

Primavera® P6™

Administrator's Guide

Version 6.2.1

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Preface

In this preface:

[Using the Administrator's Guide](#)

[Primavera Documentation](#)

[Where to Get Support](#)

Primavera provides comprehensive, multiproject planning and control software, built on Microsoft® SQL Server and Oracle databases for organization-wide project management scalability. Smaller multiuser or stand-alone installations can use Microsoft SQL Server 2005 Express. The Primavera solution includes the Project Management module, which can stand alone for project and resource management or be used with companion products. Timesheets enables Web-based team communication and time keeping; the Methodology Management module stores methodologies as templates for new projects; P6 Web Access provides project analysis across the organization and allows users to access project management data via the Internet.

Using the Administrator's Guide

This book is a step-by-step guide to installing and configuring Primavera software components. Read [Part 1](#) to become familiar with the overall process of installing Primavera software components, then read the chapters in the rest of the book that discuss the components you plan to install and configure. This manual is organized as follows:

Part 1: Before You Begin Provides an overview of Primavera software components, discusses how to plan an implementation for your organization, and offers an overview of the process of installing and configuring Primavera software components.

Part 2: Database Installation and Configuration Provides steps for using a wizard to automate the process of creating project management and methodology management databases on either Oracle or Microsoft SQL Server/SQL Server Express and loading application data into the databases. This part also details how to manually create a database.

Part 3: Server Installation and Configuration Provides steps for manually installing and configuring the server-based components of the Primavera solution, including the following:

- Group Server and Timesheets files on a Web server
- P6 Web Access (formerly known as “Primavera’s Web application” or “myPrimavera”)
- Distributed Job Service

Part 4: Primavera Client Installation and Configuration

Describes how to install and configure Primavera client modules. [Part 4](#) explains how to:

- Install the Project Management and Methodology Management modules, as well as Timesheets
- Install additional components such as the (Distributed) Job Service, SDK (Software Development Kit), and ProjectLink
- Use a wizard to automatically upgrade from previous versions of Primavera
- Create and run an unattended setup
- Configure module connectivity to the project management database, user passwords, database logins, and module licensing using the Database Configuration wizard
- Set up authentication

Part 5: Primavera Application Administration Describes how to customize Primavera modules, once installed. Specifically, [Part 5](#) covers how to:

- Set up users and configure security
- Modify preferences and categories for the Project Management and Methodology Management modules
- Configure the Project Management module to allow Timesheets users to record their time in the project management database
- Configure access to the Timesheet Approval application
- Create financial periods in the financial periods dictionary

Appendices Provides steps for running your project management and methodology management databases in a single Oracle instance and describes how to undo changes to the project management database.

Primavera Documentation

You can access reference manuals and administrator's guides from the Primavera Documentation Center, located in the \Documentation\<language> folder of the P6 physical media or download. When viewing a PDF, view the information using Adobe Acrobat Reader (also available in the Documentation folder). The following table describes documentation publications and lists the recommended readers by role. Primavera roles are described in [“Installation Process Overview”](#) on page 3 of this manual.

Title	Description
<i>Primavera Administrator's Guide</i>	This guide explains how to set up the Primavera server, database, and components; it also provides an overview of all the components in the Primavera solution. The guide describes the workflow required to administer the Project Management module, including setting up security and configuring global preferences. The Project Management module network administrator/database administrator and project controls coordinator should read this guide.
<i>Project Management Reference Manual</i>	This guide explains how to plan, set up, and manage projects in a multiuser environment. If you are new to the Project Management module, 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 Project Management Help. The project controls coordinator, program manager, project manager, resource/cost manager, and team leader should read this guide.
<i>Methodology Management Reference Manual</i>	This guide explains how to establish methodologies, or project templates, using the Methodology Management module. Methodologies enable your organization to gather its “best practices” and reuse them to create custom project plans in the Project Management module. If you are new to the Methodology Management module, start with this guide to learn how to use the software to create base, plug-in, and activity library methodologies. When you need more detail, refer to the Methodology Management Help. The project controls coordinator, program manager, project manager, resource/cost manager, and team leader should read this guide.
P6 Web Access Help	P6 Web Access Help describes how to create and manage projects, group projects into portfolios, review resource allocation and requirements, and evaluate budget, performance and ROI for project portfolios. The operations executive, project controls coordinator, program manager, project manager, resource/cost manager, and team leader should read this Help.
Timesheets Web-based Help	Timesheets Web-based Help describes how to use Timesheets to enter and update time spent on assignments. Team members should read this Help.

