6	196
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Setting the Bootstrap Location if Team Member Web Services Are in a Different WebLogic Server from Your P6

If you will run the p6tmws.war file in the same domain as P6, skip this section and continue to **Adding Team Member Web Services to WebLogic** (on page 198).

If you will run the p6tmws.war file in a different domain from P6, set the location of your P6 bootstrap file.

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

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

- 2) In the **Welcome** window, log in using the user name and password that you created in **Creating a WebLogic Domain for P6** (on page 146).
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane:
 - a. Expand **Environment**.
 - b. Click **Servers**.
- 5) In the **Summary of Servers** pane, select your managed server name.
- 6) In the **Settings for ...** pane, select the **Server Start** tab.
- 7) Locate the **Arguments** field and set the following:
 - a. Set the Primavera bootstrap system property (it should be all one line with no space between "-" and "Dprimavera").
 - In Windows, the line should look similar to the following (all one line):
`-Dprimavera.bootstrap.home=p6home`
 where *p6home* is the P6 home directory that was set during installation (for example, `c:\p6home`) where you want your Team Member Web Services to connect.
 - In UNIX, the line should look similar to the following (all one line):
`-Dprimavera.bootstrap.home=p6home`
 where *p6home* is the P6 home directory that was set during installation (for example, `/usr/p6home`) where you want your Team Member Web Services to connect.
 - b. If your bootstrap file has only one database, skip this step.
 If your bootstrap file contains more than one database, you need to add an argument clarifying which database you want to use. The line will look similar to the following:
`-Ddatabase.instance=db_id`
 where *db_id* is the database instance you want to use (for example, `-Ddatabase.instance=2`).
 The whole line should look similar to the following (all one line):
`-Dprimavera.bootstrap.home=p6home -Ddatabase.instance=db_id`
- 8) Click **Save**.
- 9) In the **Change Center** pane, click **Activate Changes**.
- 10) Restart your managed server:
 - a. In the **Domain Structure** pane:
 1. Expand **Environment**.
 2. Click **Servers**.
 - b. In the **Summary of Servers** pane:
 1. Select the **Control** tab.
 2. Select the option for your managed server.
 3. Click **Shutdown**.

4. In the **Server Life Cycle Assistant** pane, click **Yes**.
5. Select the option for your managed server.
6. Click **Start**.
- c. In the **Server Life Cycle Assistant** pane, click **Yes**.
- d. In the **Summary of Servers** pane, click the 'Start Refresh' icon in the middle of the pane to see when the **State** column says 'RUNNING.'

Adding Team Member Web Services to WebLogic

To add Team Member Web Services to WebLogic:

- 1) Copy the **p6tmws.war** from the P6 Team Member folder of the physical media or download to the P6 home directory.
- 2) Launch the WebLogic **Administration Console**.

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

- 3) In the **Welcome** window, log in using the user name and password that you created when you created your WebLogic domain.
- 4) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 5) In the **Domain Structure** pane, click **Deployments**.
- 6) In the **Summary of Deployments** pane, click **Install**.
- 7) In the **Install Application Assistant** pane:
 - a. Navigate to the P6 Home Directory.
 - b. Select the **p6tmws.war** file.
 - c. Click **Next**.
- 8) In the **Install Application Assistant** pane:
 - a. Select **Install this deployment as an application**.
 - b. Click **Next**.
- 9) In the **Install Application Assistant** pane:
 - a. Click the server or cluster where you want to deploy the application.
 - b. Click **Next**.
- 10) In the **Install Application Assistant** pane, click **Next** to accept the default options.
- 11) Review the configuration settings you have chosen, then click **Finish** to complete the installation.
- 12) In the **Settings for p6tmws** window, click **Save**.
- 13) Proceed to **Starting Team Member Web Services in WebLogic** (on page 198).

Starting Team Member Web Services in WebLogic

To start the Team Member Web Services in WebLogic:

- 1) In the **Change Center** pane, click **Activate Changes**.
- 2) In the **Domain Structure** pane, click **Deployments**.

- 3) In the **Summary of Deployments** pane, select **p6tmws**.
- 4) In the **Summary of Deployments** pane:
 - a. Click the down arrow to the right of the **Start** button.
 - b. Click **Servicing all requests**.
- 5) In the **Start Application Assistant** pane, click **Yes**.
- 6) In the **Summary of Deployments** pane, view the link in the **State** column of the row that contains 'p6tmws.' Wait a few minutes, then click **Refresh**.
The p6tmws State column should show **Active**.
- 7) Logout of the **Administration Console**.

Downloading the P6 Team Member for iPhone App From the App Store

Go to the App Store to download the mobile application. The app will be called P6 Team Member.

Configuring Login and Authentication Settings to Use the P6 Team Member for iPhone App

Follow these steps to start the app for the first time. Later, when you return to the app after working in other apps on your device, the page that appears is the last one you were previously viewing. Once these settings are configured, you won't need to perform these steps again with one exception: if your SSO cookies ever expire you will need to enter your user name and password again.

Note: You may need to activate your device's VPN feature to access your company's deployment of P6. Contact your administrator for more information.

To start the app:

- 1) On your iPhone Home page, tap  **TeamMember**.
- 2) On the **Welcome to P6 Team Member** page, slide the **Single Sign On** (SSO) switch to either **ON** or **OFF**.
- 3) If you turn SSO on:
 - a. Verify the URL to your server is correct (for example, http://server:port/p6tmws). If necessary, tap the URL field to edit it.

Note: You will need to specify the port number in the URL.

- b. Tap **Authenticate**.
 - c. Enter your SSO username and password when prompted.
- 4) If you turn SSO off:
 - a. Verify the URL to your server is correct (for example, http://server:port/p6tmws). If necessary, tap the **URL** field to edit it.
 - b. Enter your P6 username.
 - c. Enter your P6 password.
 - d. Tap **Done**.

Note: Team Member Web Services supports LDAP, Native, or SSO mode. Your administrator will select the authentication mode when they configure P6.

Tips

For more information on the different types of authentication modes (Single Sign-On, Native, or LDAP), see ***Authentication Modes in P6 EPPM*** (on page 461).

About Using P6 Team Member E-mail Statusing Service

Team members with assignments in P6 can request a list of their assigned activities, or *tasks*, directly from the P6 server via e-mail. To set up the e-mail server, follow the steps in these topics:

- 1) ***Configuring P6 Team Member E-mail Statusing Service for P6*** (on page 200).
- 2) ***Verifying P6 Team Member E-mail Statusing Service*** (on page 203).

Caution: Do not configure users in the P6 EPPM suite to use P6 Progress Reporter, the P6 Team Member for iPhone app, and P6 Team Member E-mail Statusing Service at the same time. Users should use only one of those options. Updates from one are not compatible with the other and may produce unexpected results.

Configuring P6 Team Member E-mail Statusing Service for P6

To configure P6 Team Member E-mail Statusing Service for P6:

- 1) From the P6 Team Member folder of the physical media or download location, extract the files from the **p6tm-email-service.zip** to any location on the application server. (That location will be referred to as EMAIL_HOME).
- 2) Edit the **config.properties** file to configure the settings for the e-mail application.

Note:  When you are finished editing the config.properties file, move it to a secure location.

- 3) In your **config.properties** file, locate and specify the following:
 - a. In the **p6.admin.user=** line, specify a P6 user who is assigned to at least one module access, is associated with a resource, and has resource access.
 - b. In the **p6.bootstrap=** line, specify the location of the BREBootstrap.xml file.
For example, the location could be one of the following: C:/p6home, C:/EMAIL_HOME, /usr/p6home, or /usr/EMAIL_HOME. Or you can use the following: C:\p6home, C:\EMAIL_HOME.
 - c. In the **mail.read.schedule=** line, specify how often your e-mail should process new messages. Use cron expressions for your formatting. For example:
*/5 * * * * ?
will process new messages every five minutes.

Note: For more information on cron expressions, see <http://www.quartz-scheduler.org/docs/tutorials/crontrigger.html>.

- d. In the **send.host=** line, specify the SMTP server hostname or IP address that you will use to send e-mails.
 - e. In the **send.port=** line, specify the port number that connects to the SMTP server.
 - f. In the **send.ssl=** line, specify **true** to use SSL or **false** if you will not use SSL.
-

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

- g. In the **send.email=** line, specify the e-mail address where team members will send their status update requests.
 - h. In the **send.password=** line, specify the password for the e-mail address you just specified.
-

Notes:

- If you do not specify a password now, the e-mail application will ask you to specify one when it runs.
 - You can also specify a password by running the following parameter when you run the 'run.cmd' or 'run.sh' file:
`-Dsend.password=YOUR_PASSWORD`
 where *Your_Password* is the password for your status e-mail address.
 For example:
 In Windows: `./run.cmd -Dsend.password=YOUR_PASSWORD`
 In Unix: `./run.sh -Dsend.password=YOUR_PASSWORD`
 -  Oracle recommends using the option in the **config.properties** file and then moving that file to a secure location when you are finished modifying it.
-

- i. In the **imap.host=** line, specify the IMAP protocol host to read e-mails.
 - j. In the **imap.port=** line, specify the IMAP port number.
 - k. In the **imap.ssl=** line, specify **true** to use SSL or **false** if you will not use SSL.
-

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

- l. In the **imap.username=** line, specify the IMAP user name (which will be your email address).
 - m. In the **imap.password=** line, specify the password for the user name you just specified.
-

Notes:

- If you do not specify a password now, the e-mail application will ask you to specify one when it runs.
-

- You can also specify a password by running the following parameter when you run the 'run.cmd' or 'run.sh' file:
-Dimap.password= *YOUR_PASSWORD*
where *Your_Password* is the password for your status e-mail address.
For example:
In Windows: ./run.cmd -Dimap.password= *YOUR_PASSWORD*
In Unix: ./run.sh -Dimap.password= *YOUR_PASSWORD*
-  Oracle recommends using the option in the **config.properties** file and then moving that file to a secure location when you are finished modifying it.

- n. In the **imap.search.folder=** line, specify the folder to use for processing incoming e-mails.
For example, **imap.search.folder=inbox**.

Note: The e-mail application will use this folder to search for incoming mail. Oracle recommends you use the inbox for this folder. If you choose another folder, you must ensure that all e-mails get filtered there, or the e-mail application will not be able to detect the messages.

- o. In the **imap.success.folder=** line, specify the folder where messages that were processed successfully will go.
For example, **imap.success.folder=P6Success**.

Note: The e-mail application will automatically create this folder if you do not create it now.

- p. In the **imap.failure.folder=** line, specify the folder where messages that failed will go.
For example, **imap.failure.folder=P6Fail**.

Note: The e-mail application will automatically create this folder if you do not create it now.

- q. In the **imap.temp.folder=** line, specify the folder where messages that are being processed will go.
For example, **imap.temp.folder=P6Temp**.

Note: The e-mail application will automatically create this folder if you do not create it now.

- r. In the **update.task.search.term=** line, specify the text that the e-mail application should search for in the subject line of incoming messages.
For example, **update.task.search.term=Your Requested P6 Tasks**.

- 4) If the EMAIL_HOME is on a different server from your P6 home, copy the BREBootstrap.xml from your P6 home to your EMAIL_HOME.

If the EMAIL_HOME is on the same server as your P6 home, you will use the BREBootstrap.xml that is in your P6 home folder.

- 5) Run one of the following:

- ▶ In Windows, launch the **run.cmd** file.
- ▶ In Unix, launch the **run.sh** file.

When you launch the run file, you may have to complete the following steps depending on how you configured your P6 Team Member E-mail Statusing Service:

- a. If the config.properties file and the run file are in different folders, you will need to specify the config.properties location with the -Dconfig.file parameter.
 - In Windows (add a space between run.cmd and -Dconfig):


```
run.cmd -Dconfig.file=/home/auser/somelocation/config.properties
```
 - In Unix (add a space between run.sh and -Dconfig):


```
./run.sh -Dconfig.file=/home/auser/somelocation/config.properties
```
- b. If you didn't specify the **send.password=** or **imap.password=**, you can specify them now. If you do not specify them now, the e-mail application will prompt you to do so when it runs.
 - In Windows:


```
run.cmd -Dsend.password=YOUR_PASSWORD
```
 - In Unix:


```
./run.sh -Dsend.password=YOUR_PASSWORD
```
 - In Windows:


```
run.cmd -Dimap.password=YOUR_PASSWORD
```
 - In Unix:


```
./run.sh -Dimap.password=YOUR_PASSWORD
```

where *Your_Password* is the password for your status e-mail address

- c. If your bootstrap file contains more than one database, you need to clarify which database you are using when you launch the run file.
 - In Windows:


```
run.cmd -Ddatabase.instance=db_id
```

where *db_id* is your database instance (for example, -Ddatabase.instance=2).
 - In Unix:


```
./run.sh -Ddatabase.instance=db_id
```

where *db_id* is your database instance (for example, -Ddatabase.instance=2).

Once the run file is finished, you can verify that the e-mail status application works. See **Verifying P6 Team Member E-Mail Statusing Service** (on page 203).

Verifying P6 Team Member E-mail Statusing Service

Once you have installed the e-mail status application, you can send an e-mail to verify that the server is setup properly.

- 1) Enter an e-mail address that P6 recognizes in the 'From' line.
- 2) Enter the e-mail address you specified in **Configuring P6 Team Member E-mail Statusing Service for P6** (on page 200) in the 'To' line.
- 3) Enter **Ping** in the subject line.
- 4) Send the message.

If the message is successful, you will receive a message containing the status of the e-mail service. The message will tell you how many resources are associated with a user (e.g., a team member) and how many team members have a blank e-mail address in the database.

If the message failed, you will not receive a message. The failed message will appear in the failure folder that you specified in the **config.properties** file. See **Configuring P6 Team Member E-mail Statusing Service for P6** (on page 200).

Working with Fusion PPM Bridge

Notes: Fusion has two versions: 1.0.0 and 1.0.1.

- If you are upgrading your version of Fusion from 1.0.0 to 1.0.1, you can skip to **Updating Fusion PPM Bridge in WebLogic** (on page 211).
- If you are installing 1.0.1, but never installed 1.0.0 follow the steps below (the instructions will be specific to your version of Fusion).

Before you can configure Fusion PPM Bridge to work with P6, you must do the following:

- 1) Install the Oracle database. See **Automatic Database Installation** (on page 79).
- 2) Install WebLogic and deploy P6. See **P6 Installation** (on page 135).
- 3) Configure and deploy WebLogic. See **Creating the WebLogic Environment for P6** (on page 141).

Modules of P6 EPPM, including P6, are designed for integration with other Oracle enterprise resource planning solutions including Fusion PPM Bridge. You can now configure P6 to work with Fusion PPM Bridge. Configuring Fusion PPM Bridge requires the following (you must follow these steps in the specified order):

- 1) **Creating an Endorsed Folder to Support Fusion PPM Bridge** (on page 205).
- 2) **Running the Fusion PPM Bridge Data Integration Utility** (on page 205). Running the Fusion PPM Bridge Data Integration Utility will configure Fusion PPM Bridge to work with P6 and populate existing fields with the information necessary for Fusion PPM Bridge integration.
- 3) **Setting Arguments in the WebLogic Administration Console for Fusion PPM Bridge** (on page 206).
- 4) **Adding Fusion PPM Bridge to WebLogic** (on page 207).
- 5) **Starting Fusion PPM Bridge in WebLogic** (on page 208).

Once you have configured Fusion PPM Bridge to work with P6, you will need to set your P6 Administrator application settings. Specifying these settings will allow you to set the URL, user name, and password required to connect to Fusion PPM Bridge; set Send to Fusion intervals, concurrent threads, and the mode for processing jobs; and set message protection settings. Configuring Fusion PPM Bridge in the P6 Administrator application requires the following (you must follow these steps in the specified order):

- 1) **Launching the P6 Administrator application to Edit Fusion Settings** (on page 209).
- 2) **Configuring Fusion PPM Bridge in the P6 Administrator application** (on page 210).

When you have finished specifying your Fusion PPM Bridge settings, you can use the Send Project to Fusion feature in P6. See the *P6 Help* for more information on this feature.

Creating an Endorsed Folder to Support Fusion PPM Bridge

To create an endorsed folder:

- 1) Copy and extract the files from the **Fusion-PPM-Bridge-1.0.0.zip** or from **Fusion-PPM-Bridge-1.0.1.zip** folder into a new directory (for example, C:\FUSION_HOME).

Note: From here the new directory you created will be referred to as <FUSION_LOCATION>.

- 2) Locate the folder that contains the JRE you used when you created the WebLogic domain. This folder is known as <JAVA_HOME>.
 - ▶ If it does not already exist, create the following endorsed folder **<JAVA_HOME>/jre/lib/endorsed**.
- 3) In the <FUSION_LOCATION>/endorsed/ folder, locate the **saaj-impl-1.3.2.jar** file and copy it to the endorsed **<JAVA_HOME>/jre/lib/endorsed** folder.

Running the Fusion PPM Bridge Data Integration Utility

After you install P6, the database administrator will need to run the Fusion PPM Bridge Data Integration Utility to integrate Fusion PPM Bridge with P6. The data utility will populate existing fields with the information necessary for Fusion PPM Bridge integration.

Follow these instructions to run the Fusion PPM Bridge Data Integration Utility:

- 1) Run the **dbconfig** file.
 - ▶ Windows users will run the **dbconfig.cmd** file.
 - ▶ Unix users will run the **dbconfig.sh** file.
- 2) On the **Setup and Configuration of the Primavera P6 Database** dialog box:
 - a. Select **Oracle**, and click **Next**.
 - b. Enter your database connection information (User Name and Password), and click **Next**.
- 3) When the **Database Configuration** dialog box appears, click **OK**.
- 4) Run the **runP6FusionUtility** file.
 - ▶ Windows users will run the **runP6FusionUtility.cmd** file.
 - ▶ Unix users will run the **runP6FusionUtility.sh** file.
- 5) On the **Fusion P6EPPM Setup Utility** dialog box:
 - a. In the **User name:** field, enter the user name for the P6 Admin Superuser.
 - b. In the **Password:** field, enter the password for the P6 Admin Superuser.
 - c. In the **Database:** field, select your database from the list.
 - d. Click **Next**.
- 6) On the **Fusion P6EPPM Setup Utility** dialog box:
 - a. View the objects created.
 - b. Click **Save** or **Close**.

Note: If you are using UNIX or Linux, you may have to give the shell scripts executable permission by using the following commands in a terminal:

- `cd <FUSION_LOCATION>/bin`
- `chmod +x *.sh`

where `<FUSION_LOCATION>` is the new directory you created (for example, `C:\FUSION_HOME` or `/usr/FUSION_HOME`).

Setting Arguments in the WebLogic Administration Console for Fusion PPM Bridge

If you will run the `prm-fusion.war` file in the same domain as P6, skip this section and continue to **Adding Fusion PPM Bridge to WebLogic** (on page 207).

If you will run the `prm-fusion.war` file in a different domain from P6, set the location of your P6 bootstrap file.

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

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

- 2) In the **Welcome** window, log in using the user name and password that you created in **Creating a WebLogic Domain for P6** (on page 146).
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane:
 - a. Expand **Environment**.
 - b. Click **Servers**.
- 5) In the **Summary of Servers** pane, select your managed server name.
- 6) In the **Settings for ...** pane, select the **Server Start** tab.
- 7) Locate the **Arguments** field and set the following:
 - a. Set the Primavera bootstrap system property (it should be all one line with no space between "-" and "Dprimavera").
 - In Windows, the line should look similar to the following (all one line):
`-Dprimavera.bootstrap.home=p6home`
where `p6home` is the P6 home directory that was set during installation (for example, `c:\p6home`) where you want your Team Member Web Services to connect.
 - In UNIX, the line should look similar to the following (all one line):
`-Dprimavera.bootstrap.home=p6home`
where `p6home` is the P6 home directory that was set during installation (for example, `/usr/p6home`) where you want your Team Member Web Services to connect.
 - b. Add the following arguments for Fusion:

```
-Djavax.xml.soap.MessageFactory=com.sun.xml.messaging.saaj.soap.ver1_1.SOAPMessageFactory1_1Impl
-Djavax.xml.soap.SOAPConnectionFactory=weblogic.wsee.saaj.SOAPConnectionFactoryImpl
```

The line will look similar to the following (with a space before each "-Djavax"):

```
-Dprimavera.bootstrap.home=p6home
-Djavax.xml.soap.MessageFactory=com.sun.xml.messaging.saaj.soap.ver1_1.SOAPMessageFactory1_1Impl
-Djavax.xml.soap.SOAPConnectionFactory=weblogic.wsee.saaj.SOAPConnectionFactoryImpl
```

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

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

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

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

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

```
-Dprimavera.bootstrap.home=p6home
-Djavax.xml.soap.MessageFactory=com.sun.xml.messaging.saaj.soap.ver1_1.SOAPMessageFactory1_1Impl
-Djavax.xml.soap.SOAPConnectionFactory=weblogic.wsee.saaj.SOAPConnectionFactoryImpl -Ddatabase.instance=db_id
```

- 8) Click **Save**.

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

- 10) Restart your managed server:

- a. In the **Domain Structure** pane:
 1. Expand **Environment**.
 2. Click **Servers**.
- b. In the **Summary of Servers** pane:
 1. Select the **Control** tab.
 2. Select the option for your managed server.
 3. Click **Shutdown**.
 4. In the **Server Life Cycle Assistant** pane, click **Yes**.
 5. Select the option for your managed server.
 6. Click **Start**.
- c. In the **Server Life Cycle Assistant** pane, click **Yes**.
- d. In the **Summary of Servers** pane, click the 'Start Refresh' icon in the middle of the pane to see when the **State** column says 'RUNNING.'

Adding Fusion PPM Bridge to WebLogic

To deploy Fusion PPM Bridge as a WebLogic application, do the following:

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

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

- 2) In the **Welcome** window, log in using the user name and password that you created when you created your WebLogic domain.
- 3) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 4) In the **Domain Structure** pane, click **Deployments**.
- 5) In the **Summary of Deployments** pane, click **Install**.
- 6) In the **Install Application Assistant** pane:
 - a. Navigate to the Fusion Home Directory.
 - b. Select the **prm-fusion.war** file.
 - c. Click **Next**.
- 7) In the **Install Application Assistant** pane:
 - a. Select **Install this deployment as an application**.
 - b. Click **Next**.
- 8) In the **Install Application Assistant** pane:
 - a. Click the server or cluster where you want to deploy the application.
 - b. Click **Next**.
- 9) In the **Install Application Assistant** pane, click **Next** to accept the default options.
- 10) Review the configuration settings you have chosen, then click **Finish** to complete the installation.
- 11) In the **Settings for prm-fusion** window, click **Save**.
- 12) Proceed to **Starting Fusion PPM Bridge in WebLogic** (on page 208).

Starting Fusion PPM Bridge in WebLogic

To start the Fusion PPM Bridge application in WebLogic:

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

Launching the P6 Administrator application to Edit Fusion Settings

Before you configure the Fusion PPM Bridge settings, do one of the following to launch the P6 Administrator application.

Tips

For more information on running the P6 Administrator application, see ***About the P6 Administrator application*** (on page 266).

Related Topics

Launching the P6 Administrator application Locally on Windows Platforms to Edit Fusion PPM Bridge Settings	209
Launching the P6 Administrator application Locally on UNIX Platforms to Edit Fusion PPM Bridge Settings	209
Launching the P6 Administrator application Remotely to Edit Fusion PPM Bridge Settings	209

Launching the P6 Administrator application Locally on Windows Platforms to Edit Fusion PPM Bridge Settings

To launch the P6 Administrator application locally on Windows platforms:

- 1) Go to **Start, Programs, Oracle - Primavera P6, Primavera P6 Web Access Utilities**.
- 2) Select **Primavera P6 Administrator**.

Tips

You can also launch the P6 Administrator application locally by running `adminpv.cmd`, which is located in the `p6home` directory that you specified when installing P6.

Launching the P6 Administrator application Locally on UNIX Platforms to Edit Fusion PPM Bridge Settings

To launch the P6 Administrator application locally on UNIX platforms:

- 1) Change to the `p6home` directory that you specified when installing P6.
The path should look similar to the following:
`'cd/path/to/p6home'`
where `p6home` is the P6 home directory that was set during installation (for example, `/usr/p6home`).
- 2) Run the `adminpv.sh` script.

Launching the P6 Administrator application Remotely to Edit Fusion PPM Bridge Settings

To launch the P6 Administrator application remotely:

- 1) Launch a supported browser.
- 2) Navigate to `https://server IP:listenport/ContextRoot/admin.jsp`

where *serverIP:listenport* is the IP address and listen port for the P6 server, and *ContextRoot* is p6 by default.

This link will redirect you to the P6 login page.

- 3) Login as a user with Admin Superuser privileges.

Notes:

- Only users with Admin Superuser privileges can login to the P6 Administrator application remotely. If you are logged into P6 but do not have the appropriate privileges to edit settings in the P6 Administrator application, you will be redirected to the P6 login page.
 - The privuser can still access the local P6 Administrator application, but will not have access to the remote P6 Administrator application.
-

Configuring Fusion PPM Bridge in the P6 Administrator application

All settings are stored in the database for P6, which you specified during installation. To configure Fusion PPM Bridge in the P6 Administrator application:

Notes:

- To display brief setting descriptions for configuration and authentication settings, select **Show tool tips** in the **Configurations** tab. Then, position the mouse over a setting to read the popup description.
 - You cannot edit the Factory Default configuration settings. You can only modify custom configurations.
 - Configurations highlighted in red are out of date. Oracle recommends that you update these configurations. To do so, right-click the outdated configuration and select Update to latest version.
-

- 1) Locate the **Database/Instance[n]/Fusion Projects/** setting.
 - a. In the **URL** field, enter the WDSL URL for connecting to the Fusion PPM Bridge instance and web services definition (WDSL).

Example format: *http://serverIP:port number/context URL/web service definition*

Example:
http://ap6014fems.us.oracle.com:6124/soa-infra/services/default/PjgTopProjectIntegrationComposite/ProjectIntegrationService?wsdl
 - b. In the **UserName** field, enter the Fusion PPM Bridge Integration Gateway User ID specified in the *Oracle Fusion Applications Administrator's Guide*.

Note: The Fusion PPM Bridge Integration Gateway User ID is the only user name that can activate the integration.

- c. In the **Password** field, enter the password for the user to connect to Fusion PPM Bridge.
- 2) Locate the **Services/Send to Fusion/** setting.
 - a. In the **Interval** field, verify that it says **10s**.

- b. In the **Concurrent Threads** field, verify that it says **2**.
- c. In the **Active Mode** field, verify that it says **true**.
- 3) Locate the **Web Services/Security/Authentication** setting and verify that the **Mode** is **Username Token Profile**.
- 4) Locate the **Web Services/Security/Authentication/Username Token Profile/** setting.
 - a. Set the **Nonce/Require Nonce** setting to **false**.
 - b. Set the **Created/Require Created** setting to **false**.
- 5) Locate the **Web Services/Security/Message Protection/** setting.
 - a. In the **Require Encryption for Incoming Messages** field, verify that it says **true**.
 - b. In the **KeyStore Type** field, verify that it says **JKS**.
 - c. In the **File Location** field, enter the path location of your keystore file on the P6 server.
The keystore file has to be an exact copy of the Fusion Projects keystore file copied from the Fusion server location: DOMAIN_HOME/config/fmwconfig.
 - d. In the **KeyStore Password** field, enter your keystore password.
The password has to match the Fusion keystore password.
 - e. In the **Private Key Alias** setting, enter your private key alias.
The alias has to match the Fusion keystore alias.
 - f. In the **Private Key Password** setting, enter your private key password.
The password has to match the Fusion keystore password.
- 6) Locate the **Web Services/Security/Message Protection/Fusion Integration/Outgoing Messages/** setting.
 - a. In the **Require Encryption for Incoming Messages** field, verify that it says **true**.
 - b. In the **KeyStore Type** field, verify that it says **JKS**.
 - c. In the **File Location** field, enter the path location of your keystore file on the P6 server.
The keystore file has to be an exact copy of the Fusion Projects keystore file copied from the Fusion server location: DOMAIN_HOME/config/fmwconfig.
 - d. In the **KeyStore Password** field, enter your keystore password.
The password has to match the Fusion keystore password.
 - e. In the **Certificate Alias** field, enter your certificate alias.
The alias has to match the Fusion keystore alias.
- 7) Click **Save Changes**.
- 8) Stop and restart the Admin Server.

Tips

For more information on these settings, see the following: **Reviewing and Modifying Configurations for P6** (on page 268), **Database Settings** (on page 277); **Services Settings** (on page 304); **P6 EPPM Web Services Settings** (on page 323).

Updating Fusion PPM Bridge in WebLogic

To update Fusion PPM Bridge as a WebLogic application, do the following:

- 1) If you will use the same *fusionhome* directory for the new deployment:
 - a. Delete the existing WAR file from that directory to avoid conflict with the new `prm-fusion.war` file.
 - b. Add the new **prm-fusion.war** file from the Fusion PPM Bridge physical media or download to the *fusionhome* directory.
- 2) Launch the WebLogic **Administration Console**.

Note: You can open the Administration Console via a web browser using this address: `http://serverIP:listenport/console`. The default *listenport* is 7001.
- 3) In the **Welcome** window, log in using the user name and password that you created when you created the WebLogic domain.
- 4) In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 5) In the **Domain Structure** pane, click **Deployments**.
- 6) In the **Summary of Deployments** pane:
 - a. Select **prm-fusion**.
 - b. Click **Update**.
- 7) In the **Update Application Assistant** pane:
 - a. Verify the the path is correct for `prm-fusion.war` file.
If you need to change the path, click **Change Path** and navigate to the directory where `prm-fusion.war` is located.
 - b. Click **Next**.
- 8) In the **Update Application Assistant** pane, review the configuration settings you have chosen, then click **Finish** to complete the update.
- 9) Proceed to **Starting Fusion PPM Bridge in WebLogic** (on page 208).

Starting Fusion PPM Bridge in WebLogic

To start the Fusion PPM Bridge application in WebLogic:

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

About the Database Configuration Wizard for P6

The Database Configuration wizard enables you to change the database connection settings you specified when you installed P6.

The database you select during installation stores one or more P6 EPPM configurations, each one specifying a set of parameters that determine how P6 operates. During installation, you select an existing P6 EPPM configuration or create a new one. Later, you can use the Database Configuration wizard to select a different P6 EPPM configuration or create a new one.

Notes:

- After selecting a different P6 EPPM configuration or creating a new configuration, you must stop and restart the P6 application server in order for the changes to take effect.
 - The Database Configuration file (dbconfigpv) should be protected for security reasons, so depending on which method was used to protect the file, you might have to relocate the file to the production server in order to run the wizard after implementation. See ***Files to Protect after Implementation*** (on page 72).
-

Changing Database Connection Settings for P6

To change database connection settings for P6:

- 1) Do one of the following:
 - ▶ On Windows platforms, run **dbconfigpv.cmd** (located in the *p6home* directory that you specified when installing P6); or, choose Start, Programs, Oracle - Primavera P6 , Primavera P6 Web Access Utilities, Database Configuration Setup.
 - ▶ On UNIX platforms, change to the *p6home* directory that you specified when installing P6, and run **dbconfigpv.sh**.
- 2) On the **Setup and Configuration of the Primavera P6 Database** dialog box, select the database type, Oracle.
- 3) On the **Please enter the following information. . .** dialog box:
 - a. Specify the database connection parameters. Type your database user name (for example, pubuser) and password, the database name, host address, and host port. The database name, host address, and host port are specific to your Oracle installation. The Database Host Port field displays the default port for the database type you selected. You can edit this port.
 - b. To use the SSL protocol to securely communicate between the P6 application server and the database server, select the SSL option. If you select the SSL option, you must specify an SSL-enabled port number in the Database Host Port field.

Notes:

- See the appropriate database server documentation and the My Oracle Support's Knowledge Articles for information on configuring SSL.
-

- Using the SSL protocol will impact database performance.
- c. Ensure that the Public Group ID is 1 for a standard configuration.
- 4) If there is an existing Primavera configuration, on the **The installer has detected. . .** dialog box, choose whether you want to use it, or create a new configuration.

Note: If you are upgrading from a previous version of P6 against the same database, choose the option to create a new configuration. This is necessary to accommodate newly added configuration settings. See **About the P6 Administrator application** (on page 266) for more information about configurations.

If there is no existing Primavera configuration, the **The installer has detected. . .** dialog box does not appear and the installation process automatically creates a default configuration named Primavera P6 Configuration. You can edit the settings for this configuration through the P6 Administrator application.

- 5) When the message displays to confirm that the database configuration has completed successfully, click **OK**.
- a. On the **End of Installation** screen, click **Exit**.

Configuring Settings on Client Machines

Certain functions in P6 necessitate additional configuration settings on client machines. Some procedures are required in order for a feature to work, while others are only necessary under certain conditions. Regardless, all procedures must be performed on each client machine requiring access to the feature.

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Configuring Client Machines to Export to Excel

When clicking on a link to export to Excel, users might experience a lack of response (no Open/Save dialog box launches) from P6 if Internet Explorer is not configured properly. If this occurs, perform the following steps to resolve the issue.

To configure client machines to export to Excel:

- 1) From the **Windows Control Panel**, select **Internet Options**.
- 2) Go to the **Security** tab and click on **Trusted Sites**.
- 3) Click on the **Sites** button and add your P6 URL to the zone.
- 4) Close the **Sites** window.
- 5) Click on the **Custom level** button.
- 6) Enable the **Automatic prompting for file downloads** setting.

Configuring Client Machines to Resolve Null Pointer Exceptions

Users might receive null pointer exceptions if a large number of activity code values (40,000 or more) are loaded in P6. If this occurs, perform the following steps to resolve the issue.

To configure client machines to resolve null pointer exceptions:

- 1) From the **Windows Control Panel**, select **Java**.
- 2) On the **Java Control Panel**, select the **Java** tab.
- 3) Under **Java Runtime Environment Settings**, click **View**.
- 4) On the **Java Runtime Environment Settings** screen, in the **JRE 1.6.0_24** row (or the currently supported version), add "-Xms`valuem`" and "-Xmx`valuem`" entries in the **Runtime Parameters** field.

The appropriate values will vary with your configuration; however, we recommend the following values as a starting point:

-Xms128m -Xmx128m

- 5) Click **OK**, and exit the Java Control Panel.

Accessing P6 from Client Browsers using WebLogic

To access P6 from Client Browsers using WebLogic:

- 1) Launch a supported browser.
- 2) Enter the URL using the structure,
`http://serverIP:listenport/ContextRoot/login`
where *listenport* is 7001 by default and *ContextRoot* is p6 by default.
Example: `http://serverIP:7001/p6/login`

Tips

- ▶  Starting with P6 EPPM R8, HTTPS settings are available in the P6 Administrator application. If you have set the HTTPS/Enabled setting to true, ensure that your application server or front-end Web server is listening on the specified HTTPS port. See **Authentication Settings** (on page 329) for more information on the HTTPS settings.
- ▶ To select the authentication mode for P6, use the P6 Administrator application. See **P6 Administrator application Settings** (on page 275) for information about authentication configuration settings.
- ▶ On the P6 login window, SSO users can choose to bypass the login window the next time by selecting the appropriate option.
- ▶ You can modify the context root. For information about context root configuration, refer to your application server documentation. Also, URLs might be case-sensitive, depending on your application server configuration.
- ▶ See **Client and Server Requirements** (on page 66) for a list of supported hardware and software components. For a full list of tested configurations, see the *P6 EPPM Tested Configurations* document.

Creating the WebSphere Environment for P6

IBM WebSphere is a supported application server for P6. Creating the WebSphere environment consists of the following tasks:

- ▶ Installing the application server. See **Prerequisites for P6** (on page 141).
- ▶ Installing the P6 application on the server. See **About the P6 Setup Wizard** (on page 143).
- ▶ Configuring and deploying the application server. See **Configuring WebSphere for P6** (on page 220).
- ▶ Starting the application server. See **Starting WebSphere for P6** (on page 225).

Other configuration tasks covered in this section are optional, depending on your organization's needs.

Tips

- ▶ See **Creating the WebLogic Environment for P6** (on page 141) for WebLogic instructions.
- ▶ See **Client and Server Requirements** (on page 66) for a list of supported hardware and software components. For a full list of tested configurations, see the *P6 EPPM Tested Configurations* document.

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Prerequisites for P6

Review the prerequisites below before installing P6.

Note: Clustering of the Content Repository is only supported when using WebLogic for the P6 application server.

WebSphere 7.0 Installation

Consult WebSphere's documentation for installation instructions.

Tips

On Windows, it is recommended that you install the application server to a folder with a short name.

JDK Installation on WebSphere

WebSphere 7.0 automatically installs the IBM JDK on the application server. Installing the recommended WebSphere fix pack will update the JDK to the supported version. See **Client and Server Requirements** (on page 66) or the *Tested Configurations* document for information on which fix pack was tested.

Content Repository Installation

The Content Repository allows users to collaboratively share and manage documents in P6. In order for P6 EPPM users to utilize the enhanced document management functionality, you must install either Oracle Universal Content Management or Microsoft SharePoint. Refer to the documentation included with those applications for installation instructions.

Note: Clustering of the Content Repository is only supported when using WebLogic for the P6 application server.

After installation of the Content Repository application and P6, perform the following tasks to complete the Content Repository setup:

- ▶ Configure the Content Repository server based on your organization's needs. See **Configuring Oracle Universal Content Management** (on page 168). See **Configuring Microsoft SharePoint** (on page 169).
- ▶ Enter the appropriate Database/Instance/Content Repository P6 Administrator application settings. See **Database Settings** (on page 277) for detailed information about these settings.

Workflows Repository Installation

The Workflows Repository helps users to keep track of project initiations in P6. In order for P6 users to utilize the project initiation functionality, you must install the supported Workflows Repository application, Oracle BPM. Refer to the documentation included with the Oracle BPM application for installation instructions.

After installation of Oracle BPM and P6, perform the following tasks to complete the Workflows Repository setup:

- ▶ Enter the appropriate Database/Instance/BPM settings in the P6 Administrator application. See **Database Settings** (on page 277) for detailed information about these settings.
- ▶ For complete configuration instructions, see the *P6 Oracle BPM Integration Administrator's Guide*.

About the P6 Setup Wizard

Caution: Due to the global nature of the OUI (Oracle Universal Installer), the OUI online help is not applicable for installing or uninstalling P6 or for references to P6 EPPM documentation. Instead, refer to the installation instructions in this section.

Before installing or upgrading to P6 R8.1, you should install the R8.1 version of the P6 EPPM database, or upgrade your current version. See **Automatic Database Installation** (on page 79) or **Manual Database Configuration** (on page 87) for information on installing the P6 EPPM database. See **Automatic Database Upgrade** (on page 99) for information on upgrading a database for compatibility.

If you have previously installed an earlier version of P6, Primavera's Web Application, or myPrimavera, you must uninstall the previous version before installing P6 R8.1. See **Uninstalling Previous Versions of P6** (on page 136) for more information.

The installer for P6 provides a wizard to guide you through the installation process, which includes:

- ▶ Identifying the application server used for P6
- ▶ Installing P6 and P6 Administrator application files
- ▶ Setting up and configuring the database for P6

Note: P6 will not appear in the "Add or Remove Programs" list in Windows. If you need to uninstall P6, run the OUI (Oracle Universal Installer) again.

Installing P6

To install P6:

1) From the P6 folder of the physical media or download location, run one of the following depending on your system type:

- ▶ If you are installing on a Microsoft Windows system, navigate to the **win\Disk1\install** directory, and then double-click on the **setup.exe** file.
- ▶ If you are installing on a non-Microsoft Windows system, type the following command:

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

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

```
chmod 755 runInstaller
chmod 755 unzip
./runInstaller
```

2) On the **Welcome** screen, click **Next**.

Note: Click Next on each wizard dialog box to advance to the next step.

- 3) On the **Specify Home Details** dialog box, type a name for the installation. For the path, browse to the location of the P6 home folder (for example, c:\p6home).

Note: The application EAR file (p6.ear) is copied to the P6 home folder. You must then use the application server's deployment tools to deploy the EAR file. Also, make sure that the supported JDK is set as an environment variable in your path to provide access to the java command.

- 4) On the **Available Product Components** dialog box, select the **Oracle Configuration Management** option if you want to install Oracle Configuration Management (OCM) support files.

The OCM support files enable remote machines running OCM to capture configuration information for the P6 application server.

Note: The OCM version 10.3.4.0.0 is installed with P6. After installation, Oracle's update utility will upgrade OCM to the latest versions as they are available. See **Configuring OCM for Use with P6 EPPM** (on page 274) for information on how to configure P6 to work with OCM.

- 5) On the **Information** dialog box, review the text.
- 6) On the **Java Home Directory** dialog box, type or browse to the location where Java is installed. By default, the location is *local host*\Program Files\Java directory (or usr/Java/ on non-Windows platforms).
- 7) On the **Summary** dialog box, click **Install**.
After the P6 files are installed, the **Configuration Assistants** dialog box opens. Do not close this dialog box. After a short time, the **Setup and Configuration of the Primavera P6 Database** dialog box opens.

Configuring the Database Connection for P6

To configure the database connection and finish installing P6:

- 1) On the **Setup and Configuration of the Primavera P6 Database** dialog box, select the database type, Oracle.
- 2) On the **Please enter the following information. . .** dialog box:
 - a. Specify the database connection parameters. Type your database user name (for example, pubuser) and password, the database name, host address, and host port. The database name, host address, and host port are specific to your Oracle installation. The Database Host Port field displays the default port for the database type you selected. You can edit this port.
 - b. To use the SSL protocol to securely communicate between the P6 application server and the database server, select the SSL option. If you select the SSL option, you must specify an SSL-enabled port number in the Database Host Port field.

Notes:

- See the appropriate database server documentation and the My Oracle Support's Knowledge Articles for information on configuring SSL.
-

- Using the SSL protocol will impact database performance.

- c. Ensure that the Public Group ID is 1 for a standard configuration.
- 3) If there is an existing Primavera configuration, on the **The installer has detected. . .** dialog box, choose whether you want to use it, or create a new configuration.

Note: If you are upgrading from a previous version of P6 against the same database, choose the option to create a new configuration. This is necessary to accommodate newly added configuration settings. See **About the P6 Administrator application** (on page 266) for more information about configurations.

If there is no existing Primavera configuration, the **The installer has detected. . .** dialog box does not appear and the installation process automatically creates a default configuration named Primavera P6 Configuration. You can edit the settings for this configuration through the P6 Administrator application.

Note: After installation, you can use the Database Configuration Setup wizard to choose a different configuration, if necessary. See **About the Database Configuration Wizard for P6** (on page 213) for more information.

- 4) When the message displays to confirm that the database configuration has completed successfully, click **OK**.
- 5) On the **End of Installation** screen, click **Exit**.

Note: P6 will not appear in the "Add or Remove Programs" list in Windows. If you need to uninstall P6, run the OUI (Oracle Universal Installer) again.

Configuring WebSphere for P6

This section details the necessary configuration and deployment steps for P6 in a WebSphere environment. Although not required for the P6 server set up, WebSphere has additional settings that can be used to enhance the environment. For example, when using clustering, enabling the session replication setting will seamlessly transfer users to another server in case of an unexpected server shutdown. Also, this section assumes that P6 and P6 Progress Reporter will be set up in separate domains; however, as with other applications, you can create one domain and configure both P6 EPPM web applications to run in this domain. See WebSphere's documentation for details on all available configuration, deployment, and settings options.

Configuring WebSphere for P6 requires the following tasks:

Related Topics

The P6 Help Directory	221
The P6 Tutorials Directory	222
Configuring P6 Home in WebSphere	222
Configuring P6 to be a New WebSphere Application	223
Deploying P6 in WebSphere	224
Configuring the P6 Project Gantt Chart Portlet in WebSphere	224

The P6 Help Directory

You have two options for deploying and using P6 Help.

Use the Default P6 Help URL (Recommended):

The default URL will take you to the Oracle Technology Network (OTN) site. OTN houses Oracle's most up-to-date documentation. If there are any changes to P6 functionality, those changes will be represented in the help documentation on OTN.

The default P6 Help URL is in the P6 Administrator application:

http://download.oracle.com/docs/cd/E20686_01/p6help.

Note: You can choose not to use the default help URL, but you will have to manually copy the p6help.war into your P6 home directory, deploy it in WebLogic, and enter the server URL into the P6 home directory. If any updates are made to the help, these will not be visible if you are using the p6help.war file.

Use the P6 Help WAR File:

To use the P6 Help WAR file:

Copy the P6 Help WAR (p6help.war) file from the P6 folder of the physical media or download to the P6 home directory.

Notes:

- For the P6 Help to launch, you must enter the server URL in the P6 Administrator application. See **Application Settings** (on page 299) for more information.
 - Use the instructions in **Deploying P6 in WebLogic** (on page 161) or **Deploying P6 in WebSphere** (on page 224) to deploy the help and tutorials files in WebLogic or WebSphere.
-

Tips

If you receive a "server not found" or a similar error when accessing the P6 Help in P6, it means one of the following:

- ▶ The application server cannot access the Internet.
- ▶ The help site is not available.

If the application server cannot access the Internet, check your P6 Administrator application settings and ensure they are configured to the correct URL.

If the URL is configured correctly, but you still can't access the P6 Help, you will need to use the local help (p6help.war). Use the instructions in *The P6 Help Directory* (on page 149), and *Deploying P6 in WebLogic* (on page 161) or *Deploying P6 in WebSphere* (on page 224) to deploy the help file in WebLogic or WebSphere.

The P6 Tutorials Directory

Copy the P6 Tutorials (P6Tutorials.war) WAR file from the P6 folder of the physical media or download to the P6 home directory.

Notes:

- For the P6 Tutorials to launch, you must enter the server URL in the P6 Administrator application. See *Application Settings* (on page 299) for more information.
 - Use the instructions in *Deploying P6 in WebLogic* (on page 161) or *Deploying P6 in WebSphere* (on page 224) to deploy the tutorials file in WebLogic or WebSphere.
-

Configuring P6 Home in WebSphere

To configure P6 home:

- 1) Start the WebSphere Application Server.
- 2) Launch the WebSphere Application Server **Administrative Console**.
- 3) In the left-hand navigation pane:
 - a. Expand **Servers** then **Server Types**.
 - b. Click **WebSphere application servers**.
- 4) On the **Application servers** screen, click the server name link.
- 5) On the **Configuration** tab, under **Server Infrastructure**, expand **Java and Process Management**.
- 6) Click **Process Definition**.
- 7) Under **Additional Properties**, click **Java Virtual Machine**.
- 8) In the **Initial heap size** field, enter the appropriate number based on considerations for your environment, such as deployment size, projected system load, desired performance, and scalability level. For example, if you enter 2048, this indicates an initial heap memory size of 2048MB. This setting might result in slightly longer startup times than lower settings but will front-load the initialization of WebSphere memory after a server start up.
- 9) In the **Maximum heap size** field, enter the appropriate number for your environment. For example, if you enter 2048, this indicates a maximum heap memory size of 2048MB, the recommended setting for production systems. Typically, it is also recommended that the Initial and Maximum heap size settings match.
- 10) Under **Generic JVM arguments**, type (as all one line):

```
-Dprimavera.bootstrap.home=p6home  
-Djavax.xml.transform.TransformerFactory=org.apache.xalan.processor.  
TransformerFactoryImpl
```

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

- 11) Click **OK**.
- 12) Click the **Save** link that appears within the message reporting changes.
- 13) Restart the application server instance.

Configuring P6 to be a New WebSphere Application

To configure P6 to be a new WebSphere application:

- 1) From the Administrative Console's left-hand navigation pane:
 - a. Expand **Applications**.
 - b. Click **New Application**.
- 2) On the **Install a New Application** screen, click **New Enterprise Application**.
- 3) On the **Path to the new application** screen:
 - a. Specify the path to the P6 home directory and the 'p6.ear' file (for example, C:\p6home\p6.ear).
 - b. Click Next.
- 4) On the **How do you want to install the application** screen:
 - a. Accept the defaults.
 - b. Click **Next**.

Note: If the Application Security Warnings screen displays, click Continue.

- 5) On the **Install New Application** screen:
 - a. In Step 1, the **Select installation options** section, accept the defaults.
 - b. In Step 2, the **Map modules to servers** section, select the **p6** option.
 - c. In Step 3, the **Map virtual hosts for web modules** section, select the **p6** option.
 - d. In Step 4, the **Map context roots for Web** modules section, type **/p6help** or **/p6 tutorials**.
WebSphere will automatically set the context root for the p6.ear file, so you will not have to do this step when you upload the p6.ear file.
 - e. In Step 5, the **Summary** section, review your settings.
 - f. Click **Finish**.
Note that the application EAR file is now deploying and that this process might take several minutes.
- 6) To save directly to the master configuration, click the **Save** link. This process might take several minutes.
- 7) Repeat these steps for the 'p6help.war' (optional, see note below) and the 'P6Tutorials.war' file, using 'p6help' or 'P6Tutorials' in place of 'p6'. You specified the location of the help file in **The P6 Help Directory** (on page 149) and **The P6 Tutorials Directory** (on page 150).

Note: Do not do this step for the 'p6help.war' file if you want to use OTN for your help. The OTN link is the default link in the P6 Administrator application. OTN will have the most up-to-date documentation for the P6 Help.

Deploying P6 in WebSphere

To deploy P6 in WebSphere:

- 1) On the **Administrative Console Main** screen:
 - a. In the left-hand navigation, expand **Applications**.
 - b. Click **WebSphere enterprise applications**.
- 2) Locate **p6**, **p6help** (optional, see note below), **p6 tutorials** and verify application status. If green arrows do not appear for all, click the Start button above the Select column.

Note: Do not do this step for the 'p6help.war' file if you want to use OTN for your help. The OTN link is the default link in the P6 Administrator application. OTN will have the most up-to-date documentation for the P6 Help.

- 3) Create a properties file named 'commons-logging.properties' in *websphere home\WebSphere\AppServer\profiles\profile name\properties* that contains the following:
org.apache.commons.logging.LogFactory=org.apache.commons.logging.impl.LogFactoryImpl
- 4) Restart the WebSphere application server.

Configuring the P6 Project Gantt Chart Portlet in WebSphere

To configure the P6 Gantt Chart Portlet:

- 1) Copy "jsf-api.jar" and "jsf-ri.jar" from the following location to a local drive and folder (for example, C:\jsf\):
websphere home\AppServer\profiles\profile name\installedApps\cell name\Primavera.ear\p6.war\WEB-INF\lib
- 2) From the Administrative Console's left-hand navigation pane, expand **Environment** and click the **Shared libraries** link.
- 3) In the **Scope** section, select **Cell= cell name**.
- 4) In the table at the bottom of the screen, click the **New** button.
- 5) On the **General Properties** screen:
 - a. In the **Name** field, enter "jsf".
 - b. In the **Classpath** field, enter the paths where you saved the JAR files copied in step 1. For example,
C:\jsf\jsf-api.jar
C:\jsf\jsf-ri.jar
 - c. Select the **Use an isolated class loader for this shared library** setting.
 - d. Click **OK**.

- 6) In the left-hand navigation, expand **Applications** and click **WebSphere enterprise applications**.
- 7) Locate **p6**:
 - a. Select the option next to **p6**.
 - b. Click the **p6** link.
- 8) In the **References** section, click the **Shared library references** link.
- 9) Select the option for the second **p6** entry, which has a URI description of "p6.war,WEB-INF/web.xml."
- 10) Click the **Reference shared libraries** button at the top of the table.
- 11) Highlight the "jsf" library in the **Available** window and move it to the **Selected** window.
- 12) Click **OK** twice.
- 13) To save directly to the master configuration, click the **Save** link.

Starting WebSphere for P6

The following procedures assume that you have installed P6 into a supported application server and completed the additional steps outlined in *Configuring WebSphere for P6* (on page 220).

To start WebSphere for P6:

- 1) On the Administrative Console main screen, in the left-hand navigation, expand **Applications**.
- 2) Click **WebSphere enterprise applications**.
- 3) Select the option for 'p6' (the default module name assigned during configuration).
- 4) Click **Start**.
- 5) Select the option for 'p6help' (the default module name assigned during configuration).
- 6) Click **Start**.

Stopping WebSphere for P6

To stop WebSphere for P6:

- 1) On the Administrative Console main screen, in the left-hand navigation, expand **Applications**.
- 2) Click **WebSphere enterprise applications**.
- 3) Select the option for 'p6' (the default module name assigned during configuration).
- 4) Click **Stop**.
- 5) Select the option for 'p6help' (the default module name assigned during configuration).
- 6) Click **Stop**.

Precompiling P6

Although not required for P6, precompilation helps to reduce the amount of time it takes for users to load P6 pages for the first time. The following instructions apply to all application servers supported by P6 EPPM and need to be performed while the application server is running.

Note: Your application server must be listening on a HTTP port (non-SSL) for the precompile utility to work. You can later disable the HTTP port after precompilation if you will only be using HTTPS.

To precompile P6:

- 1) Copy the `precompile_utility` directory from the P6 folder of the physical media or download to the server where P6 is installed.
- 2) Open a command prompt and go to the newly created "precompile" directory.
- 3) Run a command similar to the following:

```
java -jar JSPPrecompile.jar -u baseURL -f inputfile
```

where *baseURL* is the P6 URL and *inputfile* is the location of the P6 EAR file.

Note: The file path of the P6 EAR file cannot contain spaces.

For example, assuming a standard P6 installation on WebLogic, the command should look similar to the following:

```
java -jar JSPPrecompile.jar -u http://localhost:7001/p6 -f  
p6home/p6.ear
```

Application Server Plug-Ins for P6 EPPM

Application servers offer a variety of plug-ins that enable you to configure a front-end Web server other than the one provided with the application server. For procedures on configuring a Web server plug-in, refer to the application server's documentation.

Configuring the Content Repository for P6

After installing P6 and before entering Content Repository P6 Administrator application settings, decide which authentication mode to use and then configure the Oracle Universal Content Management or Microsoft SharePoint server for use with P6 EPPM.

Refer to the documentation included with the content repository application for detailed instructions on how to complete the guidelines in this section.

Related Topics

Content Repository Authentication Modes.....	227
Configuring Oracle Universal Content Management.....	227
Configuring Microsoft SharePoint.....	229

Content Repository Authentication Modes

P6 EPPM offers two content repository authentication modes. Authentication can be configured for either single user authentication or multiple user authentication. In single user authentication mode, all P6 EPPM users access the repository using a single administrator user login that is set during repository configuration. In multiple user authentication mode, each P6 EPPM user is authenticated based on their individual login.

Single User authentication mode is useful when you want users to have full access to the content repository through P6 EPPM without having to maintain an equivalent list of users for both P6 EPPM and the repository. This allows a repository administrator to maintain one set of credentials for the repository without having to share those credentials with all users. Single user authentication is also useful for quickly setting up test repositories that can be accessed by testers with minimal fuss.

 **Multiple User** authentication mode is the default mode. Multiple user authentication mode provides increased security by restricting content repository access on an individual user basis. Because it uses native auditing fields it also allows a clear audit of who has created and modified files.

Note: When using multiple user authentication mode, Oracle Universal Content Management Guest Access should be disabled. If Guest Access is enabled and the guest user does not have the "admin" role assigned in UCM, P6 repository functionality will not be available to that user.

See **Database Settings** (on page 277) for more information about Single User and Multiple User settings.

Configuring Oracle Universal Content Management

Except where noted, the guidelines below are recommendations. Depending on your organization's needs, you can choose to use existing configurations or your own naming conventions. Refer to the documentation included with Oracle Universal Content Management for detailed instructions on how to complete the guidelines in this section.

To configure Oracle Universal Content Management:

- 1) *(required)* Establish a Trusted Connection to the P6 EPPM database by adding the P6 EPPM machine name or IP address as a trusted server in the Universal Content Management server's configuration file.
- 2) *(required)* Create a P6 EPPM documents home folder on the Universal Content Management server by adding a unique path to Contribution Folders.
Example: \\Contribution Folders\Production\Oracle Primavera\
- 3) Create a P6 EPPM Security Group in Universal Content Management and grant the appropriate rights for P6 EPPM users. Security considerations include the following:
 - ▶ P6 EPPM user names must match the Universal Content Management user names, unless using "Single User" for the Authentication Mode.

Note: "Single User" Authentication Mode will log all P6 EPPM users into Universal Content Management via the administrator user created in step 4 below and/or as specified in the Database\Instance\Content Repository setting in **Database Settings** (on page 277).

- ▶ All P6 EPPM-related Universal Content Management user names must have appropriate assignments to Universal Content Management Roles and Users. For a quick setup, you can simply create one P6 EPPM-specific Role to map to, with full privileges (Read, Write, Delete, Admin).
 - ▶ All P6 EPPM-related Universal Content Management user names must have access to the P6 EPPM Security Group, either directly or through a role.
- 4) For the P6 EPPM Security Group in UCM, create an administrative user and assign it a role with full privileges (Read, Write, Delete, Admin). You must have a user account with administrative privileges to access P6 EPPM documents when using "Single User" Authentication Mode. You also need it to create or change the P6 EPPM document organization when using either "Single User" or "Multiple User" Authentication Mode.