ProjectLink Help	Describes how to use ProjectLink to enable Microsoft Project (MSP) users to work in the MSP environment while being connected to Primavera's enterprise features. MSP users can learn how to open/save projects from/to the Project Management module database from within the MSP application and how to invoke Primavera's resource management within the MSP environment. Team members that use MSP for daily project maintenance in organizations that use Primavera for enterprise-wide project planning and control should read this help.
<i>Integration API Administrator's Guide</i>	This guide explains how to install and configure the Integration API (Application Programming Interface), which allows direct access to the Project Management module via Java. Those creating client code in Java and needing direct access to the project management database should read this guide. This guide is available in the \Integration\API folder of the P6 physical media or download.
<i>P6 Web Services Administrator's Guide, P6 Web Services Programmer's Guide, and P6 Web Services Reference Manual</i>	The <i>P6 Web Services Administrator's Guide</i> explains how to install and configure P6 Web Services, which enables organizations to seamlessly integrate Primavera functionality into other web-based applications using web services standards. The <i>P6 Web Services Programmer's Guide</i> , available as an HTML help system, describes how to invoke, use, and troubleshoot the available services/methods within supported environments. The <i>P6 Web Services Reference Manual</i> , also available as an HTML help system, describes all services and operations available in P6 Web Services in a comprehensive manner. Those creating client code in Java and needing direct access to the project management database should read all of this documentation. After installing P6 Web Services, this documentation is available in the \docs folder of your P6 Web Services installation folder; it is also available in the \Integration\Web_Services folder of the P6 physical media or download.
SDK (Software Development Kit) Web-based documentation	This documentation describes how to use the SDK to connect to the project management database. The tables, fields, and stored procedures that you can access through the SDK are described. Examples are also provided to show how you can use the SDK to perform several basic tasks, such as creating a new project or assigning a resource to a project activity. The Project Management network administrator/database administrator and project controls coordinator should read this documentation, which is available in your \Program Files\Common Files\Primavera Common\PMSDK\Doc folder. Double-click the INDEX.HTML file to open the Table of Contents page.

Distributing Information to the Team

The online documentation can be copied to a network drive for access by project participants. Each team member can then print only those portions that specifically relate to his or her role in the organization.



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

Where to Get Support

If you have a question about using Primavera products that you or your network administrator cannot resolve with information in the documentation or Help, contact Primavera Customer Support at the times and locations listed below.

Please provide your Primavera product serial number when contacting Primavera. Each interaction is logged to help Primavera resolve your questions quickly.

Office	Time Zone	Hours	Telephone	FAX	E-mail Address*
Bala Cynwyd, Pennsylvania, USA	ET	8:00–8:00 (Mon–Fri) 9:00–2:00 (Sat)	+1-610-668-3030	+1-610-667-0652	support@primavera.com
London, England, UK	GMT	8:30–6:30 (Mon–Thur) 8:30–5:30 (Fri)	+44-20-8563-5555	+44-20-8563-5543	support@primavera.com
Hong Kong	GMT +8	8:00–5:00 (Mon–Fri)	+852-2111-8299	+852-2111-9477	support@primavera.com

*Primavera's Web site at <http://www.primavera.com/customer/index.asp> provides support and product information, such as knowledgebases, file downloads, user group and newsgroup information, and a product enhancement request form.



In the United States, Primavera periodically and randomly monitors technical support calls to ensure that you receive the highest quality support.

All Primavera products are backed by comprehensive support and training.

Before You Begin

In this part:

Installation Process Overview

Planning Your Implementation

*T*his part discusses how to plan and prepare for installing Primavera components. Begin by reading “[Installation Process Overview](#)”, which describes the Primavera components, summarizes the skills needed to install these products, and explains each phase in the installation process.

“[Planning Your Implementation](#)” demonstrates how to identify the components your organization requires and helps you ensure that you have the hardware and software needed to support that implementation.

Installation Process Overview

In this chapter:

What is the P6 Solution?

Who Should Help with the Installation?

Installation Process Phases

This chapter describes the components that make up the Primavera solution and reviews the installation and configuration process.

What is the P6 Solution?

Primavera provides a set of integrated components that meet the project management needs of different areas of an organization. It uses standard Windows interfaces, Web-enabled technology, small multiuser or stand-alone (SQL Server Express) databases, or network-based (Oracle and Microsoft SQL Server) databases.

This installation guide assumes you are installing Primavera software components on a client/server network, which requires the installation and configuration of both client software and server-based components. It also provides information on stand-alone installations.



Primavera uses DBExpress as the standard interface between its components and the project management and methodology management databases. DBExpress is automatically installed when you install the Project Management module. Some additional components, such as the Group Server and Job Service, also install DBExpress to connect to the databases.

Client components The Primavera solution consists of the following client modules:

- **Project Management** Project Management is a module that enables users to plan and control a large number of projects. Project data is stored in a central project management database. Either Oracle or Microsoft SQL Server can be used as the relational database management system in a large networked configuration. For smaller multiuser or stand-alone implementations, you can use Microsoft SQL Server 2005 Express as the database. Project Management also provides centralized resource management, including resource timesheet approval and the ability to communicate with project resources through the Timesheets module, a Web-based timesheet management application.
- **Methodology Management** Methodology Management is a module for authoring and storing methodologies, or project plan templates. Methodology Management enables your organization to gather its “best practices” and store them in a central methodology management database.
- **Timesheets** Timesheets is a Web-based interproject communication and timekeeping system. Team members use Timesheets to enter up-to-the-minute information about their assignments across projects and record time against their workload.

Server components Primavera may require the installation and configuration of the following server-based components:

- **Relational Database Management System (RDBMS)** Project data and project methodologies are each stored in separate central databases. These two databases should be maintained on a database server running Oracle, Microsoft SQL Server, or SQL Server Express. (You also need to install the client software for the RDBMS on each computer needing network access to the database server. If you are running Microsoft SQL Server or SQL Server Express, the necessary software is installed for you automatically when you install Primavera’s Project Management module.)
- **Group Server** If your implementation of Primavera includes the Timesheets client module, you must install the Group Server. This component is a Windows 2003/2008 service that runs on your Web server and allows clients to download Timesheets from that server using their Web browsers. It further acts as an intermediary between the Timesheets client and the project management database.

Additional components Your Primavera implementation may require the installation of one or more optional components. These additional components expand the functionality of the Primavera solution:

- **P6 Web Access** P6 Web Access (formerly known as “Primavera’s Web application” or “myPrimavera”) provides browser-based access to project, portfolio, and resource data across the enterprise. Every P6 Web Access user can customize dashboards to create an individualized and focused view of the specific projects and categories of project data that are most relevant to their role in managing projects and resources. Project Workspaces and Workgroups extend the model of customizable, focused data views by enabling designated project team members to create a uniform team view of data that relates to one specific project or to a subset of activities within a project. P6 Web Access provides access to a wide range of data views and features that enable users to manage their projects from initial concept review and approval through to completion.

P6 Web Access provides collaborative functionality to connect all team members, at all levels, to all shared work necessary for the successful completion of a project. Features include issues management and e-mail integration. With configured Content and Workflows Repositories, you can extend P6 Web Access functionality to include enhanced document management features and project request processes.

- **(Distributed) Job Service** The Job Service is a Windows 2003/2008 service that runs defined jobs on project data at preconfigured intervals. Users create jobs in the Project Management module. The job details are stored in the central project management database. The Job Service periodically reads the database and performs jobs as directed. This service must run on a server that has a constant connection to the database server.

The Distributed Job Service is an extension of the Job Service that enables a controller machine to manage multiple servers running job services.

- **ProjectLink** ProjectLink is a plug-in that enables Microsoft Project (MSP) users to work in the MSP environment while being connected to Primavera's enterprise features. The functionality enables MSP users to open/save projects from/to the Project Management module database from within the MSP application. Moreover, MSP users have the ability to invoke Primavera's resource management within the MSP environment. ProjectLink benefits organizations that use MSP for daily project maintenance but require some users to have the enterprise capabilities available within Primavera applications.
- **SDK (Software Development Kit)** The SDK enables you to integrate the data in the project management database with external databases and applications. It provides access to the schema and to business logic. The SDK supports the Open Database Connectivity (ODBC) standard and ODBC-compliant interfaces, such as OLE DB, for connecting to the project management database. The SDK may be installed on any computer that needs to integrate with the Primavera database.