Note: When using "Single User" for Authentication Mode, users will have the ability to browse for documents outside of the P6 EPPM documents home folder, as long as the administrator user is granted access to all appropriate Security Groups, including the P6 EPPM Security Group.

- 5)  If the use of Security Accounts is enabled, create a P6 EPPM Security Account. For example, depending on your organization's needs, you might need to set up a Security Account for performance and storage reasons. Security considerations, similar to those made for step 3 above, include the following:
- ▶ P6 EPPM user names must match the Universal Content Management user names, unless using "Single User" for the Authentication Mode.
 - ▶ All P6 EPPM-related Universal Content Management user names must have appropriate assignments to Universal Content Management Roles and Users. For a quick setup, you can simply create one P6 EPPM-specific Role to map to, with full privileges (Read, Write, Delete, Admin).
 - ▶ All P6 EPPM-related Universal Content Management user names must have access to the P6 EPPM Security Account.
- 6) Create a Document Type for P6 EPPM documents in Universal Content Management.

For example:

- ▶ For UCM 10g, enter the Document Type as ADACCT.
- ▶ For UCM 11g, enter the Document Type as Document.

Note: These document types are the defaults in their repositories.

- 7) (*required*) Create the following metadata text fields, exactly as specified (including case), in Universal Content Management for P6 EPPM:
- ▶ PrmUserId
 - ▶ PrmProjectId
 - ▶ PrmWorkgroupId

- ▶ PrmWorkflowId
- ▶ PrmWorkflowStatus
- ▶ PrmWorkflowAction
- ▶ PrmSecurityPolicy
- ▶ PrmTemplate (clear the "Enabled" and "Searchable" attributes)
- ▶ PrmCheckedOutUserId
- ▶ PrmCheckedOutDate
- ▶ PrmLocalFilePath (make Type = Long Text)
- ▶ PrmAuthorId

The use of "Prm" as a prefix is optional and can be any prefix of your choosing. If a prefix is not used, ensure that none of the P6 EPPM metadata fields are in conflict with existing metadata fields.

- 8) *(required)* Enter the appropriate settings in the P6 Administrator application. See the Database\Instance\Content Repository\Oracle Universal Content Management section in **Database Settings** (on page 277) for setting details.

Configuring Microsoft SharePoint

Except where noted, the guidelines below are required. Depending on your organization's needs, you can choose to use your own naming conventions. Refer to the documentation included with Microsoft SharePoint for detailed instructions on how to complete the guidelines in this section.

Note: Oracle recommends that you install the P6 SharePoint Connector on the same Internet Information Server (IIS) Server where SharePoint is installed. However, if you want to install it on a different server, you must install the P6 SharePoint Connector on an IIS server where it can continually connect to the SharePoint server and Web Access Server in the same Local Area Network.

To configure Microsoft SharePoint:

- 1) Create a new site named "WS_FPRPC" (*recommended name*) on the Microsoft IIS using the IIS Admin.
- 2) Install Microsoft .Net Framework 3.5 SP1 if not already installed. You can download it from this Web site: <http://msdn.microsoft.com/en-us/netframework/cc378097>.
- 3) From the \Tools\SharePoint_Connector folder of the P6 EPPM physical media or download, launch **setup.exe** to install the P6 EPPM Web Services on the site created in step 1.
- 4) During the web service installation, make sure to retain the default virtual directory. For example, on the **Select Installation Address** dialog box, enter the following:
 Site = WSFPRPC
 Virtual Directory = WS_FPRPC
 Application Pool = DefaultAppPool
- 5) Once the installation is complete, test the installation by launching the following URL:
http://host:port/virtual_dir/WS_FPRPC.asmx

where *host* is the server machine name or IP address where SharePoint is installed, *port* is the port number that SharePoint is using (the default is 80), and *virtual dir* is the default virtual directory from step 3.

- 6) From the \Tools\SharePoint_Connector folder of the P6 EPPM physical media or download, upload one of these templates, **P6WebAccessLibraryTemplate.stp** for SharePoint 2007 or **P6WebAccessLibraryTemplate2010.stp** for SharePoint 2010, to the SharePoint server (go to **Site Actions, Site Settings, List Templates**) to create a SharePoint document library for P6 EPPM.
- 7) Enter the appropriate settings in the P6 Administrator application. See the Database\Instance\Content Repository\SharePoint section in **Database Settings** (on page 277) for setting details.

Configuring P6 for Reporting

P6 relies on BI Publisher and the P6 EPPM Extended Schema to produce reports. To be able to run reports in P6, the following tasks are required:

- ▶ If not already set up, create a BI Publisher environment to manage reports. See the documentation included with BI Publisher.
- ▶ Populate BI Publisher settings in the P6 Administrator application. See **Database Settings** (on page 277).
- ▶ Configure and deploy the Publication Services required to populate the reporting views in the P6 EPPM Extended Schema. See **Working with Publication Services for Reporting** (on page 187) and **Publishing P6 Data for Reports** (on page 191).
For Publication Services, you will also need to configure the P6 Administrator application settings. You can configure publication settings for General Data, Time Distributed Data, Blob Data, and Log retention. You can also configure publication services settings for Project Arbiter, Projects, Enterprise Data, Enterprise Summaries, Resource Management, and Security. For more information, see the Publication section in **Services Settings** (on page 304).
- ▶ When you begin working in P6, you can configure your application settings and global scheduled services. See **Working with Application Settings** (on page 442) for more information.
- ▶ Provide users with the 'Edit EPS Costs/Financials' project privilege if they need to view project costs in a report generated from the P6 EPPM Extended Schema. See **Defining Project Security Profiles in P6 EPPM** (on page 404).

The following task is recommended:

- ▶ Configure BI Publisher to allow the use of parameter keys in P6 so that users do not have to manually enter field values for reports. The following sections will provide information on how to add and use the special parameters for reports in BI Publisher.

Why Do I Need Parameters?

P6 supports parameter keys in BI Publisher. These parameters will be used in the P6 Reports section when running and scheduling reports. For most of the parameters that you add, picklists will be provided for users when they are entering the value. The default behavior for an unrecognized parameter will be to provide a plain text box. The user will then need to type in the correct value, and if the value is not in the format the report expected, the report will fail to run.

Adding parameters to your reports allows users that run or schedule a report to select or filter what data to include without having to create additional reports or data templates for reports in advance. For example, consider this scenario:

- ▶ You have a report on activities and each activity has an activity code value assigned to it to determine the location of the team working on it.
- ▶ You want each team to be able to run the report, but they want to see only the activities for their location.

Without parameters, you would need to create a different report and data template for each team. All of these reports would be almost the same, except that each select statement to pull the activity data would have a different join to the activity code table to match the correct location. With parameters, you can do this with just one report and data template.

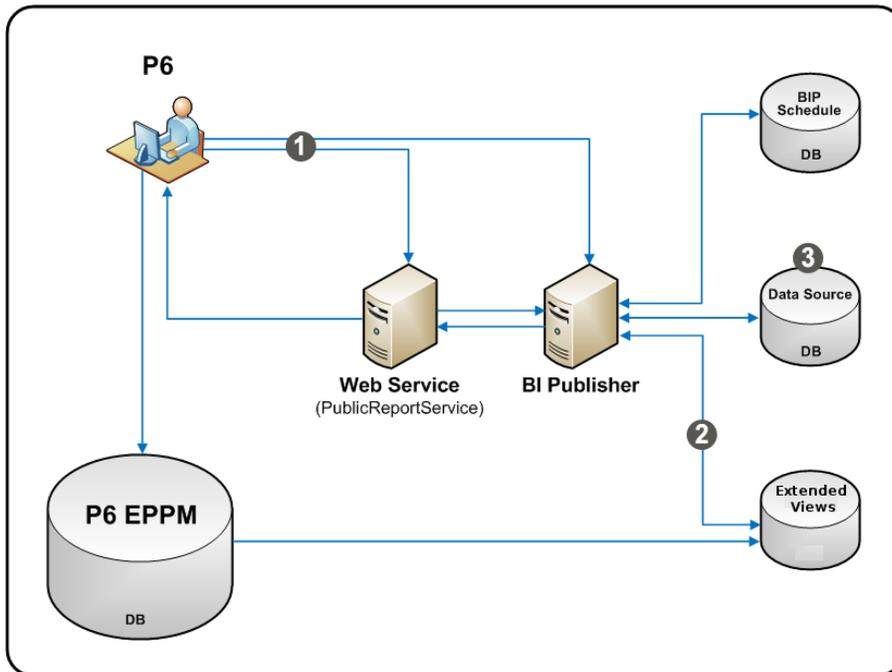
Getting Started with BI Publisher Reports

These sections supplement the pre-packaged reports shipped with P6, which provide examples and support for BI Publisher.

Before getting started, familiarize yourself with the way reports are handled in BI Publisher. P6 populates its list of reports from the Report Definitions that are loaded from the web services of BI Publisher. When you need to create or modify a report, you will be doing so in BI Publisher. The documentation on BI Publisher will help you understand how BI Publisher works. Before continuing with the following sections, you need to learn about the following Report Definitions from the BI Publisher documentation:

- ▶ Data Model
 - ▶ Writing sql queries and data templates
- ▶ Parameters
 - ▶ The basic types (Text, Menu, Date, Boolean)
 - ▶ How "List of Values" work with the parameters
 - ▶ The different settings that can be set on them
- ▶ Templates

The graphic below will help you understand the basic flow between BI Publisher and P6.



BI Publisher Diagram

Item	Description
①	Log in with BIP Security admin credentials and impersonate a P6 user.
②	Call the P6 EPPM Extended Schema with the PXRptUser. The PXRptUser must be in the same instance as the admuser.
③	You can add many other data sources for reports.

The data source you will work with to create reports will be the P6 EPPM Extended Schema database. Note that the Publication Services populate the tables and views used for reporting in the P6 EPPM Extended Schema. You should not run any report that uses the P6 EPPM Extended Schema until you configure the Publication Services and execute them for the first time. For more information on configuring Publication Services, see **Working with Publication Services for Reporting** (on page 187), **Services Settings** (on page 304), and **Services Page** (on page 446).

Note: Oracle recommends you use the P6 EPPM Extended Schema database for reporting, but you can still work with the ODS database if you purchased the P6 Reporting Database. The P6 Reporting Database now becomes a truly optional ad-on component to the P6 EPPM suite, supporting P6 Analytics, third-party reporting tools, off-line analysis, and consolidation of P6 data into larger corporate data warehouses.

Security for the P6 EPPM Extended Schema and Reports

In P6 EPPM R8.1, the security model for reporting against the P6 EPPM Extended Schema starts with the new PXRptUser database user. PXRptUser is added automatically when you install or upgrade to P6 EPPM R8.1 for an Oracle or Microsoft SQL Server database.

PXRptUser accesses the logical views in the P6 EPPM Extended Schema, which include existing P6 database tables and the new extended schema tables. You must configure a data source in BI Publisher to connect to the P6 EPPM Extended Schema using the PXRptUser account. When you launch a report from P6 or BI Publisher, BI Publisher must first make the connection to the P6 EPPM Extended Schema with PXRptUser. The user logged into either application is then passed as a security context to the P6 EPPM Extended Schema to apply security to the data set being returned in the BI Publisher report.

When you implement the P6 EPPM Extended Schema, you must create a security context in BI Publisher to establish security for P6 reports. Follow the instructions in the next section to configure your security.

Configuring Security for the P6 EPPM Extended Schema and Reports on an Oracle Database

For an Oracle database, security is embedded in the P6 EPPM Extended Schema.

Notes:

- If you are using Oracle BI Publisher 10G, you must have the latest Oracle BI Publisher Enterprise Patch installed. You must have patch 10623023 or later. See patch 11931697 in My Oracle Support's Knowledge Articles for the latest patch.
- These instructions focus only on configuring security for the P6 EPPM Extended Schema and reports. They do not focus on anything else you can do in BI Publisher. For more information on BI Publisher, see the BI Publisher documentation.

-
- 1) Login to BI Publisher as an administrative user.

Note: Some steps vary depending on whether you are using BI Publisher 10g or 11g. The steps distinguish between 10g and 11g if they differ.

- 2) In BI Publisher 10g, click the **Admin** tab.
In BI Publisher 11g, click the **Administration** link at the top of your screen.
- 3) Under **Data Sources**, click the **JDBC Connection** link.
- 4) Click **Add Data Source** or choose the data source name you want to use.
- 5) In the **General** section:
 - a. In the **Data Source Name** field, enter the data source name.
 - b. In the **Driver Type** field, select your Oracle database version.
 - c. In the **Database Driver Class** field, enter the JDBC driver class for your database.
 - d. If you are using BI Publisher 10g, skip this step.
In BI Publisher 11g, select the **Use System User** option if you are connected to the Oracle BI Server and want to use this option.

- e. In the **Connection String** field, enter your JDBC connection string.
 - f. In the **Username** field, enter your PxRptUser name.
 - g. In the **Password** field, enter your PxRptUser password.
 - h. In the **Pre Process Function** field, enter the following:

```
Secpac.SET_BIP_USER(:xdo_user_name)
```
 - i. Clear the **Use Proxy Authentication** option for this data source definition.
 - j. Click **Test Connection**.
- 6) In the **Security** section, move your preferred roles from **Available Roles** to **Allowed Roles**.
 - 7) Click **Apply** towards the top.
 - 8) To verify that each report has security, log out of BI Publisher then log back in as a user with restricted P6 EPPM Extended Schema access. Ensure that the user can only see what they're allowed to see.

Tips

Refer to the sample reports included with P6 R8.1 for examples on how to create BI Publisher reports to use with P6 on an Oracle database.

You can find sample reports in the **P6reports.zip** folder of the P6 EPPM physical media or download.

- ▶ For BI Publisher 10g, use the **P6reportsOraBIPub10g\Samples** folder.
- ▶ For BI Publisher 11g, use the **P6reportsOraBIPub11g\Samples** folder.

Defining Parameters in BI Publisher

When adding a new parameter in BI Publisher you will see the following fields:

- ▶ **Identifier** – The key for the parameter. Determines whether the parameter is supported by a picklist.
- ▶ **Data Type – String** should be the default type. When using a supported parameter, select String for the type. See **Primitive Parameters** (on page 185) for more on Date, Boolean, and Integer parameters.
- ▶ **Default Value** – The value entered in this field will be the default for the parameter whenever the report is run. Users will be able to see this value in P6.
- ▶ **Parameter Type** – Text, Menu, and Date will be the most used types. Unless otherwise specified, Text should be the default for the supported parameters. In the case of multiple value selection, use Menu.
- ▶ **Display Label** – The text that displays in P6 for the parameter. If it is not set, the identifier is displayed.

Supported Parameters in P6

You can use any parameter for BI Publisher, but users will then have to ensure that they enter the value correctly, or else the SQL statements in the data template will fail. Using supported parameters will allow you to provide a user interface to enter the values for parameters. Supported parameters for P6 fall into one of three categories: enumeration, dynamic, or primitive.

Enumeration parameters have static lists that users can pick from. Dynamic parameters will generate the list dynamically at run time. For example, when focusing on Project ID, users will be presented with a Project picklist that pulls the current projects from the P6 EPPM database. Primitive parameters support basic selections. For example, if a parameter is a boolean, an option will appear for users to select or clear a text box instead of typing true or false.

The following are the supported parameters for P6, grouped by category:

Enumeration Parameters

- ▶ Activity Priority
- ▶ Assignment Proficiency
- ▶ Activity Status
- ▶ Activity Type
- ▶ Constraint Type
- ▶ Duration Type
- ▶ Percent Complete Type
- ▶ Project Status
- ▶ Rate Source
- ▶ Rate Type
- ▶ Resource Type
- ▶ Risk Status
- ▶ Risk Type

Dynamic Parameters

- ▶ Activity Code Value
- ▶ User Defined Activity Code (type and value)
- ▶ Cost Account
- ▶ EPS
- ▶ Expense Category
- ▶ Funding Source
- ▶ Portfolio
- ▶ Project
- ▶ Project Code Value
- ▶ User Defined Project Code (type and value)
- ▶ User Defined Resource Code
- ▶ Resource Code Value
- ▶ Resource Team
- ▶ Resource ID
- ▶ Responsible Manager
- ▶ Risk Category
- ▶ RoleRole
- ▶ Role Team
- ▶ Timesheet Period
- ▶ User

Primitive Parameters

- ▶ Date
- ▶ Boolean
- ▶ Integer
- ▶ Float

Custom Parameters

- ▶ List of Values

Enumeration Parameters

Enumeration parameters are mapped to fields that have a set list of possible values. When running a report with a configured enumeration parameter, P6 will offer a picklist to select one of the values. Users will see the properly localized text for the descriptions of the enumeration values; however, the return value will be the English description of the enumeration, which is the value that is stored in the PX Views database.

Descriptions of enumeration parameters are in the following format:

Parameter: *Name of the parameter.*

- ▶ **Identifier:** *The value you must enter in the identifier field in BI Publisher when creating the parameter for the report.*
- ▶ **Details:** *A description and technical details of the parameter.*
- ▶ **Values:** *The values that will be available in P6.*
- ▶ **Maps to field:** *The database field the return value maps to in the PX Views database. It could match multiple fields in the database, so only the primary table is listed.*
- ▶ **Use case:** *An example of how you might use the parameter in a report.*

Supported Enumeration Parameters

Parameter: Activity Priority

- ▶ **Identifier:** p_activity_priority
- ▶ **Details:** Allows users to select the leveling priority of an activity.
- ▶ **Values:** Top, High, Normal, Low, Lowest
- ▶ **Maps to field:** ACTIVITY.LEVELINGPRIORITY
- ▶ **Use case:** Filter activity data by leveling priority.

Parameter: Assignment Proficiency

- ▶ **Identifier:** p_assignment_proficiency
- ▶ **Details:** Allows users to select a value for assignment proficiency.
- ▶ **Values:** Master, Expert, Skilled, Proficient, Inexperienced
- ▶ **Maps to field:** RESOURCEASSIGNMENT.PROFICIENCY
- ▶ **Use case:** Filter resource assignment data by the proficiency of the assignment.

Parameter: Activity Status

- ▶ **Identifier:** p_activity_status

- ▶ **Details:** Allows users to select activity status.
- ▶ **Values:** Not Started, In Progress, Completed
- ▶ **Maps to field:** ACTIVITY.STATUS
- ▶ **Use case:** Filter activity reports based on a certain status.

Parameter: Activity Type

- ▶ **Identifier:** p_activity_type
- ▶ **Details:** Allows users to select the activity type.
- ▶ **Values:** Task Dependent, Resource Dependent, Level of Effort, Start Milestone, Finish Milestone, WBS Summary
- ▶ **Maps to field:** ACTIVITY.TYPE
- ▶ **Use case:** Filter activity reports based on the type of the activity.

Parameter: Constraint Type

- ▶ **Identifier:** p_constraint_type
- ▶ **Details:** Allows users to select an activity constraint type.
- ▶ **Values:** Start On, Start On or Before, Start On or After, Finish On, Finish On or Before, Finish On or After, As Late As Possible, Mandatory Start, Mandatory Finish
- ▶ **Maps to field:** ACTIVITY.PRIMARYCONSTRAINTTYPE and ACTIVITY.SECONDARCONSTRAINTTYPE
- ▶ **Use case:** Filter activities in a report by the activity primary or secondary constraint type.

Parameter: Duration Type

- ▶ **Identifier:** p_duration_type
- ▶ **Details:** Allows users to select the duration types of an activity.
- ▶ **Values:** Fixed Units/Time, Fixed Duration & Units/Time, Fixed Units, Fixed Duration & Units
- ▶ **Maps to field:** ACTIVITY.DURATIONTYPE
- ▶ **Use case:** Filter activities in a report based on their duration type.

Parameter: Percent Complete Type

- ▶ **Identifier:** p_percent_complete_type
- ▶ **Details:** Allows users to select the percent complete type of an activity.
- ▶ **Values:** Physical, Duration, Units
- ▶ **Maps to field:** ACTIVITY.PERCENTCOMPLETETYPE
- ▶ **Use case:** Filter activities in a report based on the percent complete type of the activity.

Parameter: Project Status

- ▶ **Identifier:** p_project_status
- ▶ **Details:** Allows users to select the status of a project.
- ▶ **Values:** Planned, Active, Inactive, What If, Requested, Template
- ▶ **Maps to field:** PROJECT.STATUS

- ▶ **Use case:** Filter the projects in a report based on the desired type. For example, you might want to use this for a report that needs to display information only on planned projects.

Parameter: Rate Source

- ▶ **Identifier:** p_rate_source
- ▶ **Details:** Allows users to select the rate source of an assignment.
- ▶ **Values:** Resource, Role, Override
- ▶ **Maps to field:** RESOURCEASSIGNMENT.RATESOURCE
- ▶ **Use case:** Filter resource assignments that are included in a report based on the rate source of the assignment.

Parameter: Rate Type

- ▶ **Identifier:** p_rate_type
- ▶ **Details:** Allows users to select the rate type of an assignment.
- ▶ **Values:** Price/Unit, Price/Unit 2, Price/Unit 3, Price/Unit 4, Price/Unit 5
- ▶ **Maps to field:** RESOURCEASSIGNMENT.RATETYPE
- ▶ **Use case:** Filter resource assignments that are included in a report based on the rate type of the assignment.

Parameter: Resource Type

- ▶ **Identifier:** p_resource_type
- ▶ **Details:** Allows users to select the resource type of an assignment.
- ▶ **Values:** Labor, Nonlabor, Material
- ▶ **Maps to field:** RESOURCEASSIGNMENT.RESOURCE TYPE
- ▶ **Use case:** Filter resource assignments included in a report based on the resource type of the assignment.

Parameter: Risk Status

- ▶ **Identifier:** p_risk_status
- ▶ **Details:** Allows users to select the status of a risk.
- ▶ **Values:** Proposed, Open, Active, Rejected (Closed), Managed (Closed), Impacted (Closed)
- ▶ **Maps to field:** RISK.RISKSTATUS
- ▶ **Use case:** Filter risks in a report based on the status of the risk.

Parameter: Risk Type

- ▶ **Identifier:** p_risk_type
- ▶ **Details:** Allows users to select the type of a risk.
- ▶ **Values:** Threat, Opportunity
- ▶ **Maps to field:** RISK.RISKTYPE
- ▶ **Use case:** Filter risks in a report based on the type of risk.

Dynamic Parameters

Dynamic parameters are mapped to fields that have a varying list of possible values. When running a report with a configured dynamic parameter, P6 will offer a picklist to select one of the available values.

Descriptions of dynamic parameters are in the following format:

Parameter: *Name of the parameter.*

- ▶ **Identifier:** *The value you must enter in the identifier field in BI Publisher when creating the parameter for the report. In some cases, identifiers can pass in context by appending short names to the end of the identifier. The character in quotations is the separator that the code splits and <name> represents the context you are trying to pass in.*
- ▶ **Details:** *A description and technical details of the parameter.*
- ▶ **P6:** *What the editor for the parameter will be in the Reports section of P6.*
- ▶ **Return Value:** *The values that will be available in P6.*
- ▶ **Maps to field:** *The database field the return value maps to in the PX Views database. It could match multiple fields in the database, so only the primary table is listed.*
- ▶ **Use case:** *An example of how you might use the parameter in a report.*

Supported Dynamic Parameters

Parameter: Activity Code Value

- ▶ **Identifier:** p_activity_code_value_only ":" <short name>
- ▶ **Details:** Enables users to select an activity code value via a picklist. Context is passed into the parameter by appending a dash ":" followed by the short name of the activity code type you want to set.
- ▶ **P6:** Provides a picklist that displays the Activity Code Values for the Activity Code type passed in the context.
- ▶ **Return value:** Short name of the Activity Code (unique per code type).
- ▶ **Maps to field:** ACTIVITYCODE.CODEVALUE
- ▶ **Use case:** Create a report that displays some basic information about activities. There are five main locations that need to run the report, but they only want to see the data for activities with codes matching their location. Instead of creating five reports hard coding the location (for example, location=L1) on each report, you can create one report and add this parameter to it (for example, p_activity_code_value_only:Location).

In the data template for the report, filter the activities based on this parameter. Hard code the left side of the activity filter to match the activity code you selected, which in this case is location.

Example query: CODETYPENAME='Location' &
CODEVALUE=:p_activity_code_value_only:Location

If you did not have a parameter for this, you would need different templates for each location.

Parameter: User Defined Activity Code

- ▶ **Identifier:** p_activity_code_value "." <number> p_activity_code_type "." <number>

- ▶ **Details:** Enables users to select a user defined Activity Code. The user defined Activity Code is two parameters on the report in BI Publisher, but will only be displayed as one row in the report settings parameter table.
- ▶ **P6:** Provides a picklist that displays all global Activity Code types. When users expand a type, the values for that type will also be listed. By selecting a value, it will return both the type and value to the report.
- ▶ **Return value:** Short name for the Activity Code Value, primary key for the Activity Code type.
- ▶ **Maps to field:**
 - p_activity_code_value maps to ACTIVITYCODE.CODEVALUE
 - p_activity_code_type maps to ACTIVITYCODE.CODETYPEOBJECTID
- ▶ **Use case:** Create a report that can have a variable Activity Code. You have a report that pulls activities and displays some basic statistics of the activities. The data template for the report must accommodate setting both sides of the query. While a typical parameter just sets the IN clause for a user defined field, this parameter must set both sides. The "Activity Code Value" parameter **Use case** example shows where it hard codes the CODETYPENAME to be **Location**. This parameter enables multiple user defined activity codes to be used on the same report. For each parameter you use, you must add p_activity_code_value.1 and p_activity_code_type.1. There must be a pair of numbers to ensure that the editor works properly.

Parameter: Cost Account

- ▶ **Identifier:** p_cost_account
- ▶ **Details:** Enables users to select Cost Accounts. The P6 user must have access to view Cost Accounts in order for the picklist to populate.
- ▶ **P6:** Provides a picklist that displays all Cost Accounts in a hierarchical tree.
- ▶ **Return value:** Short name of the cost account (unique).
- ▶ **Maps to field:** COSTACCOUNT_FULL.NAME
- ▶ **Use case:** Can be used to filter items using certain Cost Accounts, or to generate information on the Cost Accounts themselves.

Parameter: EPS

- ▶ **Identifier:** p_eps_id
- ▶ **Details:** Enables a user to select an EPS.
- ▶ **P6:** Provides a picklist that displays all of the EPS nodes to which the logged in user has access.
- ▶ **Return value:** The short name of the EPS.
- ▶ **Maps to field:**
 - EPS_FULL.NAME
 - EPS_U.NAME
- ▶ **Use case:** A parameter for EPS could be used to filter a query to load all projects under an EPS for a report.

Parameter: Expense Category

- ▶ **Identifier:** p_expense_category
- ▶ **Details:** Enables a user to select Expense Category to which the user has access.
- ▶ **P6:** Will provide a picklist that displays all of the Expense Categories.
- ▶ **Return value:** The short name of the Expense Category (unique).
- ▶ **Maps to field:**
 - EXPENSECATEGORY_FULL.NAME
 - EXPENSECATEGORY_U.NAME
- ▶ **Use case:** Run a report filtered by assignments that use a certain Expense Category associated with them.

Parameter: Funding Source

- ▶ **Identifier:** p_funding_source
- ▶ **Details:** Enables a user to select a Funding Source.
- ▶ **P6:** Provides a hierarchical picklist filled with Funding Sources to which a user has access.
- ▶ **Return value:** The short name of the Funding Source (unique).
- ▶ **Maps to field:**
 - FUNDINGSOURCE_FULL.NAME
 - FUNDINGSOURCE_U.NAME
- ▶ **Use case:** Filter the report data to only include projects that have the selected Funding Source assigned.

Parameter: Portfolio ID

- ▶ **Identifier:** p_portfolio_id
- ▶ **Details:** Enables a user to select a Portfolio to which the user has access.
- ▶ **P6:** Provides a picklist of Portfolios to which the user has access.
- ▶ **Return value:** The portfolio short name (unique).
- ▶ **Maps to field:** PROJECTPORTFOLIO_FULL.NAME
- ▶ **Use case:** Filter the report data to only include the projects that are contained in a Portfolio.

Parameter: Project ID

- ▶ **Identifier:** p_project_id
- ▶ **Details:** Enables a user to select one or more projects to which the user has access.
- ▶ **P6:** Click the **Projects** ▼ menu, and select **Open Project** to display the Project picklist. Enables switching between Template and Regular projects.
- ▶ **Return value:** The project short name (unique).
- ▶ **Maps to field:** PROJECT_FULL.ID
- ▶ **Use case:** Run a report where the data is pulled from selected projects.

Project Code Value

- ▶ **Identifier:** p_project_code_value_only"-<short name>
- ▶ **Details:** Select a Project Code value.

- ▶ **P6:** Provides a picklist containing the project code values for the Project Code whose short name matches the second part of the parameter. For example: If the short name was Scope, and there were four values – Local, Regional, Country, and Global – the picklist would display Local, Regional, Country, and Global in the list.
- ▶ **Return value:** Activity code value short name (unique per code type).
- ▶ **Maps to field:** PROJECTCODE_FULL.CODEVALUE
- ▶ **Use case:** Filter the set of projects loaded to those projects that have the user-selected Project Code Value assigned to them.

Parameter: User Defined Project Code

- ▶ **Identifier:** p_project_code_value."<number> p_project_code_type."<number>
- ▶ **Details:** Similar to the User Defined Activity Code, this parameter consists of two parameters in BI Publisher: One parameter returns the selected Project Code Value, and the other parameter returns the Project Code type ID. For each parameter you use, you must add both **p_project_code_value.#** and **p_project_code_type.#** There must be a pair of numbers in order for the editor to work properly. You can have multiple sets to allow for more than one User Defined Code Value.
- ▶ **P6:** Provides a picklist populated with all the global Project Codes as the first level. Expanding a Project Code type will list all the values for the type. In the parameter table, only one row will represent both parameters. After you select a Project Code Value, both parameters will be set.
- ▶ **Return value:** The short name for p_project_code_value and the object id for p_project_code_type.
- ▶ **Maps to field:**
 - p_project_code_value maps to PROJECTCODE_FULL.CODEVALUE
 - p_project_code_type maps to PROJECTCODE_FULL.CODETYPEOBJECTID
- ▶ **Use case:** Create a report that enables the projects to be filtered based on a Project Code that the user defines. Unlike the Project Code Value parameter, the report creator need not hard code the Project Code type. Instead, the query should be written to enable the p_project_code_type.1 parameter to determine the Project Code type. This lets a report be more flexible in the filter criteria.

Parameter: User Defined Resource Code

- ▶ **Identifier:** p_resource_code_value "<number> p_resource_code_type "<number>
- ▶ **Details:** Similar to the other user-defined codes this parameter consists of two parameters on the report in BI Publisher: One parameter returns the selected Resource Code Value, and the other parameter returns the Resource Code type ID. For each parameter you use, you must add both **p_resource_code_value.#** and **p_resource_code_type.#** There must be a pair of numbers in order for the editor to work properly. You can have multiple sets to allow for more than one user-defined code value.
- ▶ **P6:** Provides a picklist populated with the Resource Codes as the first level. Expanding a Resource Code type will list all the values for the type. In the parameter table, only one row will represent both parameters. After you select a Resource Code Value, both parameters will be set.
- ▶ **Return value:**

- p_resource_code_value: short name for the code value
- p_resource_code_type: object id for the code type
- ▶ **Maps to field:**
 - p_resource_code_value maps to RESOURECECODE_FULL.CODEVALUE
 - p_resource_code_type maps to RESOURECE_CDOE_FULL.CODETYPEOBJECTID
- ▶ **Use case:** Create a report that allows for the resources to be filtered based on a Resource Code Value and type that the user defines. Unlike the Resource Code Value parameter, the report creator need not hard code the resource code type. Instead, the query should be written to enable the p_resource_code_type.1 parameter to determine the resource code type. This allows a report to be more flexible in the filter criteria.

Parameter: Resource Code Value

- ▶ **Identifier:** p_resource_code_value_only ":" <short name>
- ▶ **Details:** Select a Resource Code value to use for filtering loaded resources for a report.
- ▶ **P6:** Provides a picklist populated with the resource code values for the resource code type indicated by the <short name> at the end of the parameter. For example: If the short name was Department, the picklist would display Engineering, Marketing, Research, and Development as the values in the list.
- ▶ **Return value:** The short name of the Resource Code Value (unique per code type).
- ▶ **Maps to field:** RESOURECECODE_FULL.CODEVALUE
- ▶ **Use case:** Create a report where the resources loaded are filter based on the resources that match the user-selected Resource Code Value for a particular Resource Code type. The report data query must hard code the Resource Code type for matching resources to the returned code value.

Parameter: Resource Team

- ▶ **Identifier:** p_resource_team
- ▶ **Details:** Enables resource team selection.
- ▶ **P6:** Provides a picklist populated with resource teams that the user has access to view.
- ▶ **Return value:** The short name of the resource team (unique).
- ▶ **Maps to field:** RESOURCETEAM_FULL.NAME
- ▶ **Use case:** Filter a report to load resources that are on the selected resource team.

Parameter: Resource ID

- ▶ **Identifier:** p_resource_id
- ▶ **Details:** Select a resource on which to filter a report.
- ▶ **P6:** Provides a picklist populated with resources that the user has access to view.
- ▶ **Return value:** The short name of the resource (unique).
- ▶ **Maps to field:** RESOURCES_FULL.NAME
- ▶ **Use case:** Filter the activities in a report based on the user-selected resource being assigned to the activity.

Parameter: Responsible Manager

- ▶ **Identifier:** p_responsible_manager
- ▶ **Details:** Select a responsible manager (OBS).
- ▶ **P6 GUI:** Provides a picklist populated with the OBS structure that the user has access to view.
- ▶ **Return value:** The short name of the OBS (unique).
- ▶ **Maps to field:** PROJECT_FULL.OBSNAME and OBS_FULL.NAME
- ▶ **Use case:** Filter a report to only load the projects that have the user-selected responsible manager.

Parameter: Risk Category

- ▶ **Identifier:** p_risk_category
- ▶ **Details:** Select a Risk Category.
- ▶ **P6:** Provides a picklist populated with all the Risk Categories that the user has access to view.
- ▶ **Return value:** The name of the Risk Category (unique).
- ▶ **Maps to field:** RISK_FULL.RISKTYPE
- ▶ **Use case:** Filter a report to only load the Risks of the user-selected category.

Parameter: Role Team

- ▶ **Identifier:** p_role_team
- ▶ **Details:** Select a Role Team.
- ▶ **P6:** Provides a picklist populated with all the Role Teams that the user has access to view.
- ▶ **Return value:** The name of the Role Team (unique).
- ▶ **Maps to field:** ROLLTEAM_FULL.NAME
- ▶ **Use case:** Filter a report of Resources to only include the Resources that are assigned to the user-selected Role Team.

Parameter: Role

- ▶ **Identifier:** p_p6_role_id
- ▶ **Details:** Select a Role
- ▶ **P6:** Provides a picklist populated with all the Roles that the user has access to view.
- ▶ **Return value:** The short name of the Role (unique).
- ▶ **Maps to field:** ROLL_FULL.ID
- ▶ **Use case:** Filter a report of Resources to only include the Resources that have the user-selected Role.

Parameter: Timesheet Period

- ▶ **Identifier:** p_timesheet_period_start and p_timesheet_period_end
- ▶ **Details:** This parameter consists of two parameters on the report in BI Publisher, but is represented by a single row in parameter list for P6. The user will select a timesheet period, and it will set the Start Date to p_timesheet_period_start and the End Date to p_timesheet_period_end.

- ▶ **P6:** Drop down menu of the Timesheet Periods in the database. Selecting a Timesheet Period will return the Start Date and End Date in the parameters.
- ▶ **Return value:** The Start Date and End Date of the Timesheet Period selected by the user.
- ▶ **Maps to field:** N/A
- ▶ **Use case:** Filter a report to look for date between two dates of a Timesheet Period. Instead of adding two date parameters, and making the user manually enter the Start and End of the period, a drop down is provided with the Timesheet Periods in the database.

Parameter: User

- ▶ **Identifier:** p_p6_user_id
- ▶ **Details:** Select a P6 EPPM user name.
- ▶ **P6:** Provides a picklist populated with the P6 users that the logged-in user has access to view.
- ▶ **Return value:** The user name (unique).
- ▶ **Maps to field:** USERS_FULL.NAME

Primitive Parameters

In BI Publisher, when you create a parameter, a field Data Type allows the following options: String, Integer, Boolean, Float. The default type is String and should be used for all the supported enumeration and dynamic parameters. For primitive parameters, select the appropriate option for the parameter that you are configuring.

Type: Date

- ▶ **Editor:** The P6 date picker will be used to select the date.
- ▶ **Return:** The date string in the format that was entered in BI Publisher.

Type: Boolean

- ▶ **Editor:** A check box editor will be used.
- ▶ **Return:** Either true (selected) or false (cleared).

Type: Integer

- ▶ **Editor:** A default text box will be used with no validation.
- ▶ **Return:** The text that was entered in the box.

Type: Float

- ▶ **Editor:** A default text box will be used with no validation.
- ▶ **Return:** The text that was entered in the box.

Custom Parameters

Parameter: List of Values

By default, custom parameters are supported by a text box in which the user can enter text. The exception to this rule is a parameter that requires you to either hard code a list of values or provide a query to run for the list. In that case, a drop down menu will be provided (instead of a text box) that contains all of the values in the list.

When setting up custom parameters in BI Publisher, first create a new list of values. The list can either be **Fixed Data** or **SQL Query**. For Fixed Data list of values the text from the label field will show in the drop down list. Create a new parameter, and set the Parameter Type to **Menu**. Set the list of values to the list you just created.

Allowing for Multiple Values Returned via a Picklist

If you need a supported parameter to return a comma separated list of values for an IN clause in the data template, do the following:

- 1) In BI Publisher, set the parameter type to **Menu**. This will allow you to link it to a list.
- 2) Create a hard coded list or a query to get the possible values for the parameter.
See examples of this within the pre-packaged reports.
- 3) Select the list of values you just created for the parameter.
- 4) Check the **Multiple Selection** box in the options for the parameter.

If a parameter allows for multiple selection, P6 will allow selecting multiple values from the picklist or allow users to continue to assign values without closing the picklist. Values will be appended by commas to the end of the parameter value that is returned.

About Publication Services and Reporting

Before reports can be generated, data must be refreshed and calculations must be made in precisely arranged tables and fields. *Publication Services* address these reporting needs by gathering and calculating data as close as possible to real-time. To make this happen, you can configure P6 to automatically publish data to reporting tables. Depending on the type of data published, reports may still be generated using P6 tables, or a combination of P6 and reporting tables. An administrator must configure settings for Publication Services before reporting data is published.

Your organization's P6 EPPM data is split into two general categories: *project* data and *global* data. Published project data includes all information about your projects, including summaries and calculations, and published global data includes enterprise data, resource and role data, portfolio data, and security data.

To summarize the reporting process:

- 1) Users create new data or make changes to existing data in P6.
- 2) The P6 global and project data is published, automatically or manually, to tables for reporting.
- 3) Reports are generated directly from the collective P6 EPPM database with the P6 Extended Schema reporting tables.

Working with Publication Services for Reporting

To achieve near real-time reporting, you can configure P6 to automatically publish your data to tables that store updated data, including calculations and summary data. These tables also permit the synthesis of this data into views essential for generating reports. The P6 data is split into two general categories: *project* data and *global* data. Project data includes all information about your projects, including summaries and calculations, and global data includes enterprise data, as well as resource and role, portfolio, and security data. The image below summarizes the key concepts in the publication and reporting process.

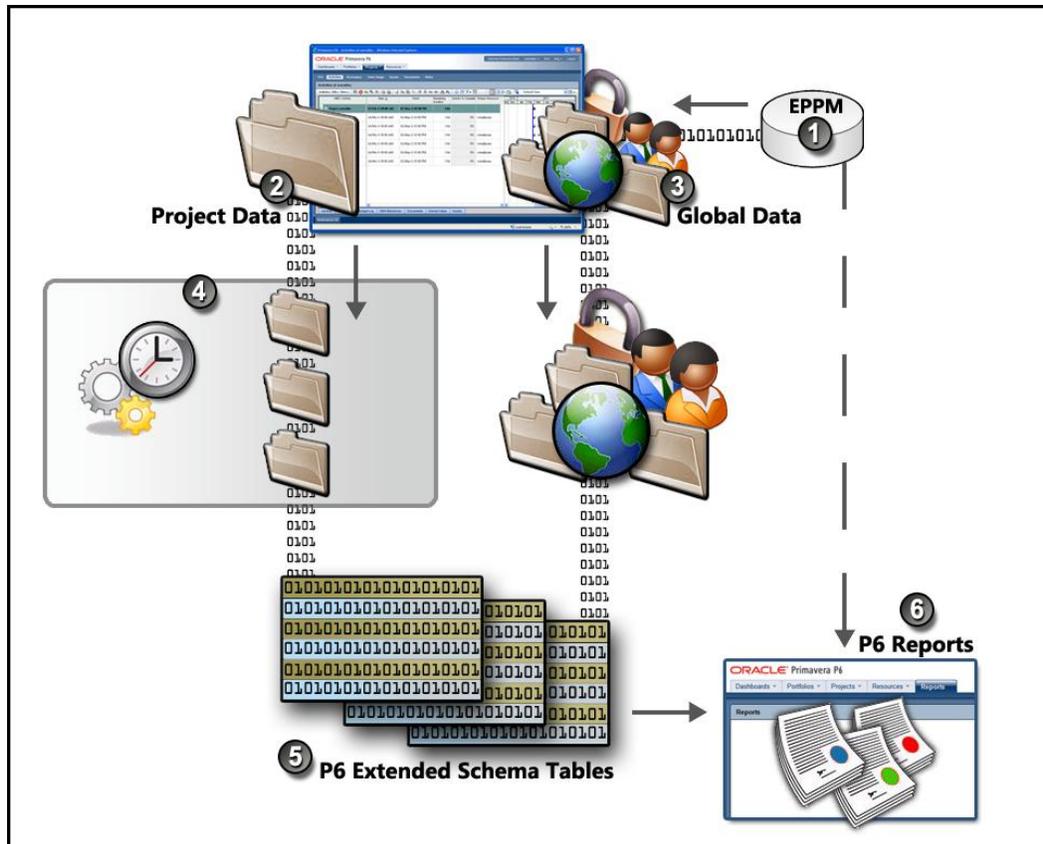


Table of Key Publication Services Concepts

Item	Description
1	EPPM Database: The EPPM database captures all the new and changed data your organization generates every second of every day. However, the raw data in the EPPM database is not structured for immediate use in reporting.
2	Project Data: You can configure P6 to automatically publish a project based on publication thresholds. Based on options you select, projects can also be ordered for publication in a prioritized queue. If necessary, you can also manually add a project to the queue.

Item	Description
3	Global Data: You can configure services in P6 to schedule the publication of global data based on recurring intervals that you specify. If necessary, you can also immediately publish this data manually.
4	Project Queue: Projects are published in sequential order based on priority. Processing options your administrator can control take over and determine which projects are added to the publishing queue, when, and in what order. These options ensure the project data you need most is available for P6 reporting in near real-time.
5	P6 Extended Schema Tables: The project and global services recalculate certain logical fields in the P6 EPPM database and store them as physical fields in the P6 Extended Schema tables so that they are available for reporting and other purposes. Some fields in P6, such as durations, are calculated in real time as related field data is changed and are not stored in the database. Publication services recalculate these fields and store their values in the extended schema tables. Other fields, such as note fields, are not stored in the database in a format suitable for reporting. For these fields, publication services will convert them to a format more suitable for reporting.
6	P6 Reports: You can then run reports directly against P6 Extended Schema table views and P6 tables.

P6 provides administrators with complete control over the project and global publication process, which can be summarized in three main illustrated points below.

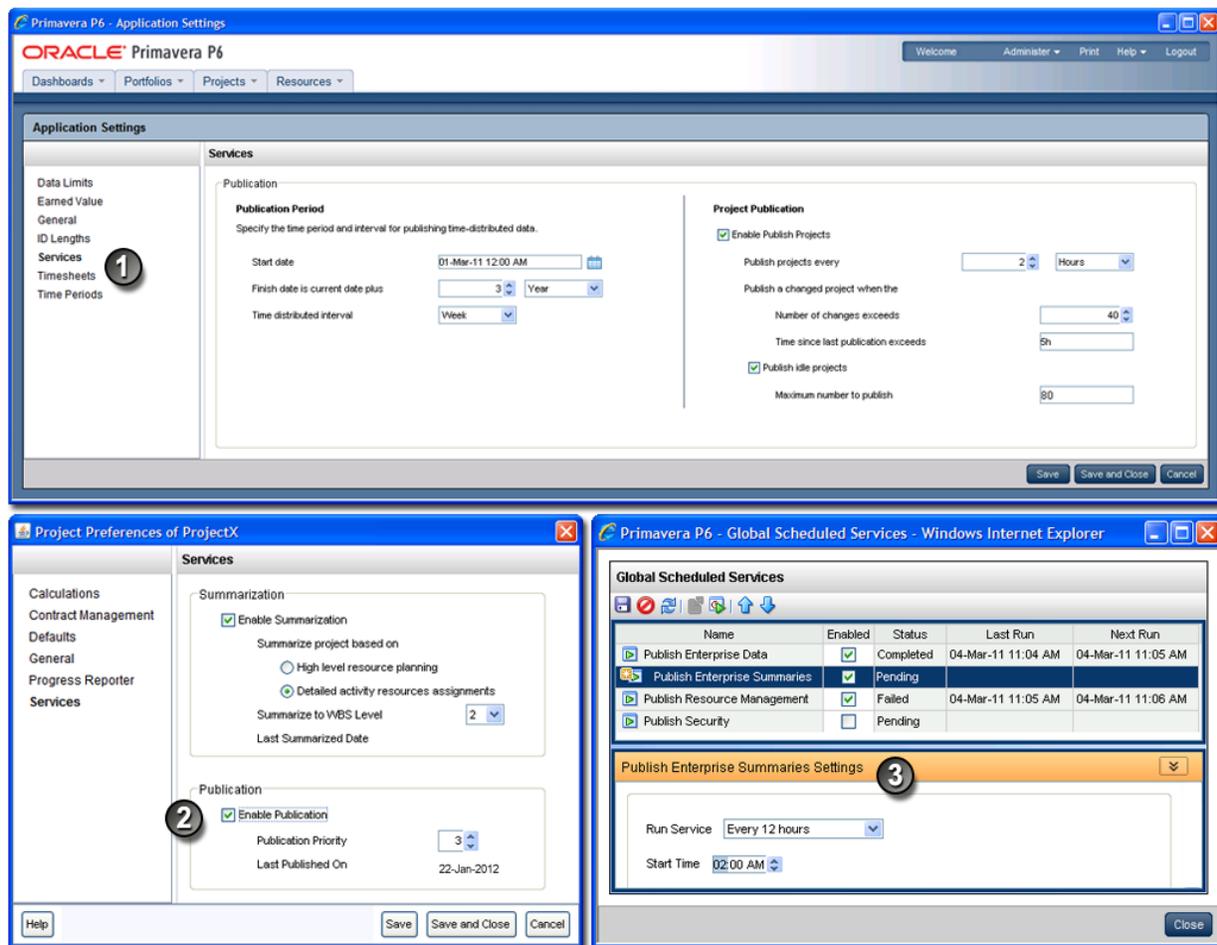


Table of Key Publication Services Elements

Item	Description
1	Application Settings for Publication Services: Located under the Administer menu, begin by clicking Application Settings , and then choose Services . On the Services page, specify the start date, period of time to add to the current publication date to determine a finish date, and time-distributed interval for publication. In the Project Publication section, you can enable the <i>Publish Projects</i> services to refresh project data according to a time interval you set. You can further determine a change threshold, time threshold, and even decide if idle projects should be added to the queue, and if so, set a maximum limit to the concurrent number of idle projects being published.

Item	Description
2	Project Preferences for Publication Services: Then, navigate to the EPS page in the Projects section. Click a project, and select Set Project Preferences from the Actions menu. On the Services page, select the Enable Publication option to indicate you want this project to be included in the <i>Publish Projects</i> services. All new projects are enabled for publication by default. Clear the option if you do not want the project's data to be published. On this page, you can also set the project's priority relative to other projects entering the publication queue.
3	Global Scheduled Publication Services: Finally, return to the Administer menu and navigate to the Global Scheduled Services dialog box to enable the types of global data services you want to schedule. Below each service you enable, specify the recurring interval and start time in the detail window.

Defining Publication Periods

Before publishing global or project data for reporting, define the publication period. The publication period you define should be large enough to capture all the project data you need to include in reports.

Warning: You can perform these steps again at any time to modify your settings. However, if an *Admin Superuser* modifies the **Start date**, **Time distributed interval**, or **Finish date is current date plus** fields, all data will be fully recalculated. Oracle recommends that you only reconfigure publication options on weekends or during off-peak hours to prevent the disruption of other P6 features.

To define the publication period:

- 1) Click the **Administer** ▼ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, click **Services**.
- 3) On the **Services** page, in the **Publication Periods** section:
 - a. In the **Start date** field, click  to select the exact month, day, year, and time to mark the initial start of the data publication period. Select any date in the past that represents a reasonable amount of historical spread data for your organization. For example, in order for users to be able to produce time-distributed reports for any date range, enter the earliest project start date at your organization.
 - b. In the **Finish date is current date plus** fields, select a numeric quantity and unit of time to construct a dynamic period of time. Whenever a publication service runs, this period of time is added to the current date to determine the finish date for the publication of data. For example, if the value is 5 years, time-distributed data will always be published covering the period of time that begins with the value in the **Start Date** field and extends five years into the future each time a service runs.
 - c. In the **Time distributed interval** field, select the unit of time in which time distributed data will be recalculated and published. Set this to **Week** if performance is of primary importance and daily granularity of the published data is not necessary.
 - d. Click **Save**.

Publishing P6 Data for Reports

Reports based on P6 data require timely access to the most current data in order to be accurate. For example, report recipients expect to see updated enterprise data and project data including any calculations. In order to provide this data, P6 generates and stores data in reporting tables (the *P6 Extended Schema*). You can configure P6 to automatically publish essential data to the tables or manually generate it so that the most current data is available for reporting.

The data is split into two general categories: *project* data and *global* data. Project data includes all information about your projects, including summaries and calculations, and global data includes enterprise data, resource and role data, and security data.

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Enabling Automatic Publishing of P6 Project Data for Reports

Perform the following procedure to enable projects for publication, and to set options for automatic project publication. Then, as you work, P6 automatically detects the changes to your projects that trigger the publication of their data.

To enable Publication Services for project data:

- 1) Click the **Administer** ▼ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, select **Services**.
- 3) On the **Services** page, in the **Project Publication** section:
 - a. Select **Enable Publish Projects** to enable automatic project publication based on defined thresholds. Selecting this option also allows users to manually publish projects.
 - b. In the **Publish projects every** field, select an interval by which projects are polled to be published.
 - c. Enter a number in the **Number of changes exceeds** field. This threshold setting determines the number of edits users can make to the project data before P6 publishes its data. Assuming a constant rate of change among projects, a lower value will result in more frequent publication of project data. If you enter a value of 0, projects with tracked changes will be automatically published.
 - d. Enter a time period for the **Time since last publication exceeds** field. This threshold setting determines how often the publication of project data should occur. For example, if you enter 12 hours, the project data will be published every 12 hours unless the threshold for the number of changes has already been reached.
 - e. Select **Publish idle projects** to add projects to the service queue that are enabled for publication but have not been changed during the time threshold. This setting is only valid for the initial run of the service.

- f. In the **Maximum number to publish** field, enter the maximum number of pending idle *Publish Project* services that can be present at once in the service queue. This prevents performance problems during peak demand when enabling the publication of a large number of projects. For example, if the service runs and queues 40 projects that have exceeded specified thresholds and must be published, or that have been manually published, and you have set the maximum to 100, P6 will schedule up to 60 idle projects for publication.
- g. Click **Save**.

Tips

- ▶ If your organization is upgrading to P6, select **Publish idle projects** to add your migrated projects to the service queue after your database is upgraded. This will publish all your projects in the queue and refresh the available data for reporting. After an upgrade, this setting is no longer applicable, and projects will be submitted to the service queue based on threshold values specified on the **Application Settings** page.
- ▶ Clear the **Publish idle projects** option if your organization does not report against completed projects.
- ▶ The **Maximum number to publish** field is only applicable immediately following an upgrade, when all projects are considered idle. When all projects have been published, the service queue will no longer be constrained based on this setting.
- ▶ A project will be automatically submitted to the service queue if you change the project baseline, calendar, or data date. Projects are also automatically submitted to the queue if you select or clear **Calculate Activity % Complete from activity steps** option, or modify the default price/unit value for assignments without activities, from the **Set Project Preferences** dialog box available from the **Actions** menu on the **EPS** page.
- ▶ For threshold settings, projects are added to the service queue based on tracked changes to data. Only changes to activities, resource/role assignments, relationships, and the WBS are tracked.

Configuring Publication Service Settings for Projects

After enabling automatic publishing, perform the following procedure to configure settings for each individual project in *Publication Services*. Then, as you work, P6 automatically detects the changes to your project that trigger the publication of its data in the service queue.

To configure Publication Service settings for a project:

- 1) Click **Projects**.
- 2) On the **Projects** navigation bar, click **EPS**.
- 3) On the **EPS** page:
 - a. Select a project.
 - b. Click the **Actions** ▼ menu and select  **Set Project Preferences....**
- 4) On the **Project Preferences** pane, select **Services**.
- 5) On the **Services** page, in the **Publication** section:
 - a. Select the **Enable Publication** option.

Note: By default, all projects are enabled for publication. The **Enable Publication** setting only needs to be modified if you wish to disable publication for a project or re-enable publication of a previously disabled project.

- b. Adjust the relative **Publication Priority** up or down between 1 and 100 with 50 being the default priority value, 1 being the highest priority, and 100 being the lowest.
- c. Click **Save and Close**.

Tip

If you wish to modify publication settings for many projects at one time, you can display the **Enable Publication**, **Last Published On**, and **Publication Priority** fields as columns in your EPS view.

Enabling Automatic Publishing of P6 Global Data for Reports

Perform the steps below to configure P6 to automatically publish any of the following types of global data to reporting tables.

- ▶ Enterprise Data
- ▶ Enterprise Summary Data including portfolio data
- ▶ Resource Management Data
- ▶ Security Data

To automatically publish P6 global data:

- 1) Click the **Administer** ▼ menu and select **Global Scheduled Services**.
- 2) In the **Global Scheduled Services** dialog box:
 - a. Select a service, then configure its settings in the **Service Settings** detail window. For example, you might specify that the service runs daily on Wednesdays with a start time of 10:15 PM.

Note: Oracle recommends running the **Publish Security** service first if the **Run After Previous** option is selected in the **Run Service** list for other publication services.

- b. Select the **Enabled** option for any of the four global services listed.
- c. If you choose to run one or more services with the relative frequency value of *After previous service*, click  **Move Up** (Ctrl+Alt+Up) or  **Move Down** (Ctrl+Alt+Down) to arrange the services in your preferred sequence.
- d. Click **Close**.

Manually Publishing P6 Project Data for Reports

Perform the steps below to publish the data from one or more projects to the reporting tables so it is ready for reporting. P6 will automatically publish project data; however, you may want to publish the data manually in special cases such as when generating an important report at a specific time.

To manually publish P6 project data:

- 1) Click **Projects**.
- 2) On the **Projects** navigation bar, click **EPS**.

- 3) On the **EPS** page, select one or more projects, or select an EPS node to publish all of its subordinate projects.
- 4) On the **Actions** menu, click  **Publish Projects**.

Tips

- ▶ In order to manually publish project data from the EPS page, *Publication Services* must be enabled and configured.
- ▶ You can publish all open projects by clicking  **Publish Projects** on the **Run** submenu on the **Actions** menu of the **Activities** page. You can also publish projects by selecting one or more projects on the **EPS** page, and then using the right-click menu.
- ▶ Projects are not immediately published. Instead, they will be added to the queue of projects being processed for publication the next time the Publish Projects service runs. View settings for the Publish Projects service, including how often the service runs, on the **Services** page, which is located on the **Application Settings** pane. Depending on your security privileges, the **Application Settings** pane may not be accessible. You can check the status of the Publish Projects service after it has been added to the service queue by selecting **View Service Status** from the **Actions** menu on the **Activities** page.
- ▶ If some of the selected projects are not enabled for publication, only those projects enabled for publication will be submitted to the service queue. If none of the selected projects are enabled for publication, you will not be able to click  **Publish Projects**.
- ▶ A project will be automatically submitted to the service queue if you change the project baseline, calendar, or data date. Projects are also automatically submitted to the queue if you select or clear the **Calculate Activity % Complete from activity steps** option, or modify the default price/unit value for assignments without activities from the **Set Project Preferences** dialog box available from the **Actions** menu the **EPS** page.