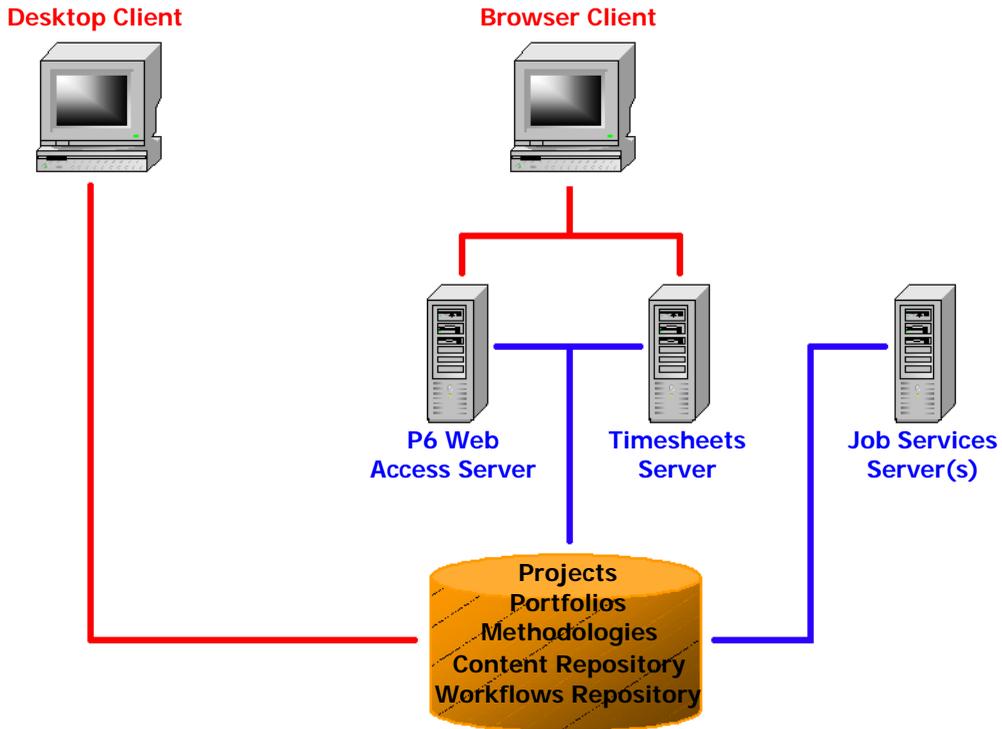


The Integration API (Application Programming Interface) can also be used to connect directly to the project management database. This tool requires the ability to write client code in Java. For further information, see the Integration API Administrator's Guide.



P6 Web Services allows you to seamlessly integrate Primavera's project management functionality into other applications via open standards, including XML, SOAP, and WSDL. For further information, see the P6 Web Services Administrator's Guide.

The following figure illustrates the relationship between Primavera components.



For details on the configuration requirements of each component, see [“Planning Your Implementation”](#) on page 15.

You are not required to install the server-based components as shown here. For example, the P6 Web Access and Timesheets applications can be running from the same server, and Job Services can run on any computer with a constant connection to the project database. For optimal performance, Primavera recommends that the components be installed as shown above.

Who Should Help with the Installation?

The talents of several different types of employees may be required to install and configure Primavera components in your organization. The following section describes the basic roles and the responsibilities typically given to those roles during the installation process. Roles may 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 Primavera components. They install and maintain the server and client components in the Primavera solution. They manage user access to project data and develop and maintain a comprehensive security policy to ensure that project and methodology data is protected from unauthorized access, theft, or damage.

Network administrators ensure that the hardware and software supporting Primavera 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

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

Database administrators ensure reliable access to the Primavera databases 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

Project controls coordinator Project control coordinators are responsible for ensuring that the Project Management module is implemented properly and that it operates 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 the Project Management module
- Working with the network administrator to create user accounts and user groups for the Project Management module
- Assigning security rights to Primavera users in the Project Management module
- Working with the Human Resources (HR) department to keep the resource hierarchy in the Project Management module up-to-date and complete, possibly through integration of an HR module from an enterprise resource planning (ERP) system

Program and project managers In some cases, program and project managers may also become involved in the initial configuration of the Primavera solution, though they are not normally involved in the installation. They are responsible for managing one or more projects and use the Project Management module for

- Adding projects to the project management database
- Prioritizing resources across projects
- Planning and managing projects

Installation Process Phases

The network administrator, database administrator, and project controls coordinator should work together to ensure that the Primavera solution is successfully installed for your organization. These roles may be played by teams of people or by a few people sharing responsibilities.

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

The planning phase is covered in this part of this guide.

Phase 1: Plan your Primavera configuration Before you begin the installation, decide how your organization will implement the Primavera solution. Identify the servers and network hardware you will need to support the implementation. Install and configure the third-party database server software (Oracle or Microsoft SQL Server), if necessary. Perform any upgrade procedures as needed to roll projects from previous versions into the new version. If you simply will be installing a stand-alone version, refer to [“Installing or Upgrading the Stand-Alone Version”](#) on page 259.

Automatic and manual configuration of the databases is covered in [Part 2](#) of this guide. Server configuration is covered in [Part 3](#).

Phase 2: Configure your Primavera servers Once you have set up your network and prepared your servers, you can begin to configure the servers. Start by setting up the project management and methodology management databases on the database server. You can choose an automated or a manual method to complete this process. If you are using SQL Server Express, you should follow the automated process.

The client module configuration phase is covered in [Part 4](#) of this guide.

Phase 3: Configure your Primavera client modules Once your servers are configured and the databases are installed, you can begin to install the Primavera client modules on your client workstations according to your implementation plan. You can then install and configure additional components as needed for your implementation.

Primavera P6 Product Codes

Primavera P6 requires you to enter a product code during database setup and application installation. The product code consists of two parts:

- The first part of the product code is a two-letter string that corresponds to your industry. This code determines the type of sample data downloaded during installation, as well as the name of Primavera's project and baseline comparison tool (Claim Digger or Schedule Comparison), which you can access from the Project Management module. This two-letter code can be EC, MT, IT, or PD.
- The second part of the product code consists of one letter followed by two numbers. The letter may be E, C, O, or T, and determines the color scheme, application defaults, application terminology, and the version of Hint Help (field-level help). The two numbers may be any two numbers between 0 and 9; the two numbers do not have to be unique.



For most components in the Primavera P6 product suite, the online Help is customized to correspond to all possible product codes. The entire product code determines the version of the online Help that is installed along with the products.

The following table lists each valid product code. When prompted in installation procedures, choose the appropriate code. Primavera recommends, but does not require, that you use the same product code for each database or application installation.

Valid product codes*	Sample data industry	Claim Digger/ Schedule Comparison	Industry Terminology	Default startup window in Project Management module
EC-Exx	Engineering and Construction	Claim Digger	Engineering and Construction/ Power, Energy, and Process	Activities window
EC-Cxx EC-Oxx	Engineering and Construction	Claim Digger	Engineering and Construction/ Power, Energy, and Process	User-defined
EC-Txx	Engineering and Construction	Claim Digger	Technology and Manufacturing/ Public Sector	User-defined
MT-Exx MT-Cxx	Power, Energy, and Process	Claim Digger	Engineering and Construction\ Power, Energy, and Process	User-defined
MT-Oxx	Power, Energy, and Process	Claim Digger	Engineering and Construction\ Power, Energy, and Process	Projects window
MT-Txx	Power, Energy, and Process	Claim Digger	Technology and Manufacturing\ Public Sector	User-defined
IT-Exx IT-Cxx IT-Oxx	Technology and Manufacturing	Schedule Comparison	Engineering and Construction\ Power, Energy, and Process	User-defined
IT-Txx	Technology and Manufacturing	Schedule Comparison	Technology and Manufacturing\ Public Sector	Home Workspace
PD-Exx PD-Cxx PD-Oxx	Public Sector	Schedule Comparison	Engineering and Construction\ Power, Energy, and Process	User-defined
PD-Txx	Public Sector	Schedule Comparison	Technology and Manufacturing\ Public Sector	User-defined

* In this column, an 'x' represents any number between 0 and 9, inclusive.

Planning Your Implementation

In this chapter:

Which Components Do I Need?
Client and Server Requirements
**Project Management Database
Server Sizing Guide**
**Methodology Management
Database Server Sizing Guide**
Practical Product Limits

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

Which Components Do I Need?

When planning your Primavera implementation, you will first need to know what 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 enterprise installations. For smaller implementations, you can use Microsoft SQL Server 2005 Express with Advanced Services.

Which workstations will require the Project Management module? Which will require Methodology Management? All Project Management and Methodology Management 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 these client modules. If using SQL Server as the RDBMS, Primavera automatically installs the required SQL Server files when you install the Project Management module.

Do we want our administrators to install the Project Management and Methodology Management modules using standardized preconfigured settings? If you want all of your client modules to be configured identically, your administrators can run an unattended setup for each module based on a standard configuration. You can create one or more sets of unattended setup files and share them on a network server.

Will our Project Management module users need to automatically run jobs (such as scheduling or summarizing) on project data? If your Project Management users will need to run jobs, you will need to install the Job Service. For non-distributed jobs, install the Job Service on a server that has constant access to the database server. For distributed jobs, install the Distributed Job Service on multiple servers operated by a Controller server. Additionally, the Primavera Web Scheduler is available, but disabled by default. The Web Scheduler can be enabled via the Administrator Application of P6 Web Access.

Do we need to integrate our project data with other global systems? If you need to integrate your project data with other systems, such as Accounting or Human Resources applications, you will need to install the Integration API (Application Programming Interface), P6 Web Services, or the SDK (Software Development Kit) on computers that require access to the data. The Integration API makes data accessible through JDBC and requires knowledge of Java programming. P6 Web Services seamlessly integrates Primavera's project management functionality into other applications via open standards, including XML, SOAP, and WSDL. The 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 Primavera to manage global data? Your organization may currently use Microsoft Project to manage projects. To enable users to continue to use MSP to manage projects while integrating with Primavera's organizational-level functionality, you will need to install Primavera ProjectLink.