Manually Publishing P6 Global Data for Reports

Perform the steps below to manually publish any of the following types of global data to the reporting tables.

- ▶ Enterprise Data
- ▶ Enterprise Summary Data including portfolio data
- ▶ Resource Management Data
- ▶ Security Data

P6 will automatically publish global data; however, you may want to publish the data manually in special cases such as when generating an important report at a specific time.

To manually publish P6 global data:

- 1) Click the **Administer**  menu and select **Global Scheduled Services**.
- 2) In the **Global Scheduled Services** dialog box:
 - a. Select any of the four global services listed.
 - b. Click  **Run Service** on the **Global Scheduled Services** toolbar.
 - c. In the resulting message box, click **OK**.
 - d. Click **Close**.

Tips

- ▶ If the service listed under the manually selected service is configured to run **After previous service**, it will run automatically when the selected service finishes.
- ▶ You must have the global security privilege, *Administer Global Scheduled Services*, to run a service from the **Global Scheduled Services** dialog box.

Back Filling the REPORTDATE Table

If you change the start date in the Publication settings, you will need to delete the contents in the REPORTDATE table. When you delete the content from the REPORTDATE table, the publication services will refill the table the next time you run the Publish Enterprise Data service.

To delete content from the REPORTDATE table, the database administrator will need to:

- 1) Login to the database.
 - 2) Run one of the following commands:
 - ▶ `DELETE FROM REPORTDATE;`
- Or
- ▶ `TRUNCATE TABLE REPORTDATE;`

About the P6 Team Member for iPhone App

In order for project managers to evaluate the current level of progress for any project, individual contributors, or *team members*, must record the status of their assigned activities, or *tasks*. As a more flexible alternative to using P6 in a web browser or P6 Optional Client on a Windows PC, you can also use the companion P6 Team Member for iPhone app to update your status as a team member. The P6 Team Member for iPhone app offers the following advantages:

- ▶ Quick, convenient, and easy mobile access. You can update your status directly with P6 in real time.
- ▶ Focus only on what matters the most. For example, you can view a list of your tasks, update the actual hours spent, and estimate your remaining hours.
- ▶ You are not required to install, log into a browser, or learn any of the core P6 EPPM applications.
- ▶ You can send e-mail or share photos about a task.

In contrast with the way updates are first reviewed and approved and then applied using P6 Progress Reporter, the updates remote users make in the P6 Team Member for iPhone app are applied immediately in real time. It's an important distinction because the live updates made in the P6 Team Member for iPhone app do not undergo review or approval. Instead, any activity and assignment values in P6 are immediately changed without directly informing a Project Manager.

Note: Decide to use one of the following supported platforms for progressing tasks:

- P6 with optional support for updates via any e-mail application or the P6 Team Member for iPhone app
-

- P6 Progress Reporter
-

Caution: If users need to use timesheets, they should use only P6 Progress Reporter and avoid using P6 Team Member for iPhone, P6 Team Member E-mail Statusing Service, or P6 to update their status.

Configuring Team Member Web Services in WebSphere

Before you can begin using the P6 Team Member for iPhone app, you must configure Team Member Web Services to work with WebSphere. To configure Team Member Web Services, follow the steps in these chapters:

- 1) (Optional) **Setting the Bootstrap Location if Your Team Member Web Services Are in a Different WebSphere Domain from Your P6 Home Directory** (see "**Setting the Bootstrap Location if Your Team Member Web Services Are in a Different WebSphere Domain from Your P6 Home Directory**" on page 256).
- 2) **Configuring Team Member Web Services to be a New WebSphere Application** (on page 257).
- 3) **Deploying Team Member Web Services in WebSphere** (on page 258).

Once the P6 Team Member for iPhone app is configured with P6, you can verify that it works with the instructions in these chapters:

- 1) **Downloading the P6 Team Member for iPhone App From the App Store** (on page 199).
- 2) **Configuring Login and Authentication Settings to Use the P6 Team Member for iPhone App** (on page 199).

Related Topics

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Setting the Bootstrap Location if Your Team Member Web Services Are in a Different WebSphere Domain from Your P6 Home Directory

If you will run the p6tmws.war file in the same domain as P6, skip this section and continue to **Configuring Team Member Web Services to be a New WebSphere Application** (on page 257).

If you will run the p6tmws.war file in a different domain from P6, set the location of your P6 bootstrap file.

- 1) Start the WebSphere Application Server.

- 2) Launch the WebSphere Application Server **Administrative Console**.
- 3) In the left-hand navigation pane:
 - a. Expand **Servers** then **Server Types**.
 - b. Click **WebSphere application servers**.
- 4) On the **Application servers** screen, click the server name link.
- 5) On the **Configuration** tab, under **Server Infrastructure**, expand **Java and Process Management**.
- 6) Click **Process Definition**.
- 7) Under **Additional Properties**, click **Java Virtual Machine**.
- 8) Under **Generic JVM arguments**:
 - a. Type (as all one line):

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

where *p6home* is the P6 home directory that was set during installation (for example, c:\p6home in Windows or /usr/p6home in UNIX) where you want your Team Member Web Services to connect.
 - b. If your bootstrap file has only one database, skip this step.
If your bootstrap file contains more than one database, you need to add an argument clarifying which database you want to use. The line will look similar to the following:

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

where *db_id* is the database instance you want to use (for example, -Ddatabase.instance=db_2).
The whole line should look similar to the following (all one line):

```
-Dprimavera.bootstrap.home=p6home -Ddatabase.instance=db_id
```
- 9) Click **OK**.
- 10) Click the **Save** link that appears within the message reporting changes.
- 11) Restart the application server instance.

Configuring Team Member Web Services to be a New WebSphere Application

To configure Team Member Web Services to be a new WebSphere application:

- 1) From the Administrative Console's left-hand navigation pane:
 - a. Expand **Applications**.
 - b. Click **New Application**.
- 2) On the **Install a New Application** screen, click **New Enterprise Application**.
- 3) On the **Path to the new application** screen:
 - a. Specify the path to the P6 home directory and the 'tp6mws.war' file (for example, C:\p6home\p6tmws.war).
 - b. Click Next.
- 4) On the **How do you want to install the application** screen:
 - a. Accept the defaults.
 - b. Click **Next**.

Note: If the Application Security Warnings screen displays, click Continue.

- 5) On the **Install New Application** screen:
 - a. In Step 1, the **Select installation options** section, accept the defaults.
 - b. In Step 2, the **Map modules to servers** section, select the **p6tmws** option.
 - c. In Step 3, the **Map virtual hosts for web modules** section, select the **p6tmws** option.
 - d. In Step 4, the **Map context roots for Web** modules section, type **/p6tmws**.
 - e. In Step 5, the **Summary** section, review your settings.
 - f. Click **Finish**.
Note that the application WAR file is now deploying and that this process might take several minutes.
- 6) To save directly to the master configuration, click the **Save** link. This process might take several minutes.

Deploying Team Member Web Services in WebSphere

To deploy Team Member Web Services in WebSphere:

- 1) On the **Administrative Console Main** screen:
 - a. In the left-hand navigation, expand **Applications**.
 - b. Click **WebSphere enterprise applications**.
- 2) Locate **p6tmws** and verify application status.
If green arrow does not appear, click the Start button above the Select column.
- 3) Create a properties file named 'commons-logging.properties' in *websphere home*\WebSphere\AppServer\profiles*profile name*\properties that contains the following:
org.apache.commons.logging.LogFactory=org.apache.commons.logging.impl.LogFactoryImpl
- 4) Restart the WebSphere application server.

Downloading the P6 Team Member for iPhone App From the App Store

Go to the App Store to download the mobile application. The app will be called P6 Team Member.

Configuring Login and Authentication Settings to Use the P6 Team Member for iPhone App

Follow these steps to start the app for the first time. Later, when you return to the app after working in other apps on your device, the page that appears is the last one you were previously viewing. Once these settings are configured, you won't need to perform these steps again with one exception: if your SSO cookies ever expire you will need to enter your user name and password again.

Note: You may need to activate your device's VPN feature to access your company's deployment of P6. Contact your administrator for more information.

To start the app:

- 1) On your iPhone Home page, tap  **TeamMember**.
- 2) On the **Welcome to P6 Team Member** page, slide the **Single Sign On** (SSO) switch to either **ON** or **OFF**.
- 3) If you turn SSO on:
 - a. Verify the URL to your server is correct (for example, `http://server:port/p6tmws`). If necessary, tap the URL field to edit it.

Note: You will need to specify the port number in the URL.

- b. Tap **Authenticate**.
 - c. Enter your SSO username and password when prompted.
- 4) If you turn SSO off:
 - a. Verify the URL to your server is correct (for example, `http://server:port/p6tmws`). If necessary, tap the **URL** field to edit it.
 - b. Enter your P6 username.
 - c. Enter your P6 password.
 - d. Tap **Done**.

Note: Team Member Web Services supports LDAP, Native, or SSO mode. Your administrator will select the authentication mode when they configure P6.

Tips

For more information on the different types of authentication modes (Single Sign-On, Native, or LDAP), see ***Authentication Modes in P6 EPPM*** (on page 461).

About Using P6 Team Member E-mail Statusing Service

Team members with assignments in P6 can request a list of their assigned activities, or *tasks*, directly from the P6 server via e-mail. To set up the e-mail server, follow the steps in these topics:

- 1) ***Configuring P6 Team Member E-mail Statusing Service for P6*** (on page 200).
- 2) ***Verifying P6 Team Member E-mail Statusing Service*** (on page 203).

Caution: Do not configure users in the P6 EPPM suite to use P6 Progress Reporter, the P6 Team Member for iPhone app, and P6 Team Member E-mail Statusing Service at the same time. Users should use only one of those options. Updates from one are not compatible with the other and may produce unexpected results.

Configuring P6 Team Member E-mail Statusing Service for P6

To configure P6 Team Member E-mail Statusing Service for P6:

- 1) From the P6 Team Member folder of the physical media or download location, extract the files from the **p6tm-email-service.zip** to any location on the application server. (That location will be referred to as EMAIL_HOME).
- 2) Edit the **config.properties** file to configure the settings for the e-mail application.

Note:  When you are finished editing the config.properties file, move it to a secure location.

- 3) In your **config.properties** file, locate and specify the following:
 - a. In the **p6.admin.user=** line, specify a P6 user who is assigned to at least one module access, is associated with a resource, and has resource access.
 - b. In the **p6.bootstrap=** line, specify the location of the BREBootstrap.xml file.
For example, the location could be one of the following: C:/p6home, C:/EMAIL_HOME, /usr/p6home, or /usr/EMAIL_HOME. Or you can use the following: C:\\p6home, C:\\EMAIL_HOME.
 - c. In the **mail.read.schedule=** line, specify how often your e-mail should process new messages. Use cron expressions for your formatting. For example:
*/5 * * * * ?
will process new messages every five minutes.

Note: For more information on cron expressions, see <http://www.quartz-scheduler.org/docs/tutorials/crontrigger.html>.

- d. In the **send.host=** line, specify the SMTP server hostname or IP address that you will use to send e-mails.
- e. In the **send.port=** line, specify the port number that connects to the SMTP server.
- f. In the **send.ssl=** line, specify **true** to use SSL or **false** if you will not use SSL.

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

- g. In the **send.email=** line, specify the e-mail address where team members will send their status update requests.
- h. In the **send.password=** line, specify the password for the e-mail address you just specified.

Notes:

- If you do not specify a password now, the e-mail application will ask you to specify one when it runs.
-

- You can also specify a password by running the following parameter when you run the 'run.cmd' or 'run.sh' file:
`-Dsend.password=YOUR_PASSWORD`
 where *Your_Password* is the password for your status e-mail address.
 For example:
 In Windows: `./run.cmd -Dsend.password=YOUR_PASSWORD`
 In Unix: `./run.sh -Dsend.password=YOUR_PASSWORD`
-  Oracle recommends using the option in the **config.properties** file and then moving that file to a secure location when you are finished modifying it.

- i. In the **imap.host=** line, specify the IMAP protocol host to read e-mails.
- j. In the **imap.port=** line, specify the IMAP port number.
- k. In the **imap.ssl=** line, specify **true** to use SSL or **false** if you will not use SSL.

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

- l. In the **imap.username=** line, specify the IMAP user name (which will be your email address).
- m. In the **imap.password=** line, specify the password for the user name you just specified.

Notes:

- If you do not specify a password now, the e-mail application will ask you to specify one when it runs.
- You can also specify a password by running the following parameter when you run the 'run.cmd' or 'run.sh' file:
`-Dimap.password=YOUR_PASSWORD`
 where *Your_Password* is the password for your status e-mail address.
 For example:
 In Windows: `./run.cmd -Dimap.password=YOUR_PASSWORD`
 In Unix: `./run.sh -Dimap.password=YOUR_PASSWORD`
-  Oracle recommends using the option in the **config.properties** file and then moving that file to a secure location when you are finished modifying it.

- n. In the **imap.search.folder=** line, specify the folder to use for processing incoming e-mails.
 For example, **imap.search.folder=inbox**.

Note: The e-mail application will use this folder to search for incoming mail. Oracle recommends you use the inbox for this folder. If you choose another folder, you must ensure that all e-mails get filtered there, or the e-mail application will not be able to detect the messages.

- o. In the **imap.success.folder=** line, specify the folder where messages that were processed successfully will go.

For example, **imap.success.folder=P6Success**.

Note: The e-mail application will automatically create this folder if you do not create it now.

- p. In the **imap.failure.folder=** line, specify the folder where messages that failed will go. For example, **imap.failure.folder=P6Fail**.

Note: The e-mail application will automatically create this folder if you do not create it now.

- q. In the **imap.temp.folder=** line, specify the folder where messages that are being processed will go. For example, **imap.temp.folder=P6Temp**.

Note: The e-mail application will automatically create this folder if you do not create it now.

- r. In the **update.task.search.term=** line, specify the text that the e-mail application should search for in the subject line of incoming messages. For example, **update.task.search.term=Your Requested P6 Tasks**.

- 4) If the EMAIL_HOME is on a different server from your P6 home, copy the BREBootstrap.xml from your P6 home to your EMAIL_HOME.

If the EMAIL_HOME is on the same server as your P6 home, you will use the BREBootstrap.xml that is in your P6 home folder.

- 5) Run one of the following:

- ▶ In Windows, launch the **run.cmd** file.
- ▶ In Unix, launch the **run.sh** file.

When you launch the run file, you may have to complete the following steps depending on how you configured you P6 Team Member E-mail Statusing Service:

- a. If the config.properties file and the run file are in different folders, you will need to specify the config.properties location with the -Dconfig.file parameter.
- In Windows (add a space between run.cmd and -Dconfig):
`run.cmd -Dconfig.file=/home/auser/somelocation/config.properties`
 - In Unix (add a space between run.sh and -Dconfig):
`./run.sh -Dconfig.file=/home/auser/somelocation/config.properties`
- b. If you didn't specify the **send.password=** or **imap.password=**, you can specify them now. If you do not specify them now, the e-mail application will prompt you to do so when it runs.
- In Windows:
`run.cmd -Dsend.password=YOUR_PASSWORD`
 - In Unix:
`./run.sh -Dsend.password=YOUR_PASSWORD`
 - In Windows:
`run.cmd -Dimap.password=YOUR_PASSWORD`

- In Unix:

```
./run.sh -Dimap.password=YOUR_PASSWORD
```

where *Your_Password* is the password for your status e-mail address

- c. If your bootstrap file contains more than one database, you need to clarify which database you are using when you launch the run file.

- In Windows:

```
run.cmd -Ddatabase.instance=db_id
```

where *db_id* is your database instance (for example, -Ddatabase.instance=2).

- In Unix:

```
./run.sh -Ddatabase.instance=db_id
```

where *db_id* is your database instance (for example, -Ddatabase.instance=2).

Once the run file is finished, you can verify that the e-mail status application works. See **Verifying P6 Team Member E-Mail Statusing Service** (on page 203).

Verifying P6 Team Member E-mail Statusing Service

Once you have installed the e-mail status application, you can send an e-mail to verify that the server is setup properly.

- 1) Enter an e-mail address that P6 recognizes in the 'From' line.
- 2) Enter the e-mail address you specified in **Configuring P6 Team Member E-mail Statusing Service for P6** (on page 200) in the 'To' line.
- 3) Enter **Ping** in the subject line.
- 4) Send the message.

If the message is successful, you will receive a message containing the status of the e-mail service. The message will tell you how many resources are associated with a user (e.g., a team member) and how many team members have a blank e-mail address in the database.

If the message failed, you will not receive a message. The failed message will appear in the failure folder that you specified in the **config.properties** file. See **Configuring P6 Team Member E-mail Statusing Service for P6** (on page 200).

About the Database Configuration Wizard for P6

The Database Configuration wizard enables you to change the database connection settings you specified when you installed P6.

The database you select during installation stores one or more P6 EPPM configurations, each one specifying a set of parameters that determine how P6 operates. During installation, you select an existing P6 EPPM configuration or create a new one. Later, you can use the Database Configuration wizard to select a different P6 EPPM configuration or create a new one.

Notes:

- After selecting a different P6 EPPM configuration or creating a new configuration, you must stop and restart the P6 application server in order for the changes to take effect.
 - The Database Configuration file (dbconfigpv) should be protected for security reasons, so depending on which method was used to protect the file, you might have to relocate the file to the production server in order to run the wizard after implementation. See ***Files to Protect after Implementation*** (on page 72).
-

Changing Database Connection Settings for P6

To change database connection settings for P6:

- 1) Do one of the following:
 - ▶ On Windows platforms, run **dbconfigpv.cmd** (located in the *p6home* directory that you specified when installing P6); or, choose Start, Programs, Oracle - Primavera P6 , Primavera P6 Web Access Utilities, Database Configuration Setup.
 - ▶ On UNIX platforms, change to the *p6home* directory that you specified when installing P6, and run **dbconfigpv.sh**.
- 2) On the **Setup and Configuration of the Primavera P6 Database** dialog box, select the database type, Oracle.
- 3) On the **Please enter the following information. . .** dialog box:
 - a. Specify the database connection parameters. Type your database user name (for example, pubuser) and password, the database name, host address, and host port. The database name, host address, and host port are specific to your Oracle installation. The Database Host Port field displays the default port for the database type you selected. You can edit this port.
 - b. To use the SSL protocol to securely communicate between the P6 application server and the database server, select the SSL option. If you select the SSL option, you must specify an SSL-enabled port number in the Database Host Port field.

Notes:

- See the appropriate database server documentation and the My Oracle Support's Knowledge Articles for information on configuring SSL.
 - Using the SSL protocol will impact database performance.
-
- c. Ensure that the Public Group ID is 1 for a standard configuration.
- 4) If there is an existing Primavera configuration, on the **The installer has detected. . .** dialog box, choose whether you want to use it, or create a new configuration.

Note: If you are upgrading from a previous version of P6 against the same database, choose the option to create a new configuration. This is necessary to accommodate newly added configuration settings. See ***About the P6 Administrator application*** (on page 266) for more information about configurations.

If there is no existing Primavera configuration, the **The installer has detected. . .** dialog box does not appear and the installation process automatically creates a default configuration named Primavera P6 Configuration. You can edit the settings for this configuration through the P6 Administrator application.

- 5) When the message displays to confirm that the database configuration has completed successfully, click **OK**.
 - a. On the **End of Installation** screen, click **Exit**.

Configuring Settings on Client Machines

Certain functions in P6 necessitate additional configuration settings on client machines. Some procedures are required in order for a feature to work, while others are only necessary under certain conditions. Regardless, all procedures must be performed on each client machine requiring access to the feature.

Related Topics

Configuring Client Machines to Export to Excel	265
Configuring Client Machines to Resolve Null Pointer Exceptions.....	265

Configuring Client Machines to Export to Excel

When clicking on a link to export to Excel, users might experience a lack of response (no Open/Save dialog box launches) from P6 if Internet Explorer is not configured properly. If this occurs, perform the following steps to resolve the issue.

To configure client machines to export to Excel:

- 1) From the **Windows Control Panel**, select **Internet Options**.
- 2) Go to the **Security** tab and click on **Trusted Sites**.
- 3) Click on the **Sites** button and add your P6 URL to the zone.
- 4) Close the **Sites** window.
- 5) Click on the **Custom level** button.
- 6) Enable the **Automatic prompting for file downloads** setting.

Configuring Client Machines to Resolve Null Pointer Exceptions

Users might receive null pointer exceptions if a large number of activity code values (40,000 or more) are loaded in P6. If this occurs, perform the following steps to resolve the issue.

To configure client machines to resolve null pointer exceptions:

- 1) From the **Windows Control Panel**, select **Java**.
- 2) On the **Java Control Panel**, select the **Java** tab.
- 3) Under **Java Runtime Environment Settings**, click **View**.
- 4) On the **Java Runtime Environment Settings** screen, in the **JRE 1.6.0_24** row (or the currently supported version), add "-Xmsvaluem and -Xmxvaluem" entries in the **Runtime Parameters** field.

The appropriate values will vary with your configuration; however, we recommend the following values as a starting point:

-Xms128m -Xmx128m

- 5) Click **OK**, and exit the Java Control Panel.

Accessing P6 from Client Browsers using WebSphere

To access P6 from Client Browsers using WebSphere:

- 1) Launch a supported browser.
- 2) Enter the URL using the structure,
`http://serverIP:listenport/ContextRoot/login`
where *listenport* is 9080 by default and *ContextRoot* is p6 by default.
Example: `http://serverIP:9080/p6/login`

Tips

- ▶  Starting with P6 EPPM R8, HTTPS settings are available in the P6 Administrator application. If you have set the HTTPS/Enabled setting to true, ensure that your application server or front-end Web server is listening on the specified HTTPS port. See **Authentication Settings** (on page 329) for more information on the HTTPS settings.
- ▶ To select the authentication mode for P6, use the P6 Administrator application. See **P6 Administrator application Settings** (on page 275) for information about authentication configuration settings.
- ▶ On the P6 login window, SSO users can choose to bypass the login window the next time by selecting the appropriate option.
- ▶ You can modify the context root. For information about context root configuration, refer to your application server documentation. Also, URLs might be case-sensitive, depending on your application server configuration.
- ▶ See **Client and Server Requirements** (on page 66) for a list of supported hardware and software components. For a full list of tested configurations, see the *P6 EPPM Tested Configurations* document.

About the P6 Administrator application

As the system administrator, you can use the P6 Administrator application to review, modify, add, and delete P6 EPPM configurations. P6 EPPM configurations are stored in the database that you specified during installation of P6. These configurations contain all of the settings used to run the application server for P6.

Caution: Only experienced administrators should use the P6 Administrator application to modify configuration settings.

Launching the P6 Administrator application

You can run the P6 Administrator application locally or remotely through a browser. The installation for P6 sets the default URLs for remote access to the P6 Administrator application. You can use the application server's configuration utility to change the listen port number and context root. After launching the P6 Administrator application, you will be prompted for a Admin Superuser name and password.

Related Topics

Launching the P6 Administrator application Locally	267
Launching the P6 Administrator application Remotely	267

Launching the P6 Administrator application Locally

Follow the instructions below to launch the P6 Administrator application locally.

Related Topics

Launching the P6 Administrator application Locally on Windows Platforms.....	267
Launching the P6 Administrator application Locally on UNIX Platforms.....	267

Launching the P6 Administrator application Locally on Windows Platforms

To launch the P6 Administrator application locally on Windows platforms:

- 1) Go to **Start, Programs, Oracle - Primavera P6, Primavera P6 Web Access Utilities**.
- 2) Select **Primavera P6 Administrator**.

Tips

You can also launch the P6 Administrator application locally by running `adminpv.cmd`, which is located in the `p6home` directory that you specified when installing P6.

Launching the P6 Administrator application Locally on UNIX Platforms

To launch the P6 Administrator application locally on UNIX platforms:

- 1) Change to the `p6home` directory that you specified when installing P6.

The path should look similar to the following:

```
'cd/path/to/p6home'
```

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

- 2) Run the `adminpv.sh` script.

Launching the P6 Administrator application Remotely

To launch the P6 Administrator application remotely:

- 1) Launch a supported browser.

- 2) Navigate to `https://server IP:listenport/ContextRoot/admin.jsp` where `serverIP:listenport` is the IP address and listen port for the P6 server, and `ContextRoot` is `p6` by default.
This link will redirect you to the P6 login page.
- 3) Login as a user with Admin Superuser privileges.

Notes:

- Only users with Admin Superuser privileges can login to the P6 Administrator application remotely. If you are logged into P6 but do not have the appropriate privileges to edit settings in the P6 Administrator application, you will be redirected to the P6 login page.
 - The privuser can still access the local P6 Administrator application, but will not have access to the remote P6 Administrator application.
-

Reviewing and Modifying Configurations for P6

The P6 Administrator application of P6 presents configuration settings in a tabbed dialog box. The Configurations and Authentication tabs display the current configurations and settings. The Log tab displays a history of configuration changes, additions, or deletions.

Tips

- ▶ To display brief setting descriptions for configuration and authentication settings, select **Show tool tips** in the **Configurations** tab. Then, position the mouse over a setting to read the popup description.
- ▶ You cannot edit the Factory Default configuration settings. You can only modify custom configurations.
- ▶ Configurations highlighted in red are out of date. Oracle recommends that you update these configurations. To do so, right-click the outdated configuration and select **Update to latest version**.
- ▶ To quickly find a setting, you can use the search box below the Configurations, Authentication, and Log tabs. Clicking the search button or hitting enter will open every file with that setting name.
- ▶ If you create a new configuration, you need to click **Update to latest version** before changing your settings in the new configuration.

Related Topics

Changing a Setting Value	268
Returning a Setting to its Default Value	269
Adding Configurations	269
Adding Database Instances to a Configuration	269
Deleting Configurations and Database Instances for P6	269

Changing a Setting Value

To change a setting value:

- 1) Click the **Configurations** or **Authentication** tab to display a hierarchical view of the settings.
- 2) Expand the folders, as needed, to display the setting.
- 3) Triple-click the setting name.

Note: You can also press F2 to change to Edit mode.

- 4) Type a new value.
- 5) Click **Save Changes**.

Returning a Setting to its Default Value

To return a setting to its default value:

- 1) Select the setting name.
- 2) Right-click on the setting name and choose **Revert to default value**.
- 3) Click **Save Changes**.

Adding Configurations

To create a new configuration, duplicate an existing configuration. To duplicate a configuration:

- 1) Select the configuration name in the Configurations tab.
- 2) Right-click and choose Duplicate.
- 3) Enter a name for the configuration.
- 4) Click OK.
- 5) Edit settings as needed.
- 6) Click Save Changes.

Tips

- ▶ To create a new configuration based on factory default settings, right-click on Factory Defaults in the Configurations tab and choose Duplicate.
- ▶ If you create a new configuration, you need to click **Update to latest version** before changing your settings in the new configuration.

Adding Database Instances to a Configuration

To add a new database instance to a configuration, duplicate an existing instance. To duplicate a database instance:

- 1) Select the folder representing the instance.
- 2) Right-click and choose **Duplicate**.
- 3) Enter a unique name for the new instance.
- 4) Edit settings as needed.
- 5) Click **Save Changes**.

Deleting Configurations and Database Instances for P6

To delete a configuration or database instance:

- 1) Select it.
- 2) Right-click and choose **Delete**.

Tips

- ▶ You cannot delete the Factory Defaults configuration. You can delete any custom configuration, but not all of them. There must always be at least one custom configuration.
- ▶ You can delete any database instance associated with a configuration, but not all of them. Each configuration must have at least one database instance.
- ▶ You are not prohibited from deleting the database that was specified during the database configuration. If you do so, you will need to run the Database Configuration wizard again. See **About the Database Configuration Wizard for P6** (on page 213).

Special Instructions for P6 Administrator application Settings

Some P6 Administrator application settings require additional configuration steps. Follow the steps and guidance below before modifying the settings.

Manage Access to Multiple Database Instances

P6 enables you to access data from different P6 EPPM databases. When you configure P6 to support multiple database instances, the Login page displays a Database list that enables users to choose the database instance they want to connect to.

Through the P6 Administrator application, you can configure the server for P6 to manage user access to specific databases by requiring a database parameter in the URL. The database parameter, which is the name of a database instance, is appended to the P6 server URL and points to that specific database instance. When users access the URL you specify, the Database list does not display in the Login page and they have login access only to the database instance defined by the database parameter. If users attempt to access the login page URL without specifying the required database parameter, a message displays to indicate that the URL is invalid and directs them to the administrator of P6.

For example, the following URL would log a user into the database instance named Sample:

```
http://serverIP:listenport/login?db=Sample
```

As the administrator, you can specify a keyword that bypasses the database parameter requirement, so that you can access all databases through the Login page database list.

Follow the instructions below to require a database parameter for the URL and to set a keyword to bypass the database parameter requirement.

Requiring a Database Parameter with the URL for P6

To require that a database parameter be used with the URL for P6:

- 1) Under the configuration you want to modify, specify a value for the setting, Application/Database Dropdown Key.
Specifying a value adds the database parameter requirement to the server URL.
- 2) Use the value you specify as the keyword to bypass the database requirement when logging into the server for P6.

For example,
`https://serverIP:listenport/login?db=bypass`

Configuration for Custom Portlets

In the Dashboards and Project Workspace of P6, you can create custom portlets that pass the password of the currently logged on user to the target application. By default, the password is not encrypted.  Use the Application/Custom Portlet URL Encryption Key configuration setting to encrypt the password. This encryption uses the Sun/Blowfish algorithm.

See **Application Settings** (on page 299) for more information about this setting.

Configuration for ASAP and Scheduled Services

The availability of ASAP and Scheduled Services depends on which P6 Administrator application settings you populate and whether you are using P6 or P6 Optional Client. The summary below will help you to determine when you need to configure the P6 Administrator application for job services.

ASAP Jobs

For P6, you must populate the appropriate P6 Administrator application settings for all ASAP jobs that you want to run.

For P6 Optional Client, you must populate the Summarizer and Apply Actuals P6 Administrator application settings for those features to run. The Scheduler, Leveler, Store Period Performance, and Recalculate Assignment Costs features will run locally in P6 Optional Client.

Scheduled Services Jobs

For P6, you must populate the appropriate P6 Administrator application settings for all scheduled services jobs that you want to run. All scheduled services jobs are run from and are displayed in P6.

P6 Optional Client cannot run any scheduled services jobs or display the status of P6 scheduled services jobs.

Note: Scheduled Services cannot be run for Project Templates; however, Scheduler, Leveler, and Recalculate Assignment Costs features can be run as ASAP jobs in P6.

Configuring a Separate Server for Job Services

For medium to large deployments, Oracle recommends setting up a dedicated application server node for job services. Job services should be disabled on the server accepting user traffic.

Notes:

- For details on what constitutes a medium or large deployment, see the *P6 Enterprise Project Portfolio Management Performance and Sizing Guide* white paper.
-

- These instructions assume that you have already configured the server accepting user traffic, as specified in **P6 Installation** (on page 135).

Follow the guidelines below to configure the dedicated job services server:

- 1) Copy the **p6services.jar** from the *p6home* directory where P6 is installed to a node that will use job services.
- 2) Ensure a supported JRE is in the system path. (See the Tested Configuration for supported JREs.)
- 3) Open a new command line or terminal window.
- 4) Navigate to the folder where p6services.jar was copied (for example, c:\jobservices).
- 5) Run the services application by typing "java -Xms<MEMORY SIZE> -Xmx<MEMORY SIZE> -jar p6services.jar" in the window. (See the *P6 Enterprise Project Portfolio Management Performance and Sizing Guide* white paper for the correct value for the <MEMORY SIZE> setting for your environment. The settings in the example are the recommended values.)

The line should look similar to the following:

```
"java -Xms4096m -Xmx4096m -jar p6services.jar"
```

- 6) If a BREBootStrap.xml file is in the USER_HOME, you can specify the location to the BREBootStrap.xml file by adding the following line:

Notes:

- USER_HOME refers to your home directory. For example, in Windows it could be C:\Users\<<USER_NAME> or C:\Documents and Settings\<<USER_NAME>; in Unix, it could be /home/<USER_NAME>.
- If this is the first time you are launching p6services.jar, and a BREBootStrap.xml file does not exist in the USER_HOME, the database configuration wizard will launch. Skip to the next step.

```
-Dprimavera.bootstrap.home=<BOOTSTRAP_LOCATION>
```

The whole line should look similar to the following:

```
java -Xms4096m -Xmx4096m  
-Dprimavera.bootstrap.home=<BOOTSTRAP_LOCATION> -jar p6services.jar
```

where <BOOTSTRAP_LOCATION> is the location where the BREBootStrap.xml is located (for example, C:/USER_HOME).

- 7) If this is the first time you are launching p6services.jar, and a BREBootStrap.xml file does not exist in the <USER_HOME> directory (or <BOOTSTRAP_HOME> directory if the primavera.bootstrap.home is specified), the database configuration wizard will launch.

Follow the steps in **Configuring the Database Connection for P6** (on page 144).

Create a new configuration when **The Installer has detected...** dialog box appears and give this new configuration a distinct name. For example, if you chose "P6 Users" for the configuration name for the server accepting user traffic, name the new configuration "P6 Job Services."

- 8) In the P6 Administrator application:
 - a. Locate the **Services/Enable All Services** setting for the configuration created for the job services server (for example, P6 Job Services). Set the setting to **true** to enable all services.
 - b. Locate the **Services/Enable All Services** setting for the configuration created for user traffic (for example, P6 Users). Set the setting to **false** to disable all services.

Resetting User Sessions

Reset a locked-out user's session to grant the user rights to initiate a new session. Users may be locked out if they have attempted to log in while a session is already running, or if they have repeatedly entered incorrect login information.

Notes:

- The number of failed attempts users are permitted before they are locked out of P6 is assigned in the P6 Administrator application. The default setting is 5.
- Accounts that are locked out, but not reset, will become available after a length of time defined in the P6 Administrator application. The default setting is 1 hour.

To reset user sessions:

- 1) Click the **Administer** ▼ menu and select **User Sessions**.
- 2) On the **User Sessions** page:
 - ▶ To reset all user sessions, click **Reset All Users**.

Caution: Oracle recommends that users only be reset if they are locked out. Clearing sessions for active users can have adverse effects in the application.

- ▶ To reset only the selected user, click **Reset User**.

Tips

- ▶ A user account that is locked out is highlighted in red and denoted by an asterisk.
- ▶ You must be an Admin Superuser to access the **User Sessions** page.
- ▶ The **User Sessions** page displays users who are currently logged in, users who left the application but did not log out, and users whose failed login count exceeds the acceptable threshold.

Setting Up Event Notification

Depending on administrative settings, events can be triggered when the P6, P6 EPPM Web Services, or P6 Integration API is used to update or create objects in the P6 EPPM database. When a change triggers an event, the P6 EPPM Event Notification system sends the event message to a user configured message queue. If you are planning to use Event Notification with P6 EPPM products, follow the steps in the *Using Events With P6* document to work with your Java Messaging Service (JMS), the application server, and P6 EPPM.

Configuring OCM for Use with P6 EPPM

You can use OCM (Oracle Configuration Management) to view P6 Administrator application settings and Application Settings for multiple P6 implementations from one central location. Follow the steps below to configure P6 to view these settings through OCM.

Related Topics

Configuring the OCM File	274
Configuring OCM Settings	275

Configuring the OCM File

To configure the OCM File:

- 1) If you installed OCM when you installed P6, a folder called **ccr** will appear under the p6home folder. Skip to step 3.

If you are manually installing OCM from the Oracle Support site, download the Configuration Manager zip file from the **Collector** tab at <http://support.oracle.com>. Once you download the file, continue to step 2.

- 2) Once the zip file is downloaded, expand it to a folder. If you expand it to your p6home folder, skip steps 5-6.
 - ▶ Expanding the archive will create a ccr folder that contains the OCM installation components. Note the ccr folder location.
- 3) From the command prompt, change your directory to the ccr/bin folder.
 - a. If running Windows, run the following command:

```
setupCCR
```

If running Linux or Solaris, run the following command to give execute permissions to this file: `chmod +x setupCCR`. Then, run the following command to execute it:

```
./setupCCR
```

Note: Running the command will finish placing the OCM binaries into the installation folders. It will also prompt for your My Oracle Support account information to complete the installation.

- 4) If you installed OCM from the P6 installation or manually expanded the OCM archive into the p6home folder, skip to **Configuring OCM Settings** (on page 275). Otherwise, proceed to step 5 to tell the OCM collector where P6 is installed.
- 5) Edit the "P6_discover.pl" file, which can be found in the ccr\sysman\admin\discover folder.
 - a. Find the line that starts with "## \$P6_Home =".
 - b. Uncomment this line by removing the ## characters, and enter the full path to the ccr folder.
For example: \$P6_Home = D:\p6home
- 6) Save the "P6_discover.pl" file.

Configuring OCM Settings

To configure the OCM settings:

- 1) Launch the P6 Administrator application.
- 2) Modify the appropriate settings so that P6 configuration information can be captured automatically for use with OCM.

Information on these settings are detailed in the Configuration Management section in **Services Settings** (on page 304).

Note: To manually capture P6 configuration information, launch the P6 Administrator application remotely through a browser. Right-click the /Services/Configuration Management node, and choose "Capture Configuration." Go to a command prompt, and change your directory to the following location: *OCM home\ccr\bin*
Execute the following command: `emCCR collect`

- 3) Set a collection time on the OCM server for P6 information that is captured automatically, as specified in **Configuring the OCM File** (on page 274). The OCM collection time should be AFTER the P6 EPPM capture time.

To set the collection time:

- a. Open a command prompt and change your directory to the following location: *OCM home\ccr\bin*
- b. Execute the following command (as all one line):

```
emCCR set collection_interval="FREQ=interval;  
BYHOUR=military hour; BYMINUTE=minute"
```

For example,

```
emCCR set collection_interval="FREQ=DAILY;  
BYHOUR=18; BYMINUTE=20"
```

Note: To check that the collection time is set properly, go to a command prompt, and change your directory to the following location: *OCM home\ccr\bin*
Execute the following command:

- On Windows: `emCCR.bat status`
 - On Unix: `./emCCR status`
-

- 4) Restart the P6 application server.

P6 Administrator application Settings

You can review and modify configuration settings in the Configuration tab and authentication settings in the Authentication tab of the P6 Administrator application. All settings are stored in the database for P6, which you specified during installation.

You can specify durations (time-related values) in several ways:

- ▶ As a simple number, which is always treated as milliseconds.

For example, 240000 would be equivalent to 4 minutes (240000/60000).

- ▶ As a specified time, where "d" is days, "h" is hours, "m" is minutes, and "s" is seconds. All parts are optional.

For example, you can enter:

1d2h30m20s

4m

1h30s

Caution: Only experienced administrators should use the P6 Administrator application of P6 to modify settings.

Note: Localization settings are not applicable for the P6 Integration API or P6 EPPM Web Services.

Tips

- ▶ Configurations and database instances are viewable from the **Authentication** tab but can be modified only on the **Configurations** tab.
- ▶ If multiple instances within a configuration point to the same database, the Authentication Mode for the first instance in the list will be used.
- ▶ To enable you to configure more than one LDAP server for each database instance, multiple LDAP Connection Settings are permitted for authentication. Right-click the **LDAP Connection Settings** folder to duplicate, delete, copy, paste, or test a configuration. When a user is being authenticated, P6 will search each LDAP server in the order provided for a user name that matches the entered login name and will use the first matching user to verify the password.
- ▶ A configuration for P6 might include database instances that are not set to the same authentication mode as the P6 server. If a user connects and requests a database that is set to a different authentication mode than the P6 server, an error message displays; the user must select a database that matches the authentication mode set for the P6 server.

Configuration Settings for P6 EPPM

The information below details all settings available from the Configurations tab of the P6 Administrator application.

Localization Settings

Setting Name and Description	Default	Valid Ranges/Values
Localization/System Language Default language on login page for first-time login.	en	—
Localization/System Country Country for server string constants	US	—

Session Management Settings

Setting Name and Description	Default	Valid Ranges/Values
Session Management/Maximum Session Timeout The maximum length of time that a user session can remain open, regardless of activity, before P6 EPPM times it out.	1d	1m-24d

Database Settings

Setting Name and Description	Default	Valid Ranges/Values
Database/Instance[n]/Name The name of this database instance. This determines how the database instance name will appear on the P6 login page.	—	up to 32 characters
Database/Instance[n]/Description A description of this database instance.	—	up to 128 characters
Database/Instance[n]/Schema The schema that will be defined for the database.	PMDB	—
Database/Instance[n]/Driver Class & URL/Java Class Database driver class used for communicating with the database.	—	oracle.jdbc.driver.OracleDriver, com.microsoft.sqlserver.jdbc.SQLServerDriver, Other, Auto

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[n]/Driver Class & URL/URL</p> <p>The database URL used to establish a connection to the P6 EPPM database.</p> <p>Oracle example: jdbc:oracle:thin:@xx.xxx.xxx.xx:yyyy:zzzz</p> <p>x = IP address or hostname y = database listen port z = database name</p> <p>Note: If you upgrade your database and this database connection gets disconnected, you can right-click on the Driver Class & URL node to reconfigure your database connection. When you right-click on the node, click Configure and the Configure URL dialog box will appear.</p> <p>You can also define a custom Oracle/MSSQL driver class from the Configure URL dialog box. The jar file for your custom driver class should exist in the application server classpath. Oracle recommends copying the driver jar file to the <i>weblogic_home\user_projects\domains\your_domain\lib</i> file if you use WebLogic, or creating a shared lib reference if you use WebSphere.</p>	—	—
<p>Database/Instance[n]/Public Group ID</p> <p>The public group ID used to establish a connection to the database.</p>	1	—
<p>Database/Instance[n]/User Name</p> <p>The name used to establish a connection to the database.</p>	pubuser	—
<p>Database/Instance[n]/Password</p> <p>The password used to establish a connection to the database.</p>	—	—

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[n]/Timesheet URL</p> <p>URL for invoking the P6 Progress Reporter module. To verify that the URL entered for this setting is valid, right-click over the setting, then select 'Test Connection.'</p> <p>Note: The URL might be case-sensitive, depending on your application server configuration.</p> <p>Example format: http://server name:listen port/pr/</p>	—	—
<p>Database/Instance[n]/User Security/Log Login Attempts</p> <p>Specifies whether or not login attempts to P6 are tracked in the logs.</p>	All	None, Failed Attempts, Successful Attempts, All
<p>Database/Instance[n]/User Security/Login Lockout Count</p> <p>The number of times a user can attempt to login before the account is locked. A setting of "0" allows an unlimited number of attempts. The count resets after each successful login.</p>	5	0-100000 
<p>Database/Instance[n]/User Security/Login Lockout Duration</p> <p>The length of time that a user is blocked from logging into P6, starting from the point at which the Logging Lockout Count was exceeded.</p> <p>This setting will be overridden if a user's session is manually reset by an Admin Superuser. See Resetting User Sessions (on page 273) for more information.</p>	1h	0-24d

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[n]/User Security/Allow Multiple User Sessions</p> <p>Specifies whether a single user can simultaneously log into P6 on different machines.</p> <p>Selecting "Yes" allows a single user to log in multiple times on the same machine or on different machines.</p> <p>Notes: The following restrictions apply when you select "Yes" for multiple user sessions:</p> <ul style="list-style-type: none"> ▶ Users must use Microsoft Internet Explorer 8 or higher when logging in more than once on the same machine. ▶ If you want users to log in multiple times on the same machine (either with the same user name or with different user names), you must set the Allow Multiple User Sessions setting to Yes. The other settings will not allow the user to login multiple times. ▶ When you create a second Internet Explorer Session you must either: (1) Launch an InPrivate session by selecting Tools, InPrivate Browsing from the IE menu; or (2) Run a new browser session from your first browser session by selecting File, New Session. <p>Selecting "No" allows a single user to log in only once with the same user name. If the user tries to login again while another session is active, the login will fail. A session can still be active if the user has closed the browser without logging out of P6. The user will have to wait until the session resets before they can login again.</p> <p>Selecting "Single Machine" allows a user to log in once on a machine. The user can login again on the same machine if they close their browser without logging out; they will not have to wait for the session to reset. If they close their browser without logging out, they can immediately login again on the same machine they were using; the user won't be able to login on a different machine unless they wait for the session to reset.</p>	<p>Yes</p>	<p>No, Single Machine, Yes</p>

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[<i>n</i>]/Auto Start Services</p> <p>Set to true to automatically start all services for this database when the application server starts. When this is true, all services with a concurrent task greater than zero will start when the application server starts. Set this to true if you will use the Summarize or Apply Actuals features in P6 Optional Client.</p> <p>If set to false, you must manually log into the application before the concurrent services will start.</p> <p>Note: BRE services will not start until someone logs into the application one time.</p>	true	true/false
<p>Database/Instance[<i>n</i>]/Connection Pool [aaa]/Resize Rate</p> <p>The timeout period after which the system will adjust the number of database connections to be equal to the maximum number of database connections simultaneously used during the last period.</p> <p>[PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine.</p> <p>[PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs.</p> <p>[PMT] Used for the transactional connection pool, which is used in the Business Rule Engine when a client transaction is requested.</p>	4m	4m - 12h
<p>Database/Instance[<i>n</i>]/Connection Pool [aaa]/Maintenance Frequency</p> <p>The run frequency of the maintenance that ensures leases have not exceeded the maximum duration.</p> <p>[PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine.</p> <p>[PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs.</p> <p>[PMT] Used for the transactional connection pool, which is used in the Business Rule Engine when a</p>	1m	10s - 1h

Setting Name and Description	Default	Valid Ranges/ Values
client transaction is requested.		
<p>Database/Instance[<i>n</i>]/Connection Pool [aaa]/ Lease Request Wait Timeout</p> <p>The amount of time a request for a database connection will wait.</p> <p>[PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine.</p> <p>[PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs.</p> <p>[PMT] Used for the transactional connection pool, which is used in the Business Rule Engine when a client transaction is requested.</p>	30s	5s - 2h
<p>Database/Instance[<i>n</i>]/Connection Pool [aaa]/ Maximum Connections</p> <p>The maximum number of connections the server will have to the database.</p> <p>[PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine.</p> <p>[PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs.</p> <p>[PMT] Used for the transactional connection pool, which is used in the Business Rule Engine when a client transaction is requested.</p>	PMR - 50 PML - 100 PMT - 50	5 - 15000

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[<i>n</i>]/Connection Pool [aaa]/Fetch Size</p> <p>A hint to the database driver for how many rows to fetch at a time.</p> <p>[PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine.</p> <p>[PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs.</p> <p>[PMT] Used for the transactional connection pool, which is used in the Business Rule Engine when a client transaction is requested.</p>	120	—
<p>Database/Instance[<i>n</i>]/Connection Pool [aaa]/Trace SQL</p> <p>Trace all SQL sent to the database.</p> <p>[PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine.</p> <p>[PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs.</p> <p>[PMT] Used for the transactional connection pool, which is used in the Business Rule Engine when a client transaction is requested.</p>	false	true/false
<p>Database/Instance[<i>n</i>]/Connection Pool [aaa]/Renewable Free Limit</p> <p>The minimum number of connections that should be available for leases to be renewed.</p> <p>[PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine.</p> <p>[PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs.</p> <p>[PMT] Used for the transactional connection pool, which is used in the Business Rule Engine when a client transaction is requested.</p>	3	3 - 5

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[<i>n</i>]/Connection Pool [aaa]/Renewable Leases</p> <p>If false, each connection can be leased only for the MaxLeaseDuration period.</p> <p>If true, connection leases are renewed if database statements are completed within the MaxLeaseDuration time period. When true, the code can hold onto the connection as long as it needs, provided SQL statements are completed within the MaxLeaseDuration period. When true, the connection is revoked if no SQL statements are issued within the MaxLeaseDuration period or if one statement takes longer to execute than that period.</p> <p>[PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine.</p> <p>[PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs.</p> <p>[PMT] Used for the transactional connection pool, which is used in the Business Rule Engine when a client transaction is requested.</p>	<p>PMR - false PML - true PMT - true</p>	<p>true/false</p>
<p>Database/Instance[<i>n</i>]/Connection Pool [aaa]/Maximum Lease Duration</p> <p>The maximum amount of time a database connection can be leased before it is revoked.</p> <p>[PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine.</p> <p>[PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs.</p> <p>Note: During the summarization process, queries may take a long time to execute if the project has a high number of WBS nodes. If you receive timeout errors, set your PML maximum lease duration setting to at least 30 minutes.</p> <p>[PMT] Used for the transactional connection pool, which is used in the Business Rule Engine when a client transaction is requested.</p>	<p>PMR - 2m PML - 15m PMT - 10m</p>	<p>PMR - 5s - 4h PML - 5s - 6h PMT - 5s - 6h</p>

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[<i>n</i>]/Content Repository/Type</p> <p>The application that will be used to host content repository data in P6 EPPM.</p> <p>After choosing the content repository type, enter the appropriate settings below for the type selected.</p>	None	None, Oracle, SharePoint, Custom
<p>Database/Instance[<i>n</i>]/Content Repository/Oracle Universal Content Management/Host</p> <p>The machine name or IP address of the Universal Content Management server.</p>	—	—
<p>Database/Instance[<i>n</i>]/Content Repository/Oracle Universal Content Management/Port</p> <p>The IntradocServerPort number of the Universal Content Management server. By default, this is 4444.</p>	—	—
<p>Database/Instance[<i>n</i>]/Content Repository/Oracle Universal Content Management/Oracle Home</p> <p>Path to the P6 EPPM content repository files on the Universal Content Management server, as specified in step 2 of Configuring Oracle Universal Content Management (on page 168). This setting is required.</p> <p>Example: \\Contribution Folders\Production\Oracle Primavera\ Note: The slash (\) at the end of the path is required.</p>	—	—
<p>Database/Instance[<i>n</i>]/Content Repository/Oracle Universal Content Management/Oracle Security Group</p> <p>The name of the Security Group for P6 EPPM documents, as specified in step 3 of Configuring Oracle Universal Content Management (on page 168).</p>	—	—
<p>Database/Instance[<i>n</i>]/Content Repository/Oracle Universal Content Management/Oracle Security Account</p> <p>The name of the Security Account for P6 EPPM documents, as specified in step 5 of Configuring</p>	—	—

Setting Name and Description	Default	Valid Ranges/ Values
<p>Oracle Universal Content Management (on page 168). If the use of security accounts is not enabled in Universal Content Management, this setting should be left blank.</p>		
<p>Database/Instance[<i>n</i>]/Content Repository/Oracle Universal Content Management/Oracle Document Type</p> <p>The Universal Content Management document type for P6 EPPM documents, which can be either an existing document type or a new one, as specified in step 6 of Configuring Oracle Universal Content Management (on page 168). If the use of Document Types is enabled in Oracle Universal Content Management, this setting is required.</p> <p>For example:</p> <p>For UCM 10g, enter the Document Type as ADACCT. For UCM 11g, enter the Document Type as Document</p>	—	—
<p>Database/Instance[<i>n</i>]/Content Repository/Oracle Universal Content Management/Metadata Prefix</p> <p>The prefix added to P6 EPPM metadata fields, as specified in step 7 of Configuring Oracle Universal Content Management (on page 168).</p>	—	—
<p>Database/Instance[<i>n</i>]/Content Repository/Oracle Universal Content Management/Admin User</p> <p>A Universal Content Management user name with administrative privileges, as specified in step 4 of Configuring Oracle Universal Content Management (on page 168). This setting is required.</p>	—	—

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[<i>n</i>]/Content Repository/Oracle Universal Content Management/Authentication Mode</p> <p>The authentication mode used for access to the Universal Content Management server. Content repository functions will not be available to P6 EPPM users if these conditions are not met.</p> <p>If "Multiple User" is chosen, all P6 EPPM content repository-related user names must match the equivalent Universal Content Management user name. For example, a P6 EPPM user named "Joe" must have an equivalent user named "Joe" in Universal Content Management.</p> <p>If "Single User" is chosen, the administrator user specified in the setting above must have access to all appropriate Security Groups in order to browse to documents outside of the P6 EPPM home folder.</p>	Multiple User	Single User,  Multiple User
<p>Database/Instance[<i>n</i>]/Content Repository/Oracle Universal Content Management/Autovue/VueLink URL</p> <p>The URL of the server hosting AutoVue VueLink.</p> <p>Note: Refer to the Tested Configurations document for the version of AutoVue that is supported for use with P6.</p> <p>Example format: <code>http://vuelinkpath/csiApplet.jsp</code></p>	<code>http://localhost/idc/jsp/autovue/csiApplet.jsp</code>	—
<p>Database/Instance[<i>n</i>]/Content Repository/Oracle Universal Content Management/Autovue/Enable</p> <p>Set to true to enable the use of AutoVue.</p>	false	true/false
<p>Database/Instance[<i>n</i>]/Content Repository/SharePoint/Login Name</p> <p>A SharePoint user name with administrative privileges, this setting is required.</p>	—	—
<p>Database/Instance[<i>n</i>]/Content Repository/SharePoint/Password</p> <p>The password for the SharePoint login name.</p>	—	—

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[<i>n</i>]/Content Repository/SharePoint/Authentication Mode</p> <p>The mode used to connect to the SharePoint content repository database. Content repository functions will not be available to P6 EPPM users if these conditions are not met.</p> <p>If "Multiple User" is chosen, all P6 EPPM content repository-related user names must match the equivalent SharePoint user name. For example, a P6 EPPM user named "Joe" must have an equivalent user named "Joe" in SharePoint.</p> <p>If "Single User" is chosen, the administrator user specified in the setting above must have access to all appropriate SharePoint libraries in order to browse to documents outside of the P6 EPPM home folder.</p>	Multiple User	Single User,  Multiple User
<p>Database/Instance[<i>n</i>]/Content Repository/SharePoint/Host Name</p> <p>The machine name or IP address of the SharePoint server.</p>	—	—
<p>Database/Instance[<i>n</i>]/Content Repository/SharePoint/Domain</p> <p>The domain in which the SharePoint server resides.</p>	—	—
<p>Database/Instance[<i>n</i>]/Content Repository/SharePoint/Document Library URL</p> <p>The URL of the P6 EPPM document library on SharePoint created when you configured SharePoint in Configuring Microsoft SharePoint (on page 169). The URL includes the machine name (or IP address) of the content repository server and the path to the content repository library.</p> <p>Example format: <i>http://host/library path</i></p>	—	—

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[n]/Content Repository/SharePoint/Web Service URL</p> <p>The URL of the Web Service used to connect P6 EPPM to SharePoint, as specified when you configured SharePoint in Configuring Microsoft SharePoint (on page 169). The URL includes the machine name (or IP address) of the content repository server, port number of the server, and web service name.</p> <p>Example format: <code>http://host:port/virtual_dir</code></p>	—	—
<p>Database/Instance[n]/Content Repository/SharePoint/External Document Library URL</p> <p>The URL of an external document library. This is only required if you need to connect to a non-P6 EPPM document library.</p> <p>Example format: <code>http://host:port/virtual_dir</code></p>	—	—
<p>Database/Instance[n]/Content Repository/SharePoint/Autovue/VueLink URL</p> <p>The URL of the of the server hosting AutoVue VueLink.</p> <p>Note: Refer to the Tested Configurations document for the version of AutoVue that is supported for P6.</p> <p>Example format: <code>http://vuelinkpath/vue.aspx</code></p>	<code>http://localhost/site/_layouts/1033/vue.aspx</code>	—
<p>Database/Instance[n]/Content Repository/SharePoint/Autovue/Enable</p> <p>Set to true to enable the use of AutoVue.</p>	false	true/false
<p>Database/Instance[n]/Content Repository/Custom/Java Class</p> <p>Fully qualified name of the java class that implements the custom content repository type. The custom content repository is implemented by an external client supplied jar.</p>	—	—

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[<i>n</i>]/Content Repository/Custom/Configuration Parameters</p> <p>Custom string properties to initialize this custom content repository.</p>	—	—
<p>Database/Instance[<i>n</i>]/Session Settings/Setting 1-5</p> <p>"Alter session" commands used to establish cursor sharing, rule-based mode, SQL trace, and more. Invalid settings in these fields are ignored.</p>	—	alter session set _ = _
<p>Database/Instance[<i>n</i>]/Cost Based Optimization settings/Enable</p> <p>If set to true, enables Cost Based Optimization.</p>	false	true/false
<p>Database/Instance[<i>n</i>]/Cost Based Optimization settings/Dump Matching SQL</p> <p>Set to true to dump the SQL where a match is found in the QUERYLIB table for a given SQL statement. Set to false to dump the SQL where a match is not found in the QUERYLIB table for a given SQL statement.</p> <p>You must set your logging level to INFO to see these entries.</p>	false	true/false
<p>Database/Instance[<i>n</i>]/Eventing/Enabled</p> <p>Set to true to enable the sending of events for P6, P6 EPPM Web Services, and P6 Integration API.</p>	false	true/false
<p>Database/Instance[<i>n</i>]/Eventing/Interval</p> <p>The length of time that the Event Notification System uses to determine how often it sends events to the message queue. Specifying a smaller time increases the frequency with which the Event Notification System reports event occurrences to the message queue.</p>	5m	1s-10m
<p>Database/Instance[<i>n</i>]/Eventing/Max Queue Size</p> <p>The amount of memory allocated to the queue for events. Once exceeded, events will be published immediately.</p>	1000	10-5000

Setting Name and Description	Default	Valid Ranges/ Values
Database/Instance/Eventing/Show Costs Set to true to enable the display of cost fields in event notifications.	false	true/false
Database/Instance[<i>n</i>]/Eventing/JMS Connection Factory Specify the JNDI name of the JMS Connection Factory.	—	—
Database/Instance[<i>n</i>]/Eventing/JMS Destination Name Specify the JNDI name of the queue or topic where events are published.	—	—
Database/Instance[<i>n</i>]/Eventing/JMS Destination Security Enabled Set to true to use the username and password specified when sending messages to JMS queue.	true	true/false
Database/Instance[<i>n</i>]/Eventing/JMS Destination Username Specify the username to use when sending events to the specified JMS destination specified.	—	—
Database/Instance[<i>n</i>]/Eventing/JMS Destination Password Specify the password to use when sending events to the JMS Destination specified.	—	—
Database/Instance[<i>n</i>]/Eventing/Configuration Options for which Business Object changes and Special Operation processes trigger event notifications. Right-click to select the node, then choose Configure to select options. For detailed information about these options, see the <i>Using Events with P6</i> document. Note: The "Timesheet" business object only has update notification functionality.	—	—
Database/Instance[<i>n</i>]/AIA/Enabled Set to true to enable integration with AIA	false	true/false

Setting Name and Description	Default	Valid Ranges/ Values
components. If set to true, you must set up a Datasource in WebLogic for your connection.		
Database/Instance[<i>n</i>]/AIA/Datasource JNDI Name Setup a datasource in WebLogic to connect to a direct JDBC URL.	AIA_ProjP6EPPM_DS	
Database/Instance[<i>n</i>]/AIA/Username The database user name of the AQ queue owner.	—	—
Database/Instance[<i>n</i>]/AIA/Context Factory Context Factory class for application server.	weblogic.jndi.WLInitialContextFactory	—
Database/Instance[<i>n</i>]/AIA/Queue Name The name of the AQ queue receiving AIA messages.	AIA_ProjP6EPPMJMSQueue	—
Database/Instance[<i>n</i>]/AIA/System Id The system identification code that AIA will use to identify P6 EPPM.	P6EPPM_01	—
Database/Instance[<i>n</i>]/AIA/Target System Id The external system identification code that AIA will use to identify a supported Oracle ERP application. Examples: JDE-001 for JDEdwards EBS-001 for E-Business Suite	—	—
Database/Instance[<i>n</i>]/Fusion Projects/URL WDSL URL for connecting to the Fusion PPM Bridge instance and web services definition (WDSL). Example format: <i>http://serverIP:port number/context URL/web service definition</i>	—	—
Database/Instance[<i>n</i>]/Fusion Projects/UserName User name to connect to Fusion PPM Bridge.	—	—

Setting Name and Description	Default	Valid Ranges/ Values
Database/Instance[n]/Fusion Projects/Password Password for the user to connect to Fusion PPM Bridge.	—	—
Database/Instance[n]/BI Publisher/Server URL The URL used to establish a connection to the BI Publisher web service from P6. Example format for WebLogic: <i>http://serverIP:port/BI Publisher domain/services/PublicReportService_v11</i> Example format for WebSphere: <i>http://serverIP:port/BI Publisher domain/services/PublicReportService_v11?WSDL</i>	—	—
Database/Instance[n]/BI Publisher/Version Set the version of BI Publisher (10.1.3.4.1, 11.1.1.3.0) that you want to integrate with P6.	—	—
Database/Instance[n]/BI Publisher/Folder Paths The relative path to the BI Publisher P6 reports folder where P6 will search for reports. By default, the value is /P6REPORTS (the forward slash is required). Note: The relative path corresponds to the physical P6REPORTS folder which should exist in %BI_HOME%\xmlp\XMLP\Reports. For more information on BI Publisher, see the <i>P6 Reporting Database Administrator's Guide</i> .	—	—
Database/Instance[n]/BI Publisher/Admin Username A BI Publisher web services user name with administrative privileges (for example, PxRptUser).	—	—
Database/Instance[n]/BI Publisher/Password The password for the administrative user name.	—	—
Database/Instance[n]/BI Publisher/Personal Folders Enable personal folders per user.	—	—

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database/Instance[n]/BI Publisher/Scrub Username</p> <p>This setting controls whether special characters (non-alphanumeric) are removed from the username when connecting to BI Publisher. The default is 'false,' meaning special characters will not be removed. If you are using the P6 EPPM Extended Schema for BI Publisher reporting, leave the setting as false. However, if you are using the P6 ODS Schema for BI Publisher reporting, change the setting to true. Setting the value to true will allow the user's security context (username) to be properly sanitized before being passed to BI Publisher, which allows reporting queries to be performed against the ODS tables.</p>	false	true/false
<p>Database/Instance[n]/BI Publisher/Cache Timeout</p> <p>Set how long cached report definitions should appear.</p>	—	—
<p>Database/Instance[n]/BPM Settings/Connector file location</p> <p>The file path to the P6 BPM Connector JAR file.</p>	—	—
<p>Database/Instance[n]/BPM Settings/BPM library path</p> <p>BPM support library path.</p>	—	—
<p>Database/Instance[n]/BPM Settings/BPM Configuration</p> <p>BPM configuration. Right-click on BPM Configuration, then choose Configure to select options from the dialog box.</p> <p>For detailed information about these options, see the <i>P6 Oracle BPM Integration Administrator's Guide</i>.</p> <p>Note: See the BPM's documentation for security guidance information.</p>	—	—

Thread Pool Settings

Setting Name and Description	Default
Thread Pool/Number of Threads The number of server threads.	50
Thread Pool/Maximum Task Duration The maximum duration a thread can be used for one task.	3m
Thread Pool/Maximum Long Running Task Duration The maximum duration a thread can be used for a long running task.	20m
Thread Pool/Maintenance Frequency The frequency at which threads are checked for excess time durations.	45s

Log Settings

Setting Name and Description	Default	Valid Ranges/ Values
Log/Console Logger/Severity Level Log severity level for the Console Logger. The ranges are inclusive. For example, choose "debug" to log all messages; choose "warning" to log both warning and error level messages.	info	debug, info, warning, error
Log/Console Logger/Enabled Enable the Console Logger	false	true/false
Log/File Logger/Archive Size The minimum size (in Kb) a log file must be before it is archived.	1024	1024 - 207360000
Log/File Logger/Severity Level Log severity level for the HTML Logger. The ranges are inclusive. For example, choose "debug" to log all messages; choose "warning" to log both warning and error level messages.	error	debug, info, warning, error
Log/File Logger/Number of Archive Files Maximum number of log files to be used. The default files are named WebAccessLog0.html through WebAccessLog5.html.	6	2 - 207360000

Setting Name and Description	Default	Valid Ranges/ Values
Log/File Logger/HTML Log as HTML.	true	true/false
Log/File Logger/Enabled Enable the HTML Logger. Log files are created in a folder named WebAccessLogs, located as follows: WebLogic on Windows: <i>webaccesshome</i> \WebAccessLogs WebSphere on Windows: <i>webaccesshome</i> \WebAccessLogs WebSphere on Oracle Enterprise Linux: <i>/mount_point/WebSphere/AppServer/WebAccessLogs</i>	true	true/false
Log/Email Logger/SMTP Host SMTP server that will send the e-mail message.	—	—
Log/Email Logger/From Email Address Set to the e-mail address from which you would like log messages sent.	—	—
Log/Email Logger/To Email Address Set to the e-mail address to which you would like log messages sent.	—	—
Log/Email Logger/Email Subject The subject line for error e-mails.	P6 Web Access error	—
Log/Email Logger/Enabled Enable the Email logger.	false	true/false
Log/Asynchronous Log messages asynchronously for better performance.	true	true/false

Directory Services Settings

Setting Name and Description	Default	Valid Ranges/Values
Directory Services/Provider URL The URL of the JNDI provider used for eventing. Example: t3://localhost:7021	—	—
Directory Services/Initial Context Factory The class name of the initial context factory for the JNDI connection for eventing. Example: weblogic.jndi.WLInitialContextFactory	—	—
Directory Services/Security Principal Principal used to connect to the JNDI provider for eventing.	—	—
Directory Services/Security Credentials Credentials used to connect to the JNDI provider for eventing.	—	—
Directory Services/Security Level Security level used to authenticate to the directory service for eventing.	SIMPLE	NONE, SIMPLE, STRONG
Directory Services/Lookup Name The lookup used when testing the directory connection for eventing.	primavera	—

Client Properties Settings

Setting Name and Description	Default	Valid Ranges/Values
Client Properties/Internet Explorer Java Plugin URL URL for Internet Explorer users to download Java Plug-in (JRE).	Defaults to the plug-in version (1.6.0_24) that is installed during setup.	—
Client Properties/FireFox Java Plugin URL URL for Firefox users to download Java Plug-in (JRE).	Defaults to the plug-in version (1.6.0_24) that is installed	—

Setting Name and Description	Default	Valid Ranges/ Values
	during setup.	
Client Properties/Internet Explorer Java Plugin Version JRE version used by applets in Internet Explorer.	Defaults to the plug-in version (1.6.0_24) that is installed during setup.	—
Client Properties/FireFox Java Plugin Version JRE version used by applets in Firefox.	Defaults to the plug-in version (1.6.0_24) that is installed during setup.	—
Client Properties/JRE version for Java Web Start (JNLP) JNLP JRE version.	1.6.0_20+	—
Client Properties/Use JNLP when launching applets Use JNLP when launching applets.	true	true/false
Client Properties/Compress Applet Communication Set to true to compress communication between applets and the server.	true	true/false
Client Properties/Compress HTML Content Set to true to compress HTML-related content generated by P6, including .html, .js, and css files, and Ajax content.	true	true/false

Web Proxy Settings

Setting Name and Description	Default	Valid Ranges/ Values
Web Proxy/Web Proxy Server The proxy server to use.	—	—
Web Proxy/Web Proxy Port The port to use.	80	—
Web Proxy/Web Proxy Ignore List	—	—

A comma separated list of hosts that should not go through the web proxy.		
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Application Settings

Setting Name and Description	Default	Valid Ranges/ Values
Application/Prototype User Prototype user login used to create and store default Dashboards and global preferences for new P6 users. See Prototype User for P6 (on page 489) for details on how to create a prototype user.	—	—
Application/Ignore Daylight Savings Time Set to false to account for daylight savings time. This setting should match the equivalent setting in the P6 Progress Reporter Administrator if P6 and P6 Progress Reporter are deployed in the same domain.	true	true/false
Application/Maximum Transactions for Excel Import of Resources The maximum number of transactions (activities or resources) that can be imported at once from an .xls or .csv file	2000	100 - 2000
Application/Maximum Excel Import File Size The maximum size of the .xls or .csv file uploaded during an import attempt (KB)	1048	64 - 4096
Application/Allow Auto-Summarize Option Set to true to allow automatic summarization to be available in Resource Staffing user preferences.	true	true/false
Application/Database Dropdown Key Keyword to use for enabling database selection control in the login page. Pass this as a URL parameter db=keyword. Set this to an empty string if you do not want to require the keyword.	—	—

Setting Name and Description	Default	Valid Ranges/ Values
<p>Application/Logout URL</p> <p>Directs P6 to a specific URL when the user exits with the Logout/Close icon in the banner of P6. If you are using WebSSO, Oracle recommends you set the Logout URL to your SSO server's logout page to end the current SSO session. Any valid URL can be used. If no URL is specified, P6 directs the user to the launch page of P6.</p> <p>Note: If you selected the "Don't show this again" option when you used the SSO login screen, that screen will not reappear after you logout then try to log back in. To get it to reappear, you need to clear the cookies for P6.</p>	—	—
<p>Application/Filter Portfolio Stale Period</p> <p>Time period of inactivity that indicates a filtered portfolio should be refreshed.</p>	1d	0s - 24d20h31m 23s647
<p>Application/Maximum Projects in Portfolio</p> <p>The maximum number of projects returned when creating a portfolio with a filter.</p>	1000	1 - 100000
<p>Application/Maximum Loaded Resource Planning Projects</p> <p>The maximum number of projects that can be opened in the Resource Planning spreadsheet.</p>	100	1 - 1000
<p>Application/Maximum Portlets per Dashboard</p> <p>The maximum number of portlets that can be displayed in a dashboard on the Dashboards Home page.</p>	12	1 - 50
<p>Application/Maximum Projects per Portfolio View</p> <p>The maximum number of projects that can be displayed in a portfolio view on the Portfolio Analysis tab and in Portfolio View portlets on dashboards.</p>	5000	1 - 20000
<p>Application/Maximum Activities per Activity View</p> <p>The maximum number of activities that can be displayed in the Activities tab of the Projects section. If greater than 5000, the Maximum memory allocated to Java Applets setting (below) must be 128 or greater.</p> <p>Oracle recommends that the maximum value be set to 5000 (or lower) if users need to display Earned Value or</p>	5000	1 - 100000

Setting Name and Description	Default	Valid Ranges/ Values
Baseline-related information. Otherwise, database timeouts might occur.		
Application/Maximum Assignments per Assignment View The maximum number of assignments that can appear in an assignment view.	2000	1 - 15000
Application/Maximum Projects per EPS View The maximum number of projects that can appear in an EPS view.	2000	1 - 100000
Application/Maximum memory allocated to Java Applets The maximum amount of memory, in megabytes, that can be used by Java Applets. If the Maximum Activities per Activity View setting (above) is greater than 5000, the memory allocation must be set to 128 or greater.	256	64 -1024
Application/Maximum MRU List Items The maximum number of items that can be displayed in a Most Recently Used (MRU) list.	5	1-10
Application/Maximum Project Activity Codes The maximum number of projects that can be selected and displayed in the Projects tab of the Activity Codes section.	350	1-350
Application/Maximum Activity Code Values The maximum number of activity code values that can be created or selected per Activity Code.	100000	1-1m

Setting Name and Description	Default	Valid Ranges/ Values
<p>Application/Custom Portlet URL Encryption Key</p> <p>Encryption key for custom portlet user password.</p> <p>Assigning a key causes the password that is passed as part of the URL for a custom portlet to be encrypted. If you do not assign a value, the password is not encrypted. The value can be any alphanumeric character or string of characters. This encryption uses the Sun/Blowfish algorithm.</p>	—	—
<p>Application/Transaction Monitor Execution Interval</p> <p>The frequency at which the transaction monitor job runs, which ensures transactions have not been orphaned.</p>	10m	1s - 24d20h31m 23s647
<p>Application/Enable Cross Site Scripting Filter</p> <p>Enable or disable the Cross Site Scripting filter.</p> <p>Set to true to allow P6 EPPM to check for unsafe http requests from the browser and unsafe responses from P6, including requested documents. In general, requests and responses that contain JavaScript, which was not generated explicitly by P6, are considered unsafe.</p> <p>An error message will be displayed for all unsafe page requests. For Internet Explorer 7, an attempt to download an unsafe document will result in an error message. For Internet Explorer 8 and Firefox, users will be prompted to download the document file instead of viewing the document directly in the P6 browser.</p> <p>It is not necessary to restart the server after changing the value of this setting.</p>	true	true/false
<p>Application/Contract Management Encryption Key</p> <p>Encryption key for communication between P6 EPPM and Contract Management version 13. The default key is based on the string, "Oracle Primavera." Type a string of your choosing, and it will be converted to a UUID (Universally Unique Identifier). The UUID will be used for encrypting the password needed to connect to Contract Management. This encryption uses the Sun/Blowfish algorithm.</p> <p>Note: If you change the encryption key value, you must also specify the same value in the Contract Management Administration Application.</p>	—	—

Setting Name and Description	Default	Valid Ranges/ Values
<p>Application/Help Server URL</p> <p>The URL used to launch P6 Help. Points to the Oracle Technology Network (OTN). OTN houses Oracle's most up-to-date documentation. If there are any changes to P6 functionality, those changes will be represented in the help documentation on OTN.</p> <p>If you prefer to use the local version of the P6 Help, you can use the local host URL (for example, <code>http://localhost:7001/p6help</code>). You can use the local help only if you deployed the <code>p6help.war</code> file in WebLogic or WebSphere. See The P6 Help Directory (on page 149) and Deploying P6 in WebLogic (on page 161) or Deploying P6 in WebSphere (on page 224) for more information on deploying P6 Help.</p> <p>Note: The URL might be case-sensitive, depending on your application server configuration.</p> <p>Example format: <code>http://server name:listen port/p6help</code></p>	<p><code>http://download.oracle.com/docs/cd/E20686_01/p6help</code></p>	<p>—</p>
<p>Application/Notifications/Enable Issue Notifications</p> <p>Enable or disable automated notifications when Issues are added or modified.</p>	<p>false</p>	<p>true/false</p>
<p>Application/Notifications/Override Notification Email from User</p> <p>Set to true to always use the system's From e-mail address. Set to false to use the e-mail address of the user who causes notifications to be sent, if their e-mail address is configured.</p>	<p>false</p>	<p>true/false</p>
<p>Application/Notifications/Notification from Email User</p> <p>The e-mail address from which Notifications will be sent when either <code>NotificationsFromEmailOverride</code> is true or the user's e-mail address is not configured</p>	<p>—</p>	<p>—</p>
<p>Application/Tutorials/Enable Tutorials</p> <p>Set to true to allow tutorials to be available within P6 EPPM.</p> <p>See the documentation included with Oracle UPK (User Productivity Kit) for details on In-Application Support.</p>	<p>false</p>	<p>true/false</p>

Setting Name and Description	Default	Valid Ranges/ Values
<p>Application/Tutorials/Tutorials URL</p> <p>The URL used to launch UPK content. Points to the location of the UPK content file (P6Tutorials.war).</p> <p>Note: The URL might be case-sensitive, depending on your application server configuration.</p> <p>Example format: <code>http://server name:listen port/P6Tutorials</code></p>	—	—

Services Settings

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Enable All Services</p> <p>Allows you to enable or disable all services without having to set concurrent threads on each service. If set to true, the application will use the concurrent threads for all services. This is the recommended value if using the Summarize or Apply Actuals features in P6 Optional Client.</p> <p>If set to false, the application will treat the concurrent threads of services as equal to zero. When you set to false, the values for the threads will stay the same.</p>	true	true/false
<p>Services/Job Service Poll Rate</p> <p>The rate at which the server polls the database for new Jobs to run.</p>	10s	1s-24d20h31m23s 647

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/ASAP Cleanup Rate</p> <p>The rate at which completed WebASAP jobs are removed from the database. Once the time is met all ASAP jobs that have a status other than running or delegated will be removed from the table automatically. Running and delegated jobs will be removed if they are older than the cleanup rate or if they are older than one day, whichever is greater.</p> <p>Note: Make sure that the cleanup rate is greater than your longest running job.</p>	1d	1h-24d
<p>Services/Enable Job Cleanup on Startup</p> <p>Set to true to restart recurring jobs that are stuck in the running state.</p> <p>Enable Job Cleanup on Startup will start when the application initially launches and will check for any recurring jobs that are running. It will set the status of all running jobs to pending for all databases that have Database/Instance/Auto Start Services enabled. It also follows the Services/Enable All Services setting and will not run if Enable All Services is set to false.</p> <p>Enable Job Cleanup on Startup can run on a full build or the separate job services application. If you are on clustered environment, run this service in only one instance.</p>	false	true/false
<p>Services/Publication/Settings/General Data/Page Size</p> <p>The maximum number of rows of general data that can be processed in a job. This applies to each business object that falls under the general category; general data is all data that is not time-distributed (spread), not hierarchical, and not in a blob. When using this setting, each business object is processed separately.</p>	32	1-8192
<p>Services/Publication/Settings/General Data/Max Job Count</p> <p>Determines the number of processes used for this service on your server.</p>	1	1-20

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Publication/Settings/Time Distributed Data/Page Size</p> <p>The maximum number of rows of time-distributed (spread) data that can be processed in a job. This applies to each business object that falls under the time-distributed category. When using this setting, each business object is processed separately.</p>	16	1-8192
<p>Services/Publication/Settings/Time Distributed Data/Max Job Count</p> <p>Determines the number of processes used for this service on your server.</p>	1	1-20
<p>Services/Publication/Settings/Blob Data/Page Size</p> <p>The maximum number of rows of blob data that can be processed in a job. This applies to each business object that falls under the blob category. When using this setting, each business object is processed separately.</p>	25	1-8192
<p>Services/Publication/Settings/Blob Data/Max Job Count</p> <p>Determines the number of processes used for this service on your server.</p>	1	1-20
<p>Services/Publication/Settings/Log/Severity Level</p> <p>Determines the level of information contained in the log file for all publication services. The ranges are inclusive. For example, choose "debug" to log all messages; choose "info" to log details about what is being executed, as well as, exceptions and warnings; choose "warning" to log both warning and error level messages.</p>	info	debug, info, warning, error

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Publication/Settings/Log/Global Service Log File Cap (Success)</p> <p>The number of logs to retain for successful global publication services. This will retain a log for each global service. If set to 5, the last 5 successful service runs will be retained for each global service.</p>	5	1-25
<p>Services/Publication/Settings/Log/Global Service Log File Cap (Fail)</p> <p>The number of logs to retain for failed global publication services. This will retain a log for each global service. If set to 5, the last 5 failed service runs will be retained for each global service.</p>	5	1-25
<p>Services/Publication/Settings/Log/Project Service Log File Cap (Success)</p> <p>The number of logs to retain for successful Publish Project jobs. This will retain a log for each project service. If set to 5, the last 5 successful service runs will be retained.</p>	5	1-25
<p>Services/Publication/Settings/Log/Project Service Log File Cap (Fail)</p> <p>The number of logs to retain for failed Publish Project jobs. This will retain a log for each project service. If set to 5, the last 5 failed service runs will be retained, per project.</p>	5	1-25
<p>Services/Publication/Services/Project Arbiter/Interval</p> <p>Determines the amount of time the service will wait before running the next available job.</p>	10s	1s - 24d20h31m23s647
<p>Services/Publication/Services/Project Arbiter/Concurrent Threads</p> <p>Determines the number of processes used for this service on this server. A value of 0 indicates that this service will not be run on this server.</p>	1	0-1

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Publication/Services/Project Arbiter/Active Mode</p> <p>If true, jobs are processed continuously until all jobs are completed. If false, each job is processed according to the Interval.</p>	true	true/false
<p>Services/Publication/Services/Publish Project/Interval</p> <p>Determines the amount of time the service will wait before running the next available job.</p>	10s	1s - 24d20h31m23s647
<p>Services/Publication/Services/Publish Project/Concurrent Threads</p> <p>Determines the number of processes used for this service on this server. A value of 0 indicates that this service will not be run on this server.</p>	2	0-20
<p>Services/Publication/Services/Publish Project/Active Mode</p> <p>If true, jobs are processed continuously until all jobs are completed. If false, each job is processed according to the Interval.</p>	true	true/false
<p>Services/Publication/Services/Publish Enterprise Data/Interval</p> <p>Determines the amount of time the service will wait before running the next available job.</p>	10s	1s - 24d20h31m23s647
<p>Services/Publication/Services/Publish Enterprise Data/Concurrent Threads</p> <p>Determines the number of processes used for this service on this server. A value of 0 indicates that this service will not be run on this server.</p>	1	0-1
<p>Services/Publication/Services/Publish Enterprise Data/Active Mode</p> <p>If true, jobs are processed continuously until all jobs are completed. If false, each job is processed according to the Interval.</p>	true	true/false

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Publication/Services/Publish Enterprise Summaries/Interval</p> <p>Determines the amount of time the service will wait before running the next available job.</p>	10s	1s - 24d20h31m23s647
<p>Services/Publication/Services/Publish Enterprise Summaries/Concurrent Threads</p> <p>Determines the number of processes used for this service on this server. A value of 0 indicates that this service will not be run on this server.</p>	1	0-1
<p>Services/Publication/Services/Publish Enterprise Summaries/Active Mode</p> <p>If true, jobs are processed continuously until all jobs are completed. If false, each job is processed according to the Interval.</p>	true	true/false
<p>Services/Publication/Services/Publish Resource Management/Interval</p> <p>Determines the amount of time the service will wait before running the next available job.</p>	10s	1s - 24d20h31m23s647
<p>Services/Publication/Services/Publish Resource Management/Concurrent Threads</p> <p>Determines the number of processes used for this service on this server. A value of 0 indicates that this service will not be run on this server.</p>	1	0-1
<p>Services/Publication/Services/Publish Resource Management/Active Mode</p> <p>If true, jobs are processed continuously until all jobs are completed. If false, each job is processed according to the Interval.</p>	true	true/false
<p>Services/Publication/Services/Publish Security/Interval</p> <p>Determines the amount of time the service will wait before running the next available job.</p>	10s	1s - 24d20h31m23s647

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Publication/Services/Publish Security/Concurrent Threads</p> <p>Determines the number of processes used for this service on this server. A value of 0 indicates that this service will not be run on this server.</p>	1	0-1
<p>Services/Publication/Services/Publish Security/Active Mode</p> <p>If true, jobs are processed continuously until all jobs are completed. If false, each job is processed according to the Interval.</p>	true	true/false
<p>Services/Module Access Service/Update Rate</p> <p>The rate at which a Business Rule Engine synchronizes with the database for license counts.</p>	30s	100 - 1m
<p>Services/Module Access Service/Expiration Check Rate</p> <p>The rate at which licenses are checked to see if they should expire.</p>	2m	500 - 15m
<p>Services/Timestamp Service/Refresh Rate</p> <p>The rate at which the database is queried to determine if a table change notification is necessary.</p>	1m	15s - 1h
<p>Services/Registry Service/Refresh Rate</p> <p>The rate at which the database is updated with the status of the Business Rule Engine.</p>	1m30s	15s - 1h
<p>Services/Registry Service/Stale Period</p> <p>The duration of inactivity that indicates an inoperable Business Rule Engine.</p>	4m	1m - 10m
<p>Services/Registry Service/Port</p> <p>The TCP/IP port on which requests to revive dead Business Rule Engines will be received.</p>	9192	1 - 65535
<p>Services/Next Key Service/Refresh Rate</p> <p>The rate at which next key cache is refreshed.</p>	1m	15s - 1h

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Next Key Service/Maximum Cached Keys</p> <p>Maximum next keys to cache per table</p>	10	1 - 100
<p>Services/Performance/Use Enterprise Summary</p> <p>Use enterprise level summary data for resources and roles.</p> <p>This setting specifies whether you want to use EPS level records or Project level records to draw resource or role histograms. If true, performance is better because only one record (EPS record) is used for the histogram. If false, a much larger number of records (Project records) are used to draw the histogram chart, so performance is slower. However, it is important to note that histogram data is more accurate when the setting is false, using Project records.</p>	false	true/false
<p>Services/Performance/Maximum Summary Node Count</p> <p>The threshold for displaying summarized data in views such as Resource Usage and Resource Analysis. If the number of child elements contained in a node exceeds this number, no data is displayed.</p>	1000	1-50000
<p>Services/Scheduler/Interval</p> <p>Amount of time the Web Scheduler will wait before scheduling the next available job.</p>	10s	1s - 24d20h31m23s647
<p>Services/Scheduler/Concurrent Threads</p> <p>The number of processes (active schedulers) used for scheduling on this server. A value of 0 (zero) indicates that scheduling will not be performed on this server.</p>	2	0-20
<p>Services/Scheduler/Active Mode</p> <p>If true, jobs are processed continuously until all jobs are scheduled. If false, each job is processed according to the Scheduling Interval.</p>	true	true/false

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Leveler/Interval</p> <p>Amount of time the Web Leveler will wait before leveling the next available job (in 1d1h1m1s format - specifying no letters implies milliseconds).</p>	10s	1s - 24d20h31m23s647
<p>Services/Leveler/Concurrent Threads</p> <p>The number of processes (active levelers) used for leveling on this server. A value of 0 (zero) indicates that leveling will not be performed on this server.</p>	2	0-20
<p>Services/Leveler/Active Mode</p> <p>If true, jobs are processed continuously until all jobs are leveled. If false, each job is processed according to the Leveling Interval.</p>	true	true/false
<p>Services/Summarizer/Interval</p> <p>Amount of time the Summarizer will wait before summarizing the next available job (in 1d1h1m1s format - specifying no letters implies milliseconds).</p>	10s	1s-24d20h31m23s647
<p>Services/Summarizer/Concurrent Threads</p> <p>The number of processes (active summarizers) used for summarizing on this server. A value of 0 (zero) indicates that summarizing will not be performed on this server.</p>	2	0-20
<p>Services/Summarizer/Active Mode</p> <p>If true, jobs are processed continuously until all jobs are summarized. If false, each job is processed according to the Summarizing Interval.</p>	true	true/false
<p>Services/Apply Actuals/Interval</p> <p>Amount of time to wait before running the next available job (in 1d1h1m1s format - specifying no letters implies milliseconds).</p>	10s	1s - 24d20h31m23s647

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Apply Actuals/Concurrent Threads</p> <p>The number of processes used for this service on this server. A value of 0 (zero) indicates that this job will not be run on this server.</p>	2	0-20
<p>Services/Apply Actuals/Active Mode</p> <p>Process jobs continuously until all jobs are completed (true) or process each job according to Interval (false).</p>	true	true/false
<p>Services/Overallocation Check/Interval</p> <p>Amount of time to wait before running the next available job (in 1d1h1m1s format - specifying no letters implies milliseconds).</p>	30s	1s - 24d20h31m23s64 7
<p>Services/Overallocation Check/Concurrent Threads</p> <p>The number of processes used for this service on this server. A value of 0 (zero) indicates that this job will not be run on this server.</p>	2	0-20
<p>Services/Overallocation Check/Active Mode</p> <p>Process jobs continuously until all jobs are completed (true) or process each job according to Interval (false).</p>	true	true/false
<p>Services/Store Period Performance/Interval</p> <p>Amount of time the PeriodPerformance service will wait before running the next available job (in 1d1h1m1s format - specifying no letters implies milliseconds).</p>	10s	1s - 24d20h31m23s64 7
<p>Services/Store Period Performance/Concurrent Threads</p> <p>The number of processes used for the PeriodPerformance service on this server. A value of 0 (zero) indicates that the service is not available on this server.</p>	2	0 - 20
<p>Services/Store Period Performance/Active Mode</p> <p>Process jobs continuously until all jobs are completed (true) or process each job according</p>	true	true/false

Setting Name and Description	Default	Valid Ranges/Values
to the Interval (false).		
<p>Services/Recalculate Assignment Cost/Interval</p> <p>Amount of time the RecalculateAssignmentCost service will wait before scheduling the next available job (in 1d1h1m1s format - specifying no letters implies milliseconds). When the RecalculateAssignmentCosts service is initiated from P6, it will attempt to run immediately but switch to running as a job service if it takes too long to start.</p>	10s	1s-24d20h31m23s647
<p>Services/Recalculate Assignment Cost/Concurrent Threads</p> <p>The number of processes used for the RecalculateAssignmentCost service on this server. A value of 0 (zero) indicates that the service is not available on this server.</p>	2	0-20
<p>Services/Recalculate Assignment Cost/Active Mode</p> <p>Process jobs continuously until all jobs are completed (true) or process each job according to Interval (false).</p>	true	true/false
<p>Services/Sync Actual This Period/Enabled</p> <p>Service for synchronizing actuals and ActualThisPeriod values. If true, recalculates actual units and costs for ThisPeriod.</p>	true	true/false
<p>Services/Sync Actual This Period/Execution Interval</p> <p>Amount of time the service will wait before checking for any SyncActualThisPeriod jobs. The SyncActualThisPeriod service will poll the job service table, and the execution interval will determine when it starts.</p>	5m	1s - 24d20h31m23s647

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Sync Actual This Period/ActivityThreshold</p> <p>Determines if the SyncActualThisPeriod service will run simultaneously or as a job service. If the number of activities in a project is over the activity threshold, the SyncActualThisPeriod will run as a job service and add an entry to the job service table. The SyncActualThisPeriod service will poll the job service table, and the execution interval will determine when it starts. If the number of activities in a project is under the activity threshold, it will run immediately and will not add an entry to the job service table.</p>	8000	1-2147483647
<p>Services/Sync Actual This Period/Concurrent Threads</p> <p>The number of processes used for the SyncActualThisPeriod service on this server. A value of 0 (zero) indicates that the service is not available on this server.</p>	2	0 - 20
<p>Services/Sync Remaining to Planned/Enabled</p> <p>Set to false to disable the SyncRemainingtoPlanned service.</p>	true	true/false
<p>Services/Sync Remaining to Planned/Execution Interval</p> <p>Amount of time the service will wait before checking for any SyncRemainingtoPlanned jobs. The SyncRemainingtoPlanned service will poll the job service table, and the execution interval will determine when it starts.</p>	5m	1s-24d20h31m23s647

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Sync Remaining to Planned/Activity Threshold</p> <p>Determines if the SyncRemainingtoPlanned service will run simultaneously or as a job service. If the number of activities in a project is over the activity threshold, the SyncRemainingtoPlanned will run as a job service and add an entry to the job service table. The SyncRemainingtoPlanned service will poll the job service table, and the execution interval will determine when it starts. If the number of activities in a project is under the activity threshold, it will run immediately and will not add an entry to the job service table.</p>	8000	1-30000
<p>Services/Sync Remaining to Planned/Concurrent Threads</p> <p>The number of processes used for the SyncRemainingtoPlanned service on this server. A value of 0 (zero) indicates that the service is not available on this server.</p>	2	0-20
<p>Services/Sync Actuals with Duration % Complete/Enabled</p> <p>Set to false to disable the SyncActualswithDuration%Complete service.</p>	true	true/false
<p>Services/Sync Actuals with Duration % Complete/Execution Interval</p> <p>Amount of time the service will wait before checking for any SyncActualswithDuration%Complete jobs. The SyncActualswithDuration%Complete service will poll the job service table, and the execution interval will determine when it starts.</p>	5m	1s-24d20h31m23s647

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Sync Actuals with Duration % Complete/Activity Threshold</p> <p>Determines if the SyncActualswithDuration%Complete service will run simultaneously or as a job service. If the number of activities in a project is over the activity threshold, the SyncActualswithDuration%Complete will run as a job service and add an entry to the job service table. The SyncActualswithDuration%Complete service will poll the job service table, and the execution interval will determine when it starts. If the number of activities in a project is under the activity threshold, it will run immediately and will not add an entry to the job service table.</p>	8000	1-2147483647
<p>Services/Sync Actuals with Duration % Complete/Concurrent Threads</p> <p>The number of processes used for the SyncActualswithDuration%Complete service on this server. A value of 0 (zero) indicates that the service is not available on this server.</p>	2	0-20
<p>Services/Send to Fusion/Interval</p> <p>Amount of time to wait before running the next available job (in 1d1h1m1s - specifying no letters implies milliseconds).</p>	10s	1s - 24d20h31m23s647
<p>Services/Send to Fusion/Concurrent Threads</p> <p>The number of processes used for this service on this server. A value of 0 (zero) indicates that the service is not available on this server.</p>	2	0-20
<p>Services/Send to Fusion/Active Mode</p> <p>Process jobs continuously until all jobs are completed (true) or process each job according to the Interval (false).</p>	true	true/false

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Project Hierarchy Cache/Cache Policy</p> <p>The cache policy to use. The cache policy determines how much data is in the cache and which data is removed to reclaim memory. The allowable values are:</p> <p>FIFO (First In First Out-projects are cleared from the cache in the same order they were added to memory)</p> <p>LRU (Least Recently Used projects are cleared from the cache before more recently used ones)</p> <p>JVMM (Java Virtual Machine Managed-uses soft references to cached elements; memory used by soft references is reclaimed by the JVM as required)</p> <p>PRR (Projects are selected at random to be cleared from cache)</p> <p>PRFIFO (Periodic Refresh First In First Out-same as FIFO, except policy is enforced based on MaintenanceFrequency)</p> <p>PRLRU (Periodic Refresh Least Recently Used-same as LRU, except policy is enforced based on MaintenanceFrequency)</p> <p>PRCC (Periodic Refresh Clear Cache-ignores CacheLimit to flush the entire cache, based on MaitenanceFrequency)</p>	PRR	FIFO, LRU, JVMM, PRR, PRFIFO, PRLRU, PRCC
<p>Services/Project Hierarchy Cache/Cache Limit</p> <p>The maximum number of projects stored in memory.</p>	5000	1000 - 30000
<p>Services/Project Hierarchy Cache/Maintenance Frequency</p> <p>The frequency for applying the specified cache policy. Application of the cache policy might result in memory used by the cache to be reclaimed.</p>	5h	1m - 24d
<p>Services/Collaboration Synchronization Service/Synchronization Interval</p> <p>The interval at which the collaboration synchronization service will run. The synchronization service deletes documents and</p>	1h	1m - 24d20h31m23s647

Setting Name and Description	Default	Valid Ranges/Values
workflows for projects that have been deleted.		
Services/Asynchronous Jobs/Purge Interval The frequency at which long running job records will be removed from the database.	1h	0 - 24d20h31m23s647
Services/Asynchronous Jobs/Grace Time The minimum age of long running job records removed during purge.	1d	0 - 24d20h31m23s647
Services/Mail Service/Email Server Hostname or IP address of the e-mail notification server for Timesheet Approval.	—	—
Services/Mail Service/SMTP Port The tcp/ip port of the outgoing SMTP server.	25	1 - 65535
Services/Mail Service/Send Interval The frequency at which queued mail messages are sent.	1m	0 - 24d20h31m23s647
Services/Mail Service/Maximum Queue Length The maximum size of the mail message queue	250	0 - 2147483647
Services/Mail Service/Authorized User Name The name of the account to use to send mail from this mail server.	—	—
Services/Mail Service/Authorized User password The password of the account used to send mail from this mail server.	—	—
Services/Indexer/Indexing Interval The frequency that the indexer is run to update global search indices.	30s	10s-1d

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Indexer/Indexing Batch size</p> <p>The number of database records that are indexed at the same time.</p>	1000	10-10000
<p>Services/Import/Export Options/Temporary File Location</p> <p>The location to store the temporary file during the XML import/export process. If no location is specified, the temporary file is placed in the bootstrap home location, which is in the P6 home directory that was set during installation (for example, c:\p6home).</p>	—	—
<p>Services/Import/Export Options/Maximum file size</p> <p>The maximum file size (in KB) for XML import/export. Limitations on this file size are determined by the JVM settings and available space in the Temporary File Location. Users might need to alter the memory settings in their application server if the import/export file size is greater than the maximum default file size.</p>	102400	1024-2147483647
<p>Services/Configuration Management/Configuration Capture Enabled</p> <p>Allows P6 to collect configuration settings at the configured collection time.</p>	false	true/false
<p>Services/Configuration Management/Automatic Capture Time</p> <p>The time of day that the settings will be captured on a daily basis. Note that the collection time in OCM (Oracle Configuration Management) should be set to occur at least a few minutes AFTER this capture time.</p>	12AM	selection

Performance Monitor Settings

Setting Name and Description	Default	Valid Ranges/Values
Performance Monitor/Enabled	false	true/false

Setting Name and Description	Default	Valid Ranges/Values
Performance monitor packets are sent when true		
Performance Monitor/Monitor Host The destination IP or machine name for the performance monitor packets	localhost	—
Performance Monitor/Monitor Port The destination port for the Performance Monitor packets	6990	1 - 65535
Performance Monitor/Update Interval The rate at which the performance monitor packets are sent.	1s	250 - 1m

Tracer Settings

Setting Name and Description	Default	Valid Ranges/Values
Tracer/Enabled If true, debugging messages are sent to Tracer application.	false	true/false
Tracer/Server Name Hostname or IP address of destination for sending tracer information.	localhost	—
Tracer/Port Port to use for Tracer socket connection	9210	1-65535
Tracer/Use Background Send Thread If true, use background thread for sending TCP messages to tracer.	true	true/false

Integration API Server Settings

Setting Name and Description	Default	Valid Ranges/Values
<p>Integration API server/RMI/Registry Port</p> <p>The port for the RMI Registry. This value is usually set to at least 1024.</p>	9099	1 - 65535
<p>Integration API server/RMI/Enable</p> <p>The setting that enables the RMI server.</p>	true	true/false
<p>Integration API server/RMI/Enable Compression</p> <p>The setting that enables compression service mode.</p>	true	true/false
<p>Integration API server/RMI/Enable SSL</p> <p>The setting that enables SSL service mode.</p>	true	true/false
<p>Integration API server/RMI/Enable Standard Service</p> <p>The setting that enables Standard service mode.</p>	true	true/false
<p>Integration API server/RMI/Compression Service Port</p> <p>The port to use for Compression service mode. A setting of 0 indicates that any available port will be used. If the server will be accessed across a firewall, you must set this to a specific port.</p>	0	0 - 65535
<p>Integration API Server/RMI/SSL Service Port</p> <p>The port to use for SSL service mode. A setting of 0 indicates that any available port will be used. If the server will be accessed across a firewall, you must set this to a specific port.</p>	0	0 - 65535
<p>Integration API Server/RMI/Standard Service Port</p> <p>The port to use for Standard service mode. A setting of 0 indicates that any available port will be used. If the server will be accessed across a firewall, you must set this to a specific port.</p>	0	0 - 65535

Setting Name and Description	Default	Valid Ranges/Values
Integration API Server/Session Timeout The amount of time after which an idle client connection will be terminated.	120	1 - 24d

P6 EPPM Web Services Settings

Setting Name and Description	Default	Valid Ranges/Values
Web Services/Security/Authentication/Mode The method clients use for authentication.	Username Token Profile	Username Token Profile, SAML Token Profile, Cookies
Web Services/Security/Authentication/Username Token Profile/Nonce/Require Nonce Set to true to enable nonce.	true	true/false
Web Services/Security/Authentication/Username Token Profile/Nonce/Nonce Cache Timeout Specify a value, in the format 1d1h1m1s, for the Nonce cache timeout. The value specified indicates how long the nonce remains cached before it is expunged.	10m	5m-24d
Web Services/Security/Authentication/Username Token Profile/Created/Require Created Set to true to enable the Username token timestamp.	true	true/false
Web Services/Security/Authentication/Username Token Profile/Created/Timeout Specify a value, the format 1d1h1m1s, for the timestamp (Created) timeout. You can specify a minimum of 300 seconds. If you do not specify a value, the default is 600 seconds.	10m	5m-24d

Setting Name and Description	Default	Valid Ranges/Values
<p>Web Services/Security/Authentication/SAML Token Profile/SAML Version</p> <p>The SAML version of the token.</p>	1.1	1.1
<p>Web Services/Security/Authentication/SAML Token Profile/Require Signed SAML Token</p> <p>Specify whether SAML tokens must be signed or unsigned.</p>	true	true/false
<p>Web Services/Security/Authentication/SAML Token Profile/SAML 1.1 Tokens/Issuer</p> <p>Set the valid issuer for the SAML token. Separate multiple valid issuers with a space.</p>	http://your.saml.issuer.com	—
<p>Web Services/Security/Authentication/SAML Token Profile/SAML 1.1 Tokens/IssueInstant Timeout</p> <p>Specify a value, in the format 1d1h1m1s, for the IssueInstant timeout. The value specified indicates the maximum time allowed between the time the token is issued and the time the token is received by the web service.</p>	5m	5m-24d
<p>Web Services/Security/Authentication/SAML Token Profile/SAML 1.1 Tokens/AuthenticationInstant Timeout</p> <p>Specify a value, in the format 1d1h1m1s, for the AuthenticationIssueInstant timeout. The value specified indicates the maximum time allowed between the time the user is authenticated and the time the token is received by the web service.</p>	5m	5m-24d
<p>Web Services/Security/Authentication/SAML Token Profile/Signed SAML tokens/KeyStore Type</p> <p>Keystore type.</p>	JKS	JKS
<p>Web Services/Security/Authentication/SAML Token Profile/Signed SAML tokens/File Location</p> <p>Absolute path to the key store file. This file must exist on the local filesystem.</p>	c:\keystore\keystore.jks	—

Setting Name and Description	Default	Valid Ranges/Values
<p>Web Services/Security/Authentication/SAML Token Profile/Signed SAML tokens/Keystore Password</p> <p>Keystore password.</p>	—	—
<p>Web Services/Security/Authentication/SAML Token Profile/Signed SAML tokens/Certificate Alias</p> <p>Alias for the client certificate containing the public key.</p>	alias	—
<p>Web Services/Security/Message Protection/Require Timestamp</p> <p>If set to true, incoming SOAP messages must contain the WS-Security Timestamp element.</p>	true	true/false
<p>Web Services/Security/Message Protection/Require Digital Signatures for Incoming Messages</p> <p>Set to true to require that incoming SOAP messages are signed and conform to Web Service Security 1.1 standards. If set to false, incoming SOAP messages must not be signed.</p> <p>Note: To access Web Services, you must configure all Web Services settings to get encryption and digital signatures to work. If you do not want to use encryption or digital signatures, you must set this setting and the Require Encryption setting to false.</p>	true	true/false

Setting Name and Description	Default	Valid Ranges/Values
<p>Web Services/Security/Message Protection/Require Encryption for Incoming Messages</p> <p>Set to true to require incoming SOAP messages are encrypted and conform to Web Service Security 1.1 standards. When this setting is true, at least one element in each P6 Web Services request message must be encrypted. If set to false, incoming SOAP messages must not be encrypted.</p> <p>Notes: To access Web Services, you must configure all Web Services settings to get encryption and digital signatures to work. If you do not want to use encryption or digital signatures, you must set this setting and the Require Encryption setting to false. When the Encrypt Response setting and the Require Encryption for Incoming Messages setting are both set to true, the server encrypts everything inside of the body element of P6 Web Services response messages.</p>	true	true/false
<p>Web Services/Security/Message Protection/KeyStore Type</p> <p>Specify the KeyStore Type.</p>	JKS	JKS
<p>Web Services/Security/Message Protection/File Location</p> <p>Absolute path to key store file. This file must exist on the local filesystem.</p>	c:\keystore\keystore.jks	
<p>Web Services/Security/Message Protection/KeyStore Password</p> <p>Password for the KeyStore.</p>	—	—
<p>Web Services/Security/Message Protection/Private Key Alias</p> <p>Alias for the private key in KeyStore.</p>	alias	

Setting Name and Description	Default	Valid Ranges/Values
Web Services/Security/Message Protection/Private Key Password Password for the private key.	—	—
Web Services/Security/Message Protection/Encrypt Response Encrypt outgoing messages. This setting can be used only when encryption is enabled for incoming messages. Note: When the Encrypt Response setting and the Require Encryption for Incoming Messages setting are both set to true, the server encrypts everything inside of the body element of P6 Web Services response messages.	true	
Web Services/Security/Message Protection/Fusion Integration/Outgoing Messages/Require Encryption for Incoming Messages If enabled (true), incoming SOAP messages must be encrypted and conform to the Web Service Security 1.1 standard. For Fusion PPM Bridge, this value must be set to true. If disabled (false), incoming messages must not be encrypted. Note: For Fusion PPM Bridge, all values set in Outgoing Message settings for Web Services must be the same values set in Fusion Integration administrative settings for Web Services. Fusion PPM Bridge will be using the same certificate for inbound and outbound messages.	true	true/false
Web Services/Security/Message Protection/Fusion Integration/Outgoing Messages/KeyStore Type The type of KeyStore that holds the private key that decrypts the message.	JKS	JKS

Setting Name and Description	Default	Valid Ranges/Values
Web Services/Security/Message Protection/Fusion Integration/Outgoing Messages/File Location Absolute path to key store file. This file must exist on the local file system.	c:\keystore\keystore.jks	
Web Services/Security/Message Protection/Fusion Integration/Outgoing Messages/KeyStore Password Password for the KeyStore.	—	—
Web Services/Security/Message Protection/Fusion Integration/Outgoing Messages/Certificate Alias Alias for the client certificate containing the public key.	alias	—

Authentication Settings for P6 EPPM

The information below details all settings available from the Authentication tab of the P6 Administrator application.

Notes:

See the procedures in ***Automatic Database Upgrade*** (on page 99) if you are upgrading from a previous version of P6 EPPM software before modifying the authentication settings.

See ***Authentication in P6 EPPM*** (on page 461) for an overview of the authentication configuration process and instructions on how to provision LDAP user information.

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 for P6 EPPM*** (on page 463) for more information.

Authentication Settings

Setting Name and Description	Default	Valid Ranges/Values
<p>Authentication/Login Mode</p> <p>Determines the page that will display for logging into P6. Must be set to the same value chosen for Authentication Mode for the database instance. See Database Instance Settings (on page 331) for more information on this related setting.</p>	NATIVE	NATIVE,  WebSSO,  LDAP
<p>Authentication/Web Single Sign-On/User Name Header Key</p> <p>The name of the HTTP Header you specified in the policy server.</p> <p>The value you specify must match the property of the response you have created under the policy domain/realm, within which the Web server for P6 resides. For example, for Oracle Single Sign-On, the value of this response should be Proxy-Remote-User, where Proxy-Remote-User should match the LDAP server attribute that maps to the P6 EPPM database USER_NAME field. For Oracle Access Manager, the value should be OAM_REMOTE_USER.</p>	OAM_REMOTE_USER	— 
<p>Authentication/Web Single Sign-On/Context Path Override</p> <p>The path used to pass web requests from the Single Sign-On Web server to the P6 server. The default listed is the default value for P6.</p>	/p6	— 
<p>Authentication/Web Single Sign-On/Server and Port Override</p> <p>The fully qualified domain name and port for the Web server that the Single Sign-On server is controlling.</p> <p>Example format for Oracle Single Sign-On: http://server name.domain.com:7778</p> <p>Example format for Oracle Access Manager: http://server name.domain.com:80</p>	http://servername.domain.com:80	— 
<p>Authentication/Web Single Sign-On/Allow Alternate Login Attribute</p> <p>Set to true when using Oracle Single Sign-On and you want to use an SSO login attribute other than the P6 user name. For example, you will enter your e-mail</p>	false	true/false

Setting Name and Description	Default	Valid Ranges/Values
<p>address when authenticating to Oracle Single Sign-on, but your P6 user name will map to the LDAP's UID field.</p> <p>Notes: If you enable the Allow Alternate Login Attribute setting, you must configure the Header Key and LDAP Search Attribute settings. You must also configure the LDAP settings for the appropriate database instance to establish a connection to the LDAP server. If using P6 Progress Reporter, you must specify the Header Key and LDAP Search Attribute during the P6 Progress Reporter application server configuration. See P6 Progress Reporter Installation (on page 335) for details.</p>		
<p>Authentication/Web Single Sign-On/Header Key The HTTP Header Key which contains the global user ID.</p>	Osso-User-Guid	
<p>Authentication/Web Single Sign-On/LDAP Search Attribute The LDAP attribute searched by the Header Key to authenticate users.</p> <p>Note: You must configure the LDAP settings for the appropriate database instance to establish a connection to the LDAP server.</p>	orclguid	
<p>Authentication/LDAP/SSL Certificate Store The full path to the keystore that holds the SSL certificate for the LDAP server.</p>	—	— 
<p>Authentication/LDAP/SSL Store Password The password for the keystore that holds the SSL certificate.</p>	—	— 

Setting Name and Description	Default	Valid Ranges/Values
<p>Authentication/HTTPS/Enabled</p> <p>If set to true, and users don't use an HTTPS URL for the login page, they will be temporarily redirected to an HTTPS login page to complete the login process. In this case, the application server or web server must have SSL communication enabled.</p> <p>If set to false, users will not be redirected to an HTTPS URL for login.</p> <p>Caution: If kept as false, passwords will be passed to the application server as clear text when logging into the application.</p> <p>Note: If you have problems accessing the P6 application and this setting is enabled, you will need to verify that the SSL listen port is enabled on your application server and that it matches the Authentication/HTTPS/Port setting below. You should also check the WebAccessLog to ensure there is no error message about the SSL being disabled.</p>	false	 true/false
<p>Authentication/HTTPS/Port</p> <p>The port number used for SSL. The port number is required only if you enable the HTTPS option.</p>	443	0-2147483647 

Database instance Settings

Setting Name and Description	Default	Valid Ranges/Values
<p>Database instance/Authentication Mode</p> <p>The authentication method used for the database instance. Must be set to the same value chosen for Login Mode. See Authentication Settings (on page 329) for more information on this related setting.</p> <p>If Native or LDAP is selected, all P6 EPPM applications (with the exception of P6 EPPM Web Services) are set to that value. If SSO is selected, P6 and P6 Progress Reporter will be set to SSO and P6 Optional Client and P6 Integration API will be set to LDAP.</p>	Native	Native,  WebSSO,  LDAP

Setting Name and Description	Default	Valid Ranges/ Values
<p>Database instance/LDAP Connection Settings[n]/Host</p> <p>The connection string for the LDAP server.</p>	—	—
<p>Database instance/LDAP Connection Settings[n]/Port</p> <p>The port number for the LDAP server connection.</p>	636	0-2147483647
<p>Database instance/LDAP Connection Settings[n]/Username</p> <p>The name used to search the LDAP Base Directory Node. The username must be fully qualified (for example, uid=admin). The user must have rights to read the LDAP directory. LDAP username and password are optional when:</p> <ul style="list-style-type: none"> ▶ the installation is not using P6 Optional Client ▶ the SSO is selected as authentication mode ▶ the LDAP server allows anonymous logins (a prompt for user name and password when attempting to search) ▶ the LDAP is selected as authentication mode and admin does not want to store password in the AdminConfig blob; in this case, if not entered, admins will be prompted to enter LDAP username and password when provisioning users in P6 Web. 	—	—
<p>Database instance/LDAP Connection Settings[n]/Password</p> <p>The password of the name used to search the Base Directory Node. LDAP username and password are optional when:</p> <ul style="list-style-type: none"> ▶ the installation is not using P6 Optional Client ▶ when SSO is selected as authentication mode ▶ when the LDAP server allows anonymous logins (a prompt for user name and password when attempting to search) ▶ when LDAP is selected as authentication 	—	—

Setting Name and Description	Default	Valid Ranges/ Values
mode and admin does not want to store password in the AdminConfig blob; in this case, if not entered, admins will be prompted to enter LDAP username and password when provisioning users in P6 Web.		
Database instance/LDAP Connection Settings[n]/Enable SSL If set to false, will not connect to LDAP server using SSL. If true, you must populate the settings under the LDAP folder in Authentication Settings (on page 329).	true	true/false
Database instance/LDAP Connection Settings[n]/Chase Referrals Chasing Referrals allows authentication to extend to another domain. If set to false, searches will be performed only in the domain specified. Referral chasing is supported with Oracle Internet Directory and Microsoft Windows Active Directory. For Oracle Internet Directory, referrals chasing only works when the directories are configured to allow anonymous searches.	true	true/false
Database instance/LDAP Connection Settings[n]/Base Directory Node Specifies the location in the directory information tree in which to start searches.	—	—
Database instance/LDAP Connection Settings[n]/Field Map/USER_NAME The name of the LDAP directory field that maps to the P6 USER_NAME field. The LDAP field must be a unique identifier.	uid	—
Database instance/LDAP Connection Settings[n]/Field Map/EMAIL_ADDR The name of the LDAP directory field that maps to the P6 EMAIL_ADDR field.	mail	—
Database instance/LDAP Connection	cn	—

Setting Name and Description	Default	Valid Ranges/ Values
Settings[n]/Field Map/ACTUAL_NAME The name of the LDAP directory field that maps to the P6 ACTUAL_NAME field.		
Database instance/LDAP Connection Settings[n]/Field Map/OFFICE_PHONE The name of the LDAP directory field that maps to the P6 OFFICE_PHONE field.	telephoneNumber	—

P6 Progress Reporter Installation

To implement P6 Progress Reporter as part of your P6 EPPM installation, you must add a P6 Progress Reporter server to your network. The P6 Progress Reporter server hosts the P6 Progress Reporter application files using an application server which connects to your database server. This chapter describes how to install P6 Progress Reporter and how to review and modify configuration settings using the P6 Progress Reporter Administrator.

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Uninstalling Previous Versions of P6 Progress Reporter	336
Creating the WebLogic Environment for P6 Progress Reporter	338
Creating the WebSphere Environment for P6 Progress Reporter	351
The P6 Progress Reporter Administrator	357

P6 Progress Reporter Installation Process

P6 Progress Reporter is a web-based module that project team members can use to update project data. P6 Progress Reporter connects to the P6 EPPM database via an application server.