Will our team members use Primavera Timesheets 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 Timesheets, you will need to install the Group Server and the Timesheets files on your Web server.

If you require that resource and/or project managers review and approve resource timesheets, you must install P6 Web Access. The Timesheet Approval application, which is installed on the P6 Web Access application server when you install P6 Web Access, enables timesheet approval managers to review, approve, and reject timesheets, communicate with Timesheets resources, and run timesheet reports. Once installed, you can configure access to Timesheet Approval from P6 Web Access and the Project Management module, or you can make it available to approval managers as a stand-alone application.

If we use Timesheets, which version of Timesheets should we use?

Timesheets is a three-tier client/server module, consisting of the Timesheets client on the front end, the database server that contains your projects on the back end, and the Group Server in the middle, providing a link between Timesheets clients and the database.

Primavera facilitates project communication among team members across the organization by providing two types of interfaces for Timesheets: a Web Browser version and a Java Web Start version. The Java Web Start version is optional. The differences between the two interfaces are described below.

Web Browser version Timesheets Web Browser version enables users to access their timesheet data across the Internet as a Java *applet*.

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 in their Web browsers. When many users will need to use Timesheets, 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 may be the initial download time for the applet, which can take up to 20 minutes over a slow modem connection.

Java Web Start version Timesheets Java Web Start version performs the same function as the Web Browser version, but this version runs as a Java *application*.

Java Web Start provides a secure and platform-independent deployment of Timesheets, using the Java Network Launching Protocol (JNLP) technology. Java Web Start also ensures that users always launch the most recent version of Timesheets 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 Timesheets to the user's computer, so users never have to upgrade manually.

Do we want to provide Web access to project data for performance of project management tasks? P6 Web Access 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	Group Server	P6 Web Access	Primavera Job Service	Content and Workflows Repositories
Project Management	✓ ¹			✓ ²	
Methodology Management	✓ ¹				
Timesheets	✓	✓	✓ ⁴		
P6 Web Access User	✓	✓ ³	✓	✓	✓ ⁵

- ¹ If using Oracle as the RDBMS, these modules require the Oracle client software to be installed on the client computer.
- ² The Job Service is an optional component for the Project Management module.
- ³ The Group Server is an optional component for P6 Web Access; it is required if you are using the Timesheets functionality of P6 Web Access.
- ⁴ P6 Web Access is an optional component for Timesheets and is only required if resource timesheets must be reviewed and approved.
- ⁵ The Content and Workflows Repositories are optional components of P6 Web Access. They can serve as aids in document management and project request processes.

Client and Server Requirements

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



The following tables summarize configurations that have been tested with Primavera. For the full list of system requirements, versions, and tested configurations, go to the \Documentation\<language>\Tested Configurations folder of the P6 physical media or download.

Supported Platforms for Primavera

Client modules (Project Management, Methodology Management, P6 Web Access)

- Microsoft Windows XP Professional (sp3)
- Microsoft Windows Vista Business Edition (sp1)
- Citrix Presentation Server 4.5

The Integration API (Application Programming Interface) and SDK (Software Development Kit) can be installed on any Windows 2003 Server (R2 sp2), Windows 2008 Server (SE sp1), XP (sp2) or Vista Business Edition (sp1) computer. System requirements will vary depending on the requirements of the module that uses the API or SDK to integrate with Primavera databases.

Minimum Client Configurations

For clients running the Project Management and Methodology Management modules

- Oracle 10.2 full
- Oracle 11.1 full
- SQL Server 2005 sp2 full
- SQL Server 2005 Express with Advanced Series sp2 (standalone only)
- 1 x 2.8 GHz or higher Intel Pentium 4 (or equivalent) processor
- 1 GB of available RAM
- If installing standalone modules, 800 MB of available hard-disk space for the Project Management module, the Methodology Management module, and supporting software, such as .NET and SQL Server 2005 Express. If upgrading from a prior release, an additional 40MB of available hard-disk space per module.
- If only installing the Project Management module, minimum 185 MB of available hard-disk space

- If only installing the Methodology Management module, minimum 45 MB of available hard-disk space
- Microsoft IE (Internet Explorer) 6 (sp2) or IE 7
- TCP/IP network protocol