Users will launch P6 Progress Reporter via the Java Web Start or the Web Browser version. Java Web Start provides a secure and platform-independent deployment of P6 Progress Reporter using Java Network Launching Protocol (JNLP) technology and runs as a Java application. Java Web Start also ensures that users always launch the most recent version of P6 Progress Reporter under the correct client-side JRE version, even if there is more than one JRE version present. The Web Browser version enables users to access their timesheet data across the Internet as a Java applet and is required when using Single Sign-On for authentication.

Installing the P6 Progress Reporter server and fulfilling server administration tasks involve the following processes, which are described in this chapter:

- ▶ (upgrades only) If upgrading from P6 EPPM version 6.2.1 or earlier, uninstalling Group Server. See **Uninstalling Previous Versions of P6 Progress Reporter** (on page 336).
- ▶ Creating the P6 Progress Reporter environment, which includes installing one of the supported application servers, installing P6 Progress Reporter, and configuring and deploying the application server. See **Creating the WebLogic Environment for P6 Progress Reporter** (on page 338). See **Creating the WebSphere Environment for P6 Progress Reporter** (on page 351).
- ▶ Entering P6 EPPM database connection information, and reviewing and modifying P6 Progress Reporter configuration and application settings via the P6 Progress Reporter Administrator. See **The P6 Progress Reporter Administrator** (on page 357).
- ▶ Reviewing and modifying P6 Progress Reporter authentication settings via the P6 Administrator application. See **About the P6 Administrator application** (on page 266).

See **P6 Progress Reporter Implementation** (on page 469) after installing and configuring the P6 Progress Reporter server to fulfill application administration tasks for P6 Progress Reporter.

Tips

- ▶ For more information about Java Web Start, visit <http://www.oracle.com/technetwork/java/index.html>.
- ▶ See **Client and Server Requirements** (on page 66) for a list of supported application servers with version numbers. For a full list of tested configurations for the P6 Progress Reporter server, see the *P6 EPPM Tested Configurations* document.
- ▶ After you install P6 and configure P6 Progress Reporter, you can configure access to the Timesheet Approval application. See **About Timesheet Approval** (on page 481) for guidelines.

Uninstalling Previous Versions of P6 Progress Reporter

Before upgrading P6 Progress Reporter, you should upgrade the P6 EPPM database to R8.1. See **Automatic Database Upgrade** (on page 99) for details on how to upgrade your database and for information on potential impact areas to your environment. For the full list of tested configurations for P6 Progress Reporter, see the *P6 EPPM Tested Configurations* document.

If you are upgrading from P6 EPPM version 6.2.1 or earlier, Oracle recommends that you first uninstall the existing Group Server before installing P6 Progress Reporter; a new Web site will be created during the P6 Progress Reporter server setup. If you are upgrading from P6 EPPM version 7.0, you must uninstall the previous version of P6 Progress Reporter before upgrading to R8.1.

Tip



For security reasons, Oracle strongly recommends that you replace the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier. See **The Default Admin Superuser** (on page 415) for guidelines on this process.

Related Topics

Uninstalling the Existing Group Server	336
Uninstalling the Existing P6 Progress Reporter Application	337

Uninstalling the Existing Group Server

Follow the instructions below to uninstall Group Server.

Related Topics

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Stopping Group Server

To stop Group Server:

- 1) From the Windows Control Panel, select **Services**.
- 2) Select the **Primavera Group Server** entry.
- 3) Click **Stop**.
- 4) Close the Services window.

Uninstalling Group Server

To uninstall Group Server:

- 1) In the **Control Panel** window, double-click **Add/Remove Programs**.
- 2) Select **Primavera Group Server**.
- 3) Click the **Add/Remove** button.
- 4) Follow the steps in the Uninstall wizard.
- 5) Click **Finish** when the wizard completes the uninstall.

Uninstalling the Existing P6 Progress Reporter Application

Follow the instructions below to uninstall existing versions of P6 Progress Reporter.

Related Topics

Uninstalling P6 Progress Reporter from JBoss	337
Uninstalling P6 Progress Reporter from WebLogic	337
Uninstalling P6 Progress Reporter from WebSphere	338

Uninstalling P6 Progress Reporter from JBoss

To uninstall P6 Progress Reporter from a JBoss server:

- 1) Go to the JBoss install location (for example, c:\jboss-5.0.1.GA-jdk6\server).
- 2) Rename or delete the "pr" folder.

Note: Starting with P6 R8, JBoss is no longer a supported application server.

Uninstalling P6 Progress Reporter from WebLogic

To uninstall P6 Progress Reporter from a WebLogic server:

- 1) Do one of the following:
 - ▶ On Windows platforms, from the Start menu, choose Programs, *app name*, Uninstall *app name*.

- ▶ On Unix platforms, run the `uninstall.sh` script in the `weblogic_home/user_projects/domain` directory.
- 2) Create a new domain. Use the new domain during the procedures detailed in **Creating a WebLogic Domain for P6** (on page 146).

Tips

If you will use the same *prhome* directory for the new deployment, the existing EAR and WAR files should be deleted from that directory to avoid conflict with the new `pr.ear` and `pr-help.war` files.

Uninstalling P6 Progress Reporter from WebSphere

To uninstall P6 Progress Reporter from a WebSphere server:

- 1) Do one of the following:
 - ▶ On Windows platforms, from the Start menu, choose Programs, *app name*, Uninstall *app name*.
 - ▶ On Unix platforms, change to the `installableApps/app name` directory under the WebSphere install directory and run the `uninstallws.sh` script.
- 2) Launch the **WebSphere Application Console**.
- 3) Remove the current "pr" and "pr-help" deployments.

Tips

If you will use the same *prhome* directory for the new deployment, the existing EAR and WAR files should be deleted from that directory to avoid conflict with the new `pr.ear` and `pr-help.war` files.

Creating the WebLogic Environment for P6 Progress Reporter

Oracle WebLogic is a supported application server for P6 Progress Reporter. Creating the WebLogic environment consists of the following tasks:

- ▶ Installing the application server. See **Prerequisites for P6 Progress Reporter** (on page 339).
- ▶ Installing the P6 Progress Reporter application on the server. See **About P6 Progress Reporter Installation** (on page 340).
- ▶ Configuring the application server. See **Configuring WebLogic for P6 Progress Reporter** (on page 341).
- ▶ Deploying the application server. See **Deploying P6 Progress Reporter in WebLogic** (on page 350).
- ▶ Starting the application server. See **Starting WebLogic for P6 Progress Reporter** (on page 347).

Other configuration tasks covered in this section are optional, depending on your organization's needs.

Tips

- ▶ See **Creating the WebSphere Environment for P6 Progress Reporter** (on page 351) for WebSphere instructions.

- ▶ See **Client and Server Requirements** (on page 66) for a list of supported application servers with version numbers. For a full list of tested configurations for the P6 Progress Reporter server, see the *P6 EPPM Tested Configurations* document.

Related Topics

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Prerequisites for P6 Progress Reporter

Review the prerequisites below before installing P6 Progress Reporter.

WebLogic 11g R1 Installation

Consult WebLogic's documentation for installation instructions. Visit <http://oracle.com/technology/documentation/bea.html>.

Tips

On Windows, it is recommended that you install the application server to a folder with a short name.

JDK Installation on WebLogic

WebLogic 11g R1 automatically installs Oracle JRockit 1.6.0_20_D1.1.0-18 and Sun Java 2 JDK version 6.0 update 21 (1.6.0_21) for Windows; however, specific versions are supported based on your configuration. For a list of tested configurations for the P6 JDK, see the *P6 EPPM Tested Configurations* document.

The following guidance may be helpful, which is current at the time of publication:

- ▶ To use the Sun JDK, version 6.0 update 24 (1.6.0_24) is required. The JDK is not provided by Oracle. As of now, update 24 is available at <http://www.oracle.com/technetwork/java/javase/downloads/index-jsp-138363.html>. As new releases of the software are made available, update 24 can be found at <http://www.oracle.com/technetwork/java/archive-139210.html>.
- ▶ To use JRockit, JRockit R28 for Java SE 6 (1.6.0_22) is required. JRockit R28 for Java SE 6 is included in the Microsoft Windows and Linux platform versions of the P6 EPPM media pack. For more information, see the *P6 EPPM Quick Install Guide* and <http://oracle.com/technology/documentation/bea.html>.

About P6 Progress Reporter Installation

Before installing or upgrading to P6 Progress Reporter R8.1, you should install the R8.1 version of the P6 EPPM database, or upgrade your current version. See **Automatic Database Installation** (on page 79) for information on installing the P6 EPPM database. See **Manual Database Configuration** (on page 87). See **Automatic Database Upgrade** (on page 99) for information on upgrading a database for compatibility.

If you have previously installed P6 Progress Reporter version 7.0, you must uninstall it before installing P6 Progress Reporter R8.1. See **Uninstalling Previous Versions of P6 Progress Reporter** (on page 336) for more information.

When you install the P6 Progress Reporter, you will copy files to a home directory on your computer that you will create for P6 Progress Reporter. Make note of the installation home directory path that you create so you can locate the following files when called for during the configuration process:

- ▶ pr.ear
- ▶ pr-help.war

Note: You will not need the pr-help.war file if you are using the default OTN URL for your P6 Progress Reporter Help.

Copying Files to Install P6 Progress Reporter

To install the P6 Progress Reporter:

- 1) Create a home directory for P6 Progress Reporter. For example:
In Windows: C:\prhome
In UNIX: /usr/prhome
- 2) From the Progress_Reporter folder of the physical media or download location, copy the following to your P6 Progress Reporter home directory:
 - ▶ com.springsource.javax.persistence-1.0.0.jar
 - ▶ eclipselink-1.1.0.jar
 - ▶ pr.ear
 - ▶ pr-emplugin.jar

Note: If you configure Oracle Enterprise Manager to work with P6 Progress Reporter you will need the pr-emplugin.jar. Use Oracle Enterprise Manager documentation to install and configure Oracle Enterprise Manager.

- ▶ pr-help.war

Note: You will not need the pr-help.war file if you are using the default OTN URL for your P6 Progress Reporter Help.

Configuring WebLogic for P6 Progress Reporter

This section details the basic configuration steps for P6 Progress Reporter in a WebLogic environment when opting for an Admin Server or Managed Server deployment. Oracle recommends that you create a Managed Server deployment. When creating a Managed or clustered environment, in addition to following the instructions in this section, you will need to copy the `primavera-configuration.properties` file from the P6 Progress Reporter home directory on the Admin Server machine to the new location on each Managed Server or clustered machine in order to connect to the same P6 EPPM database. Also, this section assumes that P6 and P6 Progress Reporter will be set up in separate domains; however, as with other applications, you can create one domain and configure both P6 EPPM web applications to run in the same domain.

Although not required for the P6 Progress Reporter server set up, WebLogic has additional settings that can be used to enhance the environment. For example, when using clustering, enabling the session replication setting will seamlessly transfer users to another server in case of an unexpected server shutdown.

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

Related Topics

Creating a WebLogic Domain for P6 Progress Reporter.....	341
Editing the <code>setDomainEnv</code> File for P6 Progress Reporter	344
Starting WebLogic for P6 Progress Reporter	347
Stopping WebLogic for P6 Progress Reporter	348
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Creating a WebLogic Domain for P6 Progress Reporter

To create a WebLogic Domain:

- 1) Run the WebLogic **Configuration Wizard**.
- 2) In the **Welcome** window:
 - a. Select **Create a new WebLogic domain**.
 - b. Click **Next**.
- 3) In the **Select Domain Source** window, click **Next** to accept the default selections.

Note: If available, ensure the **Oracle JRF** (Java Required File) option is clear. Only the **Basic WebLogic Server Domain** option should be selected.

- 4) In the **Specify Domain Name and Location**:
 - a. Enter the domain name (for example, `p6` for P6 or `pr` for P6 Progress Reporter).
 - b. Enter the domain location.
 - c. Click **Next**.
- 5) In the **Configure Administrator User Name and Password** window:

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

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

- 9) In the **Configure Managed Servers** window:
- a. Click **Add**.
 - b. Enter the **Name** and select the **Listen address** information.
 - c. (Optional) Select the **SSL enabled** option and set the SSL listen port.

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

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

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

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

Note: For information on setting up clusters, use Oracle's WebLogic Server documentation: http://download.oracle.com/docs/cd/E11035_01/wls100/cluster/setup.html.

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

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

12) In the **Configure Machines** window:

- a. Select the **Machine** or **Unix Machine** tab.
- b. If you select the **Machine** tab:
 1. Click **Add**.
 2. (Required) Enter a valid machine name.
 3. (Optional) Select the **Node manager listen address** from the list.

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

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

Notes:

- You might want to create machine definitions for the following situations: (1) The Administration Server uses the machine definition, with the Node Manager application, to start remote servers. (2) WebLogic Server uses configured machine names when determining the server in a cluster that is best able to handle certain tasks, such as HTTP session replication. The WebLogic Server then delegates those tasks to the identified server.
-

- You must configure machines for each product installation that runs a Node Manager process. The machine configuration must include values for the listen address and port number parameters.

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

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

- a. In the **Machine** list, select the machine where you want to assign a WebLogic Server instance.
- b. Assign WebLogic Server instances to the selected machine.
The name of the WebLogic Server instance is removed from the **Server** list and added below the name of the target machine in the **Machine** list.
- c. Repeat steps a and b for each WebLogic Server instance you want to assign to a machine.
- d. Review the machine assignments.
If necessary, you can remove a WebLogic Server instance from a machine, and the WebLogic Server instance will be removed from the **Machine** list and restored to the **Server** list.

14) In the **Configuration Summary** window, click **Create**.

If given the option, you can click **Done** now. Otherwise, continue to the next step.

15) If you are using Windows, in the **Creating Domain** window:

- a. Select **Start Admin Server**.
- b. Click **Done**.

16) When prompted, enter the user name and password that you entered in step 5.

Editing the setDomainEnv File for P6 Progress Reporter

To continue configuring WebLogic for P6 Progress Reporter, edit the setDomainEnv file:

- 1) Copy the **com.springsource.javax.persistence-1.0.0.jar** and the **eclipselink-1.1.0.jar** from the Progress_Reporter folder of the physical media or download to one of the following folders:
 - ▶ In Windows:
Copy to *weblogic_home\user_projects\domains\your_domain\lib*
 - ▶ In Unix:
Copy to *weblogic_home/user_projects/domains/your_domain/lib/*
- 2) Make a backup copy of the **setDomainEnv** file in case you need to undo any changes.
 - ▶ In Windows, the file is named "setDomainEnv.cmd" and is located in:
weblogic_home\user_projects\domains\your_domain\bin
 - ▶ In Unix, the file is named "setDomainEnv.sh" and is located in:
weblogic_home/user_projects/domains/your_domain/bin/
- 3) Right-click the **setDomainEnv** file and select **Edit**.
- 4) Locate the following sections:

- ▶ In Windows:
Locate a space after the **@REM ADD EXTENSIONS TO CLASSPATHS** section and before the **@REM SET THE CLASSPATH** section.
 - ▶ In Unix:
Locate a space after **# ADD EXTENSIONS TO CLASSPATHS** section and before the **# SET THE CLASSPATH** section.
- 5) Add a new **PRE_CLASSPATH** line:
- ▶ In Windows:
Add the following **PRE_CLASSPATH** line below the **@REM ADD EXTENSIONS TO CLASSPATHS** section and above the **@REM SET THE CLASSPATH** section. The line should look similar to the following (all one line):


```
set
PRE_CLASSPATH=%DOMAIN_HOME%\lib\com.springsource.javax.persisten
ce-1.0.0.jar;%DOMAIN_HOME%\lib\eclipselink-1.1.0.jar;%PRE_CLASSP
ATH%
```

where *DOMAIN_HOME* is the folder where you copied the jar files (for example, *C:\weblogic_home\user_projects\domains\your_domain*)
 - ▶ In Unix:
Add the following **PRE_CLASSPATH** line below the **# ADD EXTENSIONS TO CLASSPATHS** section and above the **# SET THE CLASSPATH** section. The line should look similar to the following (the "export" line should be underneath the "PRE_CLASSPATH" line):


```
PRE_CLASSPATH="${DOMAIN_HOME}/lib/com.springsource.javax.persist
ence-1.0.0.jar:${DOMAIN_HOME}/lib/eclipselink-1.1.0.jar:${PRE_CL
ASSPATH}"
export PRE_CLASSPATH
```

where *DOMAIN_HOME* is the folder where you copied the jar files (for example, *weblogic_home/user_projects/domains/your_domain*)
- 6) (Optional) To verify that you set the classpath correctly, add one of the following echo statements at the end of the `setDomainEnv` file:
- ▶ In Windows, the line should look similar to the following (all one line):


```
echo %CLASSPATH%
```
 - ▶ In Unix, the line should look similar to the following (all one line):


```
echo "${CLASSPATH}"
```
- 7) Locate the line that begins with one of the following:
- ▶ In Windows:
`call "%WL_HOME%/common/bin/commEnv.cmd"`
 - ▶ In Unix:
`${WL_HOME}/common/bin/commEnv.sh`
- 8) Add a new **JAVA_OPTIONS=** line below the line you located to set the Primavera bootstrap variable (it should be all one line with no space between "-" and "Dprimavera").
- ▶ In Windows, the line should look similar to the following (all one line):

```
set JAVA_OPTIONS=%JAVA_OPTIONS%
-Dprimavera.configuration.home=configurationhome
where configurationhome is the new location (for example, C:\prhome).
```

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

```
JAVA_OPTIONS="$ {JAVA_OPTIONS}
-Dprimavera.configuration.home=configurationhome"
where configurationhome is the new location (for example, /usr/prhome).
```

- 9) If using Oracle Single Sign-On and you want to use an SSO login attribute other than the P6 Progress Reporter user name (for example, you want to use an e-mail address to login), add the following as all one line immediately after the Primavera configuration home variable:

```
-DSSO.AlternateHeaderKey=Ossso-User-Guid
-DSSO.AlternateLDAPSearchAttribute=orclguid
```

where *Ossso-User-Guid* is the HTTP Header Key that contains the global user ID and *orclguid* is the LDAP attribute searched by the Header Key to authenticate users.

- ▶ In Windows, the line should look similar to the following (all one line with a space before -DSSO):

```
set JAVA_OPTIONS=%JAVA_OPTIONS%
-Dprimavera.configuration.home=configurationhome
-DSSO.AlternateHeaderKey=Ossso-User-Guid
-DSSO.AlternateLDAPSearchAttribute=orclguid
```

- ▶ In UNIX, the line should look similar to the following (all one line with a space before -DSSO):

```
JAVA_OPTIONS="$ {JAVA_OPTIONS}
-Dprimavera.configuration.home=configurationhome
-DSSO.AlternateHeaderKey=Ossso-User-Guid
-DSSO.AlternateLDAPSearchAttribute=orclguid"
```

Note: The values for Header Key and Search Attribute must match those specified for P6 in the P6 Administrator application. See **Authentication Settings** (on page 329) for more details.

- 10) If using the Sun JDK:

- a. Add new memory settings to maximize performance and increase the JVM MaxPermSize setting to avoid Out-of-Memory errors. (The MaxPermSize setting should be set to at least 256m.) To do this, add a USER_MEM_ARGS line so you can set the following values for NewSize, MaxNewSize, MaxPermSize, SurvivorRatio, total Initial size (-Xms), and Maximum heap size (-Xmx):

```
-XX:NewSize=256m -XX:MaxNewSize=256m -XX:MaxPermSize=256m
-XX:SurvivorRatio=8 -Xms2048m -Xmx2048m
```

Add the line immediately below the JAVA_OPTIONS line you created (all one line):

- In Windows, the line should look similar to the following:

```
set USER_MEM_ARGS=-XX:NewSize=256m -XX:MaxNewSize=256m
-XX:MaxPermSize=256m -XX:SurvivorRatio=8 -Xms2048m -Xmx2048m
```

- In Unix, the line should look similar to the following:

```
USER_MEM_ARGS="-XX:NewSize=256m -XX:MaxNewSize=256m -XX:MaxPermSize=256m
-XX:SurvivorRatio=8 -Xms2048m -Xmx2048m"
```

- b. Set the Java Virtual Machine by entering a variable for JAVA_VM. Add the line immediately below the USER_MEM_ARGS line you created.

- In Windows, the line should look similar to the following:

```
set JAVA_VM=-server
```

- In Unix, the line should look similar to the following:

```
JAVA_VM="-server"
```

- 11) If using the JRockit JDK, modify memory settings to maximize performance. To do this, add a USER_MEM_ARGS line so you can set the following values for total Initial (-Xms) and Maximum heap (-Xmx) size.

Add the line immediately below the JAVA_OPTIONS line you created (all one line):

- ▶ For Windows:

```
set USER_MEM_ARGS=-Xms2048m -Xmx2048m
```

- ▶ For Unix:

```
USER_MEM_ARGS="-Xms2048m -Xmx2048m"
```

- 12) Save the changes to the setDomainEnv file and close it.

- 13) Stop and restart the Admin Server.

Starting WebLogic for P6 Progress Reporter

Follow the instructions below to start WebLogic for P6 Progress Reporter. These procedures assume that you have installed P6 Progress Reporter into a supported application server and completed the additional steps outlined in **Configuring WebLogic for P6 Progress Reporter** (on page 341) and **Deploying P6 Progress Reporter in WebLogic** (on page 350).

Related Topics

Starting WebLogic on Windows Platforms.....	347
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Starting WebLogic on Windows Platforms

To start WebLogic on Windows:

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

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

Starting WebLogic on UNIX Platforms

To start WebLogic on UNIX platforms:

- 1) Change to the *weblogic_home/user_projects/domain* directory.
- 2) Run the `startWebLogic.sh` script.
- 3) If prompted for a user name and password in the WebLogic console window, type in the admin user name and password you specified when creating the domain.

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

Stopping WebLogic for P6 Progress Reporter

- 1) Go to the WebLogic terminal console.
- 2) Press `Ctrl+c`.

Starting and Stopping Managed Servers

You have several options for starting and stopping managed servers. Oracle recommends that you use the `startNodeManager` file and start the server in the WebLogic Administration Console (see **Starting a Managed or Clustered Server** (on page 153)). However, you can view other ways to stop and start managed servers at "Managing Server Startup and Shutdown for Oracle WebLogic Server" at http://download.oracle.com/docs/cd/E14571_01/web.1111/e13708/overview.htm.

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

Related Topics

Starting a Managed or Clustered Server	348
Stopping a Managed or Clustered Server	349

Starting a Managed or Clustered Server

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

- 1) Run the **startNodeManager** file.
 - ▶ In Windows, the file is named "startNodeManager.cmd" and is located in:
weblogic_home\wlserver_10.3\server\bin
 - ▶ In Unix, the file is named "startNodeManager.sh" and is located in:
weblogic_home/wlserver_10.3/server/bin/
- 2) Launch the WebLogic **Administration Console**.

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

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

Stopping a Managed or Clustered Server

Your managed or clustered server will stop running when you close the startNodeManager file.

You can also stop the managed or clustered server in the WebLogic Administration Console.

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

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

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

Deploying P6 Progress Reporter in WebLogic

Follow the instructions below to deploy P6 Progress Reporter into the WebLogic domain.

Note: Consult WebLogic's documentation for additional methods of deploying a Web application, such as using a Managed Server or Clustering.

Related Topics

Adding P6 Progress Reporter as a WebLogic Application.....	350
Starting the P6 Progress Reporter Application in WebLogic	351

Adding P6 Progress Reporter as a WebLogic Application

To add P6 Progress Reporter as a WebLogic application:

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

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

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

Starting the P6 Progress Reporter Application in WebLogic

To start the P6 Progress Reporter application in WebLogic:

- 1) In the **Change Center** pane, click **Activate Changes**.
- 2) In the **Domain Structure** pane, click **Deployments**.
- 3) In the **Summary of Deployments** pane, select **pr**.
- 4) In the **Summary of Deployments** pane:
 - a. Click the down arrow to the right of the **Start** button.
 - b. Click **Servicing all requests**.
- 5) In the **Start Application Assistant** pane, click **Yes**.
- 6) In the **Summary of Deployments** pane, click the **start Running** link in the **State** column of the row that contains 'pr.'
- 7) Wait a few minutes, then click **Refresh**.
- 8) The 'pr' State column should show **Active**.
- 9) (Optional, see note below) Repeat the *Deploying P6 Progress Reporter in WebLogic* (on page 350) process for the 'pr-help.war' file.

Note: Do not do this step for the 'pr-help.war' file if you want to use OTN for your help. The OTN link is the default link in the P6 Administrator application. OTN will have the most up-to-date documentation for the P6 Progress Reporter Help.

- 10) Verify that the **State** column for both files shows **Active**.

Application Server Plug-Ins for P6 EPPM

Application servers offer a variety of plug-ins that enable you to configure a front-end Web server other than the one provided with the application server. For procedures on configuring a Web server plug-in, refer to the application server's documentation.

Creating the WebSphere Environment for P6 Progress Reporter

IBM WebSphere is a supported application server for P6 Progress Reporter. Creating the WebSphere environment consists of the following tasks:

- ▶ Installing the application server. See *Prerequisites for P6 Progress Reporter* (on page 339).
- ▶ Installing the P6 Progress Reporter application on the server. See *About P6 Progress Reporter Installation* (on page 340).
- ▶ Configuring and deploying the application server. See *Configuring WebSphere for P6 Progress Reporter* (on page 353).
- ▶ Starting the application server. See *Starting WebSphere for P6 Progress Reporter* (on page 356).

Other configuration tasks covered in this section are optional, depending on your organization's needs.

Tips

- ▶ See **Creating the WebLogic Environment for P6 Progress Reporter** (on page 338) for WebLogic instructions.
- ▶ See **Client and Server Requirements** (on page 66) for a list of supported application servers with version numbers. For a full list of tested configurations for the P6 Progress Reporter server, see the *P6 EPPM Tested Configurations* document.

Related Topics

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Prerequisites for P6 Progress Reporter

Review the prerequisites below before installing P6 Progress Reporter.

WebSphere 7.0 Installation

Consult WebSphere's documentation for installation instructions.

Tips

On Windows, it is recommended that you install the application server to a folder with a short name.

JDK Installation on WebSphere

WebSphere 7.0 automatically installs the IBM JDK on the application server. Installing the recommended WebSphere fix pack will update the JDK to the supported version. See **Client and Server Requirements** (on page 66) or the *Tested Configurations* document for information on which fix pack was tested.

About P6 Progress Reporter Installation

Before installing or upgrading to P6 Progress Reporter R8.1, you should install the R8.1 version of the P6 EPPM database, or upgrade your current version. See **Automatic Database Installation** (on page 79) for information on installing the P6 EPPM database. See **Manual Database Configuration** (on page 87). See **Automatic Database Upgrade** (on page 99) for information on upgrading a database for compatibility.

If you have previously installed P6 Progress Reporter version 7.0, you must uninstall it before installing P6 Progress Reporter R8.1. See **Uninstalling Previous Versions of P6 Progress Reporter** (on page 336) for more information.

When you install the P6 Progress Reporter, you will copy files to a home directory on your computer that you will create for P6 Progress Reporter. Make note of the installation home directory path that you create so you can locate the following files when called for during the configuration process:

- ▶ pr.ear
- ▶ pr-help.war

Note: You will not need the pr-help.war file if you are using the default OTN URL for your P6 Progress Reporter Help.

Copying Files to Install P6 Progress Reporter

To install the P6 Progress Reporter:

- 1) Create a home directory for P6 Progress Reporter. For example:
 - In Windows: C:\prhome
 - In UNIX: /usr/prhome
- 2) From the Progress_Reporter folder of the physical media or download location, copy the following to your P6 Progress Reporter home directory:
 - ▶ com.springsource.javax.persistence-1.0.0.jar
 - ▶ eclipselink-1.1.0.jar
 - ▶ pr.ear
 - ▶ pr-emplugin.jar

Note: If you configure Oracle Enterprise Manager to work with P6 Progress Reporter you will need the pr-emplugin.jar. Use Oracle Enterprise Manager documentation to install and configure Oracle Enterprise Manager.

- ▶ pr-help.war

Note: You will not need the pr-help.war file if you are using the default OTN URL for your P6 Progress Reporter Help.

Configuring WebSphere for P6 Progress Reporter

This section details the necessary configuration and deployment steps for P6 Progress Reporter in a WebSphere environment. Although not required for the P6 Progress Reporter server set up, WebSphere has additional settings that can be used to enhance the environment. For example, when using clustering, enabling the session replication setting will seamlessly transfer users to another server in case of an unexpected server shutdown. Also, this section assumes that P6 and P6 Progress Reporter will be set up in separate domains; however, as with other applications, you can create one domain and configure both P6 EPPM web applications to run in this domain. See WebSphere's documentation for details on all available configuration, deployment, and settings options.

Configuring WebSphere requires the following tasks:

- ▶ **Configuring P6 Progress Reporter Home in WebSphere** (on page 354)
- ▶ **Configuring P6 Progress Reporter to be a New WebSphere Application** (on page 355)
- ▶ **Deploying P6 Progress Reporter in WebSphere** (on page 356)

Related Topics

Configuring P6 Progress Reporter Home in WebSphere	354
Configuring P6 Progress Reporter to be a New WebSphere Application	355
Deploying P6 Progress Reporter in WebSphere	356

Configuring P6 Progress Reporter Home in WebSphere

To configure P6 Progress Reporter home:

- 1) Start the WebSphere Application Server.
- 2) Launch the WebSphere Application Server **Administrative Console**.
- 3) In the left-hand navigation pane:
 - a. Expand **Servers** then **Server Types**.
 - b. Click **WebSphere application servers**.
- 4) On the **Application servers** screen, click the server name link.
- 5) On the **Configuration** tab, under **Server Infrastructure**, expand **Java and Process Management**.
- 6) Click **Process Definition**.
- 7) Under **Additional Properties**, click **Java Virtual Machine**.
- 8) In the **Initial heap size** field, enter the appropriate number based on considerations for your environment, such as deployment size, projected system load, desired performance, and scalability level. For example, if you enter 2048, this indicates an initial heap memory size of 2048MB. This setting might result in slightly longer startup times than lower settings but will front-load the initialization of WebSphere memory after a server start up.
- 9) In the **Maximum heap size** field, enter the appropriate number for your environment. For example, if you enter 2048, this indicates a maximum heap memory size of 2048MB, the recommended setting for production systems. Typically, it is also recommended that the Initial and Maximum heap size settings match.

Caution: If you do not plan to change the default configuration home location for P6 Progress Reporter (*user home directory/.oracle/primavera/progressreporter*), skip to step 12. See **The P6 Progress Reporter Administrator** (on page 357) to learn more about the configuration home setting.

- 10) Under **Generic JVM arguments**, type:
-Dprimavera.configuration.home=*configurationhome*
where *configurationhome* is the new location (for example, C:\prhome)
- 11) Click **OK**.

- 12) Click the **Save** link that appears within the message reporting changes.
- 13) Restart the application server instance.

Configuring P6 Progress Reporter to be a New WebSphere Application

To configure P6 Progress Reporter to be a new WebSphere application:

- 1) From the Administrative Console's left-hand navigation pane:
 - a. Expand **Applications**.
 - b. Click **New Application**.
- 2) On the **Install a New Application** screen, click **New Enterprise Application**.
- 3) On the **Path to the new application** screen:
 - a. Specify the path to the P6 Progress Reporter installation home directory and the 'pr.ear' file (for example, C:\prhome\pr.ear).
 - b. Click **Next**.
- 4) On the **How do you want to install the application** screen:
 - a. Accept the defaults.
 - b. Click **Next**.

Note: If the Application Security Warnings screen displays, click Continue.

- 5) On the **Install New Application** screen:
 - a. In Step 1, the **Select installation options** section, accept the defaults.
 - b. In Step 2, the **Map modules to servers** section, select the **Oracle Primavera Progress Reporter** option.
 - c. In Step 3, the **Map virtual hosts for Web modules** section, select the **Oracle Primavera Progress Reporter** option.
 - d. In Step 4, the **Map context roots for Web modules** section, type `/pr`.
 - e. In Step 5, the **Summary** section, review your settings.
 - f. Click **Finish**.

Note that the application EAR file is now deploying and that this process might take several minutes.
- 6) To save directly to the master configuration, click **Save**. This process might also take several minutes.
- 7) (Optional, see note below) Repeat these steps for the 'pr-help.war' file, using 'pr-help' in place of 'pr'.

Note: Do not do this step for the 'pr-help.war' file if you want to use OTN for your help. The OTN link is the default link in the P6 Administrator application. OTN will have the most up-to-date documentation for the P6 Progress Reporter Help.

Deploying P6 Progress Reporter in WebSphere

To deploy P6 in WebSphere:

- 1) On the Administrative Console main screen:
 - a. In the left-hand navigation, expand **Applications**.
 - b. Click **WebSphere enterprise applications**.
- 2) Locate **pr** and **pr-help** (optional, see note below) and check their application statuses. If they are not green arrows, click the Start button above the Select column.

Note: Do not do this step for the 'pr-help.war' file if you want to use OTN for your help. The OTN link is the default link in the P6 Administrator application. OTN will have the most up-to-date documentation for the P6 Progress Reporter Help.

- 3) If necessary, restart the WebSphere application server.

Starting WebSphere for P6 Progress Reporter

The following procedures assume that you have installed P6 Progress Reporter into a supported application server and completed the additional steps outlined in **Configuring WebSphere for P6 Progress Reporter** (on page 353).

To start WebSphere for P6 Progress Reporter:

- 1) On the Administrative Console main screen, in the left-hand navigation, expand **Applications**.
- 2) Click **WebSphere enterprise applications**.
- 3) Select the option for '**pr**' (the default module name assigned during configuration) and click **Start**.
- 4) (Optional, see note below) Select the option for '**pr-help**' (the default module name assigned during configuration) and click **Start**.

Note: Do not do this step for the 'pr-help.war' file if you want to use OTN for your help. The OTN link is the default link in the P6 Administrator application. OTN will have the most up-to-date documentation for the P6 Progress Reporter Help.

Stopping WebSphere for P6 Progress Reporter

To stop WebSphere for P6 Progress Reporter:

- 1) On the Administrative Console main screen, in the left-hand navigation, expand **Applications**.
- 2) Click **WebSphere enterprise applications**.
- 3) Select the option for '**pr**' (the default module name assigned during configuration) and click **Stop**.
- 4) Select the option for '**pr-help**' (the default module name assigned during configuration) and click **Stop**.

Note: Do not do this step for the 'pr-help.war' file if you want to use OTN for your help. The OTN link is the default link in the P6 Administrator application. OTN will have the most up-to-date documentation for the P6 Progress Reporter Help.

Application Server Plug-Ins for P6 EPPM

Application servers offer a variety of plug-ins that enable you to configure a front-end Web server other than the one provided with the application server. For procedures on configuring a Web server plug-in, refer to the application server's documentation.

The P6 Progress Reporter Administrator

Use the P6 Progress Reporter Administrator to review and modify server configuration and application settings for P6 Progress Reporter. The settings are stored in the P6 EPPM database and are used to run the application server for P6 Progress Reporter.

On the server configuration page, the P6 Progress Reporter Administrator presents categories of settings as tabs along the top of the page. The Configuration tab will display the first time you log into the P6 Progress Reporter Administrator so that you can specify the connection to the P6 EPPM database. Other tabs will become available after you successfully connect to the P6 EPPM database and restart the application server instance. On the application page, the P6 Progress Reporter Administrator presents all settings on one page, grouped by category.

Except for changes to the database connection and connection pool settings, all other setting changes are immediate and do not require a restart of the application server instance.

Caution: Only experienced administrators should use the P6 Progress Reporter Administrator to modify configuration and application settings.

Tips

In addition to the settings in the P6 Progress Reporter Administrator, you must review additional application settings and perform implementation tasks for a complete P6 Progress Reporter environment. See ***Application Settings and Global Enterprise Data in P6 EPPM*** (on page 441). See ***P6 Progress Reporter Implementation*** (on page 469).

Accessing the P6 Progress Reporter Administrator

To access the P6 Progress Reporter Administrator:

- 1) Launch a supported browser.
- 2) Enter the URL using the structure
`http://serverIP:listenport/ContextRoot/admin/configuration`
where *ContextRoot* is **pr** by default.

Examples:

WebLogic: `http://serverIP:7001/pr/admin/configuration`

WebSphere: `http://server/IP:9080/pr/admin/configuration`

Reviewing and Modifying Server Configuration Settings in the P6 Progress Reporter Administrator

To review and modify server configuration settings in the P6 Progress Reporter Administrator:

- 1) Launch the P6 Progress Reporter Administrator.
- 2) Enter a privileged user name and password for the P6 EPPM database.
- 3) If you have not already entered the database connection settings, the Configuration tab will appear. Enter the database URL, privileged user name, and privileged user password for the P6 EPPM database. You will be prompted to reboot the application server instance.
- 4) Modify other server configuration settings as needed.
- 5) Click **Save**.

Reviewing and Modifying Application Settings in the P6 Progress Reporter Administrator

To review and modify application settings in the P6 Progress Reporter Administrator:

- 1) Launch the P6 Progress Reporter Administrator.
- 2) Select **Click here to administer timesheet application settings**.
- 3) Enter your P6 EPPM user name and password.
- 4) Modify the settings as needed.
- 5) Click **Save**.

Specifying the P6 Progress Reporter Help Site Location

You have two options for deploying and using P6 Progress Reporter Help.

Use the Default P6 Progress Reporter Help URL (Recommended):

Note: To use this option, P6 Progress Reporter must be able to access the Internet.

To provide the most up-to-date online assistance available, P6 Progress Reporter automatically links to help hosted on the Oracle Technology Network (OTN). OTN houses Oracle's most up-to-date documentation. If there are any changes to P6 Progress Reporter functionality, those changes will be represented in the help documentation on OTN. If you can access help on the Internet, then you do not have to do anything to configure the help.

Use the P6 Progress Reporter Help WAR File:

If your P6 Progress Reporter configuration cannot access help on the Internet, you must specify the P6 Progress Reporter Help site location in order for users to access online help within the application. To provide the most up-to-date online assistance available, P6 Progress Reporter Help site files are provided independently from the P6 Progress Reporter server application EAR file.

Caution: The following instructions assume that you have already followed the instructions to copy, configure, and deploy the P6 Progress Reporter Help WAR file on your application server, as described in ***Configuring WebLogic for P6 Progress Reporter*** (on page 341) and ***Configuring WebSphere for P6 Progress Reporter*** (on page 353).

To specify the P6 Progress Reporter Help site location:

- 1) Launch the P6 Progress Reporter Administrator.
- 2) Select **Click here to administer timesheet application settings**.
- 3) Enter your P6 EPPM user name and password.
- 4) In the **P6 Progress Reporter Help site location** field, enter the P6 Progress Reporter Help URL using the structure:
`http://serverIP:listenport/ContextRoot/`
where *ContextRoot* is **pr-help** by default
- 5) Click **Save**.

Tips

- ▶ The slash ("/") at the end of the P6 Progress Reporter Help URL is required.
- ▶ When the client is launched, the appropriate locale suffix will be automatically appended to the Help URL.
- ▶ You are not required to restart the application server instance after entering the P6 Progress Reporter Help site location.
- ▶ If you receive a "server not found" or a similar error message when accessing the P6 Progress Reporter Help in P6 Progress Reporter, it means one of the following:
 - ▶ The application server cannot access the Internet.
 - ▶ The help site is not available.

If the application server cannot access the Internet, check your P6 Progress Reporter Administrator settings and ensure they are configured to the correct URL.

If the URL is configured correctly, but you still can't access the P6 Progress Reporter Help, you will need to use the local help (pr-help.war). Use the instructions in ***Configuring WebLogic for P6 Progress Reporter*** (on page 341) or ***Configuring WebSphere for P6 Progress Reporter*** (on page 353) and ***Specifying the P6 Progress Reporter Help Site Location*** (on page 358).

P6 Progress Reporter Administrator Configuration Settings

The information below details all server configuration settings available in the P6 Progress Reporter Administrator.

Configuration Settings

All settings in the database section of the Configuration tab are required for P6 Progress Reporter. The first time you log into the server configuration area of the P6 Progress Reporter Administrator, you must enter the database connection settings and successfully connect to the P6 EPPM database before accessing other server configuration tabs. After you connect to the database successfully, you will be prompted to reboot the application server instance.

[Database] Setting Name and Description	Default	Valid Ranges/Values
<p>Configuration Home</p> <p>The location of the P6 Progress Reporter configuration and logging files on the application server.</p> <p>Modifying the Configuration Home field only changes where the database connection settings are stored when saved. If you change the configuration home, you must configure your application server to point to the new location and then restart the application server instance. See Configuring WebLogic for P6 Progress Reporter (on page 341) or Configuring WebSphere for P6 Progress Reporter (on page 353) in the <i>P6 EPPM Administrator's Guide</i> for instructions on how to point your application server to the new configuration home location.</p>	<p>Windows: C:\Documents and Settings\<i>machine user name</i>\.oracle\primavera\progressreporter</p> <p>Linux: <i>user home directory</i>/.oracle/primavera/progressreporter</p>	<p>—</p>
<p>Database URL</p> <p>The web address used to establish a connection to the P6 EPPM database.</p> <p>Oracle format: jdbc:oracle:thin:@<i>db_serverIP</i>:<i>db_port</i>:<i>db_sid</i></p> <p>Oracle example: jdbc:oracle:thin:@<i>serverIP</i>:1521:pmdb</p>	<p>—</p>	<p>—</p>
<p>Public Group ID</p> <p>The public group ID used to establish a connection to the P6 EPPM database.</p>	<p>1</p>	<p>—</p>
<p>Username</p> <p>The user name for the public P6 EPPM database login.</p>	<p>pubuser</p>	<p>—</p>
<p>Password</p> <p>The password for the public P6 EPPM database login.</p>	<p>—</p>	<p>—</p>

[Application Server] Setting Name and Description	Default	Valid Ranges/Values
Ignore Daylight Savings Time Set to true to disregard the daylight savings time setting on the server. This setting should match the equivalent setting in the P6 Administrator application if P6 Progress Reporter and P6 are deployed in the same domain.	false	true/false
SSL Certificate Store The location of the SSL certificate on the application server. To use this certificate for all P6 Progress Reporter encryption requests, SSL must be enabled in the P6 Administrator application, and you must select 'Use Certificate' in the Authentication tab. The 'Use Certificate' setting will become enabled after you enter the 'SSL Certificate Store' and 'SSL Store Password' settings and reboot the application server instance.	—	—
SSL Store Password The password for the SSL certificate store.	—	—

Note: The values entered for Application Server must match the corresponding settings for P6 if both components are deployed on the same application server.

Tips

- ▶ Changes to Configuration tab settings always require a reboot of the application server instance.
- ▶ The Public Group ID must be set to "1" for a standard configuration.

Connection Pool Settings

Use the Connection Pool tab to modify settings for multiple database connections.

Setting Name and Description	Default	Valid Ranges/Values
Initial connection pool size The number of database connections allowed for the P6 Progress Reporter server.	10	0 - 1000

Setting Name and Description	Default	Valid Ranges/Values
Maximum active database connections The maximum number of database connections that can be running.	150	-1 - 1000
Maximum idle database connections The maximum number of database connections that can be inactive.	-1	-1 - 1000
Minimum idle database connections The minimum number of database connections that can be inactive.	10	0 - 1000

Tips

- ▶ Changes to Connection Pool tab settings always require a reboot of the application server instance.
- ▶ A value of -1 for the maximum settings will make the number of connections unlimited.

Authentication Settings

Use the Authentication tab to review the method used for P6 Progress Reporter user validation. Only the "User Header" information and "Use Certificate" setting can be modified. All other settings are read only since you must use the P6 Administrator application to set the authentication mode and configure P6 EPPM for authentication.

Setting Name and Description	Default	Valid Ranges/Values
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Setting Name and Description	Default	Valid Ranges/Values
<p>User Authentication Mode The method used for validating user identity.</p> <p>Native authentication is the default mode for P6 EPPM. In this mode, when a user attempts to log into a P6 EPPM application, authentication is handled directly through the module with the P6 EPPM database acting as the authority.</p> <p>If using Native mode, no settings will appear because no configuration changes are needed to run in this mode (the default mode).</p> <p>Single Sign-On authentication, which provides access control for Web applications, is available for P6 Progress Reporter and P6. In this mode, when a user attempts to log into a P6 EPPM application (protected resource), a Web agent intercepts the request and prompts the user for login credentials. The user's credentials are passed to a policy server and authenticated against a user data store. With Single Sign-On, a user logs on only once and is authenticated for all Web applications for the duration of the browser session (provided that all Web applications authenticate against the same policy server).</p> <p>If using SSO mode, you must enter the User Header information specified on the SSO server. For example, if using Oracle Single Sign-On, the User Header is Proxy-Remote-User. For Oracle Access Manager, the User Header is OAM_REMOTE_USER. In Oracle Access Manager, you also need to change the default ssoCookie setting from ssoCookie:httponly to ssoCookie:disablehttponly.</p> <p>LDAP (Lightweight Directory Access Protocol) is directory-based authentication and is available for all P6 EPPM applications. In this mode, when a user attempts to log into a P6 EPPM application, the user's identity is confirmed in an LDAP-compliant directory server database. Additionally, P6 EPPM supports the use of LDAP referrals with Oracle Internet Directory and Microsoft Windows Active Directory. Referrals chasing allows authentication to extend to another domain. You can also configure multiple LDAP servers to use for authentication. This allows failover support and enables you to search for users in multiple LDAP stores.</p> <p>If using LDAP mode, verify the following information:</p> <ul style="list-style-type: none"> ▶ Server: The IP address or name of the LDAP server. 	<p>NATIVE</p>	<p>NATIVE, SSO, LDAP</p>
<p>Port Number: The port number of the LDAP server.</p> <ul style="list-style-type: none"> ▶ Chase Referral: When selected, authentication 		

Tips

If using Referrals, you will see settings for other LDAP servers as specified in the P6 Administrator application. The order in which they are listed in the P6 Administrator application will determine the order in which the LDAP servers are searched when P6 Progress Reporter authenticates user names.

Logging Settings

Use the Logging tab to control the amount of logging information captured for the P6 Progress Reporter application server.

Setting Name and Description	Default	Valid Ranges/Values
<p>Logging Levels</p> <p>Determines how much logging will be performed for the P6 Progress Reporter server.</p> <ul style="list-style-type: none"> ▶ Off completely turns off logging. ▶ Severe logs serious failures that prohibit P6 Progress Reporter from continuing to run. ▶ Warning logs exceptions that do not require P6 Progress Reporter to stop running. ▶ Info logs the login and logout of each server version. ▶ Config logs the login, JDBC connection, and database information of each server version. ▶ Fine provides lower-level tracing information and logs transactional information, such as the opening and committing of transactions. ▶ Finer provides lower-level tracing information plus stack traces and logs exceptions that do not require P6 Progress Reporter to stop running. ▶ Finest provides the highest level of tracing information. ▶ All is similar to Finest and logs all messages. 	OFF	OFF, SEVERE, WARNING, INFO, CONFIG, FINE, FINER, FINEST, ALL

Tips

- ▶ The default location of the logging files is the same as the 'Configuration Home' location. See **Configuration Settings** (on page 360) for more information.
- ▶ Increasing the amount of logging can impact performance.

P6 Progress Reporter Administrator Application Settings

The information below details all application settings available in the P6 Progress Reporter Administrator.

Application Settings

Use the application page to view and modify application settings for P6 Progress Reporter, such as which privileges are assigned to users for logging time, how long users can access activities, how often users must report their time, which timesheets users can view, and where to look for the P6 Progress Reporter Help files.

[General] Setting Name and Description	Default	Valid Ranges/Values
<p>Maximum search results</p> <p>Maximum number of records displayed in search results in the 'Assign to New Activity' window.</p>	100	1 - 500
<p>Enable timesheet auditing</p> <p>Select to save the history of timesheet submission, approval, rejection, reviewers, and associated dates. This setting can also be managed from P6.</p>	no	yes/no
<p>Allow editing of subordinate timesheets</p> <p>Select to permit supervisors to modify subordinate resources' timesheets.</p>	no	yes/no
<p>Allow users to edit document details</p> <p>Select to permit P6 Progress Reporter users to modify public document paths in the Work Product and Document Details dialog box of P6 Progress Reporter.</p>	no	yes/no
<p>Allow Primary Resources to edit step UDF values</p> <p>Select to permit primary resources to edit User Defined Field values on the Activity Details Steps tab. This will override OBS access to edit step UDF values. If not selected, step UDF values can still be edited if P6 Progress Reporter user has OBS access to the project.</p>	no	yes/no

[Privileges for Entering Hours on Timesheets] Setting Name and Description	Default	Valid Ranges/Values
<p>Log hours on future activities</p> <p>Select to indicate that users can report hours on timesheets with dates after the current timesheet</p>	yes	yes/no

[Privileges for Entering Hours on Timesheets] Setting Name and Description	Default	Valid Ranges/Values
period (for example, entering vacation time in advance).		
Log hours on non-started activities Select to indicate that users can report hours for activities that have not been marked as started.	yes	yes/no
Log hours on completed Select to indicate that users can report hours for either 'Activities and Assignments' or 'Assignments only' that have been marked as completed. 'Assignments only' is the default selection.	yes	yes/no
Log hours on activities before the activity start date Select to indicate that users can report hours for activities on dates before their start dates.	yes	yes/no
Log hours on activities after the activity finish date Select to indicate that users can report hours for activities on dates after their finish dates.	yes	yes/no
Allow users to enter negative hours Select to permit users to enter hours less than zero.	no	yes/no

[Default Time Window to Access Activities] Setting Name and Description	Default	Valid Ranges/Values
Not-started activities (days) The default number of days P6 Progress Reporter users can preview an activity before it starts.	60	0 - 5000
Completed activities (days) The default number of days P6 Progress Reporter users can review an activity after it ends.	60	0 - 5000

[Entering Timesheets] Setting Name and Description	Default	Valid Ranges/Values
<p>Progress Reporter users enter timesheet hours</p> <p>Select 'Daily' to require that all resources report their hours on a daily basis for each assigned activity. If you choose this setting, you can also specify a maximum number of hours resources can enter per day for all of their assigned activities (minimum 0.5, maximum 24). For example, if you set this value to 12, for all of the resource's activities, a resource cannot report more than a combined total of 12 hours per day.</p> <p>Select 'By Reporting Period' to require that all resources report their hours as a single time value for each assigned activity in a timesheet reporting period, regardless of the number of days included in the timesheet period.</p>	Daily	Daily, By Reporting Period
<p>Number of decimal digits for recording hours in timesheets</p> <p>The number of decimal places a resource can use when entering hours in timesheets.</p>	0	0 - 2
<p>Number of future timesheets users are allowed to access</p> <p>The number of future timesheets a resource can view beyond the current timesheet period.</p>	30	0 - 200
<p>Number of past timesheets users are allowed to access</p> <p>The number of past timesheets a resource can view before the current timesheet period.</p>	4	0 - 200

Note: If there is a discrepancy between the number of decimal places you enter in the 'Maximum hours a resource can enter per day' and 'Number of decimal digits for recording hours in timesheets' fields, the values a user enters in a timesheet field might round up or down. The rounding of values is for display purposes only; the originally entered value is stored in the database. For example, if you specify 10.5 as the maximum hours per day but specify 0 (zero) as the maximum number of decimal places for recording hours in P6 Progress Reporter, the value will round up to 11 in the timesheet. Since the value 10.5 is stored in the database, the resource does not exceed the maximum hours per day setting in this case.

[Custom Buttons] Setting Name and Description	Default	Valid Ranges/Values
<p>Custom Button 1 Text</p> <p>Setting this value will create a new icon on the P6 Progress Reporter toolbar and a new option on the Action menu.</p> <p>For example, entering 'Timekeeper' will create a new icon next to the Help button on the toolbar with 'Timekeeper' as its label and a new entry called 'Timekeeper' on the Action menu.</p>	—	—
<p>Custom Button 1 URL</p> <p>The URL that will be launched in an external browser when the user clicks "Custom Button 1."</p> <p>You can add a variable to the URL (this value is replaced with data before launching the Web site):</p> <p><week_ending> is substituted for the actual week ending date of the timesheet that is currently open</p> <p>Example: <a href="http://www.oracle.com/timesheets/weekending=<week_ending>">http://www.oracle.com/timesheets/weekending=<week_ending></p>	—	—
<p>Custom Button 2 Text</p> <p>Setting this value will create a new icon on the P6 Progress Reporter toolbar and a new option on the Action menu.</p> <p>For example, entering 'In/Out Times' will create a new icon next to the Help button on the toolbar with 'In/Out Times' as its label and a new entry called 'In/Out Times' on the Action menu.</p>	—	—
<p>Custom Button 2 URL</p> <p>The URL that will be launched in an external browser when the user clicks "Custom Button 2."</p> <p>See the description for "Custom Button 1 URL" for information on an optional variable.</p> <p>Example: http://www.ourcorp.com/reporting/time</p>	—	—

[Help Settings] Setting Name and Description	Default	Valid Ranges/Values
<p>Progress Reporter Help site location</p> <p>The URL used to launch P6 Progress Reporter Help. Points to the Oracle Technology Network (OTN). OTN houses Oracle's most up-to-date documentation. If there are any changes to P6 Progress Reporter functionality, those changes will be represented in the help documentation on OTN.</p> <p>Note: You can use OTN only if P6 Progress Reporter can access the internet. If it cannot access the internet, you must use the local version described below.</p> <p>Local Host Option</p> <p>If you prefer to use the local version of the P6 Progress Reporter Help, you can use the local host URL (for example, <code>http://serverIP:7001/pr-help/</code>). You can use the local help only if you deployed the <code>pr-help.war</code> file in WebLogic or WebSphere. See <i>Deploying P6 Progress Reporter in WebLogic</i> (on page 350) or <i>Configuring WebSphere for P6 Progress Reporter</i> (on page 353) and <i>Specifying the P6 Progress Reporter Help Site Location</i> (on page 358) in the <i>P6 EPPM Administrator's Guide</i>.for more information on deploying P6 Progress Reporter Help.</p> <p>Use the following URL structure for the help site location setting: <code>http://serverIP:port/ContextRoot/</code> where <i>ContextRoot</i> is pr-help by default.</p> <p>Examples:</p> <p>WebLogic: <code>http://serverIP:7001/pr-help/</code></p> <p>WebSphere: <code>http://serverIP:9080/pr-help/</code></p> <p>Note: The slash ("/") at the end of the P6 Progress Reporter Help site location is required.</p>	<p><code>http://download.oracle.com/docs/cd/E20686_01/pr-help/</code></p>	<p>—</p>

Tips

- ▶ When the client is launched, the appropriate locale suffix will be automatically appended to the Help URL.
- ▶ See ***Creating the WebLogic Environment for P6 Progress Reporter*** (on page 338) in the *P6 EPPM Administrator's Guide* for information on how to copy, configure, and deploy the P6 Progress Reporter Help WAR file on your application server. See also ***Configuring WebSphere for P6 Progress Reporter*** (on page 353) in the *P6 EPPM Administrator's Guide*.
- ▶ See ***Application Settings and Global Enterprise Data in P6 EPPM*** (on page 441) in the *P6 EPPM Administrator's Guide* to view more settings related to P6 Progress Reporter.

Installing P6 Optional Client

Read this chapter to install P6 Optional Client, the P6 SDK, and Job Service. Run the Setup wizard on the client/desktop computers that will be used by project personnel.

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

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About the P6 Optional Client Setup Wizard	376
About the Database Configuration Wizard for P6 Optional Client	380
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Database Client Software

Before you install P6 Optional Client, 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.

See **Configuring Client Machines for Oracle Instant Client** (on page 374) for instructions before installing P6 Optional Client if you will be using Oracle 11g Instant Client.

Notes:

During the P6 Optional Client installation, use the Oracle EZCONNECT string (*//server name:listen port/service name*) to connect to the P6 EPPM 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.

If you are going to launch content repository documents from P6 Optional Client, you will have to use the TNSNAMES method rather than the EZCONNECT method. 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 11g Instant Client to a local drive.
For example, C:\instantclient-basic-win32-11.1.0.7.0.
- 2) Go to System Properties, **Advanced** tab.
- 3) Click the **Environment Variables** button.
- 4) To the **Path** variable, add the location of the Oracle 11g Instant Client specified in step 1.

Previous Versions of P6 Optional Client

P6 Optional Client R8.1 will run alongside prior versions of P6 Professional v7.0 or earlier as long as you install it into a separate directory. Oracle recommends this method if you are running prior versions of P6 Professional (v 7.0 or earlier) as a standalone product (not available for P6 Optional Client R8.1). To update to P6 Optional Client R8.1, simply run the Setup wizard. See **Installing the P6 Optional Client Application** (on page 376).

Cautions:

- ▶ If you are upgrading the P6 SDK, you must first uninstall the prior version before installing R8.1 of the P6 SDK.
- ▶ Starting with P6 EPPM R8, all recurring job service functions are hosted by P6. Due to this change, after upgrading to P6 EPPM R8 or later, you must configure Scheduled Services settings in the P6 Administrator application to use this functionality. See **Services Settings** (on page 304) for details. Also, if you're upgrading from version 7.0 or earlier, you must RESUMMARIZE ALL PROJECTS to accurately reflect your summary data. See **Configuring a Separate Server for Job Services** (on page 271) for guidelines on setting up a dedicated server solely for job services.

Starting with P6 EPPM R8, most administrative tasks are only available in P6. To access these functions, you must install P6 and configure the server. See **P6 Installation** (on page 135) for more information.

See **Importing Projects from P3 to P6 Optional Client** (on page 485) the appendix prior to P6 Optional Client installation if you plan to transfer data from/to P3. See **Configuring Client Machines to Transfer Data Between P3 and P6 Optional Client** (on page 381) after installation.

Tip

- ▶ Summary-Only projects are not supported in P6 EPPM starting with R8. During the P6 EPPM 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 Optional Client Help or the P6 Help.
- ▶  For security reasons, Oracle strongly recommends that you replace the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier. See *The Default Admin Superuser* (on page 415) for guidelines on this process.

P6 Optional Client Industry Types

P6 Optional Client requires you to choose an industry during application installation. The industry type that you choose determines the terminology and default settings that display in the P6 Optional Client. The following table lists each industry type and its corresponding terminology and default settings. When prompted during installation procedures, choose the option that best matches your industry. Oracle recommends that you use the same industry for each application installation.

Industry Type	Industry Terminology Examples	Default project comparison tool	Default startup window in P6 Optional Client
Engineering and Construction	Budgeted Units Budgeted Cost Original Duration	Claim Digger	Activities window
Government, Aerospace, and Defense	Planned Units Planned Cost Planned Duration	Schedule Comparison	Projects window
High-Technology, Manufacturing	Planned Units Planned Cost Planned Duration	Schedule Comparison	Projects window
Utilities, Oil, and Gas	Budgeted Units Budgeted Cost Original Duration	Claim Digger	Projects window
Other Industry	Planned Units Planned Cost Planned Duration	Schedule Comparison	Projects window

Note: If you choose the Engineering and Construction or the Utilities, Oil, and Gas industry type, P6 Optional Client users will see different terminology and defaults when switching to other P6 EPPM applications, such as P6.

About the P6 Optional Client Setup Wizard

Install P6 Optional Client and P6 SDK by running the Setup wizard. The first several steps of the installation process are the same for these P6 EPPM applications. You do not have to install these applications separately; you can install both 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 Optional Client and the P6 SDK. Administrator rights are required to install these applications on computers running Windows XP, Windows Vista, or Windows 7. Also, the network protocol TCP/IP must be installed on the client computer.

If you do not want to install P6 Optional Client manually, you can run an unattended setup. See **P6 Optional Client Unattended Setup** (on page 383).

Notes:

- See **Previous Versions of P6 Optional Client** (on page 374) before running the Setup wizard if version 6.0 or later of P6 Optional Client is currently installed.
 - The Primavera Timescaled Logic Diagram will be automatically installed when you install P6 Optional Client.
 - 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 EPPM setup wizard. See **Configuring Client Machines to Transfer Data Between P3 and P6 Optional Client** (on page 381) after P6 Optional Client is installed for additional configuration procedures. See **Importing Projects from P3 to P6 Optional Client** (on page 485) for instructions on how to manually register required files after the installations are complete if you install P3 after you install P6 Optional Client, if you do not want to install P3 on the same machine where P6 Optional Client is installed, or if you are using 64-bit operating systems.
-

Installing P6 Optional Client

Complete the following steps to install P6 Optional Client.

Related Topics

Installing the P6 Optional Client Application	376
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Installing the P6 Optional Client Application

o install the application:

- 1) Double-click **setup.exe** in the Opt_Client folder of the P6 EPPM physical media or download.

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

- 2) Microsoft .NET Framework is required to run P6 Optional Client. If it is not installed, click **Install** when prompted and then restart your computer when prompted.
- 3) On the **Welcome** dialog box, click **Next**.
- 4) On the **Industry Selection** dialog box, choose the appropriate industry.
The industry you select determines application defaults and calculation settings that are installed with P6 Optional Client. See **P6 Optional Client Industry Types** (on page 375) for more information on industry types.

Note: If you are upgrading from a previous version, the industry type is automatically selected based on your existing installation. You can select a different industry if necessary.

- 5) On the **Setup Type** dialog box, choose:
 - ▶ **Typical** if you want to install only P6 Optional Client.
 - ▶ **Custom** if you want to install the client module and the P6 SDK.

Note: The following instructions assume that you are only installing P6 Optional Client. See P6 SDK documentation for instructions on completing the P6 SDK installation.

- 6) On the **Choose Destination Location** dialog box, enter or select the destination folder for the client module.
By default, the installation location is: *local drive*\Program Files\Oracle\Primavera P6\P6 Optional Client.
- 7) On the **Select Features to install** dialog box:
 - a. Ensure that the **P6 Optional Client R8.1** option is selected.
 - b. Review the space requirements for installation.
- 8) On the **Select Program Folder** dialog box, enter or select the program folder in which P6 EPPM client icons will be stored on the **Start** menu.
If you make no changes, these icons are stored under **Programs, Oracle - Primavera P6**.
- 9) On the **Ready to Install the Program** dialog box, click **Install** to begin the installation.

Note: When the installation is complete, you are prompted to configure the database connection.

Configuring the Database Connection for P6 Optional Client

To configure the database connection and complete the P6 Optional Client installation process:

- 1) In the **Select Driver Type** dialog box, select the driver type of your P6 EPPM database server, Oracle.
- 2) In the **Configure Oracle Connection** dialog box, enter the 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.

- 3) In the **Enter Public Login Information** dialog box, enter your public login information that was defined by your administrator.
- 4) In the **Validate Database Connection** dialog box, 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*.

Installing the P6 SDK

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

Note: The P6 Integration API can also be used to connect directly to the P6 EPPM database. This tool requires the ability to write client code in Java. For further information, see the *P6 Integration API Administrator's Guide*.

Complete the following steps to install the P6 SDK.

Related Topics

Installing the P6 SDK Application	378
Configuring the Database Connection for P6 SDK	379

Installing the P6 SDK Application

To install the application:

- 1) Double-click **setup.exe** in the Opt_Client folder of the P6 EPPM physical media or download.

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

- 2) Microsoft .NET Framework is required to run P6 Optional Client. If it is not installed, click **Install** when prompted and then restart your computer when prompted.
- 3) On the **Welcome** dialog box, click **Next**.
- 4) On the **Industry Selection** dialog box, choose the appropriate industry.

The industry you select determines application defaults and calculation settings that are installed with P6 Optional Client. See ***P6 Optional Client Industry Types*** (on page 375) for more information on industry types.

Note: If you are upgrading from a previous version, the industry type is automatically selected based on your existing installation. You can select a different industry if necessary.

- 5) On the **Setup Type** dialog box, choose **Custom** to install only the P6 SDK or to specify the client module and the P6 SDK.

Note: The following instructions assume that you are only installing the P6 SDK. See ***Installing P6 Optional Client*** (on page 376) for instructions on completing P6 Optional Client installation.

- 6) On the **Choose Destination Location** dialog box, enter or select the destination folder for the P6 SDK.

By default, the installation location is: *local drive*\Program Files\Oracle\Primavera P6\P6 Optional Client.

- 7) On the **Select Features to install** dialog box:

- a. Select the **Software Development Kit** option.
- b. Review the space requirements for installation.

- 8) On the **Select Program Folder** dialog box, enter or select the program folder in which P6 EPPM client icons will be stored on the **Start** menu.

If you make no changes, these icons are stored under **Programs, Oracle - Primavera P6**.

- 9) On the **Ready to Install the Program** screen, click **Install** to begin the installation.

Note: When the installation is complete, you are prompted to configure the database connection.

Configuring the Database Connection for P6 SDK

To configure the database connection and complete the P6 SDK installation process:

- 1) Click **OK** after reading the explanation of the remaining process.
You will be creating a DB alias named PMSDK for use with the P6 SDK. You will then create an ODBC user data source name (DSN) called Primavera P6 SDK. The ODBC DSN will use the DB alias to connect to the P6 EPPM database.
- 2) In the **Select Driver Type** dialog box, select the driver type of your P6 EPPM database server, Oracle.
- 3) In the **Configure Oracle Connection** dialog box, enter the 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.
- 4) In the **Enter Public Login Information** dialog box, enter your public login information that was defined by your administrator.
- 5) In the **Validate Database Connection** dialog box, click **Next** to test the database connection.

- 6) 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. A database alias named PMSDK will be created.
- 7) On the **Primavera Software Development Kit Setup** dialog box, verify that the ODBC connection values are correct for your database, and click **OK**.
An ODBC DSN named **Primavera P6 SDK** is created.
- 8) If the log file directory does not exist, click **Yes**, when prompted, to create one.
- 9) Click **Finish** to complete the installation.

Now that the P6 SDK is installed on your computer, you can connect to the P6 EPPM database using the ODBC DSN. The P6 SDK documentation can be found in the installation location (by default, the path is *local drive*\Program Files\Oracle\Primavera P6\P6 Optional Client\PMSDK\Doc).

Tips:

- ▶ To access the P6 SDK, you need to be added as a user with Admin Superuser access rights or be assigned the global privilege View All Global/Project Data via SDK.
- ▶ On Windows Vista machines, the P6 SDK and all applications using the P6 SDK need to run in Administrator mode.
- ▶ The P6 SDK documentation can be read using a Web browser. Open the INDEX.HTM file to view the table of contents for the documentation.

About the Database Configuration Wizard for P6 Optional Client

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 PrmBootStrap.xml file. This file is located the following places:

- In Windows XP, *local drive*\%USERPROFILE%\Local Settings\Application Data\Oracle\Primavera P6\P6 Optional Client
 - In Windows Vista or Windows 7, *local drive*\%LOCALAPPDATA%\Oracle\Primavera P6\P6 Optional Client
-

Changing Database Connection Settings for P6 Optional Client

To change database connection settings:

- 1) From the client computer's desktop, click **Start**, then choose **Programs, Oracle - Primavera P6, P6 Optional Client R8.1, P6 Optional Client Help and Tools, Database Configuration**.
- 2) On the **Welcome** dialog box, click **Next**.

Note: Click Next on each wizard dialog box to advance to the next step.

- 3) On the **Select Database Alias Task** dialog box, choose to either **modify an existing database** or **create a new database alias**.
- 4) 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 (Oracle).

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

- 5) 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.
- 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.

Tips

- ▶ If you create a new database alias for a module, the module's PrmBootStrap.xml file is updated to reflect the change. If multiple modules are installed on one client computer, changing the database alias for one module does not affect the other modules.
- ▶ If you change the database connection settings for a database alias and multiple modules share that alias to access the database, your changes affect all the modules that share the alias.

Configuring Client Machines to Transfer Data Between P3 and P6 Optional Client

In order to use P3 import/export functionality in P6 Optional Client with 32-bit operating systems, you must have P3 installed on the same machine where P6 Optional Client resides. Additionally, you must complete the steps below to register a required DLL file:

- 1) Open a command prompt.
- 2) Change your directory to the location of the "ra32.dll" file.
By default, the path is *local drive\Program Files\Oracle\Primavera P6\P6 Optional Client\Ra*.
- 3) Execute the following command: `regsvr32 ra32.dll`

Note: If you install P3 after you install P6 Optional Client, if you do not want to install P3 on the same machine where P6 Optional Client 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 Optional Client installation location (by default, the path is *local drive*\Program Files\Oracle\Primavera P6\P6 Optional Client\Convert). Refer to the My Oracle Support's Knowledge Articles for more information.

P6 Optional Client Unattended Setup

This chapter provides instructions for creating an unattended setup of the P6 Optional Client application and running an unattended setup on client computers. An unattended setup enables administrators to install the P6 Optional Client application on client computers without having to run through the setup process each time. It also ensures that each user receives the same P6 Optional Client configuration.

In This Section

Unattended Setup Files 383

Unattended Setup Files

An unattended setup allows an administrator to install P6 Optional Client on a client computer without having to answer the configuration prompts of the P6 Optional Client Setup wizard. All configuration details for the installation are specified when the unattended setup files are first created. You can configure the connection to the P6 EPPM database and specify the destination folders where the program files are copied. Unattended installations ensure that the client module is configured identically at setup.

To create an unattended setup, you can enter command lines to automatically create a response file and launch the P6 EPPM Setup wizard. The response file records the configuration settings you specify during the setup process. When completed, you can copy the response file to a network location which a user with administrator privileges can access from any networked computer.

See ***Creating an Unattended Setup File*** (on page 384) for information on creating an unattended setup file.

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 Optional Client according to the configuration you specify in the response file.

See ***Using an Unattended Setup File*** (on page 386) for information on running an unattended setup.

Notes:

You can also rerun the Setup wizard to recreate a set of unattended setup files or to create multiple sets of files for different configurations.

Creating and running an unattended setup file for the P6 SDK is not supported.

Creating an Unattended Setup File

Follow the steps below to create an unattended setup file.

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Installing the P6 Optional Client Application for Unattended Setup.....	385
Configuring the Database Connection for Unattended Setup	385

Creating the Unattended Setup File

To create the unattended setup file:

Note: Oracle recommends you install Microsoft .Net Framework 3.5 SP1 before running the setup.exe to create the setup.iss file.

- 1) Select a computer that does not have P6 EPPM currently installed.
- 2) 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.
- 3) Open a command line by choosing **Start, Run**. Type **cmd** and click **OK**.

Notes:

- Ensure you run the command line as Administrator when UAC is on for Vista or Windows 7.
 - For Windows 64 bit users, run cmd from the SysWOW64 folder.
-

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

- 5) On the command line window, enter the following command (as all one line) to create the 'setup.iss' file:

```
setup.exe /r /f1"c:\test\setup.iss" /f2 /verbose"c:\test\createISS.log"
```

Note: You should have a space in the following places:

- after setup.exe
- after /r
- after setup.iss"
- after /f2

Ensure you do not have a space:

- after /f1
 - after verbose
-

If the c:\test\setup.iss location is not mentioned, the default setup.iss is placed in C:\Windows.

The P6 Optional Client Setup wizard will launch.

Installing the P6 Optional Client Application for Unattended Setup

To install the application:

Note: Click Next on each wizard dialog box to advance to the next step.

- 1) On the Welcome dialog box, click **Next**.
- 2) On the **Industry Selection** dialog box, choose the appropriate industry.
The industry you select determines application defaults and calculation settings that are installed with P6 Optional Client. See **P6 Optional Client Industry Types** (on page 375) for more information on industry types.
- 3) On the **Setup Type** dialog box, choose **Typical** to install only the client module (P6 Optional Client).
- 4) On the **Choose Destination Location** dialog box, enter or select the destination folder for the client module.
By default, the installation location is: *local drive*\Program Files\Oracle\Primavera P6\P6 Optional Client.
- 5) On the **Select Features to install** dialog box:
 - a. Ensure that Project Management is selected.
 - b. Review the space requirements for installation.
- 6) On the **Select Program Folder** dialog box, enter or select the program folder where the P6 EPPM client icons will be stored on the Start menu.
If you make no changes, these icons are stored under **Programs, Oracle - Primavera P6**.
- 7) On the **Ready to Install the Program** dialog box, click **Install** to begin the installation.

When the installation is complete, you are prompted to configure the database connection.

Configuring the Database Connection for Unattended Setup

To configure the database connection and complete the installation process:

Note: Before you enter the database information, confirm that all users with administrator privileges who will be running the unattended setup have access to the specified database.

Follow the steps below to configure the database connection and to finish installing the P6 Optional Client.

- 1) When prompted, click **Yes** to configure the P6 EPPM database connection.
- 2) In the **Select Driver Type** dialog box, select the driver type of your P6 EPPM database server, Oracle.
- 3) In the **Configure Oracle Connection** dialog box, enter the 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.

- 4) In the **Enter Public Login Information** dialog box, enter your public login information that was defined by your administrator.
- 5) In the **Validate Database Connection** dialog box, click **Next** to test the database connection.
- 6) 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.
- 7) Click **Finish** to complete the installation.

Using an Unattended Setup File

An unattended setup is a special installation program that uses the configuration file you or another administrator created in the previous section (Creating an Unattended Setup File) to supply information such as the module to be installed, the database connection settings, and the destination folders for the installation. This configuration file is typically named 'setup.iss;' however, the administrator who created the configuration file can give it a different name.

Running an unattended setup saves you time and effort, and it ensures that every P6 Optional Client is configured identically at setup. If the 'setup.iss' (or equivalent) file has been stored on a network server, you can run the unattended setup from any client computer with a network connection to that server.

Note: The 'setup.iss' (or equivalent) file and the contents of the P6 Client_Applications folder must be stored in the same folder on the network server.

As an administrator, you have several options for installing P6 EPPM 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 the instructions in Running the Unattended Setup to users with administrator privileges, who can run the unattended setup on his/her computer.

Related Topics

Running the Unattended Setup 386

Running the Unattended Setup

The following instructions assume that an administrator or the owner of the computer is physically running the unattended setup from the host computer used in Creating the Unattended Setup File. Also, as an example, the folder containing the required files is named 'Installer,' the setup file is named 'setup.iss,' and the log file is named 'setup.log.' When you configured the unattended setup file, you might have provided different names.

- 1) Push the files for **.NET version 3.5 sp1** from the host machine to each target client machine.

- 2) Uninstall P6 Optional Client from the host machine. Ensure that you delete any folder that the Uninstaller does not.
- 3) On the host computer, open a command line by choosing **Start, Run**. Type **cmd** and click **OK**.

Notes:

- Ensure you run the command line as Administrator when UAC is on for Vista or Windows 7.
- For Windows 64 bit users, run cmd from the SysWOW64 folder.
- These instructions assume that the C:\Installer folder is the shared location for all target machines.

- 4) On the command line window, enter the location of the Installer folder. For example,
`cd c:\Installer`
- 5) Create the appropriate batch file and use the following command (as all one line) in the batch file:

```
setup.exe /S/v/qn /f1"c:\test\setup.iss" /f2 /verbose"c:\test\setup.log"
```

Note: You should have a space in the following places:

- after setup.exe
- after /qn
- after setup.iss"
- after /f2

Ensure you do not have a space:

- after /f1
- after /verbose
- after /S
- after /v

If the c:\test\setup.iss location is not mentioned, the default setup.iss is placed in C:\Windows.

- 6) Push the batch file to each target client machine to install P6 Optional Client in silent mode.
- 7) Push **PrmBootStrap.xml** from the host machine with database configuration details to each target client machine. The default locations for the host machine are:

- ▶ Windows XP:

- \\%USERPROFILE%\Local Settings\Application Data\Oracle\Primavera P6\P6 Optional Client

- ▶ Windows Vista and 7:

- \\%LOCALAPPDATA%\Oracle\Primavera P6\P6 Optional Client

The default locations for the target machines are:

- ▶ Windows XP:

- \\%ALLUSERSPROFILE%\Application Data\Oracle\Primavera P6\P6 Optional Client

- ▶ Windows Vista and 7:

\%PROGRAMDATA%\Oracle\Primavera P6\P6 Optional Client

- 8) Confirm that the files were successfully installed by navigating to the appropriate folder on the host machine's local drive. Also, confirm successful installation on the target client machines.

By default for 32-bit target machines, P6 Optional Client applications are installed in *local drive*\Program Files\Oracle\Primavera P6\P6 Optional Client.

By default for 64-bit target machines, P6 Optional Client applications are installed in *local drive*\Program Files (x86)\Oracle\Primavera P6\P6 Optional Client.

If P6 Optional Client applications were not installed, or if you cannot run a P6 Optional Client application, contact your system administrator. All errors are logged in the 'setup.log' file.

Users and Security in P6 EPPM

P6 EPPM enables multiple users to work simultaneously in the same projects across an organization. To ensure that data is protected from unauthorized changes, you can create global and project security profiles that control access. You can then set up users and assign organizational breakdown structure (OBS) elements to users, project profiles, and enterprise project structure (EPS) nodes. You can additionally configure resource security and define access to P6 functionality.

Read this chapter to understand the process for setting up users and implementing security in P6 EPPM.

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Security Concepts in P6 EPPM

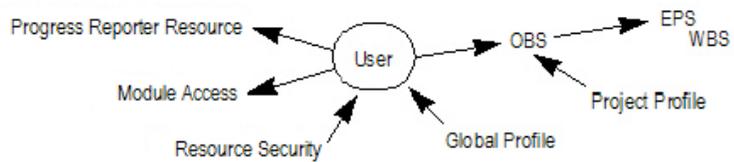
Each person who will be using any module of P6 EPPM must be registered as a "user" with the appropriate module access. Additional security privileges determine each user's access to data. Use P6 to administer security for P6 EPPM.

To ensure security at various levels of data, P6 provides 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, as a resource assignment when they are a project owner, or as a resource assignment when they have Team Member module access.

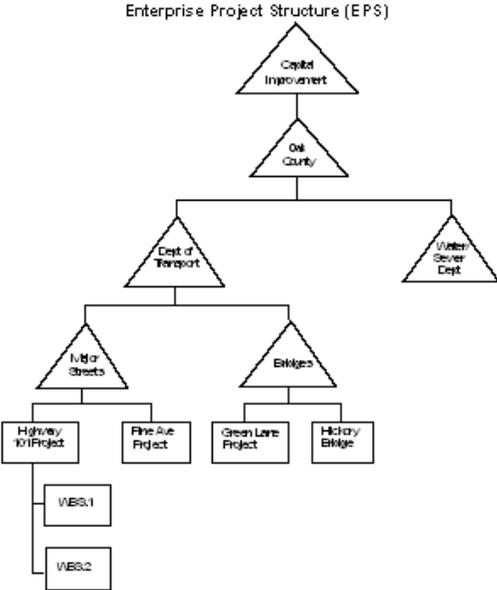
You can create a set of profiles that limit access to global information and then assign the appropriate global profile to each user. Similarly, to limit privileges for each project, you assign the appropriate project profile to each user via an organizational breakdown structure (OBS) element. When 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. If a user will be accessing P6 Progress Reporter to update time, he/she will also need to be associated with a resource in P6.

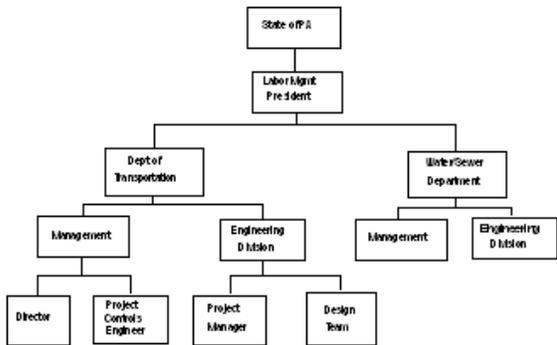


Security Samples

Review the following portions of a sample EPS for Capital Improvement projects in Oak County and its corresponding portion of the OBS.



Organizational Breakdown Structure (OBS)

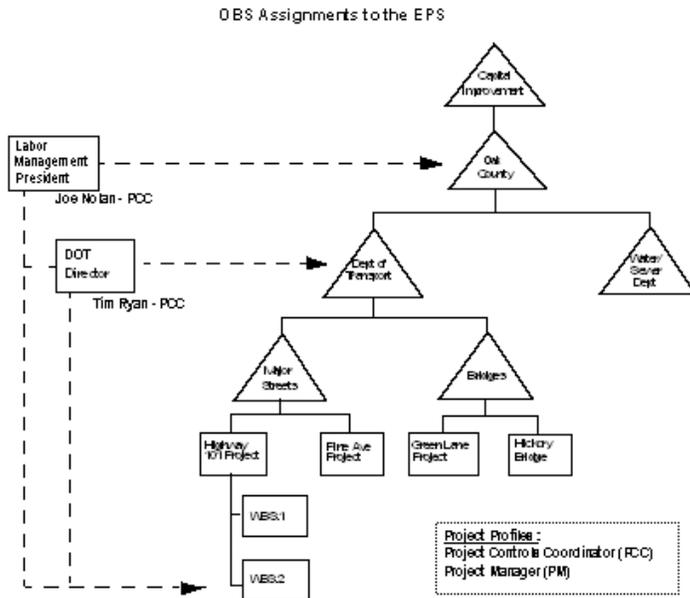


With these structures defined, you can map users to their corresponding roles in the OBS, which in turn can be assigned to each level in the EPS. The EPS level to which you assign the OBS determines the nodes/projects the associated user can access. For example, if you assign an OBS element to the root 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 (P6 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.

Useful P6 EPPM Terms

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

User Any person who needs access to P6 EPPM modules, including P6 Optional Client, P6 Progress Reporter, and P6.

Resource The people, materials, and/or equipment that perform the work on activities. In P6, you can build a resource hierarchy that includes the required resources across all projects in the organization. Resources are assigned to activities in P6 and can be set up to use P6 Progress Reporter to report actual workhours.

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 EPPM, 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.

A user does not have to be included in the OBS if he/she needs to access P6 but is not part of the responsible management structure. Similarly, a user might not be a part of the resource hierarchy. For example, if the user is a resource assigned to activities and needs to update a timesheet in P6 Progress Reporter, he/she must be included in the resource hierarchy; however, a user who is an executive requiring access to Dashboards in P6 is not a part of the resource pool.

For more information on resources, OBS, EPS, and WBS, see the *P6 Help*.

Security Configuration Process in P6 EPPM

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 EPPM to manage your projects successfully, you must first administer users and set up structures in P6, 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 EPPM. 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 EPPM.
Define a standard set of profiles that determine access rights to global and project-specific data. Most likely, administrators perform this step. See ***Defining Global Security Profiles in P6 EPPM*** (on page 395). See ***Defining Project Security Profiles in P6 EPPM*** (on page 404).
- ▶ Add users in P6 EPPM.
You must add each user who needs access to any P6 EPPM module. At a minimum, each user is assigned a login name, module access, and a global profile. See ***Configuring Users in P6 EPPM*** (on page 412).
- ▶ Define user interface views that restrict and provide access to P6 functionality according to the requirements of your company's functional roles. See ***Defining User Interface Views*** (on page 425).
- ▶ 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. See the *P6 Help* for more information.
- ▶ After setting up the OBS, assign the appropriate users and project profiles to each element of the OBS. See ***Assigning OBS Elements and Project Profiles in P6 EPPM*** (on page 432).
- ▶ Set up the EPS for your company.
Identify your company's project structure, which is global across the organization. See the *P6 Help* for more information.
- ▶ After setting up the EPS, assign the responsible manager (OBS) to each EPS node. See ***Assigning OBS Elements to the EPS*** (on page 437).
- ▶ Define the resources necessary to complete the projects across the organization. See the *P6 Help* for more information.
- ▶ Link resources to users if they will be using the P6 Progress Reporter.
- ▶ Define user access to resource data. See ***Defining User Access to Resources in P6 EPPM*** (on page 438).
- ▶ 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. Refer to the *P6 Help* for more information.
- ▶ Set preferences for data in P6 EPPM. See ***Application Settings and Global Enterprise Data in P6 EPPM*** (on page 441).

Defining Global Security Profiles in P6 EPPM

A global security profile determines a user's access to application-wide information and settings, such as resources, global codes, and the OBS. P6 requires that you assign a global security profile to each user.

You can define an unlimited number of global security profiles in P6. In addition, P6 provides two predefined global security profiles: Admin Superuser and No Global Privileges.

- ▶ The **Admin Superuser** profile allows complete access to all global information and all projects. It also shows the full Administer menu, even when the currently assigned user interface view settings do not. For the pages and menus of the other sections, even for users with the Admin Superuser profile, the current user interface view settings still apply. The Admin Superuser profile is assigned to the application (administrative) user created during the P6 EPPM database installation.



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. Also, limit the Admin Superuser assignment to only those individuals who require access to all data. At least one user must be assigned to the Admin Superuser profile. If only one user is assigned to this profile, P6 will not allow that user to be deleted.

- ▶ The **No Global Privileges** profile restricts access to global data. Assign this profile to anyone who is strictly a P6 Progress Reporter user and does not require access to P6 Optional Client or P6. If a user with rights to P6 Optional Client or P6 is assigned this profile, the user can log in to these applications but will not have access to project data and will have read-only access to global data. If a user is assigned this profile and is also assigned to an OBS element, the user will have access to project data as defined for the OBS element, but access to other global data is restricted.

The Admin Superuser can designate that users have the ability to add/delete, edit, assign, or view secure codes. Secure codes enable privileged users to hide Project, Activity, Resource, and Issue codes from users that do not have security privileges to view them. Also, users with privileges to Edit Security Profiles can restrict other users to edit, assign, and view privileges. For example, management could track project approval processes through secure codes that others cannot edit or, in some cases, view.

Tip

- ▶ When defining each global security profile, some privileges are structured hierarchically. In other words, if a user is granted add or delete privileges, that user automatically has edit, assign, and view privileges. If a user is granted edit privileges, that user is automatically granted assign and view privileges. If a user is granted assign privileges, that user is automatically assigned view privileges.
- ▶ See **The Default Admin Superuser** (on page 415) for guidelines on replacing the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier.

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Creating Global Security Profiles

Create a global security profile to determine user access to application-wide information.

To create a global security profile:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Global Security Profiles**.
- 3) On the **Global Security Profiles** page:
 - a. Click **+ Add**.
 - b. In the **Profile Name** field, double-click and type a unique name.
 - c. In the **Description** field, double-click and type a description.
 - d. In the **Default** field, select the option if you want this profile to be the new default.
 - e. Click each detail window and select options to assign privileges to the profile.

Note: Select the **Privilege** option in the detail window's header to assign all privileges in the window. Clear the **Privilege** option to disable all privileges in the window.

- 4) On the **Global Security Profiles** page, click  **Save** (Ctrl+S) .

Tips

- ▶ Provide clear profile names and descriptions to help you manage profiles.
- ▶  Create a default global profile with few or no privileges.
- ▶ To save time, consider copying, pasting, and modifying an existing profile: select the closest matching profile and click **Copy**. All privilege options are also copied. Click in the list and click **Paste**. The new profile will appear with a unique name based on the original. For example, if you copied *PM Set*, the copy is named *PM Set-1*.

Global Privilege Definitions

The lists on the following pages define each global privilege.

Administration Privileges

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.

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 EPPM user data. To search the LDAP directory when provisioning, users must also have the Provision Users from LDAP global privilege.

Add/Edit/Delete User Interface Views option

Determines whether the profile will enable users to create, modify, and remove User Interface Views configurations, which control the functionality users can access in P6.

Edit Application Settings option

Determines whether the profile will enable users to modify application settings, which set global preferences for P6 EPPM.

Provision Users from LDAP option

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.

Codes Privileges

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.

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.

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 Global Issue Codes option

Determines whether the profile will enable users to create global issue codes and code values data. This privilege also selects the 'Edit Global Issue Codes' global privilege.

Edit Global Issue Codes option

Determines whether the profile will enable users to modify global issue codes data. This privilege also enables users to create, modify, and remove global issue code values.

Delete Global Issue Codes option

Determines whether the profile will enable users to remove global issue codes and code values data. This privilege also selects the 'Add Global Issue Codes' and 'Edit Global Issue Codes' global privileges.

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.

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.

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.

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.

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.

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/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 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.

Global Data Privileges

Add/Edit/Delete Categories and Overhead Codes option

Determines whether the profile will enable users to create, modify, and remove categories and overhead codes data, which can be applied to all projects. Overhead codes are only available to P6 Progress Reporter users.

Add/Edit/Delete Cost Accounts option

Determines whether the profile will enable users to create, modify, and remove cost accounts data.

Add/Edit/Delete Currencies option

Determines whether the profile will enable users to create, modify, and remove currencies data.

Add/Edit/Delete Financial Period Dates option

Determines 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.

Add/Edit/Delete Funding Sources option

Determines whether the profile will enable users to create, modify, and remove funding source data.

Add/Edit/Delete Global Calendars option

Determines whether the profile will enable users to create, modify, and remove global calendars data.

Add/Edit/Delete Global Portfolios option

Determines whether the profile will enable users to create, modify, and remove global portfolio configurations in Manage Portfolios Views.

Add/Edit/Delete Global Scenarios option

Determines whether the profile will enable users to create, modify, and remove scenarios configurations in the Manage Scenarios link.

Add/Edit/Delete Risk Categories, Matrices, and Thresholds option

Determines whether the profile will enable users to create, modify, and remove risk categories, risk scoring matrices, and risk thresholds data.

Add/Edit/Delete Timesheet Period Dates option

Determines whether the profile will enable users to create, modify, and remove individual or batched timesheet periods.

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.

Resources 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.

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/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 Optional Client.

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 Roles option

Determines whether the profile will enable users to create, modify, and remove roles data.

Add/Edit/Delete Global Resource and Role Teams option

Determines whether the profile will enable users to create, modify, and remove global Resource Teams and Role Teams. A Resource/Role Team is a collection of resources/roles.

Add/Edit/Delete Rate Types and Units of Measure option

Determines whether the profile will enable users to create, modify, and remove resource rate types and units of measure 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.

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.

Approve Resource Timesheets option

Determines whether the profile will enable users to approve or reject submitted timesheets as a Resource Manager.

Templates Privileges

Add/Edit/Delete Activity Step Templates option

Determines 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 Issue Forms option

Determines whether the profile will enable users to create, modify, and remove issue forms.

Add/Edit/Delete Microsoft Project Templates option

Determines whether the profile will enable users to create, modify, and remove Microsoft Project templates that are used to import/export data from/to Microsoft Project.

Add/Edit/Delete Project Templates option

Determines whether the profile will enable users to create, modify, and remove templates that can be used when creating new projects. To create project templates, users must also have the 'Add Projects' project privilege assigned to their profile. To modify templates, you must have the same project privileges that are required to modify projects. To delete project templates, users must also have the 'Delete Projects' project privilege assigned to their profile.

Tools Privileges for Global Privileges

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 Optional Client.

Administer Global Scheduled Services option

Determines whether users have the privilege to modify settings on the Global Scheduled Services dialog box. You can modify the following publishing services if you have this privilege: Publish Enterprise Data, Publish Enterprise Summaries, Publish Resource Management, Publish Security. With this privilege, you can enable the service, choose how often the service will run, and at what time the service will run.

Administer Project Scheduled Services option

Determines whether the profile will enable users to set up the Apply Actuals, Summarize, Schedule, and Level scheduled services to run at specific time intervals.

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 Optional Client.

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 Optional Client. 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 XLS option

Determines whether the profile will enable users to import projects, resources, and roles from XLS files. Users must also be a Project Superuser to update a project from XLS format.

Import XML option

Determines whether the profile will enable users to import projects from P6, P6 Optional Client, 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 supports imports from Microsoft Project 2007, while P6 Optional Client supports imports from Microsoft Project 2002.

View All Global/Project Data via SDK option

Determines whether the profile will enable users to view All Global and Project Data via SDK. For Admin Superusers, access to the P6 SDK will be read/write. For all other users, access will be read only.

Views and Reports Privileges for Global Privileges**Add/Edit/Delete Global Activity and Assignment Layouts, Views and Filters option**

Determines whether the profile will enable users to create, modify, and remove global activity and resource assignment layouts, views, and filters.

Add/Edit/Delete Global Dashboards option

Determines whether the profile will enable users to create, modify, and remove global dashboards.

Add/Edit/Delete Global Project, WBS and Portfolio Layouts, Views and Filters option

Determines whether the profile will enable users to create, modify, and remove global project, WBS, and portfolio layouts, views, and filters. This privilege is required to save view changes made to the Portfolio Analysis page.

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 Optional Client.

Edit Global Tracking Layouts option

Determines whether the profile will enable users to create, modify, and remove global tracking layouts in P6 Optional Client.

Edit Projects from Scorecards option

Determines whether the profile will enable users to create, modify, and remove projects from scorecards in the Portfolio View portlet and the Portfolio Analysis page. This privilege is required to save data changes made to the Portfolio Analysis page. The following project privileges are also required for scorecards: 'Edit Project Details Except Costs/Financials' to edit project data, 'View Project Costs/Financials' to view project cost data, 'Edit WBS Costs/Financials' to edit project cost data, 'Create Project' to add a project, and 'Delete Project' to delete a project.

Defining Project Security Profiles in P6 EPPM

A project profile is a role-based profile that limits privileges to specific project data, such as baselines, the WBS, and expenses. P6 does not require that each user be assigned a project profile; however, users cannot access projects unless they are assigned a project profile or the global profile, Admin Superuser.

You can create an unlimited number of project profiles in P6. In addition, P6 provides a predefined project profile called Project Superuser. The Project Superuser profile allows complete access to elements within a project.  For security reasons, limit the Project Superuser assignment to only those individuals who require access to all project data.

Project profiles are applied to users via OBS assignments. P6 requires that all EPS and WBS elements, and projects, are assigned a responsible OBS. The combination of the project profile/user assignment to an OBS assignment, and the OBS assignment to the EPS/WBS, determines which projects and data the user can access. The default profile is automatically assigned when an OBS is assigned to a user.

Tip

- ▶ When defining each project profile, some privileges are structured hierarchically. In other words, if a user is granted add or delete privileges, that user automatically has edit, assign, and view privileges. If a user is granted edit privileges, that user is automatically granted assign and view privileges. If a user is granted assign privileges, that user is automatically assigned view privileges.
- ▶ See **Assigning OBS Elements and Project Profiles in P6 EPPM** (on page 432) for more information on assigning users to OBS elements.

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Creating Project Security Profiles

Create a project security profile to determine a user's level of access to each project within the enterprise project structure. A user can only access projects they have been assigned.

To create a project security profile:

- 1) Click the **Administer** ▾ menu and select **User Access**.
- 2) On the **User Access** page, click **Project Security Profiles**.
- 3) On the **Project Security Profiles** page:
 - a. Click **+** **Add**.
 - b. In the **Profile Name** field, double-click and type a unique name.
 - c. In the **Description** field, double-click and type a description.
 - d. In the **Default** field, select the option if you want this profile to be the new default.
 - e. Click each detail window and select options to assign privileges to the profile.

Note: Select the **Privilege** option in the detail window's header to assign all privileges in the window. Clear the **Privilege** option to disable all privileges in the window.

- 4) Click  **Save** (Ctrl+S).

Tips

- ▶ Provide clear profile names and descriptions to help you manage profiles.
- ▶  Create a default project profile with few or no privileges.
- ▶ To save time, consider copying, pasting, and modifying an existing profile: select the closest matching profile and click **Copy**. All privilege options are also copied. Click in the list and click **Paste**. The new profile will appear with a unique name based on the original. For example, if you copied *PM Set*, the copy is named *PM Set-1*.

Project Privilege Definitions

The lists on the following pages define each project privilege.

Activities Privileges

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. Users assigned a profile with this privilege can also designate another user as an activity owner. 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.

Add/Edit/Delete Activity Relationships option

Determines whether the profile will enable users to create, modify, and remove activity relationships assigned to projects.

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.

Add/Edit/Delete Expenses option

Determines whether the profile will enable users to create, modify, and remove expenses assigned to projects.

Codes Privileges

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.

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.

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.

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.

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.

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.

EPS and Projects Privileges**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 Projects option

Determines whether the profile will enable users to create, copy, and paste projects within the EPS node. To create project templates, users must also have the 'Add/Edit/Delete Project Templates' global privilege assigned to their profile.

Delete Projects option

Determines whether the profile will enable users to delete, cut, and paste projects within the EPS node. To delete project templates, users must also have the 'Add/Edit/Delete Project Templates' global privilege assigned to their profile.

Edit Project Details Except Costs/Financials option

Determines whether the profile will enable users to edit fields in General, Defaults, Resources, and Settings tabs in Project preferences. This privilege also enables users to assign or remove a risk scoring matrix to a project in the Risk Scoring Matrices page in Enterprise Data. To assign a project baselines, users must also have the 'Assign Project Baselines' project privilege assigned to their profile.

Add/Edit/Delete WBS Except Costs/Financials option

Determines whether the profile will enable users to create, modify, and remove WBS hierarchy nodes, notebook entries, earned value settings, milestones (steps), work products and documents, and dates.

Edit WBS Costs/Financials option

Determines whether the profile will enable users to modify WBS budget logs, funding sources, spending plan, and financial data at the project level. This privilege also enables users to edit cost data at the activity level, including resource assignments. This privilege also selects the 'View Project Costs/Financials' project privilege.

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.

Delete Project Data with Timesheet Actuals option

Determines whether the profile will enable users to delete activities and resource assignments for projects that have timesheet actuals. To delete project data at all different levels (activity, WBS, project, and EPS), users must also have the appropriate privileges assigned to their profile. For example, to delete activities with timesheet actuals, users must also have the 'Delete Activities' project privilege assigned to their profile. To delete activities and WBS nodes with timesheet actuals, users must additionally have the 'Add/Edit/Delete WBS Except Costs/Financials' project privilege assigned to their profile.

Tips

- ▶ To modify templates, you must have the same project privileges that are required to modify projects.
- ▶ 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.

Project Data Privileges

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 Project Baselines option

Determines whether the profile will enable users to create, modify, and remove baselines for projects.

Add/Edit/Delete Project Calendars option

Determines whether the profile will enable users to create, modify, and remove calendars assigned to projects.

Add/Edit/Delete Risks option

Determines whether the profile will enable users to create, modify, and remove risks assigned to projects.

Add/Edit/Delete Template Documents option

Determines whether the profile will enable users to create, modify, remove project template documents. If the content repository is installed and configured, this privilege also enables users to check out and start reviews for project template documents. A profile must be assigned the 'Add/Edit/Delete Work Products and Documents' project privilege before you can select this privilege.

Add/Edit/Delete Work Products and Documents option

Determines whether the profile will enable users to create, modify, and remove project documents that do not have a security policy applied. Document security policies are available only in P6 and only for documents stored in the content repository. When the content repository is installed and configured, this privilege also enables users to create document folders in P6.

Add/Edit Workgroups option

Determines whether the profile will enable users to create and modify workgroups.

Delete Workgroups option

Determines whether the profile will enable users to remove workgroups.

Edit Workspace and Workgroup Preferences option

Determines whether the profile will enable users to customize the project workspace and workgroup preferences.

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.

Related Applications Privileges

Import/View Contract Management Data option

Determines whether the profile will enable users to import and display data from Contract Management in P6 Optional Client.

Administer Project External Applications option

Determines whether the profile will enable users to modify entries in the External Applications feature in P6 Optional Client.

Resource Assignments Privileges

Add/Edit Activity Resource Requests option

Determines whether the profile will enable users to create and modify resource requests for activities.

Add/Edit/Delete Resource Assignments for Resource Planning option

Determines whether the profile will enable users to assign, modify, and remove resource assignments on a project or WBS level in Resources. This privilege also enables users to define search criteria and conduct a search for resource assignments. For users who do not have this privilege assigned to their profile, the resource assignment information on the Planning page is read-only for that particular project or WBS. Since project-level security privileges go down to the WBS level, it is possible to be able to assign a resource to one WBS in a project and not another.

Add/Edit/Delete Role Assignments for Resource Planning option

Determines whether the profile will enable users to assign, modify, and remove role assignments on a project or WBS level in Resources. This privilege also enables users to define search criteria for role assignments. For users who do not have this privilege assigned to their profile, role assignment information on the Planning page is read-only for that particular project or WBS. Since project-level security privileges go down to the WBS level, it is possible to be able to assign a role to one WBS in a project and not another.

Edit Committed Flag for Resource Planning option

Determines whether the profile will enable users to identify committed resource and role assignments on a project or WBS level on the Planning page. The 'Add/Edit/Delete Resource Assignments for Resource Planning' project privilege is also required for this functionality.

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 Optional Client. The 'Add/Edit Activities Except Relationships' project privilege is also required for this functionality.

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 Optional Client. The 'Add/Edit Activities Except Relationships' and 'View Project Costs/Financials' project privileges are also required for this functionality.

Timesheets Privileges

Approve Timesheets as Project Manager option

Determines whether the profile will enable users to approve or reject submitted timesheets as a Project Manager in Timesheet Approval.

Tools Privileges for Projects

Allow Integration with ERP System option

Determines whether the profile will enable users to send project data to an integrated Oracle system using the Send to ERP or Send to Fusion feature on the Activities page in the Projects section. This is a project level privilege and is not specific to each level of the WBS.

Apply Actuals option

Determines whether the profile will enable users to apply actuals to activities in projects.

Check In/Check Out Projects option

Determines whether the profile will enable users to check projects out to work remotely and then check them back in using P6 Optional Client.

Edit Contract Management Project Link option

Determines whether the profile will enable users to create, edit, and delete a link to Contract Management projects.

Level Resources option

Determines whether the profile will enable users to level resources in projects. This privilege also selects the 'Schedule Project' project privilege.

Schedule Projects option

Determines whether the profile will enable users to schedule projects.

Monitor Project Thresholds option

Determines whether the profile will enable users to run the threshold monitor for projects in P6 Optional Client.

Store Period Performance option

Determines whether the profile will enable users to track actual this period values for actual units and costs in projects. The 'Add/Edit Activities Except Relationships' project privilege is also required for this functionality.

Summarize Projects option

Determines whether the profile will enable users to summarize data for all projects in the EPS.

Edit Publication Priority option

Determines whether the profile will enable users to edit the Publication Priority for the project. This privilege should be granted only to administrators to optimize the flow of projects through the service queue.

Run Baseline Update option

Determines whether the profile will enable users to update baselines assigned to projects with new project information using the Update Baseline tool in P6 Optional Client.

Run Global Change option

Determines whether the profile will enable users to run Global Change specifications to update activity detail information in P6 Optional Client.

Views and Reports Privileges for Projects

Add/Edit Project Level Layouts option

Determines whether the profile will enable users to create, modify, and remove project level layouts in the Activities, Assignments, or WBS windows in P6 Optional Client.

Edit Project Reports option

Determines whether the profile will enable users to modify reports, modify report batches, and export reports for projects in P6 Optional Client.

Publish Project Website option

Determines whether the profile will enable users to publish a Web site for projects in P6 Optional Client.

Configuring Users in P6 EPPM

Depending on your security profile, the Users table enables you to add and remove users and control user access to P6 EPPM modules. You must add a user in P6 for each person who needs access to any P6 EPPM module.

At a minimum, each user requires a login name, global profile, and module access. You can also provide additional information about the user, such as an e-mail address and phone number.

 If your organization centralizes user information in an LDAP directory, you can add P6 EPPM users by provisioning from the LDAP store. See **Authentication in P6 EPPM** (on page 461) for more information. After you provision users, you will need to assign each user module access.

If your company's OBS is established, and you know which OBS elements to associate with each user, you can make the assignments using the Project Access window of the Users table. See **Assigning OBS Elements and Project Profiles in P6 EPPM** (on page 432).

Note:  For security reasons, Oracle strongly recommends that you replace the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier. See **The Default Admin Superuser** (on page 415) for guidelines on this process.

Related Topics

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About User Access

User access helps you create user accounts, assign access, manage the organizational breakdown structure (OBS) and configure profiles. The User Access page presents a list of tabs:

Users: Presents options to modify security attributes and project and module access for all users of P6 EPPM modules.

OBS: Presents options to configure the OBS hierarchy.

Global Security Profiles: Presents options to assign or omit global privileges to profiles.

Project Security Profiles: Presents options to assign or omit project privileges to profiles.

Working with User Access

On the **User Access** page, you can assign users access to the module and projects, create OBSs, and assign global and project privileges.

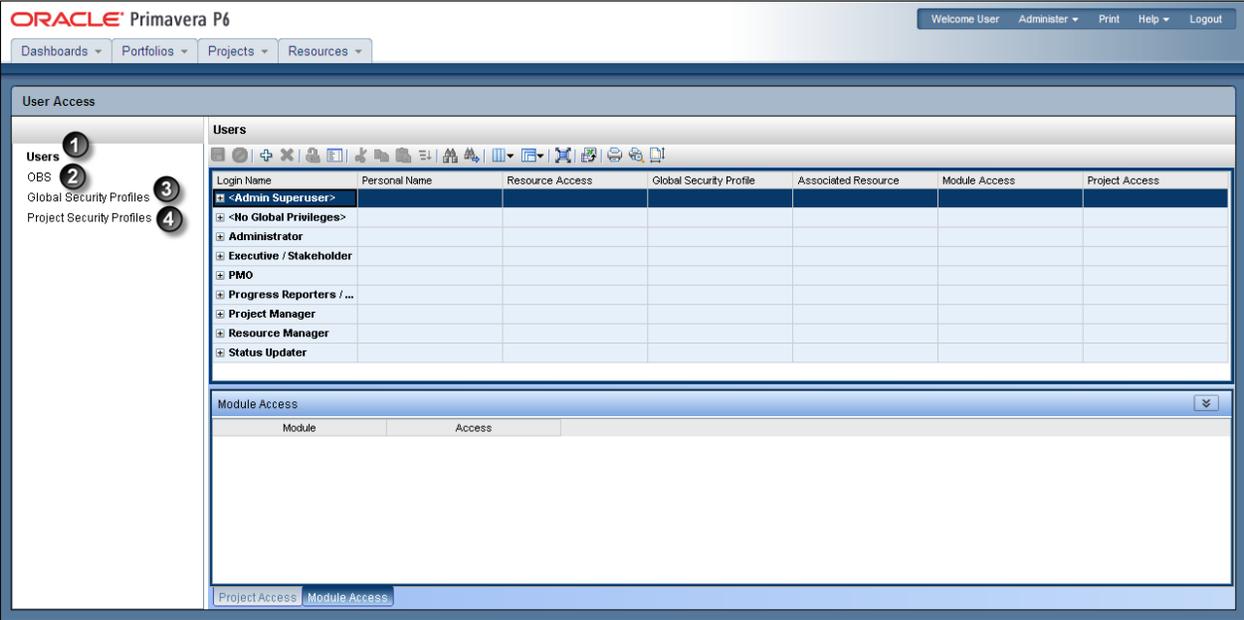


Table of the User Access Page

Item	Description
1	Users: Use the Users page to assign users access to the module and to projects.
2	OBS: Use the OBS page to assign managers to an OBS.
3	Global Security Profiles: Use the Global Security Profiles page to assign global privileges to users.

Item	Description
------	-------------

- | | |
|---|--|
| 4 | Project Security Profiles: Use the Project Security Profiles page to assign project privileges to users. |
|---|--|

Modifying Your Admin Superuser Password If You Manually Installed Your Database

Warnings:

- Use the steps in this section only if you manually installed your database. If you automatically installed or upgraded or manually upgraded your database, you can ignore the steps in this section.
- Do not do any steps in this section until you have installed your application.

If you manually installed your database, you will have to null your password to login into the application for the first time. Once you null your password, you need to immediately reset it.

Related Topics

Modifying Your P6 Admin Password If You Manually Installed an Oracle Database414

Modifying Your P6 Admin Password If You Manually Installed an Oracle Database

Warning: Use the steps in this section only if you manually installed your database. If you automatically installed or upgraded or manually upgraded your database, you can ignore the steps in this section.

When you first login to the application, you will login as the Admin Superuser (Admin) that was created when you manually configured the database. To login, you will have to set the password to null.

Warnings:

- Create your new Admin Superuser password immediately after nulling the password and logging in for the first time.
- Do not null the password until you are ready to login and change your password.

To null the password:

- 1) Login to the database as admuser using SQLDeveloper or SQLPlus.
- 2) Run the following sql:

```
update users set passwd=null where user_name='admin';
```

Notes:

- This command will reset the password so you will not have to use a password when you login to the application for the first time.

-
- Create your new Admin Superuser password immediately after nulling the password.
-

3) Login to the application and set your admin password.

Notes:

-  Oracle recommends using strong passwords. Strong passwords in P6 EPPM 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.
 - Only Admin Superusers can create, edit, and delete other Admin Superusers. You must have at least one Admin Superuser to create other Admin Superusers.
 -  For security reasons, Oracle strongly recommends that you replace the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier. See *The Default Admin Superuser* (on page 415) for guidelines on this process.
-

The Default Admin Superuser

 For security reasons, Oracle strongly recommends that you replace the default Admin Superuser (admin) in P6 immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier. Since P6 requires that at least one Admin Superuser exists at all times, execute the procedures below in the order specified.

- 1) Follow the steps in *Creating User Accounts for P6 EPPM* (on page 415) to create a new user.
- 2) Follow the steps in *Assigning Global Security Profiles* (on page 418) to assign "Admin Superuser" as the global profile for the new user.
- 3) Follow the steps in *Assigning Module Access* (on page 424) to assign at least one of the following module access rights: Portfolios, Projects, or Resource.
- 4) Create a new Admin Superuser then delete the original Admin Superuser, "Admin" by default.

Note: Only Admin Superusers can create, edit, and delete other Admin Superusers. You must have at least one Admin Superuser to create other Admin Superusers.

Creating User Accounts for P6 EPPM

Follow these steps to create new user accounts for applications in P6 EPPM including P6, P6 Optional Client, and P6 Progress Reporter. These steps represent the minimum you must do to create a user account. You can also configure user access to grant or deny a user's access to data.

To create a new user account:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page, click the  **Add** icon.
- 4) What appears next depends on your security configuration:
 - a. If P6 is running in native authentication mode, the **Add User** dialog box will appear:
 1. Fill in the **Login Name**, **Personal name**, **Password**, and **Confirm Password** fields.
 2. Click **Add**.
 3. If the ability to edit a personal resource calendar or access to P6 Progress Reporter is required, you can select an Associated Resource in the Users table at this time, or you can create the link when you add resources.
 4. In the Users table, add the columns for e-mail address and telephone number (if not already present), and enter the appropriate data.
 5. Click  **Save**.

Notes:

- Your user name can be a maximum of 30 characters.
- The assigned **Global Security Profile** will determine the user's capabilities.
- When the Password Policy is disabled in Application Settings, the password must be between 1 and 20 characters. P6 EPPM does not allow blank passwords.
-  When the Password Policy is enabled in Application Settings, the password must be between 8 and 20 characters and contain at least one number and one letter.

- b. If P6 is running in SSO or LDAP authentication mode, the **Add Users from LDAP** dialog box appears for you to provision users from the LDAP repository:

Note: 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 an LDIF file.

1. Either click the **Load LDIF** button, or enter an LDAP query (for example, `uid=*`) under **Search users**. If a search was previously performed by a user with the privilege to search the LDAP directory, the last query entered by that user will appear.
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**.

Note: Depending on your P6 administrative configuration settings, you might be prompted to log into the LDAP server.

3. A list of users will appear, grouped by status. For example, LDAP repository users that do not exactly match P6 EPPM users will be grouped together. If users exist in the LDAP repository, the **User Name**, **Actual Name**, **E-mail**, and **Phone** fields are populated (you previously mapped those fields through the P6 Administrator application settings mentioned above).

Note: The User Name field is equivalent to the Login Name field in P6. The Actual Name field is equivalent to the Personal Name field.

4. Select the option next to each user account that you wish to import, or select the option in the fields bar to select all users. New and modified users are automatically selected.
5. Click **Import**.

Note: The new users will be assigned the default global profile.

Tips

- ▶ Give each user a unique name with up to 30 alpha-numeric characters.
- ▶  Oracle recommends using strong passwords. Strong passwords in P6 EPPM 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.
- ▶  For security reasons, Oracle strongly recommends that you replace the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier. See **The Default Admin Superuser** (on page 415) for guidelines on this process.

Configuring User Access

For security purposes, configure user access controls to grant or deny user's access to data.

To configure user access, select the appropriate link:

- ▶ **Assigning Associated Resources** (on page 418)
- ▶ **Assigning Global Security Profiles** (on page 418)
- ▶ **Assigning Module Access** (on page 424)
- ▶ **Assigning OBS Elements to Users** (on page 424)
- ▶ **Assigning Resource Access** (on page 425)

Tips

Show or hide columns on the **Users** page to configure additional user access options.

Related Topics

Assigning Associated Resources	418
Assigning Global Security Profiles	418
Module Access Definitions	419
What Does the Team Member Module Access Enable a User to Access?	421
Assigning Module Access.....	424
Assigning OBS Elements to Users	424
Assigning Resource Access	425
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Creating User Interface Views	426
Assigning User Interface Views	427

Assigning Associated Resources

Assign an associated resource to the user profile to connect the user with a resource in the application. Each user can have only one resource assigned, and a resource cannot be assigned to more than one user at the same time. Not all users require an associated resource, but users must have a resource assigned to enable them to edit their personal resource calendars and use P6 Progress Reporter. Also, by associating a resource with a user, the user will be able to see all projects to which the resource is assigned via activities if the user has Team Member access.

To assign an associated resource:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page:
 - a. Select a user.
 - b. In the **Associated Resource** field, double-click and click .
- 4) In the **Select Resource** dialog box, select a resource and click **Assign**.
- 5) On the **Users** page, click  **Save**.