For clients running Timesheets Web Browser version

- Microsoft Windows XP Professional (sp3)
- Microsoft Windows Vista Business Edition (sp1)
- Ubuntu Linux 8.04
- 256 MB of available RAM
- Microsoft IE 6 (sp2), IE 7, or Firefox 3.0.3
- Sun JRE (appropriate version will be installed automatically with Timesheets)
- TCP/IP network protocol
- Optional software:
 - Java Access Bridge 2.01 (for 508 accessibility.)
- The Timesheets application has been tested with the following assistive technologies:
 - JAWS® for Windows screen reading software, version 7.0
 - ZoomText Magnifier 9.0

For clients running Timesheets Java Web Start version

- 256 MB of available RAM
- Microsoft IE 6 (sp2), IE 7, or Firefox 3.0.3
- Sun JRE (appropriate version will be installed automatically with Timesheets)
- TCP/IP network protocol
- Optional software:
 - Java Access Bridge 2.01 (for 508 accessibility.)
- The Timesheets application has been tested with the following assistive technologies:
 - JAWS® for Windows screen reading software, version 7.0
 - ZoomText Magnifier 9.0

**Supported
Configurations for
Servers**

For clients accessing P6 Web Access

- 1 x 2.8 GHz or higher Intel Pentium 4 (or equivalent) processor
- 1 GB of available RAM (recommended)
- 25 MB of available hard-disk space
- TCP/IP network protocol
- Microsoft IE 6 (sp2), IE 7, or Firefox 3.0.3
- Sun JRE (the required version is automatically installed with P6 Web Access)

For the database server

- Oracle 10.2.0.3 on Windows 2003 Server (R2 sp2) and Red Hat Enterprise Linux AS 5.0
- Oracle 11.1.0.6 on Windows 2003 Server (R2 sp2), Windows 2008 Server (SE sp1), and Red Hat Enterprise Linux AS 5.0
- Microsoft SQL Server 2005 (sp2) on Windows 2003 Server (R2 sp2) and Windows 2008 Server (SE sp1)
- Microsoft SQL Server 2005 Express with Advanced Services (sp2) on Windows XP Professional (sp3) and Vista Business Edition (sp1)
- 2 x 3.2 GHz or higher Intel Pentium 4 (or equivalent) processors
- 2 GB of available RAM or more (varies with implementation size)
- 15K RPM SCIS I/O subsystem across minimum of 6 physical drives
- See [“Project Management Database Server Sizing Guide”](#) on page 25 and [“Methodology Management Database Server Sizing Guide”](#) on page 26 for memory requirements.

For the server running Group Server and providing the Timesheets files

- Microsoft Windows 2003 Server (R2 sp2)
- Microsoft Windows 2008 Server (SE sp1)
- The Oracle OLE DB driver compatible with your Oracle version
- The SQL Server client driver compatible with your SQL version
- Web server software installed and running
- 512 MB of available RAM or more

- 200 MB of available hard-disk space
- TCP/IP network protocol

For the Job Service or Distributed Job Service

- Microsoft Windows 2003 Server (R2 sp2)
- Microsoft Windows 2008 Server (SE sp1)
- 1 x 2.8 GHz or higher Intel Pentium 4 (or equivalent) processor
- 2 GB of available RAM (minimum)
4 GB of available RAM (recommended)
- 250 MB minimum of available hard-disk space

Application server requirements hosting P6 Web Access

- Microsoft Windows 2003 Server (R2 sp2)
- Microsoft Windows 2008 Server (SE sp1)
- Red Hat Enterprise Linux AS 5.0
- Solaris 10 (Sparc)
- HP-UX 11i v2
- IBM AIX 5.3
- 2 x 3.2 GHz or higher Intel Pentium 4 (or equivalent) processors
- 4 GB of available RAM or more (recommended)
- 1 GB minimum of available hard-disk space
- TCP/IP network protocol

Java Application server requirements hosting P6 Web Access

- JBoss 4.0.5
- BEA WebLogic Enterprise or Platform ISV Edition 10 (sp1)
- Oracle WebLogic 10g R3
- IBM WebSphere 6.1 (fp 17)

For the Web server hosting Project Web Site files

- Microsoft Windows 2003 Server (R2 sp2) with Microsoft Internet Information Server (IIS) 6.0
- Microsoft Windows 2008 Server (SE sp1) with Microsoft Internet Information Server (IIS) 7.0

- Microsoft TCP/IP networking protocol

For P6 Web Access Web server

- Microsoft Windows 2003 Server (R2 sp2) with Microsoft Internet Information Server (IIS) 6.0
- Microsoft Windows 2008 Server (SE sp1) with Microsoft Internet Information Server (IIS) 7.0
- Microsoft Windows 2003 Server (R2 sp2), Microsoft Windows 2008 Server (SE sp1), and Red Hat Enterprise Linux AS 5.0 with Apache Web Server 2.2.6

**Supported E-Mail
Systems and Network
Protocols**



P6 Web Access supports only SMTP.