Assigning Global Security Profiles

Every user is assigned a global security profile by default. You can change a global security profile for every user to control user access to application-wide information.

To change the user's global security profile:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page:
 - a. Select a user.
 - b. In the **Global Security Profile** field, double-click and choose a profile from the list.

Note: The assigned **Global Security Profile** will determine the location of the user in the **Users** tab hierarchy if they are grouped by the global profile.

- c. Click  **Save**.

Tips

- ▶ You must have the appropriate privileges to assign security attributes.
- ▶ An Admin Superuser is a global security profile that gives a user read/write privileges for application-wide information and features. The Admin Superuser always has access to all resources. If resource security is enabled, resource access settings are not applicable. To make global information read-only for a user, choose No Global Privileges. The No Global Privileges profile provides read-only access to all global data except costs and secure codes.

Module Access Definitions

Selecting a module access option gives the user access to the following:

Notes:

- If users need to access P6, they must have one of the following module access rights: Projects, Portfolios, Resources, Team Member, or Enterprise Reporting.
 - All module access rights except P6 Integration API, P6 Analytics, P6 Optional Client, P6 Progress Reporter, and P6 EPPM Web Services provide access to Dashboards in P6; however, the Dashboards menu items that are available depend on the user interface view and whether users are assigned the Timesheet Approval security privilege. Also, the portlets that are available on the Dashboards Home page are based on each user's module access rights and configuration of the P6 Administrator application, and the data that is displayed in the Dashboards portlets are dependent on each user's security privileges.
-

Enterprise Reports option

Determines user access to the Reports section in P6. By selecting this module access option, the P6 EPPM user will be able to run reports.

-
- **Note:** Security for reports is enforced when the report is executed. See *Configuring Security for the P6 EPPM Extended Schema and Reports* for more information.
-

Integration API option

Determines user access to log into the PMDB database through P6 Integration API via Java.

P6 Analytics option

Determines user access only to the Star database through Oracle Business Intelligence. By selecting this module access option, a Star user is created for the P6 EPPM user as long as the user name matches Oracle database user name requirements. For example, if the P6 EPPM user name begins with anything other than a letter, a Star user cannot be created. Once a Star user is created, the user will be able to access the Oracle Business Intelligence Dashboards application.

P6 Optional Client option

Determines user access to P6 Optional Client, including the Timescaled Logic Diagram application.

Portfolios option

Determines user access to the following functionality in P6: the Portfolios section, Project Performance portlets, the Portfolio View portlet in the Dashboards section, document management functionality (if the Content Repository is configured), and workflow functionality (if the integration with BPM is configured).

Progress Reporter option

Determines user access to P6 Progress Reporter. For users who require access to P6 Progress Reporter, you must grant them either Team Member or Progress Reporter module access.

Projects option

Determines user access to the following functionality in P6: the Projects section, Project Performance portlets in the Dashboards section, document management functionality (if the Content Repository is configured), and workflow functionality (if the integration with BPM is configured).

Resources option

Determines user access to the following functionality in P6: the Resources section, Resources portlets in the Dashboards section, document management functionality (if the Content Repository is configured), and workflow functionality (if the integration with BPM is configured).

Team Member option

Determines user access to P6 Progress Reporter and to limited functionality in P6, such as the Dashboards and Projects sections (Workspace and Activities pages). For user interface views, only the options on the Activity Editing tab apply to Team Members. Access to P6 functionality is additionally determined by a user's OBS access and relationship to the project, that is, whether the user is assigned as a resource to activities and designated as an activity owner. You must clear all other module access options in order to select Team Member module access; conversely, you must clear Team Member module access in order to select any other module access option.

Web Services option

Determines user access to P6 EPPM Web Services, which uses open standards, including XML, SOAP, and WSDL, to seamlessly integrate P6 EPPM functionality into other applications. Using P6 EPPM Web Services, organizations can share P6 EPPM data between applications independent of operating system or programming language.

Tips

- ▶ Some P6 EPPM products, such as the P6 SDK, do not require module access.

- ▶ Users can view project data in P6 without Team Member module access as long as they have Portfolios, Projects, or Resources module access. When this is the case, users can view data for a project when they have OBS access to the project, they are assigned as a resource to an activity in the project, or they are the project owner. For more detailed information on Team Member module access, see ***What Does the Team Member Module Access Enable a User to Access?*** (on page 421).

What Does the Team Member Module Access Enable a User to Access?

Team Member module access provides access to P6 Progress Reporter and to some P6 functionality. The following sections describe P6 functionality that a Team Member user can access.

In general, all users with Team Member module access can:

- ▶ create private and multi-user dashboards
- ▶ import calendar nonwork time
- ▶ create private and multi-user activity views
- ▶ set their own preferences

Depending on OBS access to projects (as described in the following sections), users with Team Member module access can also:

- ▶ add/edit project issues
- ▶ add/edit resource assignments
- ▶ add activity steps
- ▶ edit activity dates
- ▶ edit activity status
- ▶ add/edit/delete activity relationships
- ▶ add/edit activity expenses
- ▶ add/edit activity notebook topics
- ▶ add/edit user-defined fields
- ▶ add private documents

Note: If you assign a user interface view to a user who has only Team Member module access, all view settings, except Activity Editing options, are ignored; the functionality available to Team Member users is controlled by module access rights. For example, even if the assigned user interface view allows the display of all Administration tasks, Team Member module access will only display My Preferences and My Calendar (if applicable). See ***Defining User Interface Views*** (on page 425) for more information on assigning user interface views.

Dashboards

In the Dashboards section of P6, Team Member users can create private and multi-user dashboards and approve timesheets (with the required security privilege). Dashboard portlets display data for projects the user is associated with that meet the criteria of the specified Dashboard Filter. Together, a user's association with a project, OBS access, and security privileges, determine the level of view and edit access that is granted to project data. A Team Member can be associated with a project via OBS access, by assignment as an activity resource, by assignment as an activity owner in a Reflection project (P6 Optional Client only), and by assignment as an activity owner in a What-if project (will appear in P6 only).

Note: The Reflection project and activity owner features can be used together to collect and review activity progress information from Team Member users who are not assigned as activity resources and who do not use P6 Progress Reporter for status reporting. For more details, refer to the *P6 Optional Client Help*.

Team Member users can access the following Dashboards portlets (full functionality is available except where noted):

- ▶ My Projects
- ▶ My Workgroups
- ▶ My Activities
- ▶ My Risks — Users can view, but not add, risks.
- ▶ My Issues — Users without OBS access to a project can view, but not add, issues. Users with OBS access to a project can add issues with the required security privilege.
- ▶ Communication Center
- ▶ My Documents — Users can add private documents only. This portlet is available only when the Content Repository is configured for use with P6, regardless of a user's module access.
- ▶ My Calendar
- ▶ Document Reviews — This portlet is available only when the Content Repository is configured for use with P6, regardless of a user's module access.
- ▶ Workflows — This portlet is available only when the Workflows Repository is configured for use with P6, regardless of a user's module access.
- ▶ Cost Worksheet
- ▶ Custom Portlet

All other portlets are not available to Team Member users.

Projects

In the Projects section of P6, Team Member users can access the Open Project dialog and the Workspace and Activities pages.

The **Open Projects dialog** can be organized by EPS, portfolio, or project code. Within each grouping category, the dialog displays all projects to which the user has OBS access, all projects in which the user is assigned as an activity resource, all Reflection projects in which the user is designated as an activity owner (P6 Optional Client only), all What-if projects in which the user is designated as an activity owner (P6 only), and all projects in which the user is designated as a project owner. Users can access the Open Projects dialog by choosing Open Projects from the Projects menu in the global navigation bar.

The **Activities page** in the Projects section displays all activities the user is associated with either as an assigned resource or as an activity owner. Users who are associated with activities, but who do not have OBS access rights, can view, print, and export data but cannot access features and functions that change project data. For example, they cannot edit activity data in the table, modify the Gantt chart, or modify activity details. Users associated with activities who have OBS access to the project and the required security privileges can access, add, and edit activities, edit fields in the Activity Table, modify Gantt chart bars, establish relationships, print, export, and import information.

Note: Team Member users cannot delete activities or add/edit WBS elements.

In the **Workspace page**, Team Member users can access the following portlets (full functionality is available except where noted):

- ▶ Project Documents — Users can view, download, and check out, but not add, project documents. Advanced document management capabilities are only available when the Content Repository is configured for use with P6, regardless of a user's module access rights.
- ▶ Project Risks — Users can view, but not add or edit, project risks.
- ▶ Project Issues — Users without OBS access to the project can view, but not add or edit, project issues. Users with OBS access to the project can add and edit issues if they are assigned the required project privilege.
- ▶ Project Notebooks — Users can view, but not add or edit, project notebooks.
- ▶ Overallocated Resources
- ▶ Critical activities behind schedule — Users can view all activities behind schedule for the project. For users without OBS access to the project, all activity details accessed from this portlet are read-only. For users with OBS access to the project, users can edit activity details accessed from this portlet if they have the appropriate security privileges and are a resource on the activity or are the activity owner.
- ▶ Milestone status — Users can view all milestone activities for the project. For users without OBS access to the project, all activity details accessed from this portlet are read-only. For users with OBS access to the project, users can edit activity details accessed from this portlet if they have the appropriate security privileges and are a resource on the activity or are the activity owner.
- ▶ Communication Center
- ▶ Project Calendar — Users can view all activities for the project scheduled for the selected week. For users without OBS access to the project, all activity details accessed from this portlet are read-only. For users with OBS access to the project, users can edit activity details accessed from this portlet if they have the appropriate security privileges and are a resource on the activity or are the activity owner.

- ▶ Workgroups
- ▶ Custom Portlet
- ▶ Contract Management portlets — Users can view all Contract Management portlets if P6 is configured to access Contract Management and the P6 project is linked to a Contract Management project.

All other Workspace portlets are only available to Team Member users if they are granted access when you customize the project workspace.

Assigning Module Access

Assign user module access to allow or deny the user access to different parts of the application.

To assign user module access:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page:
 - a. Select a user.
 - b. In the **Module Access** field, double-click and click .
- 4) In the **Module Access** detail window, select options to grant access to each module or feature set.
- 5) On the **Users** page, click  **Save**.

Assigning OBS Elements to Users

Assign OBS elements to a user to control their access to the EPS and projects.

Caution: Users assigned to an OBS that is assigned to the root EPS have access to all projects at all levels.

To assign OBS elements to a user:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page, select a user.
- 4) In the **Project Access** detail window:
 - a. Click  **Add**.
 - b. In the **Select Responsible Manager** dialog box, select an OBS element from the list and click **Assign**.

Note: The default project security profile will automatically be assigned when the Responsible Manager is selected.

- c. In the **Project Access** detail window, select a different project security profile, if needed.
- 5) On the **Users** page, click  **Save**.

Tips

- ▶ You can also assign users to OBS elements using the Users Detail Window of the OBS Page.

- ▶ Project access settings are not applicable to users with the special *Admin Superuser* global security profile. The *Admin Superuser* profile always has access to all projects.
- ▶ To remove an OBS assignment, select an element in the **Project Access** detail window and click **✗ Delete**.

Assigning Resource Access

You can control which resources a user can access.

To control resource access:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page:
 - a. Select a user.
 - b. In the **Resource Access** field, double-click .
- 4) In the **Specify Resource Access** dialog box, select one of the following and click **Assign**:
 - ▶ **No Resources**: to deny the user access to resources. This is the default resource access setting for new users.
 - ▶ **All Resources**: to grant the user access to all resources.
 - ▶ **Select Resources**: to grant the user access to the selected resource node and its children.

Note: You can assign only one node to a user.

- 5) On the **Users** page, click  **Save**.

Tips

- ▶ Resource access settings are not applicable to Admin Superusers. Superusers always have access to all resources.
- ▶ Resource access changes go into effect almost immediately for P6 users. P6 Optional Client users should exit the application and log in again for the changes to take effect.
- ▶ If a resource is deleted from the resource hierarchy, users that previously had been assigned to the deleted resource will automatically be assigned to the **No Resources Access** option.

Defining User Interface Views

In addition to module access and security privileges, you can further control access to P6 functionality with user interface views. A user interface view is a defined set of tabs, pages, and menu items that a user assigned to that view can access in the main sections of P6 (Dashboards, Portfolios, Projects, and Resources). It also helps to control the fields that a user can edit in the Activity page. You can create multiple user interface views that correspond to the job functions performed by each role in your organization, or you can create user interface views to meet each individual user's needs.

Note: You can designate one user interface view as the default view for new users. The default view controls user access to functionality only for new users who are not already assigned a user interface view. Existing users who do not have an assigned user interface view can continue to access all functionality. You can define the default view for new users on the **User Interface Views** page using the **User Interface View for new users** list. See the *P6 Help* for more information.

Creating User Interface Views

Create a user interface view to optimize user to module interaction. The user interface view permits visibility to features essential for a role while hiding functionality that is not applicable. You can choose to create a brand new user interface view or modify an existing view.

To create a user interface view:

- 1) Click the **Administer**  menu and select **User Interface Views**.
- 2) On the **User Interface Views** page, click **Create User Interface View**.
- 3) On the **Copy from Existing User Interface View** dialog box:
 - a. Choose **New User Interface View** to create a new user interface view, or select an existing user interface view to use as a starting point.
 - b. Click **OK**.
- 4) On the **Create User Interface View** page, click the **Content** tab:
 - a. Enter a unique name for the new user interface view.
 - b. Expand each section and select options for menu items and pages you want to include in the view.
 - If you select the option next to **Menu Items** or **Pages**, all items will be included in the view. Conversely, if you clear the option, none of those items will be displayed in the view.
 - Click the  **Move Down** or  **Move Up** to configure the sequence of items. The first item listed in each section is designated as the first page for that section. For example, if Activities is the first item listed for Projects Tab Icons, when a user opens a project, the Activities page will be displayed automatically.
- 5) On the **Create User Interface View** page:
 - a. Click the **Activity Editing** tab.
 - b. Expand each section and select the option in the **Edit** field to allow the user to edit that section.
 - If you select the option next to the name of the section, all items in that section will be editable. **Global Activity Codes**, **EPS Activity Codes**, **Project Activity Codes**, and **User Defined** do not have the select all option; you must select each code individually.
- 6) On the **Create User Interface View** page, click the **Users** tab:
 - a. Select a user from the **Available Users** window to assign the user to that view.
 - Click  **Select** to move the user to the **Selected Users** column.

- Select the **Allow Editing** option to enable the user to edit the contents of their interface view.
 - b. Select a user from the **Selected Users** window to remove the user from that view.
 - Click  **De-select** to remove the user.
- 7) Click **Save and Close**.

Tips

- ▶ Users can view their interface view settings on the **My Preferences** page **View** tab.
- ▶ Continue to configure views over time in line with changing roles, capabilities, features, and organizational needs.
- ▶ You can quickly add users to a user interface view by double-clicking their name in the **Available Users** column. Likewise, you can remove users from a view by double-clicking their name in the **Selected Users** window.
- ▶ You can also assign user interface views on the **Users** page.

Assigning User Interface Views

Assign user interface views to users to give users a view that is optimized for their role. User interface views permit visibility to features essential for a user's role while hiding functionality that is not applicable. You can assign user interface views only if you have the necessary privileges.

To assign a user interface view:

- 1) Click the **Administer**  menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
 - a. Select a user.
 - b. In the **User Interface View** field, double-click and click .
- 3) In the **Select User Interface View** dialog box, select a user interface view and click **Assign**.
- 4) On the **Users** page, click  **Save**.

Changing Passwords

Administrators can change a user's password and users can change their own passwords.

- ▶ Administrators: See **Changing User Passwords** (on page 427).
- ▶ Users: See **Changing Your Own Password** (on page 428).

Related Topics

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Changing User Passwords

Administrators can change users' passwords.

To change a user password:

- 1) Click the **Administer**  menu and select **User Access**.

- 2) On the **User Access** page, click the **Users** tab.
- 3) On the **Users** tab:
 - a. Select a user.
 - b. Click  **Change Password**.
- 4) In the **Change Password** dialog box:
 - a. In the **New Password** field, enter a new password.

Notes:

-  When the Password Policy is enabled in Application Settings, the password must be between 8 and 20 characters and contain at least one number and one letter.
- When the Password Policy is disabled in Application Settings, the password must be between 1 and 20 characters. P6 EPPM does not allow blank passwords.

- b. In the **Confirm New Password** field, enter the new password again for verification and click **OK**.
- 5) On the **Users** tab, click  **Save**.

Tips

You cannot change passwords if you are running P6 EPPM in LDAP or SSO authentication mode.

Changing Your Own Password

Users can change their own password at any time.

Note: You cannot change passwords if you are running P6 EPPM in LDAP or SSO authentication mode.

To change your own password:

- 1) Click the **Administer**  menu and select **My Preferences**.
- 2) On the **My Preferences** page, click the **Password** tab.
- 3) On the **Password** tab:
 - a. In the **Current Password** field, enter the current password.
 - b. In the **New Password** field, enter a new password.

Notes:

-  When the Password Policy is enabled in Application Settings, the password must be between 8 and 20 characters and contain at least one number and one letter.
- When the Password Policy is disabled in Application Settings, the password must be between 1 and 20 characters. P6 EPPM does not allow blank passwords.

- c. In the **Confirm New Password** field, enter the new password again for verification.

- d. Click **Save**.

Counting Users

As an aid in determining whether you have reached licensing limitations, use the Count feature to view the number of users assigned access to each P6 EPPM module:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) In the **Users** tab, click  **Count**.
- 4) In the **Count** dialog box, view the user count by module.
 - a. If needed, click  **Export to Excel** or  **Print** to create an output of the results.

Tracking Concurrent Usage of P6 EPPM

As an aid in tracking concurrent usage of P6 EPPM, you can run queries against the USESSION and USESSAUD tables to perform self-audits. Example queries are provided below.

Note: See **DAMON (Data Monitor) Procedures** (on page 121) for information on how to set up the USESSAUD procedure; however, to ensure accuracy of these queries, make sure to 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:

```
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 EPPM product at a given time:

```
select count (*) from usession where delete_session_id is null and
app_name=' P6 EPPM product name'
```

where *P6 EPPM product name* is the application abbreviation.

Note: You can view all available application abbreviations by running the following query as an administrative database user: `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 EPPM on a specific date during a specified time range. You can alter the date, time range, and P6 EPPM product as needed. The following example will search for all users who logged into P6 Optional Client on February 17, 2010 between 9am and 10am:

```
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'
```

Tips

See **Counting Users** (on page 429) for information on how to view the total number of licenses assigned for each module.

Resetting User Sessions

Reset a locked-out user's session to grant the user rights to initiate a new session. Users may be locked out if they have attempted to log in while a session is already running, or if they have repeatedly entered incorrect login information.

Notes:

- The number of failed attempts users are permitted before they are locked out of P6 is assigned in the P6 Administrator application. The default setting is 5.
 - Accounts that are locked out, but not reset, will become available after a length of time defined in the P6 Administrator application. The default setting is 1 hour.
-

To reset user sessions:

- 1) Click the **Administer** ▼ menu and select **User Sessions**.
- 2) On the **User Sessions** page:
 - ▶ To reset all user sessions, click **Reset All Users**.

Caution: Oracle recommends that users only be reset if they are locked out. Clearing sessions for active users can have adverse effects in the application.

- ▶ To reset only the selected user, click **Reset User**.

Tips

- ▶ A user account that is locked out is highlighted in red and denoted by an asterisk.
- ▶ You must be an Admin Superuser to access the **User Sessions** page.
- ▶ The **User Sessions** page displays users who are currently logged in, users who left the application but did not log out, and users whose failed login count exceeds the acceptable threshold.

About the OBS

The organizational breakdown structure (OBS) is a hierarchical way to represent the managers responsible for the projects in your enterprise. You can associate the responsible managers with their areas of the enterprise project structure (EPS) with either an EPS node or a project. 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. An OBS supports large projects that involve several project managers with different areas of responsibility.

To access a project, a user must have access permissions for an OBS element within the project. You can then assign users to OBS elements. When you assign users to OBS elements, users get access privileges to projects and EPS nodes where they have OBS access. The type of access granted to a user is determined by the project security profile assigned to the user.

Working with the OBS

Use the OBS page to assign projects to responsible managers in your enterprise.

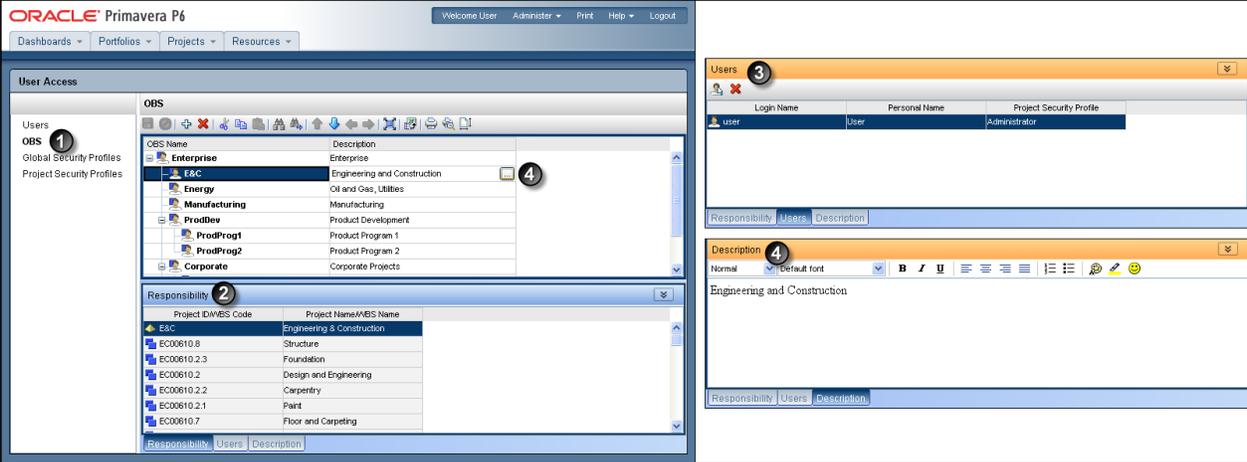


Table of OBS Page

Item	Description
1	OBS page: Use the OBS page to assign responsible managers to a project.
2	Responsibility tab: Use this tab to view an OBS' Project ID/WBS Code and Project Name/WBS Name. You can associate the responsible managers with their areas of the EPS—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 by default.
3	Users tab: Use this tab to give users specific access to an OBS. 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 might lie beyond the user's scope.
4	Description tab: Use this tab to add a description about the OBS. To add a description, you will double-click in the Description field on the OBS page and type in a description on the Description tab.

Creating an OBS

Create an organizational breakdown structure (OBS) to hierarchically represent the managers responsible for your projects. You must have the appropriate privileges to create an OBS.

To create a new OBS:

- 1) Click the **Administer** ▾ menu and select **User Access**.

- 2) On the **User Access** page, click **OBS**.
- 3) On the **OBS** page:
 - a. Click  **Add**.

Note: The OBS is automatically added as a child of another OBS.

- b. Move the OBS to the correct location in the list and hierarchical position by clicking the  **Move Up**,  **Move Down**,  **Move Left**, or  **Move Right** arrows.
 - c. In the **OBS Name** field, double-click and type a unique name.
 - d. Click the **Users** detail window.
 - 4) In the **Users** detail window, remove or assign users to the OBS.
 - ▶ To remove a user from the OBS, select a user and click the  **Delete** icon.
 - ▶ To assign a user to the OBS, click the  **Add** icon.
 - 5) In the **Select Users** dialog box, select a user and click **OK**.
 - 6) On the **OBS** page, click  **Save**.

Tips

- ▶ When you set up enterprise project structure (EPS) nodes, a root OBS is automatically assigned to the root EPS.
- ▶ When you create a new project, the default responsible manager is automatically assigned so that an OBS element is available for each work breakdown structure (WBS) element added to the project.

Assigning OBS Elements and Project Profiles in P6 EPPM

To restrict or grant access to projects and their data, you must assign project profiles to users. A project profile is a role-based profile that limits privileges to specific project data, such as baselines, the WBS, and expenses. Project profiles are linked to users through one or more OBS assignments. You assign responsibilities to specific projects and work within projects by assigning OBS elements to various levels of the EPS and each project's WBS.

The combination of the user assignment to an OBS element, and the OBS assignment to the EPS/project/WBS, determines which projects and project data the user can view. For each OBS element a user is assigned to, the user's assigned project security profile (per OBS assignment) further determines the project data the user can view or edit.

Note: OBS assignments can be made at both the project and WBS levels; therefore, a project and its WBS elements might have different OBS assignments. When this occurs, a user's OBS assignment/project security profile only applies to WBS elements that have the same OBS assignment as the project; for WBS elements with a different OBS assignment than the project, the data is read-only for users that are not assigned to the same OBS element as the WBS element. To grant a user rights (beyond read-only rights) to a WBS element that has a different OBS assignment than the project, you must assign the user to the same OBS element that the WBS element is assigned to, then select the appropriate project security profile for the new OBS assignment.

You can assign a user an OBS element and a corresponding project profile in the Users table when you are adding users, or you can make the assignment in the OBS tab during or after creating the OBS.

You need to assign a user to an OBS (or an OBS to a user) for a user to access a project. When that assignment is made, the default project profile is automatically related to and made available to the user. You can subsequently assign a different project security profile to that user. See *Defining Project Security Profiles in P6 EPPM* (on page 404) for more information on project profiles.

Related Topics

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Assigning Users to an OBS

Except for a project owner or a Team Member user, a user must have permission to access an organizational breakdown structure (OBS) to access a project assigned to that OBS. If you have appropriate privileges, you can assign users to OBS elements using their login names.

Caution: Users assigned to an OBS that is assigned to the root EPS have access to all nodes beneath the root.

To assign users to an OBS:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **OBS**.
- 3) On the **OBS** page, select an OBS and click the **Users** detail window.
- 4) In the **Users** detail window, click **+ Add**.
- 5) In the **Select Users** dialog box:
 - a. Select a user and click **Assign**.
 - b. Select any additional users and click **Assign**.
 - c. Click **Close** when finished.

Note: The default project security profile will automatically be assigned when the User is selected.

- 6) In the **Users** detail window, select a different project security profile for each user, if needed.
- 7) On the **OBS** page, click  **Save**.

Assigning OBS Elements to Users

Assign OBS elements to a user to control their access to the EPS and projects.

Caution: Users assigned to an OBS that is assigned to the root EPS have access to all projects at all levels.

To assign OBS elements to a user:

- 1) Click the **Administer**  menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page, select a user.
- 4) In the **Project Access** detail window:
 - a. Click  **Add**.
 - b. In the **Select Responsible Manager** dialog box, select an OBS element from the list and click **Assign**.

Note: The default project security profile will automatically be assigned when the Responsible Manager is selected.

- c. In the **Project Access** detail window, select a different project security profile, if needed.
- 5) On the **Users** page, click  **Save**.

Tips

- ▶ You can also assign users to OBS elements using the Users Detail Window of the OBS Page.
- ▶ Project access settings are not applicable to users with the special *Admin Superuser* global security profile. The *Admin Superuser* profile always has access to all projects.
- ▶ To remove an OBS assignment, select an element in the **Project Access** detail window and click  **Delete**.

About the Enterprise Project Structure (EPS)

The enterprise project structure (EPS) represents the hierarchical structure of all projects in the database. The EPS can be subdivided into as many levels or nodes as needed to represent work at your 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; projects always represent the lowest level of the hierarchy. Every project must be included in an EPS node.

The number of EPS levels and their structure depend on the scope of your projects and how you want to summarize data. For example, you might want to define increasingly lower levels of EPS nodes, similar to an outline, to represent broad areas of work that expand into more detailed projects. Specify as many projects as needed to fulfill the requirements of your operations executives and program managers.

Multiple levels enable you to manage projects separately while retaining the ability to roll up and summarize data to higher levels. For example, you can summarize information for each node in the EPS. Conversely, you can use top-down budgeting from higher-level EPS nodes down through their lower-level projects for cost control.

User access and privileges to nodes within the EPS hierarchy are implemented through a global organizational breakdown structure (OBS) that represents the management responsible for the projects in the EPS. Each manager in the OBS is associated with an area of the EPS, either by node or by project, and the WBS of the particular level of the hierarchy.

Once you have added users and associated them with OBS elements and project profiles, you can define the EPS and assign a responsible manager (OBS element) to each level. You must specify a responsible manager for each node of the EPS.

Working with the EPS

Your P6 projects are arranged in a hierarchy called the enterprise project structure, or EPS. The EPS can be subdivided into as many levels or nodes as needed to parallel work at your 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. Projects always represent the lowest level of the hierarchy. Every project must be included in an EPS node.

Ideally, one person or group controls the EPS across the organization. The project control coordinator creates the hierarchical structure that identifies the company-wide projects. The coordinator works with the project manager in each area of the organization to define basic project information for each group and to develop standards before any projects are added.

After you set up an EPS, you can define additional data about each EPS division, such as anticipated dates, budgets, and spending plans. Use the detail windows on the EPS page to specify this information. Or, you can begin adding projects under the applicable levels in the structure if you have access rights to these functions. Access rights are set by your application administrator.

Throughout the application, when selecting projects to work with, you can open all projects that belong to an EPS node or sort them by EPS. When you create a project, you must specify a single parent EPS node. User access and privileges to nodes within the EPS hierarchy are implemented through a global OBS that represents the management responsible for each project. Each manager in the OBS is associated with an area of the EPS, either by node or by project, and the WBS of the particular level of the hierarchy.

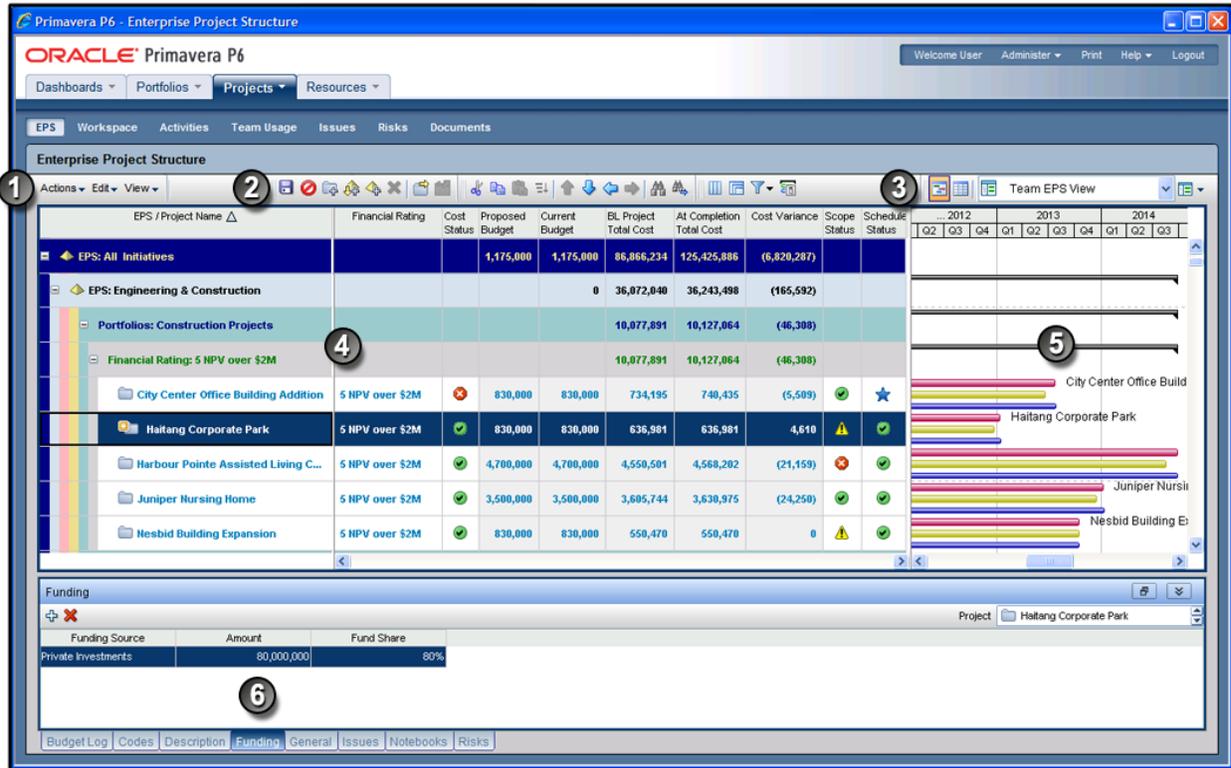


Table of Key EPS Page Elements

Item	Description
1	Actions, Edit, and View menus: Use these menus to work with and customize the EPS page.
2	EPS toolbars: Customize the toolbars to include icons that you use most often.
3	EPS View toolbar: Determines how you see data on the EPS page.
4	EPS/Project table: Displays each project within the EPS. In this example, the data is grouped by EPS , then by Portfolio , and then by a project code called Financial Rating . The table is sorted by Project Name .
5	EPS Gantt chart: Displays project and EPS data in a Gantt chart format.
6	Detail Windows: The Funding detail window for the project selected in the table. Additional detail windows appear along the bottom of the table.

Assigning OBS Elements to the EPS

You must specify a responsible manager for each node in the EPS to enable security rights and privileges; P6 EPPM uses the uppermost level of the OBS to which you have access as the default for all nodes. You can change the responsible manager (OBS element) for each level of the EPS.

Caution: Users assigned to an OBS that is assigned to the root EPS have access to all nodes beneath the root.

To assign OBS elements to the EPS:

- 1) Click **Projects**.
- 2) On the **Projects** navigation bar, click **EPS**.
- 3) On the **EPS** page, select an EPS node, double-click the **Responsible Manager** field, and click the browse button.
- 4) In the **Select Responsible Manager** dialog box, select the appropriate OBS element and click **OK**.

Notes:

- The users associated with the responsible manager will have access rights to the selected EPS node and all nodes/projects within that branch. The specific data that can be accessed within the projects depend on the project profile that corresponds to the OBS element.
 - If more than one user is responsible for the same node of the EPS, you must assign each of those users to the corresponding OBS element.
-

Tips

- ▶ Once the EPS and OBS structures are defined and security is implemented at the EPS level, project managers can begin to add their own projects to the hierarchy. To further control security within projects, project managers can assign specific OBS elements to WBS levels. See the *P6 Help* for more information.
- ▶ If the **Responsible Manager** field is not available in the table, open the **Customize Columns** dialog box and add **Responsible Manager** to the **Selected Columns** list. See *Selecting Items from a List of Available Items*.
- ▶ You may also assign an OBS element to the EPS from the **General** detail window on the **EPS** page.

Defining User Access to Resources in P6 EPPM

Resource security enables you to restrict a user's access to resources. Each user can have access to all resources, no resources, or a limited number of resources in the resource hierarchy. To provide access to a limited number of resources, you can designate each user's root resource by assigning each user to a resource in the resource hierarchy. The position of the assigned resource in the hierarchy determines the user's resource access. When the user logs in, the resource hierarchy displays only the assigned resource node and its children. Resources outside the user's root resource are not displayed.

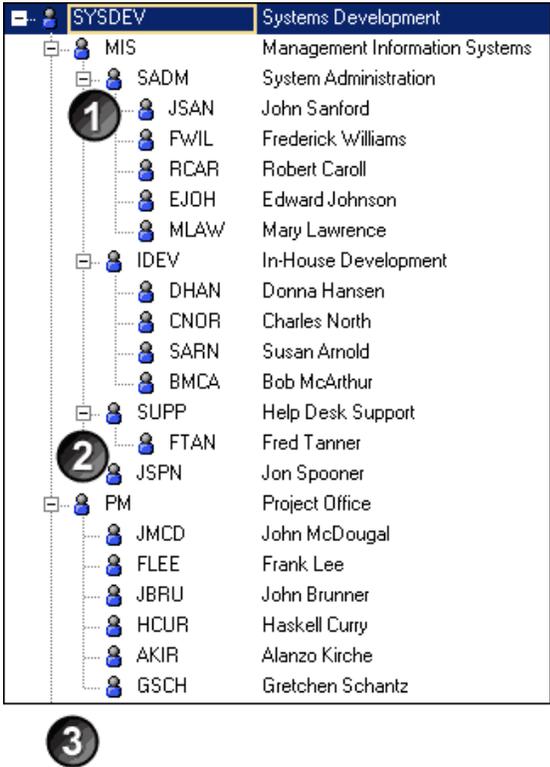
Note: Users with restricted resource access can still view and edit all current project resource assignments if they have the proper project privileges.

You can grant one of the following three types of resource access to each user:

- ▶ **No Resource Access** does not provide access to any resources. This is the default option for new users. With no resource access, the user cannot view any global resource data in the resource dictionary.
- ▶ **All Resource Access** disables resource security and provides access to all resources. With all resource access, the user can view all global resource data in the resource dictionary. This is the default option for upgrading users. Admin Superusers always have all resource access, no matter which option is selected.
- ▶ **Select Resource Access** provides access to one selected resource (root resource node) and all its children in the resource hierarchy. Users with this restricted access can view global resource data for resources they have access to.

Note: You can assign only one resource node to each user. Multiple resource nodes are not supported.

The following example shows how resource access is determined by the root resource assigned to different users.



Item	Description
1	If USER1 has restricted access with root resource SADM assigned, USER1 would see only these resources in the resource dictionary. Includes the following resources: SADM, JSAN, FWIL, RCAR, EJOH, and MLAW.
2	If USER2 has restricted access with root resource SUPP assigned, USER2 would see only these resources in the resource dictionary. Includes the following resources: SUPP and FTAN.
3	If USER3 has no resource access, USER3 would not see any resources in the resource dictionary.

See the *P6 Help* for more information on setting up the resource hierarchy.

Tip

All Resource Access is required for certain features in P6 EPPM. For example, you must have All Resource Access in order to import resources into the resource dictionary via Microsoft Excel (.xls) format.

Related Topics

Assigning Resource Access 440

Assigning Resource Access

You can control which resources a user can access.

To control resource access:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page:
 - a. Select a user.
 - b. In the **Resource Access** field, double-click .
- 4) In the **Specify Resource Access** dialog box, select one of the following and click **Assign**:
 - ▶ **No Resources**: to deny the user access to resources. This is the default resource access setting for new users.
 - ▶ **All Resources**: to grant the user access to all resources.
 - ▶ **Select Resources**: to grant the user access to the selected resource node and its children.

Note: You can assign only one node to a user.

- 5) On the **Users** page, click  **Save**.

Tips

- ▶ Resource access settings are not applicable to Admin Superusers. Superusers always have access to all resources.
- ▶ Resource access changes go into effect almost immediately for P6 users. P6 Optional Client users should exit the application and log in again for the changes to take effect.
- ▶ If a resource is deleted from the resource hierarchy, users that previously had been assigned to the deleted resource will automatically be assigned to the **No Resources Access** option.

Application Settings and Global Enterprise Data in P6 EPPM

P6 enables your organization to define a series of module-wide parameters and values that apply globally and to all projects in an enterprise project structure (EPS). Use these settings to customize the module to meet specific project management requirements and standards.

This chapter highlights some of the settings that you can specify: Application Settings, which contains default administrative preferences, and the global category of the Enterprise Data pane, which contains standard values that apply to all projects.

Note: All other categories of Enterprise Data are covered in the *P6 Help*.

The P6 Administrator can choose to hide Application Settings and Enterprise Data from users. Even if users can view Application Settings and Enterprise Data, they must have the proper security privileges to edit them.

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Working with Application Settings

Use Application Settings to specify default administrative preferences established by the P6 Administrator. The P6 Administrator must give you access to Application Settings to view them and the "Edit Application Settings" privilege for you to adjust them.

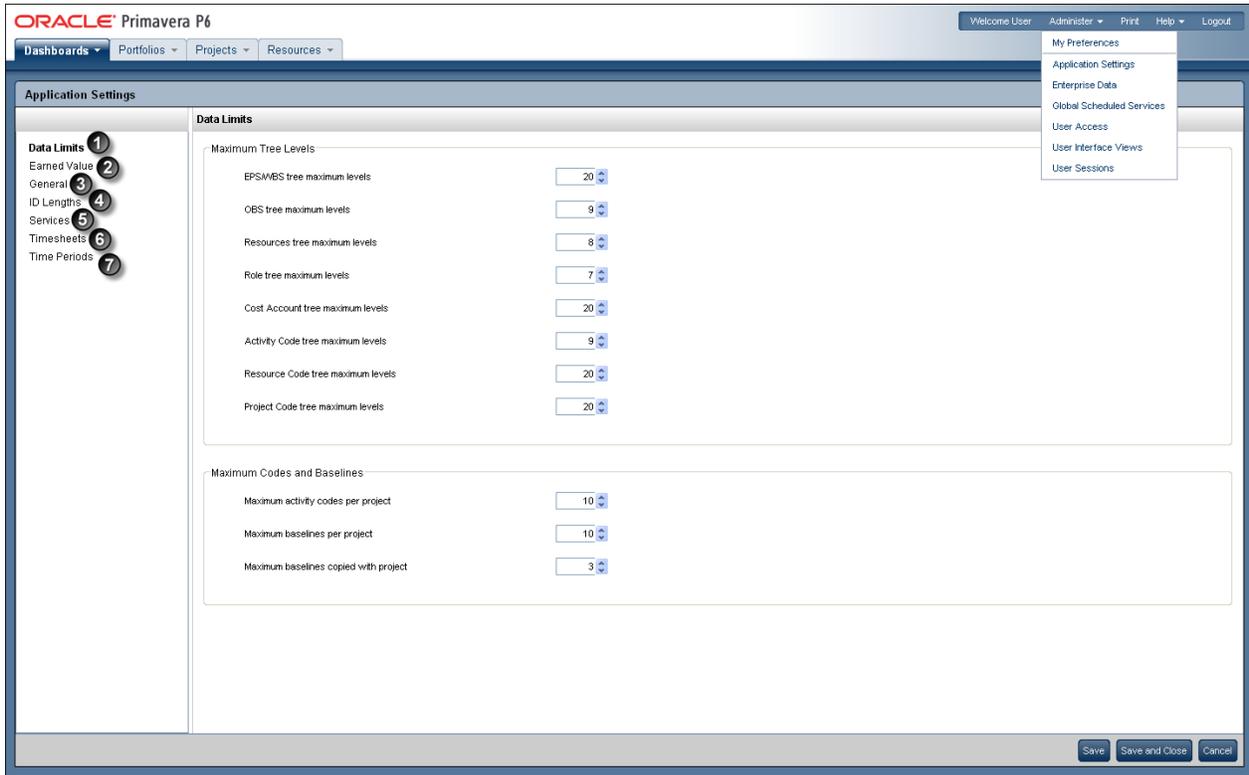


Table of Application Settings Elements

Item	Description
1	Data Limits: Specify the maximum number of levels for hierarchical structures and the maximum number of codes and baselines.
2	Earned Value: Specify default settings for calculating earned value.
3	General: Specify general default options, such as the weekday on which the calendar week begins.
4	ID Lengths: Specify the maximum number of characters for IDs and codes.
5	Services: Specify publication and summarization periods and configure project publication options.
6	Timesheets: Specify default setup options when using P6 Progress Reporter.

Item	Description
7	Time Periods: Define the default number of hours in a workday, workweek, workmonth, and workyear, or specify that the default number of work hours for each time period is defined per calendar.

Data Limits Page

Overview

Use this page to specify maximum levels for hierarchical structures. You can also specify baseline and activity code maximums.

Screen Elements

Maximum Tree Levels section

Select a value for each of the following fields:

EPS/WBS tree maximum levels: Enter a value of 1-50.

OBS tree maximum levels: Enter a value of 1-25.

Resources tree maximum levels: Enter a value of 1-25.

Role tree maximum levels: Enter a value of 1-25.

Cost Account tree maximum levels: Enter a value of 1-25.

Activity Code tree maximum levels: Enter a value of 1-25.

Resource Code tree maximum levels: Enter a value of 1-25.

Project Code Tree maximum levels: Enter a value of 1-25.

Maximum Codes and Baselines section

Select a value for each of the following fields:

Maximum activity codes per project: Enter a value of 0-500.

Maximum baselines per project: Enter a value of at least 1.

Maximum baselines copied with project: Enter a value of 1-21.

Tips

If you change maximum hierarchy level settings, the new settings apply only when you add new elements or edit existing elements.

Getting Here

- 1) Click the **Administer** ▾ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, click **Data Limits**.

Earned Value Page

Overview

Use this page to specify default settings for calculating earned value. You can change the settings for specific WBS elements in the Earned Value detail window in Activities page.

Screen Elements

Technique for computing performance percent complete section

In this section, choose one of the following for computing performance percent complete:

Activity % Complete: Select to calculate the earned value according to activity completion percentages.

0/100 % Complete: Select to calculate the earned value as 100 percent after the activity ends.

Use WBS Milestones: Select to calculate the earned value by defining milestones at the WBS level and assigning a weight to each of them.

50/50 % Complete: Select to calculate the earned value as 50 percent after the activity starts and until it ends. After the activity ends, the activity's earned value is 100 percent.

Custom % Complete: Select to enter a percent to calculate earned value after the activity starts and until the activity ends. After the activity ends, the activity's earned value is 100 percent.

Technique for computing estimate to complete (ETC) section

Determines whether estimate to complete (ETC) is equal to remaining cost or a performance factor (PF) multiplied by (Budget at Completion minus Earned Value).

Earned Value Calculation section

Determines how earned value is calculated from a baseline.

Getting Here

- 1) Click the **Administer** ▼ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, click **Earned Value**.

General Page

Overview

Use this page to specify general default options.

Screen Elements

Starting Day of Week:

First day of week for calendars list

Use the arrow to choose a day. The start day of the week affects how all days in a week are displayed in profiles, spreadsheets, and other layouts in which a weekly timescale can be displayed. For example, if Wednesday is selected as the starting day of the week, the week is displayed as WTFSSMT.

Note: When using View Calendar or going to Calendar views in Enterprise Data, the **First day of week for calendars** setting is ignored.

Activity Duration:

Default duration for new activities field

The default duration for new activities in all projects. Having a default duration simplifies the process of adding new activities.

Password Policy:

Enable password policy option

Determines whether to enable the password policy.



Use the Password Policy to authorize a password that is 8-20 characters long and that contains at least one letter and one number.

Code Separator:

Specify the character for separating concatenated codes. It is also the default WBS code separator for new projects. field

The character that separates hierarchy levels in roles, resource codes, project codes, cost accounts, issue codes, activity codes, and risk categories; it is also the default separator for WBS codes in all new projects.

Contract Management:

Contract Management URL field

The Contract Management URL that will enable access to Contract Management from P6.

Document Management:

P6 URL field

The P6 URL that will enable users to view content repository documents in P6 Optional Client.

Getting Here

- 1) Click the **Administer** ▼ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, click **General**.

ID Lengths Page

Overview

Use this page to specify the maximum number of characters for IDs and codes.

Screen Elements

Project ID maximum characters field

The maximum number of characters that a project ID may have.

WBS Code maximum characters field

The maximum number of characters that a WBS code may have.

Resource ID maximum characters field

The maximum number of characters that a resource ID may have.

Activity ID maximum characters field

The maximum number of characters that an activity ID may have.

Cost Account ID maximum characters field

The maximum number of characters that a cost account ID may have.

Role ID maximum characters field

The maximum number of characters that a role ID may have.

Getting Here

- 1) Click the **Administer** ▼ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, click **ID Lengths**.

Services Page

Overview

Use this page to configure publication and summarization period settings.

Screen Elements

Publication section:

Start date field

Determines the date on which publication for time-distributed data will begin. Oracle recommends that this value be set to the earliest project start date in the database so that time-distributed reports can be produced for any date range, if your organization reports against past project data. If this value is changed after data has been published, all project and global data will be automatically recalculated.

You must be assigned the *Admin Superuser* global security profile to edit this field.

Finish date is current date plus list

Determines the future period of time that is added to the current date of the service whenever it runs to determine the finish date for publication of time-distributed data. Data is published covering the period of time that begins with the start date and extends through the finish date. If this setting is changed after data has been published, all project and global data will be automatically republished.

For example, if the value is 5 years, time-distributed data will always be published covering the period of time that begins with the value in the Start Date field and extends five years into the future each time a service runs.

You must be assigned the *Admin Superuser* global security profile to edit this field.

Time distributed interval list

Determines the interval by which time-distributed data will be calculated and stored. If this setting is changed after data has been published, all project and global data will be automatically republished. The default setting is Day.

You must be assigned the *Admin Superuser* global security profile to edit this field.

Enable Publish Projects option

Determines whether Publish Projects is enabled. This option must be marked to publish projects and to run the Check Overallocation service. You should not enable Publish Projects until all projects are ready for publication.

You must be assigned the *Edit Application Settings* security privilege to modify this option.

Publish projects every list

Determines the interval by which projects are polled to be published.

Publish a changed project when the...

...Number of changes exceeds field

Determines the number of edits that can be made to project tables before the Publish Projects service is automatically initiated. The number of changes resets each time the service is run for a project. The default setting is 100.

...Time since last publication exceeds field

Determines the time interval that must elapse since a project was last published before the *Publish Projects* service is automatically initiated again. This setting only applies to projects that have changed during the time interval, but have not exceeded the number of changes threshold and therefore have not yet been automatically queued for publication.

Publish idle projects option

Adds migrated projects to the service queue after your database is upgraded, if your organization is upgrading to P6.

This will publish all your projects in the queue and refresh the available data for reporting. After all projects have been published once, this setting is not applicable, and projects will be submitted to the queue based on the threshold values specified on the **Application Settings** page.

Maximum number to publish field

Determines the maximum number of idle projects that can be added to the service queue. This setting is only applicable immediately following an upgrade, when all projects are considered idle.

When all projects have been published, the service queue will no longer be constrained based on this setting.

Summarization Periods section:

By Calendar option

Determines whether to display the summarization periods by calendar.

By Financial Periods option

Determines whether to display the summarization periods by financial periods.

WBS Level list

Use the list arrow to choose Week or Month.

Resource/Role Assignment Level list

Use the list arrow to choose Week or Month.

Getting Here

- 1) Click the **Administer** ▼ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, click **Services**.

Timesheets Page

Overview

Use this page to specify default timesheet options and approval levels for the P6 Progress Reporter application.

Screen Elements

General Settings:

New resources use timesheets by default option

Determines whether to require that all new resources use timesheets, unless you specify otherwise.

Resources can assign themselves to activities by default option

Determines whether you want every newly created project to grant permission for resources to assign themselves to activities. When you change this setting, it does not affect existing projects; the new setting is applied only when a new project is created. For individual projects, you can override this setting on the Project Preferences dialog box in the EPS page.

Enable timesheet auditing option

Determines whether you want to save the history of timesheet submission, approval, rejection, reviewers, and associated dates. To view the historical data, you must create reports using BI Publisher.

Timesheet Approval Level:

Auto Submission - No submission or approvals is required option

Select to indicate that resource timesheets do not need to be submitted or approved.

Auto Approval - Automatically approve upon submission option

Select to indicate that resource timesheets do not require management approval. Timesheets are approved automatically when they are submitted.

One approval level - Resource manager approval required option

Select to indicate that resource timesheets require approval by the resource manager only. If you select this option, the status of all submitted timesheets remains **Submitted** until the approving manager changes the timesheet's status. If you previously required both project manager and resource manager approval, and you select this option, the status of all current timesheets that have received one level of approval changes to **Approved**.

Two approval levels - Project and Resource managers' approval required option

Select to indicate that resource timesheets require approval by project and resource managers. If you select this option, the status of all submitted timesheets remains "Submitted" until both managers approve the timesheet.

Project manager must approve before Resource manager option

Determines whether project managers must approve timesheets before resource managers. The **Two Approval Levels** option must be selected to enable this option.

Default Resource manager approving timesheets when one or two approval levels required field

Select the approver you want to approve timesheets for resources. The default approver will be assigned each time you create a resource who uses timesheets.

Getting Here

- 1) Click the **Administer** ▼ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, click **Timesheets**.

Time Periods Page

Overview

Use this page to define the number of hours in a given time period. You can also specify abbreviations for time units.

Screen Elements

Hours per Time Period:

Specify the number of work hours for each time period fields

The values that will be used as conversion factors when users choose to display time units and durations in units other than hours.

For example, if the default Hours/Day is set to 8.0, when a user enters 1d as a duration, this value is stored as 8h in the database.

For this field, you can enter Hours/Day from 1.0-24.0, Hours/Week from 1.0-168.0, Hours/Month from 1.0-744.0, and Hours/Year from 1.0-8784.0.

Use assigned calendar to specify the number of work hours for each time period option

Determines whether to use the assigned calendar's Hours per Time Period values as the conversion factors when users choose to display time units and durations in units other than hours. If your resources and activities require different hours per time period settings, select this option, then specify the Hours per Time Period in each defined calendar.

If you select the **Use assigned calendar to specify the number of work hours for each time period** option, the **Hours per Time Period** values on this tab are ignored and the application converts units and durations using the **Hours per Time Period** values defined in the activity's or resource's assigned calendar. Using a task-dependent activity as an example, P6 converts units and durations for the activity using the settings defined in the activity's assigned calendar.

You should enter **Hours per Time Period** values on this tab even if you mark the **Use assigned calendar to specify the number of work hours for each time period** option since those values will still be used in the following cases:

- ▶ The **Planning** page of the Resources section in P6.
- ▶ The **Planning Resources** tab in the project and WBS views and Global Change in P6 Optional Client.

In these cases, the **Use assigned calendar to specify the number of work hours for each time period** option will be ignored even if selected.

If you clear the **Use assigned calendar to specify the number of work hours for each time period** option, the **Hours per Time Period** values that you specify on this tab are always used to convert time units and durations.

Time Period Abbreviations:

Specify the abbreviation for each time period fields

The one-character abbreviations for minutes, hours, days, weeks, months, and years.

Getting Here

- 1) Click the **Administer** ▼ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, click **Time Periods**.

Using Calendars to Define Hours Per Time Period Settings

P6 EPPM 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, from Application Settings, Time Periods tab, you can define Hours per Time Period settings globally, or you can specify that the Hours per Time Period settings should be defined per calendar.

When Hours per Time Period settings are defined per calendar, units and durations are displayed more accurately. When Hours per Time Period settings are defined globally and users set preferences to display units and durations in time increments other than hours, units and durations will display unexpected values when the Application Settings for Hours per Time Period do not match the work hours specified in calendars assigned to projects, activities, and resources. This occurs because the display reflects the conversion factor of the Application Settings Hours per Time Period settings, not the hours per day defined by the project's, activity's, or resource's assigned calendar. For example:

- ▶ User Preferences, Time Units = day
- ▶ Application Settings, Hours per Time Period = 8h/d
- ▶ Activity calendar, Work hours per day = 10h/d
- ▶ User-entered activity duration = 30h
- ▶ Actual duration display = 3d6h (30h duration/8h per day, based on the conversion factor set in Application Settings)
- ▶ Expected duration display = 3d (30h duration/10h per day, based on the conversion factor set in the activity calendar)

To avoid unexpected display results:

- 1) Select the 'Use assigned calendar to specify the number of work hours for each time period' option on the Time Periods tab of Application Settings.
- 2) Specify the Hours per Time Period settings for each defined calendar.
- 3) Assign these calendars to the appropriate activities and resources.

Working with Enterprise Data

Use the **Enterprise Data** page to configure various types of data settings commonly used by other features in the application. Your settings reflect the data recognized by your industry or organization and help to meet your project management requirements and standards.

ID	Name	Currency Symbol	Exchange Rate
USD	US Dollar	\$	BASE RATE
ARS	Argentine Peso	\$	3.791090
BOB	Bolivian Boliviano	\$b	7.570800
BRL	Brazilian Real	R\$	1.766500
CAD	Canadian Dollar	\$	1.037570
CLP	Chilean Peso	\$	507.580000
CNY	Chinese Yuan Renminbi	¥	6.825020
COP	Columbian Peso	\$	1,957.740000
EUR	Euro	€	0.689711
GBP	Pound Sterling	£	0.618603
GYD	Guyanese Dollar	\$	202.950000
JPY	Japanese Yen	¥	91.270800
PEN	Peruvian Nuevo Sol	S/.	2.724400
PYG	Paraguayan Guarani	Gs	4,640.000000
RUB	Russian Ruble	RUB	0.033948
SRD	Surinamese Dollar	\$	2.800000
UYU	Uruguayan Peso	\$U	21.247000
VEF	Venezuelan Bolivar Fuerto	Bs	2.144600

Table of Enterprise Data Elements

Item	Description
1	Global section: Click Global to customize global data, such as currencies and financial periods.
2	Projects section: Click Projects to customize project-specific data, such as baseline types and funding sources.
3	Activities section: Click Activities to customize activity data, such as activity codes and cost accounts.
4	Resources section: Click Resources to customize resource and role data, such as rate types and resource codes.
5	Risks section: Click Risks to customize risk data, such as risk categories and thresholds.

Item	Description
6	Issues section: Click Issues to customize issue data, such as issue codes and UDFs.
7	Documents section: Click Documents to customize document data, such as document categories and statuses.

About Currencies

Currencies are the monetary units used to store costs for all projects in the database. Monetary units are stored in the database with a base currency that you select. The base currency is used to display costs in windows and dialog boxes. If you select a different currency than the base currency to view costs, the exchange rate for the base currency is always 1.0. The base currency value is multiplied by 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 for Euros is .75, a value of 10 dollars is displayed as 7.5 Euros in cost fields for windows and dialog boxes. Similarly, if you enter 7.5 Euros in a cost field, it is stored in the database as 10 dollars.

Admin Superusers and users with the 'Edit Currency' privilege can change the base currency and define additional view currency types. When you enter values in cost and price fields, they are always displayed in the user's view currency.

Use the Currencies view to set up the base and view currencies. For information on how a user can change the view currency, see the *P6 Help*.

Note: If you are installing P6 EPPM for the first time, you should set up the base currency in the new version before you start adding and changing projects.

The 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 in P6. The default base currency for P6 EPPM is US dollars (\$). The view currency is the monetary unit used to display cost data in P6 EPPM 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.

Defining a Base Currency

The base currency is U.S. dollars by default. The exchange rate for the base currency is always one.

To define a different currency as the base:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Currencies**.
- 3) On the **Currencies** page:
 - a. Select the row that has **BASE RATE** in the **Exchange Rate** field.
 - b. Double-click in the **ID**, **Name**, and **Currency Symbol** fields and enter the base currency's information.
For example, if you want the pound to be the new base currency, you can type in U.K. for the ID, British Pound for the name, and £ for the currency symbol.
 - c. Display other fields, such as decimal digits and positive format, and edit as needed.
- 4) Click  **Save** (Ctrl+S)

Adding a Currency

To add a currency:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Currencies**.
- 3) On the **Currencies** page:
 - a. Right-click on a row and choose  **Add** (Insert).
 - b. In the new row added at the bottom of the list, specify the appropriate values for the new currency.
 - c. Click  **Save** (Ctrl+S).

About Financial Periods

Financial periods are predefined time periods you can apply to financial or scheduling data throughout the application to consistently measure and compare that data. Customized financial periods provide more accurate display and reporting of actual costs and units according to time increments recognized by your finance and accounting staff. Users can focus on a financial period and pinpoint how actual costs were incurred during that time.

A calendar year with 355 days, a fiscal quarter ending July 15, and a week from Sunday to Saturday are all examples of financial periods.

You must have the Add/Edit/Delete Financial Period Dates global privilege to create, modify, or remove data in the Financial Periods dialog box. To store past period actuals for a project's defined financial periods, you must have the Store Period Performance and Add/Edit Activities Except Relationships project privileges. To edit past period actual data in P6 Optional Client after storing period performance, users must have the Edit Period Performance project privilege.

Creating Financial Periods

Create financial periods to measure and compare financial data. You can create annual, monthly, or weekly periods.

To create a financial period:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Financial Periods**.
- 3) On the **Financial Periods** page:
 - a. Click the **+** **Add** icon.
 - b. To change the default name for the new financial period, click the **Name** field, and enter a name.
 - c. To change the **Start Date** field, directly enter a new date, or select a date from the common calendar tool.
 - d. To change the **Finish Date** field, directly enter a new date, or select a date from the common calendar tool.
- 4) Click  **Save** (Ctrl+S).

Tips

- ▶ To save time, consider generating financial periods in a batch rather than individually.

Although the application will alert you in each case, be aware of the following constraints when creating or configuring financial periods:

- ▶ You cannot introduce gaps in a series of financial periods. Any new periods you create must start or end flush with any existing entries. For example, if October 7-13 and October 14-20 are existing financial periods, you can create a new one that either ends on October 6 or starts on October 21.
- ▶ You cannot overlap financial periods. In order to serve their purpose, financial periods must represent unique slices of time.
- ▶ You can create financial periods with a duration of fewer than seven days (one week); however, you cannot view them in timescales in P6. Use P6 Optional Client if you need to view data by financial periods spanning increments of fewer than seven days (one week).

Creating a Financial Period Batch

You can create annual or quarterly periods one at a time; however, to speed the time required to add monthly or weekly periods, consider using the Generate Financial Period Batch feature.

To create a financial period batch:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Financial Periods**.

- 3) On the **Financial Periods** page, click  **Add Batch**.
- 4) In the **Generate Financial Periods** dialog box:
 - a. In the **Batch Start Date** field, click  **Select Batch Start Date** and select a date from the calendar or type a start date.

Note: For example, the 31st of January 2010 would be 31-Jan-10.

- b. In the **Batch Finish Date** field, click  **Select Batch Finish Date** and select a date from the calendar or type a start date in day-month-year format.
 - c. Select a **Period Cycle** and use the up and down arrows to specify a number of weeks or months.
 - d. Click **Create**.
- 5) In the **Primavera P6** alert dialog box, click **OK** to acknowledge that one new financial period has been created.
- 6) On the **Financial Periods** page:
 - a. In the **Name** field, double-click and type a name.
 - b. Click  **Save** (Ctrl+S).

Tips

Although you are alerted in each case, be aware of the following constraints when creating or configuring financial periods:

- ▶ You cannot introduce gaps in a series of financial periods. Any new periods you create must start or end flush with any existing entries. For example, if October 7-13 and October 14-20 are existing financial periods, you can create a new one that either ends on October 6 or starts on October 21.
- ▶ You cannot overlap financial periods. In order to serve their purpose, financial periods must represent unique slices of time.
- ▶ You can create financial periods with a duration of fewer than seven days (one week); however, you cannot view them in timescales in P6. Use P6 Optional Client if you need to view data by financial periods spanning increments of fewer than seven days (one week).

Deleting a Financial Period

To delete a financial period:

- 1) Click the **Administer**  menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Financial Periods**.
- 3) Select the financial periods you want to delete.
- 4) Right-click on the row and choose  **Delete** (Delete).

Tips

- ▶ You cannot delete a financial period that stores past period actuals for any project. If you attempt to delete multiple financial periods at the same time, none of the financial periods will be deleted if any period stores past period actuals for any project. In this case, to delete a financial period, you must archive and delete the project containing past period actuals, then delete the financial period.

- ▶ You can delete a financial period that has high-level assignment planning values (as entered on the Plan Resources page of P6) as long as the financial period does not contain past period actuals. When you delete a financial period that has high-level assignment planning values, the values are deleted as well.

About Calendars

Calendars enable you to define available workdays and workhours in a day. You can also specify national holidays, recognized holidays, project-specific work/nonworkdays, and resource vacation days. You can establish an unlimited number of calendars to accommodate different work patterns. There are three calendar pools: global, project, and resource. The global calendar pool contains calendars that apply to all projects in the database. The project calendar pool is a separate pool of calendars for each project in the organization. The resource calendar pool is a separate pool of calendars for each resource. You can assign multiple users a resource calendar that they can share, but cannot edit. You can also assign a personal calendar to a resource that will show up in My Calendars and that the resource can customize. You can assign resource or global calendars to resources, and global or project calendars to activities.

Assign calendars to each resource and activity to determine time constraints in a uniform way. For example, based on its calendar, a resource might not be available; or, if the resource is available, the activity might not fit the calendar requirements.

The application uses your calendar assignments for leveling resources, scheduling, and tracking activities.

Creating Global Calendars

Create global calendars to identify global work or nonwork days. You can use global calendars as base calendars when creating a resource or project calendar. The exception days in a global calendar appear in the resource or project calendar and are identified by a  (globe).

To create a global calendar:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Global Calendars**.
- 3) On the **Global Calendars** page, click  **Add** (Insert).
- 4) In the **Select Calendar to Copy** dialog box:
 - a. Select the **Global** or **Resource** option.

Note: This determines which list of calendars you can select.

- b. Select a calendar and click **OK**.
- 5) On the **Global Calendars** page, click the **Calendar** tab.
 - 6) On the **Calendar** tab, triple-click the **Name** field and enter a name.

Note: The application automatically assigns the name *New Calendar*.

- 7) On the **Global Calendars** page, click  **Save** (Ctrl+S).
- 8) Configure the global calendar.

Configuring Global Calendars

Perform the following tasks when creating or updating a global calendar:

Related Topics

Setting Work Hours Per Time Period for Global Calendars	458
Configuring the Standard Work Week for Global Calendars	458
Modifying Calendar Days on Global Calendars	458
Setting the Default Global Calendar	459

Setting Work Hours Per Time Period for Global Calendars

Configure the work hours per time period settings to specify the default number of hours in a work period for a calendar.

To set the number of work hours for each time period:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Global Calendars**.
- 3) On the **Global Calendars** page:
 - a. Click on the calendar you want to modify.
 - b. Click  **Edit Hours Per Period**.
- 4) In the **Set Time Periods** dialog box, click and type an hour value in each field, and then click **OK**.
- 5) Click  **Save** (Ctrl+S).

Configuring the Standard Work Week for Global Calendars

Configure the standard work week for the calendar to set the work and nonwork days and hours for a standard work week.

To modify the standard work week:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Global Calendars**.
- 3) On the **Global Calendars** page:
 - a. Click on the calendar you want to modify.
 - b. Click the **Standard Work Week** tab.
- 4) On the **Standard Work Week** tab, right-click on a working or nonworking timeslot and use the menu options to adjust the workday. You can also resize the working time to increase or decrease the work hours.
- 5) Click  **Save** (Ctrl+S).

Modifying Calendar Days on Global Calendars

Modify calendar days to account for work or nonwork days or hours that are different than the standard hours defined on the Standard Work Week tab.

To modify work or nonwork calendar days:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Global Calendars**.
- 3) On the **Global Calendars** page:
 - a. Click on the calendar you want to modify.
 - b. Click the **Calendar** tab.
- 4) On the **Calendar** tab, right-click on a working or nonworking day and use the menu options to adjust the workday.
- 5) Click  **Save** (Ctrl+S).

Setting the Default Global Calendar

Choose a calendar to use as the default when new calendars are created.

To set the default global calendar:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Global Calendar**.
- 3) On the **Global Calendar** page:
 - a. Click on the calendar you want to designate as the default calendar.
 - b. Click  **Set As Default Calendar**.
 - c. Click  **Save** (Ctrl+S).

About Overhead Codes

Overhead codes provide P6 Progress Reporter users with a way to categorize their time. When applied on their timesheets, the codes help users log hours that are not associated with project activities. For example, users can enter time for vacations, holidays, sick time, or general administrative work.

Creating Overhead Codes

Create overhead codes for P6 Progress Reporter users to add overhead activities to their timesheets to log timesheet hours that are not associated with the project.

To create an overhead code:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Overhead Codes**.
- 3) On the **Overhead Codes** page:
 - a. Click  **Add** (Insert).
 - b. In the **Name** field, double-click and type a unique code.
 - c. In the **Description** field, double-click and type a unique name.
 - d. Click  **Save** (Ctrl+S).

Tips

When you specify that two approval levels are required to approve timesheets, timesheets that contain only overhead activities bypass project manager approval and are sent directly to the resource/cost manager for approval. For timesheets containing a mix of regular and overhead activities, project managers can view, but not approve, the overhead activities.

About Timesheet Periods

The timesheet period is the amount of time a timesheet covers. The administrator defines the time covered by timesheet periods; for example, every two weeks, every four weeks, or every month. The administrator must create timesheet periods before the user can view and enter time on their timesheets.

Creating Timesheet Periods

Use timesheet periods to create ranges for your timesheets.

To create a timesheet period:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Timesheet Periods**.
- 3) On the **Timesheet Periods** page:
 - a. Click **+ Add** (Insert).
 - b. In the **Start Date** field, double-click, click the down arrow, and select a date.
 - c. In the **End Date** field, double-click, click the down arrow, and select a date.
 - d. Click **Save** (Ctrl+S).

Authentication in P6 EPPM

This chapter describes the authentication modes for P6 EPPM 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 for P6 EPPM** (on page 463) for more information.

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Authentication Modes in P6 EPPM

Typically, within an organization, user access to software applications is managed through authentication and authorization mechanisms. Authentication is the process of validating user identity and authorization is the mechanism used to control access to specific resources or data.

P6 uses multiple settings to support authentication. These settings also control the authentication used for most P6 EPPM applications, with the exception of P6 EPPM Web Services, and are set via the Authentication tab of the P6 Administrator application. P6 Progress Reporter settings can be viewed in the P6 Progress Reporter Administrator but can only be modified in the P6 Administrator application.

P6 EPPM supports three authentication modes: Native (the default authentication scheme), SSO or *Single Sign-On*, and LDAP.

- ▶ **Native** authentication is the default mode for P6 EPPM. In this mode, when a user attempts to log into a P6 EPPM application, authentication is handled directly through the module with the P6 EPPM database acting as the authority.
- ▶ **Single Sign-On** authentication, which provides access control for Web applications, is available for P6 Progress Reporter and P6. In this mode, when a user attempts to log into a P6 EPPM application (protected resource), a Web agent intercepts the request and prompts the user for login credentials. The user's credentials are passed to a policy server and authenticated against a user data store. With Single Sign-On, a user logs on only once and is authenticated for all Web applications for the duration of the browser session (provided that all Web applications authenticate against the same policy server).

- ▶ **LDAP** (Lightweight Directory Access Protocol) is directory-based authentication and is available for all P6 EPPM applications. In this mode, when a user attempts to log into a P6 EPPM application, the user's identity is confirmed in an LDAP-compliant directory server database. Additionally, P6 EPPM supports the use of LDAP referrals with Oracle Internet Directory and Microsoft Windows Active Directory. Referrals chasing allows authentication to extend to another domain. You can also configure multiple LDAP servers to use for authentication. This allows failover support and enables you to search for users in multiple LDAP stores.

Regardless of the authentication scheme you choose, the P6 EPPM database controls user authorization.

Tips

- ▶ For Oracle Internet Directory, referrals chasing only works when the directories are configured to allow anonymous searches.

Authentication Configuration Process in P6 EPPM

By default, all P6 EPPM applications are installed using Native authentication. After you install P6 EPPM applications, you can choose a different authentication scheme.

Note: See the procedures in *Automatic Database Upgrade* (on page 99) before modifying the authentication settings if you are upgrading from a previous version of P6 EPPM software.

Authentication mode is database-driven, so the authentication settings enable you to specify an authentication mode for each configuration. If using Single Sign-On authentication, P6 and P6 Progress Reporter will be set to SSO but P6 Optional Client and P6 Integration API will be set to LDAP. If using LDAP authentication, the settings enable you to specify LDAP servers, configure more than one LDAP server for each database instance, map LDAP attributes to P6 EPPM database fields, and provision users.

Follow the guidelines below to specify an authentication scheme and perform additional configuration tasks for authentication:

- ▶ Configure administrative settings using the P6 Administrator application. See **Authentication Settings for P6 EPPM** (on page 328) for details on these settings.
- ▶ Configure administrative settings using the P6 Progress Reporter Administrator Application. See **Authentication Settings** (on page 362) for details on these settings.
- ▶ When using LDAP mode, provision user information from the LDAP server using P6. See **Provisioning LDAP user information for the first time for P6 EPPM** (on page 463).
- ▶ Configure P6 Optional Client tools for authentication. See **Configuring P6 Optional Client Internal Plug-ins for Authentication** (on page 466).
- ▶ Configure BI Publisher for use with P6 when using LDAP or SSO mode. See the *P6 Reporting Database Administrator's Guide*.

Tips

- ▶ If multiple instances within a configuration point to the same database, the Authentication Mode for the first instance in the list will be used.

- ▶ To enable you to configure more than one LDAP server for each database instance, multiple LDAP Connection Settings are permitted for authentication. Right-click the **LDAP Connection Settings** folder to duplicate, delete, copy, paste, or test a configuration. When a user is being authenticated, P6 will search each LDAP server in the order provided for a user name that matches the entered login name and will use the first matching user to verify the password.
- ▶ A configuration for P6 might include database instances that are not set to the same authentication mode as the P6 server. If a user connects and requests a database that is set to a different authentication mode than the P6 server, an error message displays; the user must select a database that matches the authentication mode set for the P6 server.

Provisioning LDAP User Information for the First Time for P6 EPPM

To provision LDAP user information for P6 EPPM for the first time:

Caution: Ensure that all users are logged out of P6 EPPM to avoid a reset of the P6 Administrator application settings.

Note: Verify which global profile is set as the default since this will be assigned to all provisioned users.

- 1) Log into the P6 Administrator application. See *About the P6 Administrator application* (on page 266) for details.
- 2) From the **Authentication** tab:
 - a. Expand your configuration.
 - b. Make sure that the **Login Mode** field is set to **NATIVE**. See *Authentication Settings* (on page 329) for details.
 - c. Expand **Database instance** and make sure that the **Authentication Mode** field is set to **Native**. See *Database instance Settings* (on page 331) for details.
 - d. Click **Save Changes**.
- 3) If you made changes to any of the above settings, restart the application server instance.

Note: If you do not restart the application server instance, the settings will be restored to the previous configuration after the next step.

- 4) Log into P6 as a user with privileges to create a new user.
- 5) Follow the instructions in *Creating User Accounts for P6 EPPM* (on page 415) to add a new user (in Native mode) that exactly matches an LDAP server user with rights to read and search the LDAP directory. Make sure to assign a P6 global profile that contains privileges to add new users and search the LDAP directory and assign the appropriate project profiles and module access. See *Configuring Users in P6 EPPM* (on page 412) for details.
- 6) Log back into the P6 Administrator application.
- 7) From the **Authentication** tab:
 - a. Expand your configuration.
 - b. Change **Login Mode** to **LDAP**.
 - c. Expand **Database instance** and set **Authentication Mode** to **LDAP**.
 - d. Expand **LDAP Connection Settings[n]**.

1. In the **Host** field, enter the host name of your LDAP server.
2. In the **Port** field, enter the port number of your LDAP server.
3. In the **Username** field, enter the LDAP username that has privileges to log into the LDAP server and perform LDAP searches.
4. In the **Password** field, enter the password for the username you entered above.
5. In the **Base Directory Node** field, enter the base dn string that represents where LDAP tree searches should be performed during login or provisioning.

Example:

`"dc=ad, dc=Marketing, dc=CompanyABC, dc=com"`

6. Expand **Field Map**.

Note: Except where noted, these settings represent what you will enter for an Oracle Internet Directory (OID) LDAP server and a Microsoft Active Directory.

7. In the **USER_NAME** field, enter the LDAP field name that holds the user's login ID.

Example:

`uid`

or

`samaccountname` (if you're using Microsoft Active Directory)

8. In the **EMAIL_ADDR** field, enter the LDAP field name that holds the user's email address.

Example:

`mail`

9. In the **ACTUAL_NAME** field, enter the LDAP field name that holds the user's full name.

Example:

`cn`

or

`displayname` (if you're using Microsoft Active Directory)

10. In the **OFFICE_PHONE** field, enter the LDAP field name that holds the user's phone number.

Example:

`telephoneNumber`

- e. Right-click the **LDAP Connection Settings** folder and select **Test Connection**.
 - f. Click **Save Changes**.
- 8) Restart the application server instance.

Note: If you do not restart the application server instance, the settings will be restored to the previous configuration after the next step.

- 9) Log into P6 as the LDAP user created in step 5.
 - a. On the **Users** page, click the **+** **Add** icon. The **Add Users from LDAP** dialog box appears for you to provision users from the LDAP repository:

Note: 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 an LDIF file.

1. Either click the **Load LDIF** button, or enter an LDAP query (for example, `uid=*`) under **Search users**. If a search was previously performed by a user with the privilege to search the LDAP directory, the last query entered by that user will appear.
 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**.
-

Note: Depending on your P6 administrative configuration settings, you might be prompted to log into the LDAP server.

3. A list of users will appear, grouped by status. For example, LDAP repository users that do not exactly match P6 EPPM users will be grouped together. If users exist in the LDAP repository, the **User Name**, **Actual Name**, **E-mail**, and **Phone** fields are populated (you previously mapped those fields through the P6 Administrator application settings mentioned above).
-

Note: The User Name field is equivalent to the Login Name field in P6. The Actual Name field is equivalent to the Personal Name field.

4. Select the option next to each user account that you wish to import, or select the option in the fields bar to select all users. New and modified users are automatically selected.
 5. Click **Import**.
-

Note: The new users will be assigned the default global profile.

- b. Make configuration changes for the new users, as needed. See **Configuring User Access** (on page 417) for details.

Tip

When you provision users, changed records are updated in the P6 EPPM 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 EPPM database. You will need to manually delete these users.

Login Procedures and Authentication in P6 EPPM

Login procedures for P6 EPPM vary according to the authentication mode selected.

In Native mode

- ▶ P6 EPPM presents a login dialog that prompts for a user name and password. Depending on whether the password policy option in Application Settings is enabled, the use of strong passwords might be required.

In LDAP mode

- ▶ All P6 EPPM applications and the P6 SDK require a login password. Additionally, because passwords are stored and authenticated against an LDAP directory, the capability for users to change passwords within P6 EPPM is disabled.

In Single Sign-On mode

- ▶ For P6 Progress Reporter, the Primavera P6 login dialog box never appears. Instead, login credentials are requested and validated by the Single Sign-On server. Once a user is authenticated, the P6 Progress Reporter launch page appears.
- ▶ For P6, login credentials are requested and validated by the Single Sign-On server. Once a user is authenticated, the launch page for P6 appears so the user can select a database and language.
The capability for users to change passwords within P6 EPPM is disabled because passwords are stored and authenticated against a directory server user store.

Configuring P6 Optional Client Internal Plug-ins for Authentication

P6 Optional Client is configured with built in plug-ins (such as Update Baseline, Schedule Comparison, or Claim Digger) that use P6 Integration API technology and must be configured separately for Single Sign-On or LDAP authentication. These plug-ins are designed to read a configuration stored in the database (called 'Internal_Plugins' by default) and can be configured using the P6 Integration API AdminApp java utility.

Tips

- ▶ Your Authentication settings should match how P6 is configured.
- ▶ For more information on P6 Integration API, refer to the *Oracle Primavera P6 Integration API Administrator's Guide*.

Related Topics

Configuring P6 Optional Client Internal Plug-ins for LDAP Authentication..... 466
Configuring P6 Optional Client Internal Plug-ins for Single Sign-On Authentication467

Configuring P6 Optional Client Internal Plug-ins for LDAP Authentication

To configure P6 Optional Client Internal Plug-ins for LDAP authentication:

- 1) In P6 Optional Client, launch an API tool (Update Baseline, Schedule Comparison/Claim Digger, or Export/Import XML) while running in Native mode. This action will copy the BREbootstrap.xml file to the following location, based on your operating system:
 - ▶ Windows XP:
%USERPROFILE%\Local Settings\Application Data\Oracle\Primavera P6\P6 Optional Client
 - ▶ Windows Vista and 7:
%LOCALAPPDATA%\Oracle\Primavera P6\P6 Optional Client

- 2) On the machine where P6 Optional Client is installed, go to the P6 Optional Client installation location (by default, *local drive*\Program Files\Oracle\Primavera P6\P6 Optional Client), and open the **Java** folder.
- 3) Copy the **BREbootstrap.xml** file from the folder specified in step 1 to the Java folder.

Note: You will need Write access to the Java folder to perform this step.

- 4) From the Java folder, run **asadmin.cmd** to launch the P6 Administrator application.
- 5) Enter your privuser name and password.
- 6) Click on the Authentication tab.
- 7) Set **Configurations/INTERNAL_PLUGINS/Authentication/Login Mode** to **LDAP**.

Note: Your Authentication settings should match how P6 is configured.

Configuring P6 Optional Client Internal Plug-ins for Single Sign-On Authentication

To configure P6 Optional Client Internal Plug-ins for Single Sign-On:

- 1) In P6 Optional Client, launch an API tool (Update Baseline, Schedule Comparison/Claim Digger, or Export/Import XML) while running in Native mode. This action will copy the BREbootstrap.xml file to the following location, based on your operating system:
 - ▶ Windows XP:
\\%USERPROFILE%\Local Settings\Application Data\Oracle\Primavera P6\P6 Optional Client
 - ▶ Windows Vista and 7:
\\%LOCALAPPDATA%\Oracle\Primavera P6\P6 Optional Client
- 2) On the machine where P6 Optional Client is installed, go to the P6 Optional Client installation location (by default, *local drive*\Program Files\Oracle\Primavera P6\P6 Optional Client), and open the **Java** folder.
- 3) Copy the **BREbootstrap.xml** file from the folder specified in step 1 to the Java folder.

Note: You will need Write access to the Java folder to perform this step.

- 4) From the Java folder, run **asadmin.cmd** to launch the P6 Administrator application.
- 5) Enter your privuser name and password.
- 6) Click on the Authentication tab.
- 7) Set **Configurations/INTERNAL_PLUGINS/Authentication/Login Mode** to **WebSSO**.

Note: Your Authentication settings should match how P6 is configured.

P6 Progress Reporter Implementation

Project team members can use P6 Progress Reporter to submit timesheets that update their activities in P6 and P6 Optional Client. This chapter describes how to configure P6 for use with P6 Progress Reporter, how to run P6 Progress Reporter once it has been configured, and how to configure access to the Timesheet Approval application for timesheet approval managers.

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P6 Progress Reporter Implementation Process

P6 Progress Reporter enables project team members to use the web to communicate timesheet and activity status directly to their organization’s database, regardless of their location. This ensures that project managers are always working with the most up-to-date project information, making it easier to plan resource use or resolve conflicts.

P6 Progress Reporter consists of the P6 Progress Reporter application hosted on an application server and the P6 EPPM database server that contains your organization’s projects. Additionally, the P6 application server hosts the Timesheet Approval application, which timesheet approval managers use to review resource timesheets.

Caution: When you have actual units assigned to resource assignments (whether they came from an imported project or whether you decided to start using P6 Progress Reporter in the middle of your project), all pre-existing actual values are lost the first time you use P6 Progress Reporter.

Notes:

See ***About P6 Progress Reporter Installation*** (on page 340) for complete details on how to install and configure the P6 Progress Reporter server.

To support the full functionality of P6 Progress Reporter, you must use a supported browser. See **Client and Server Requirements** (on page 66) for information on supported configurations.

Before you implement P6 Progress Reporter, first ensure that the following have been completed:

- ▶ Install the P6 EPPM database, as described in **Automatic Database Installation** (on page 79) or **Manual Database Configuration** (on page 87).
- ▶ Install and configure the P6 Progress Reporter server, as described in **P6 Progress Reporter Installation** (on page 335).

After the processes above have been completed, use P6 to perform the following procedures, which are described in detail in this chapter:

- ▶ Configure resources to use P6 Progress Reporter.
- ▶ Set administrative preferences for how users will use timesheets and specify timesheet approval requirements.
- ▶ Set project-specific preferences for P6 Progress Reporter.
- ▶ Create timesheet periods.
- ▶ Create overhead codes for recording nonproject hours.

You will then be able to direct users to connect to P6 Progress Reporter. See **Accessing P6 Progress Reporter from Client Browsers for the Web Browser Version** (on page 478). See **Accessing P6 Progress Reporter from Client Browsers for the Java Web Start Version** (on page 479).

Finally, if your organization plans to use the Timesheet Approval application, perform the following:

- ▶ Assign product module access and the required security privileges to timesheet approval managers. See **Users and Security in P6 EPPM** (on page 389).
- ▶ Configure access to Timesheet Approval as described in this chapter. See **About Timesheet Approval** (on page 481).

Configuring Resources to Use P6 Progress Reporter

To enable a project resource to use P6 Progress Reporter, you must assign a user login account to the resource and set the resource to use timesheets. Follow the steps below to complete these requirements.

Related Topics

Creating User Accounts for P6 EPPM	471
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Creating User Accounts for P6 EPPM

Follow these steps to create new user accounts for applications in P6 EPPM including P6, P6 Optional Client, and P6 Progress Reporter. These steps represent the minimum you must do to create a user account. You can also configure user access to grant or deny a user's access to data.

To create a new user account:

- 1) Click the **Administer**  menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page, click the  **Add** icon.
- 4) What appears next depends on your security configuration:
 - a. If P6 is running in native authentication mode, the **Add User** dialog box will appear:
 1. Fill in the **Login Name**, **Personal name**, **Password**, and **Confirm Password** fields.
 2. Click **Add**.
 3. If the ability to edit a personal resource calendar or access to P6 Progress Reporter is required, you can select an Associated Resource in the Users table at this time, or you can create the link when you add resources.
 4. In the Users table, add the columns for e-mail address and telephone number (if not already present), and enter the appropriate data.
 5. Click  **Save**.

Notes:

- Your user name can be a maximum of 30 characters.
- The assigned **Global Security Profile** will determine the user's capabilities.
- When the Password Policy is disabled in Application Settings, the password must be between 1 and 20 characters. P6 EPPM does not allow blank passwords.
-  When the Password Policy is enabled in Application Settings, the password must be between 8 and 20 characters and contain at least one number and one letter.

- b. If P6 is running in SSO or LDAP authentication mode, the **Add Users from LDAP** dialog box appears for you to provision users from the LDAP repository:

Note: 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 an LDIF file.

1. Either click the **Load LDIF** button, or enter an LDAP query (for example, `uid=*`) under **Search users**. If a search was previously performed by a user with the privilege to search the LDAP directory, the last query entered by that user will appear.

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**.

Note: Depending on your P6 administrative configuration settings, you might be prompted to log into the LDAP server.

3. A list of users will appear, grouped by status. For example, LDAP repository users that do not exactly match P6 EPPM users will be grouped together. If users exist in the LDAP repository, the **User Name**, **Actual Name**, **E-mail**, and **Phone** fields are populated (you previously mapped those fields through the P6 Administrator application settings mentioned above).

Note: The User Name field is equivalent to the Login Name field in P6. The Actual Name field is equivalent to the Personal Name field.

4. Select the option next to each user account that you wish to import, or select the option in the fields bar to select all users. New and modified users are automatically selected.
5. Click **Import**.

Note: The new users will be assigned the default global profile.

Tips

- ▶ Give each user a unique name with up to 30 alpha-numeric characters.
- ▶  Oracle recommends using strong passwords. Strong passwords in P6 EPPM 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.
- ▶  For security reasons, Oracle strongly recommends that you replace the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier. See **The Default Admin Superuser** (on page 415) for guidelines on this process.

Assigning Associated Resources

Assign an associated resource to the user profile to connect the user with a resource in the application. Each user can have only one resource assigned, and a resource cannot be assigned to more than one user at the same time. Not all users require an associated resource, but users must have a resource assigned to enable them to edit their personal resource calendars and use P6 Progress Reporter. Also, by associating a resource with a user, the user will be able to see all projects to which the resource is assigned via activities if the user has Team Member access.

To assign an associated resource:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page:
 - a. Select a user.

- b. In the **Associated Resource** field, double-click and click .
- 4) In the **Select Resource** dialog box, select a resource and click **Assign**.
- 5) On the **Users** page, click  **Save**.

Configuring Resource Settings for Timesheet Reporting

Configure timesheet reporting settings if you are using P6 Progress Reporter and are implementing non-automatic approval.

To configure resource settings for timesheet reporting:

Note: You must perform these steps in order when configuring these settings for the first time for each new resource.

- 1) Click **Resources**.
- 2) On the **Resources** navigation bar, click **Administration**.
- 3) On the **Administration** page, click the **Resources** tab.
- 4) On the **Resources** tab, click the **Settings** detail window.
- 5) In the **Settings** detail window, next to the **Timesheet User Login** field, click .
- 6) In the **Select User** dialog box, select the resources name from the list and click **OK**.
- 7) In the **Settings** detail window:
 - a. Select the **Uses Timesheets** option to enable timesheet reporting for the resource.

Note: If **Auto Compute Actuals** is selected, clear the option before selecting **Uses Timesheets**.

- b. In the **Timesheet Approval Manager** field, click .
- 8) In the **Select User** dialog box, choose a manager to assign to the resource and click **OK**.
- 9) On the **Resources** tab, click  **Save** (Ctrl+S).

Notes:

- If you selected the **New Resources Use Timesheets by Default** option on the **Timesheets** page of the **Application Settings** pane, when you create a new resource, the **Uses Timesheets** option is selected automatically after you select a user for the **Timesheet User Login** field. You must still must grant that user module access to log into P6 Progress Reporter.

- Users designated as timesheet approval managers are not automatically granted access to P6 Progress Reporter, even if they are assigned the required module access. To enable timesheet approval managers to access P6 Progress Reporter, you must configure them as timesheet resources, as you would any other resource that requires access to P6 Progress Reporter. Configuring timesheet approval managers as timesheet resources enables approval managers to log into P6 Progress Reporter to edit the timesheets of their reporting resources.

Setting Overtime Policy

To set overtime policy, which enables users to enter overtime in their timesheets:

- 1) Click **Resources**.
- 2) On the **Resources** navigation bar, click **Administration**.
- 3) On the **Administration** page, click the **Resources** tab.
- 4) On the **Resources** tab, click the **Settings** detail window.
- 5) In the **Settings** detail window, select the **Overtime Allowed** option.
- 6) In the **Overtime Factor** field, type the overtime factor by which the resource's standard price is multiplied to determine the overtime price (standard price * overtime factor = overtime price).

Note: In P6 Progress Reporter, resources indicate overtime with a slash (/) in the time field. For example, if a resource worked 10 hours in one eight-hour day, the user types 8/2 for that day. In P6, resources can enter overtime using separate overtime fields.

Timesheets Page

Overview

Use this page to specify default timesheet options and approval levels for the P6 Progress Reporter application.

Screen Elements

General Settings:

New resources use timesheets by default option

Determines whether to require that all new resources use timesheets, unless you specify otherwise.

Resources can assign themselves to activities by default option

Determines whether you want every newly created project to grant permission for resources to assign themselves to activities. When you change this setting, it does not affect existing projects; the new setting is applied only when a new project is created. For individual projects, you can override this setting on the Project Preferences dialog box in the EPS page.

Enable timesheet auditing option

Determines whether you want to save the history of timesheet submission, approval, rejection, reviewers, and associated dates. To view the historical data, you must create reports using BI Publisher.

Timesheet Approval Level:

Auto Submission - No submission or approvals is required option

Select to indicate that resource timesheets do not need to be submitted or approved.

Auto Approval - Automatically approve upon submission option

Select to indicate that resource timesheets do not require management approval. Timesheets are approved automatically when they are submitted.

One approval level - Resource manager approval required option

Select to indicate that resource timesheets require approval by the resource manager only. If you select this option, the status of all submitted timesheets remains **Submitted** until the approving manager changes the timesheet's status. If you previously required both project manager and resource manager approval, and you select this option, the status of all current timesheets that have received one level of approval changes to **Approved**.

Two approval levels - Project and Resource managers' approval required option

Select to indicate that resource timesheets require approval by project and resource managers. If you select this option, the status of all submitted timesheets remains "Submitted" until both managers approve the timesheet.

Project manager must approve before Resource manager option

Determines whether project managers must approve timesheets before resource managers. The **Two Approval Levels** option must be selected to enable this option.

Default Resource manager approving timesheets when one or two approval levels required field

Select the approver you want to approve timesheets for resources. The default approver will be assigned each time you create a resource who uses timesheets.

Getting Here

- 1) Click the **Administer** ▼ menu and select **Application Settings**.
- 2) On the **Application Settings** pane, click **Timesheets**.

Configuring P6 Progress Reporter

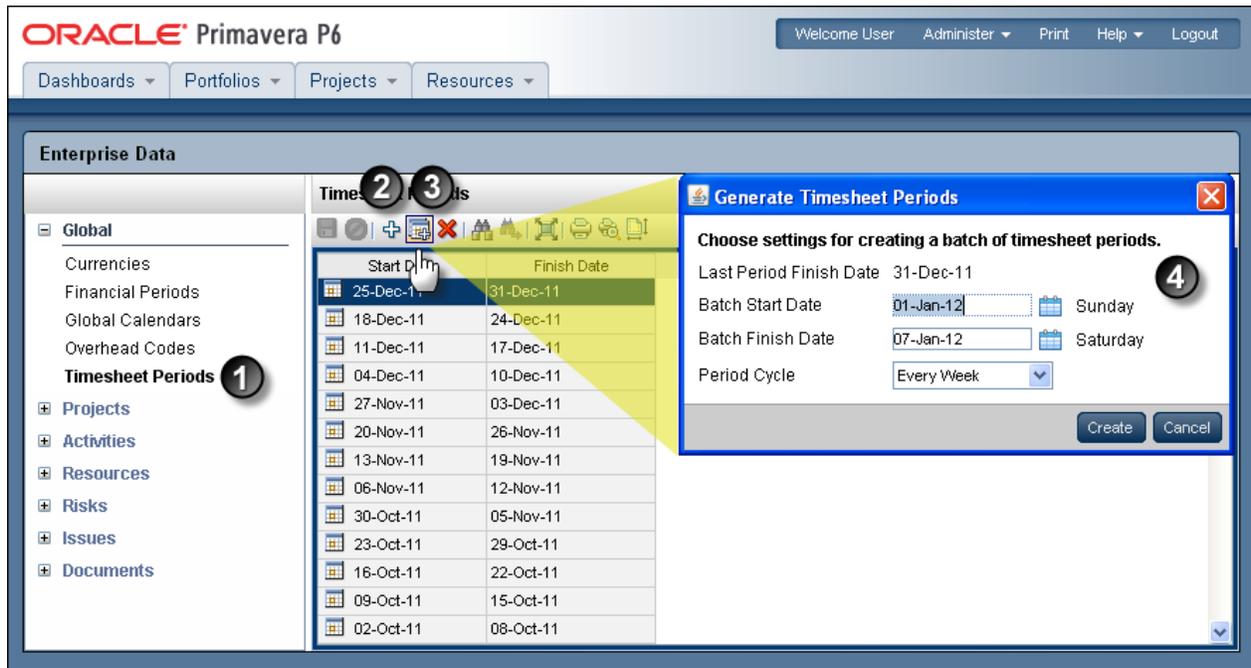
Configure options for statusing and managing activities to determine how users interact with activities.

To configure P6 Progress Reporter:

- 1) Click **Projects**.
- 2) On the **Projects** navigation bar, click **EPS**.
- 3) On the **EPS** page:
 - a. Select a project.
 - b. Click the **Actions** ▾ menu and select  **Set Project Preferences....**
- 4) In the **Project Preferences** pane, click **Progress Reporter**.
- 5) On the **Progress Reporter** page:
 - a. Configure the options for each section.
 - b. Click **Save** to continue working or click **Save and Close** if you are finished.

Working with Timesheet Periods

Use the timesheet periods page to add a timesheet period or batch of timesheet periods.



The screenshot shows the Oracle Primavera P6 interface. On the left, the 'Enterprise Data' tree is expanded to 'Timesheet Periods' (marked with a circled 1). The main area displays a table of Timesheet Periods with columns for Start Date and Finish Date. A 'Generate Timesheet Periods' dialog box is open on the right, titled 'Choose settings for creating a batch of timesheet periods.' (marked with a circled 4). The dialog box contains the following fields: Last Period Finish Date (31-Dec-11), Batch Start Date (01-Jan-12, Sunday), Batch Finish Date (07-Jan-12, Saturday), and Period Cycle (Every Week). There are 'Create' and 'Cancel' buttons at the bottom of the dialog box. A yellow callout box highlights the 'Generate Timesheet Periods' button in the Timesheet Periods table (marked with a circled 3) and the dialog box (marked with a circled 4).

Table of Timesheet Periods

Item	Description
------	-------------

- | | |
|---|--|
| 1 | Timesheet Periods: You can use the Timesheet Periods page to view the timesheet periods already created or to add new timesheet periods. |
|---|--|

Item	Description
2	Add Timesheet Periods: When you add a timesheet period, you can double-click in the Start Date and End Date fields to customize the dates. Once you have set the dates, you cannot edit them; however, you can delete financial periods that you will no longer use.
3	Add a Batch of Timesheet Periods: To add a batch of timesheet periods, you will click Add Batch .
4	Generate Timesheet Periods dialog box: In the Generate Timesheet Periods dialog box, you can customize the start and end date and the period cycle, which shows the amount of time the timesheet will cover. From the Period Cycle list, you can choose every week, every two weeks, every four weeks, and every month. The timesheet periods you create must be unique; they cannot overlap with an existing timesheet period.

Creating Timesheet Periods

Use timesheet periods to create ranges for your timesheets.

To create a timesheet period:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Timesheet Periods**.
- 3) On the **Timesheet Periods** page:
 - a. Click **+ Add** (Insert).
 - b. In the **Start Date** field, double-click, click the down arrow, and select a date.
 - c. In the **End Date** field, double-click, click the down arrow, and select a date.
 - d. Click **Save** (Ctrl+S).

Creating Overhead Codes

Create overhead codes for P6 Progress Reporter users to add overhead activities to their timesheets to log timesheet hours that are not associated with the project.

To create an overhead code:

- 1) Click the **Administer** ▼ menu and select **Enterprise Data**.
- 2) In the **Enterprise Data** pane, expand **Global** and click **Overhead Codes**.
- 3) On the **Overhead Codes** page:
 - a. Click **+ Add** (Insert).
 - b. In the **Name** field, double-click and type a unique code.
 - c. In the **Description** field, double-click and type a unique name.

- d. Click  **Save** (Ctrl+S).

Tips

When you specify that two approval levels are required to approve timesheets, timesheets that contain only overhead activities bypass project manager approval and are sent directly to the resource/cost manager for approval. For timesheets containing a mix of regular and overhead activities, project managers can view, but not approve, the overhead activities.

Accessing P6 Progress Reporter from Client Browsers for the Web Browser Version

After you install and configure the P6 Progress Reporter server, as described in **About P6 Progress Reporter** (see "**About P6 Progress Reporter Installation**" on page 340), and implement P6 Progress Reporter, as described in this chapter, users can run P6 Progress Reporter using the process detailed below.

Notes:

- Java Web Browser users must always access P6 Progress Reporter using the URL specified in step 1 below.
- To select the authentication mode for P6 Progress Reporter, use the P6 Administrator application. See **Authentication Settings for P6 EPPM** (on page 328) for information about authentication configuration settings. You can provision users for P6 Progress Reporter when adding a user in P6. See **Authentication in P6 EPPM** (on page 461) for details on this process.

-
- 1) Access P6 Progress Reporter from a client browser using the appropriate URL structure for your P6 Progress Reporter version:

`http://serverIP:listenport/ContextRoot/applet?lang=language_code`

where the ContextRoot is pr by default. See below for all available language codes.

Examples:

WebLogic: `http://serverIP:7001/pr/applet?lang=en`

WebSphere: `http://serverIP:9080/pr/applet?lang=en`

Language Codes:

English = en

Spanish = es_MX

French = fr

German = de

Dutch = nl

Russian = ru

Japanese = ja

Traditional Chinese = zh_TW

Simplified Chinese = zh_CN

Notes:

- You might be able to modify the context root on your application server. For information about context root configuration, refer to your application server documentation.
 - Also, URLs might be case-sensitive, depending on your application server configuration.
-

- 2) Click **Run Progress Reporter**.
- 3) If prompted, click Yes to install the Java files from Oracle. The Setup program searches for the required Java Runtime Environment (JRE). If the required version it is not found on your machine, the setup process to install it launches automatically.
- 4) Click Yes to install the required JRE and accept the license agreement.

Note: You will only be prompted to download the Java files the first time you click the Run Progress Reporter link.

- 5) If prompted, click **Grant Always** to run the applet.
- 6) Type your login name and password.

Note: If P6 Progress Reporter is running in Single Sign-On authentication mode, the preceding dialog box does not appear. Instead, login credentials are requested and validated by the policy server.

Your activities appear in the Activities window.

Tips

Users can also enter time via the My Activities Dashboards portlet in P6. For more information, see the *P6 Help*.

Accessing P6 Progress Reporter from Client Browsers for the Java Web Start Version

After you install and configure the P6 Progress Reporter server, as described in **About P6 Progress Reporter Installation** (on page 340), and implement P6 Progress Reporter, as described in this chapter, users can run P6 Progress Reporter using the process detailed below.

Notes:

- If the application server has java caching turned on, Java Web Start users have to complete these steps the first time they attempt to access P6 Progress Reporter. After successfully completing these steps, users can access P6 Progress Reporter by using a shortcut. For example, Windows platform users can choose Start, Programs, Oracle Primavera, Primavera P6 Progress Reporter.
-

- To select the authentication mode for P6 EPPM, use the P6 Administrator application. See **Authentication Settings for P6 EPPM** (on page 328) for information about authentication configuration settings. You can provision users for P6 Progress Reporter when adding a user in P6. See **Authentication in P6 EPPM** (on page 461) for details on this process.

- 1) Access P6 Progress Reporter from a client browser using the appropriate URL structure for your P6 Progress Reporter version:

`http://serverIP:listenport/ContextRoot`

where *ContextRoot* is **pr** by default.

Examples:

WebLogic: `http://serverIP:7001/pr`

WebSphere: `http://serverIP:9080/pr`

Notes:

- You might be able to modify the context root on your application server. For information about context root configuration, refer to your application server documentation.
- Also, URLs might be case-sensitive, depending on your application server configuration.

- 2) Click **Launch Progress Reporter Application**. One of the following scenarios will occur depending on your current JRE version:

- ▶ **If a JRE is not installed**, you are prompted to download the required JRE version. Click the provided link and download the JRE. When the JRE installation completes, Java Web Start launches P6 Progress Reporter.
- ▶ **If the required JRE version is present**, Java Web Start uses the existing JRE.
- ▶ **If a JRE version earlier than the required version is present**, Java Web Start automatically downloads the required JRE, installs it, then launches P6 Progress Reporter. Java Web Start does not change the default JRE version for the browser on the client machine when the install is complete. You can change the default version by choosing Tools, Internet Options, in your web browser. On the Advanced tab, select the default JRE in the Java (Sun) section.

Note: Downloading the JRE might take some time, depending on your network speed.

- 3) Type your login name and password, and choose the language.

Note: If P6 Progress Reporter is running in Single Sign-On authentication mode, the preceding dialog box does not appear. Instead, login credentials are requested and validated by the policy server.

Your activities appear in the Activities window.

Tips

Users can also enter time via the My Activities Dashboards portlet in P6. For more information, see the *P6 Help*.

About Timesheet Approval

If your organization requires resource timesheets to be approved by resource/cost managers and/or project managers, timesheets can be reviewed from the Timesheet Approval page in P6. When properly configured, any user with the appropriate module access and security privilege can access Timesheet Approval.

Note: In P6 EPPM R8.1, Timesheet Approval is only available from P6.

Before configuring access to Timesheet Approval, be sure to complete the following:

- ▶ Configure user module access.
To access Timesheet Approval, users must be assigned at least one of the following module access rights: Team Member, Portfolios, Projects, or Resources.
- ▶ Assign global and/or project profiles to timesheet approval managers, as described in **Assigning Global Security Profiles** (on page 418) and **Assigning OBS Elements to Users** (on page 424), that include the required security privilege to enable approval managers to access Timesheet Approval to review timesheets.
To enable a user to approve resource timesheets as a resource/cost manager, the user must be assigned the Approve Resource Timesheets global privilege. To enable a user to approve resource timesheets as a project manager, the user must have the Approve Timesheets as Project Manager project privilege.
- ▶ Specify the required timesheet approval levels, as described in **Timesheets Page** (on page 448).

Tips

For information on using the Timesheet Approval application, click Help in Timesheet Approval, or refer to the *P6 Help*.

Configuring Access to Timesheet Approval

To configure access to Timesheet Approval, follow these guidelines:

- 1) If not already specified when reviewing **Timesheets Page** (on page 448), set the default Resource manager that will be assigned to new resources who use timesheets.
- 2) From the Settings detail window of the Administration Resource tab, assign the appropriate Resource manager (Timesheet Approval Manager) for resources who use timesheets, if different than the default or if no default was set prior to adding resources. See **Configuring Resource Settings for Timesheet Reporting** (on page 473).
- 3) If requiring two approval levels for timesheets, verify that the users associated with the responsible manager for each project is accurate; these users will be the Project manager for the timesheets related to those projects.

- 4) Include the Approve Timesheets menu item in each approval manager's assigned user interface view.
- 5) Users with the appropriate module access and security privilege, can now choose **Approve Timesheets** from the Dashboards menu to access Timesheet Approval.

Tips

- ▶ For new user interface views you create, and for organizations that do not utilize user interface views, the Approve Timesheets menu item appears by default; if a user does not have rights to access Timesheet Approval, the menu item will not appear, even if you include it in the user's assigned user interface view. See ***Defining User Interface Views*** (on page 425) for information on creating and assigning user interface views.
- ▶ For users upgrading from P6 EPPM version 6.1 and later, the Approve Timesheets menu item appears for users who had rights to approve timesheets in previous releases.
- ▶ For detailed information on the Timesheet Approval page, including Resource and Project manager delegates, refer to the *P6 Help*.

Appendices

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Importing Projects from P3 to P6 Optional Client

Use the steps below to import 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 ICSP1-1034-6 Invalid class string, ProgID: "p3session32" when trying to Import a P3 Project into P6 Optional Client.
 - ▶ COM exception caught. Value = 0 when trying to Import multiple P3 Projects into P6 Optional Client.
 - ▶ 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.

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What Causes the P3 Import Option to Be Grayed Out or Send an Error Message?

This issue can occur when any of the following conditions exist:

- ▶ The workstation which has P6 Optional Client installed does not have P3 or SureTrak installed.

Notes:

- The P6 Optional Client installer no longer includes the BTRIEVE database engine files necessary to import P3 file format. These files were removed from the P6 Optional Client 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 Optional Client was installed.
 - ▶ The workstation is using a 64-bit Operating System.

Importing Projects from P3 if You Own a Licensed Copy of P3 or SureTrak

If you never installed P3 on the workstation hosting the P6 Optional Client application and you own a licensed copy of P3 or SureTrak:

- 1) Install P3 or SureTrak on the same machine as P6 Optional Client.
- 2) Enable the option to import P3 files using one of the following options:
 - ▶ Option 1: Install P3 or SureTrak and use the instructions in **Registering the ra32.dll File** (on page 487) to register the ra32.dll file.
 - ▶ Option 2: Uninstall P6 Optional Client. Reinstall P3 or SureTrak first, then install P6 Optional Client 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
- 5) Follow the steps in **Registering the ra32.dll File** (on page 487) for registering the ra32.dll (installed with P6 Optional Client common files).

Importing Projects from P3 if You Do Not Own a Licensed Copy of P3 or SureTrak

If you never installed P3 on the workstation hosting the P6 Optional Client and you do not own a licensed copy of P3 or SureTrak, you can instead have the P3 user who created the P3 project use a separate P3/XER converter utility that will create/convert an XER file for the P6 Optional Client user. Then the P3 user can send the XER to the P6 Optional Client user for import into P6 Optional Client. To do this, perform the following steps:

- 1) Download the P3Converter.zip to a local workstation by selecting the following link:
P3Converter.zip
- 2) Unzip the P3Converter.zip to the local location (where P3 is installed).
- 3) Browse to the <local_location>\\P3Converter\\Ra folder.
- 4) Run the registerRa32.bat.
- 5) Import/Export P3 data using the utilities in the <local_location>\\P3Converter folder.

Notes:

- The conversion tool is designed for a P3 user who has P3 installed on their workstation. The conversion tool converts P3 to XER and XER to P3. P3 files must be present on the workstation for the conversion tool to work.
- For those using a 64-bit OS, you must convert the P3 projects to .XER format using the converter utility as detailed above and then import it in P6 Optional Client.
- For those using a 64-bit OS, you cannot copy the BTRIEVE folder from the P3 CD to the Windows System32 folder.

Registering the ra32.dll File

If you installed P3 or SureTrak after you installed P6 Optional Client, register the ra32.dll file that was installed with the P6 Optional Client files.

- 1) From the command line (Start > Run..., type 'cmd')
- 2) Browse to the ra32.dll file in the P6 Optional Client installation location, and enter the following in the command line:
>regsvr32 ra32.dll
- 3) Hit ENTER.

Note: If step 2 is successful you will receive the following message:
DllRegisterServer in <path to ra32.dll> succeeded.

Message when Starting Import or Export

You may see the following message when starting import or export using P6 Optional Client R8.1 when P6 Optional Client R8.1 and P6 Professional R8.1 are installed on the same computer:

```
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.
- Install P3 to avoid this message.

Prototype User for P6

A prototype user enables you to define default dashboards and global preference settings that apply to all new users of P6. This appendix explains how to create and set up a prototype user for P6.

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Creating a Prototype User Configuration for P6

As an administrator, you can create a prototype user and associate default global Dashboards and global preferences that apply to all new P6 users. Defining a prototype user configuration, in combination with defining user interface views, ensures that new users of P6 will have a consistent interface customized for the business needs of the organization. After you complete the steps below, the prototype user configuration that you created is automatically copied to each new P6 user you add.

See **Defining User Interface Views** (on page 425) for information on creating a default user interface view for new users.

Note: If you do not create a prototype user configuration, the default "User Interface View for new users" will be used to determine which dashboards will be displayed when a user logs in for the first time. If no "User Interface View for new users" is set, the user will be prompted to select dashboard settings during the initial login.

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Creating the Prototype User

To create a prototype user:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page, click the + **Add** icon.
- 4) What appears next depends on your security configuration:
 - a. If P6 is running in Native authentication mode, the **Add User** dialog box will appear:

1. Fill in the **Login Name**, **Personal name**, **Password**, and **Confirm Password** fields (for example, *prototype_user* for Login Name and *Prototype User* for Personal Name).
2. Click **Add**.
3. In the **Global Security Profile** field, double-click and select a Global Profile that will enable the prototype user to appropriately configure default Dashboards and global preferences for all new users.

Notes:

- Your user name can be a maximum of 30 characters.
 - When the Password Policy is disabled in Application Settings, the password must be between 1 and 20 characters. P6 EPPM does not allow blank passwords.
 -  When the Password Policy is enabled in Application Settings, the password must be between 8 and 20 characters and contain at least one number and one letter. Your user name can be a maximum of 30 characters.
-
- b. If P6 is running in LDAP authentication mode, the Add User from LDAP dialog box appears for you to enter an LDAP search query and verify it against the LDAP store:
 1. Enter an LDAP query, and click Search.
 2. If the user exists in the LDAP store, the User, E-mail, and Phone fields are populated, if you previously mapped those fields through the P6 Administrator application Settings.
 3. To add the user, choose **Select** next to the user.
 4. Click **Import**.
 - 5) In the **Module Access** detail window, select the options in the Access column for each module you want the prototype user to access.
 - 6) Click **Save**.

Setting the Default Global Dashboards for the Prototype User

To set the default global dashboards:

- 1) Log into P6 as the new prototype user, using the login name you set for the prototype user.
- 2) Click the **Dashboards** ▼ menu and select **Manage Dashboards**.
- 3) On the **Manage Dashboards** page, click **Create Dashboard** and select a global dashboard from the dialog box that will be displayed for each new P6 user.
- 4) On the **New Dashboard** page, click the **Content** tab.
- 5) On the **Content** tab, expand the **General** section and enter or select a value for each field.
- 6) On the **New Dashboard** page, click the **Access** tab.
- 7) On the **Access** tab, in the **This dashboard is available to** field, select **All Users** to ensure that each dashboard you create is a global dashboard..
- 8) On the **New Dashboard** page, click **Save and Close**.

Note: By default, the maximum number of portlets you can display in a dashboard is twelve. You can change this setting in the P6 Administrator application. For the P6 EPPM configuration you want to modify, the Maximum Portlets per Dashboard setting is located in the Application folder. See **Configuration Settings for P6 EPPM** (on page 276) for more information.

Tips

- ▶ See Customizing Dashboards for help customizing dashboards.
- ▶ Click Help on the **Manage Dashboards** or **New Dashboard** pages for details on creating a dashboard, choosing the portlets to display in a dashboard, and specifying user access.

Setting the Global Preferences for the Prototype User

To set the global preferences for the prototype user:

- 1) Click the **Administer** ▼ menu and select **My Preferences**.
- 2) On the **My Preferences** page, click the Global tab.
- 3) On the **Global** tab, set the global preferences you want to apply to new users.
- 4) Click **Save and Close**.

Setting the Prototype User

To set the prototype user:

- 1) Log into the P6 Administrator application.
See **About the P6 Administrator application** (on page 266) for information on the P6 Administrator application.
- 2) Expand the configuration where you want to add the prototype user (for example, Primavera Configuration), then expand the **Application** folder.
- 3) Select the **Prototype User** setting, then press F2 to edit the field.
- 4) Type the prototype user login name you created.
- 5) Click **Save Changes**, and exit the P6 Administrator application.

Removing Module Access for the Prototype User

 To remove module access:

- 1) Click the **Administer** ▼ menu and select **User Access**.
- 2) On the **User Access** page, click **Users**.
- 3) On the **Users** page:
 - a. Select a user.
 - b. In the **Module Access** field, double-click and click .
- 4) In the **Module Access** detail window, clear all options to ensure against unauthorized login.

5) On the **Users** page, click  **Save**.