- Internet e-mail (SMTP) or MAPI is supported
- Network protocols depend only on database vendor
- Web site requires TCP/IP

Project Management Database Server Sizing Guide

The following sizes refer to a single instance of the project management database. Memory sizes do not include overhead required by the operating system, which varies according to the server version.

Oracle

File	Small	Medium	Large
Temp TBS	300 MB	500 MB	1,000 MB
Undo TBS	300 MB	500 MB	1,000 MB
Index TBS	250 MB	500 MB	1,000 MB
Data TBS	250 MB	500 MB	1,000 MB
Lob TBS	250 MB	500 MB	1,000 MB
Total	1,350 MB	2,500 MB	5,000 MB
RAM:	384 MB	512 MB	1024+MB

Microsoft SQL Server

File	Small	Medium	Large
Data	300 MB	500 MB	1,000 MB
Data Log	150 MB	250 MB	500 MB
Temp	300 MB	500 MB	1,000 MB
Temp Log	50 MB	100 MB	125 MB
Total	800 MB	1,350 MB	2,625 MB
RAM:	384 MB	512 MB	1024+MB

Methodology Management Database Server Sizing Guide

The following sizes refer to a single instance of the methodology management database. Memory sizes do not include overhead required by the operating system, which varies according to the server version.

Oracle

File	Recommended Size
Temp TBS	100 MB
Undo TBS	100 MB
Index TBS	250 MB
Data TBS	250 MB
Lob TBS	250 MB
Total	950 MB

Microsoft SQL Server

File	Recommended Size
Data	300 MB
Data Log	150 MB
Temp	100 MB
Temp Log	50 MB
Total	600 MB

Practical Product Limits

The following table summarizes various practical limits. Exceeding these limits can result in performance issues.

Application	Element	Practical Limit
Timesheets	Number of activities assigned to a user within the user's specified activity timeframe	100
Timesheets	Number of activities per timesheet	100
Project Management module	Number of activities per project	100,000
Project Management module	Number of relationships per project	100,000

Database Installation and Configuration

In this part

Automatic Database Installation

Manual Database Configuration

Database Administration

While it is best to have an experienced database administrator install and set up Primavera applications to run on a network server, your company may not have this type of person available. Primavera provides a quick and easy Setup program for installing the necessary database components on your database server. Read “[Automatic Database Installation](#)” and simply follow the steps in the Database wizard to create a new project management and/or methodology management database and load the required data.

If you choose not to follow the automated steps, you can also manually set up the database and load the data. See “[Manual Database Configuration](#)” for detailed instructions.

Whether you choose to automatically or manually install your databases, refer to “[Database Administration](#)” for important instructions on modifying database settings that are not part of the installation/setup process.

Automatic Database Installation

In this chapter:

[Overview](#)

[Running the Database Wizard](#)

[Automatically Installing an Oracle Database and Loading Application Data](#)

[Automatically Installing a SQL Server Database and Loading Application Data](#)

Follow the steps in this chapter to set up and load the Project Management and Methodology Management module databases on a server using the automatic install process.

Overview

Two databases are used to run Primavera:

- The project management database (PMDb) stores the Project Management data used by Primavera. It is a required database.
- The methodology management database (MMDB) stores the methodologies that can be used as templates when creating new projects. You must install this database if you will be using the Methodology Management module.

If you need detailed steps on installing Oracle for the server and client, or SQL Server for the server, contact Primavera Customer Support.

Primavera supports Oracle, Microsoft SQL Server, and Microsoft SQL Server Express databases. The MS SQL Server or Oracle server software must be installed on the database server(s) 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, while the next chapter, [Manual Database Configuration](#), covers the manual instructions.



If you have previously installed and configured Primavera databases and want to upgrade to the current version, refer to [“Automatic Database Upgrade”](#) on page 263 for details.

For additional tips and considerations related to database performance along with additional settings, refer to [“Database Administration”](#) on page 67.

Oracle considerations Before installing the Primavera database, consider the following:

- If you intend to run Primavera 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 Primavera 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.
- If users will be connecting to P6 Oracle databases using Oracle 11g Instant Client, see [“Connecting to Oracle Databases Using Oracle 11g Instant Client”](#) on page 98 for information on administrative settings you must specify to enable P6 users to utilize all available P6 functionality.

SQL Server considerations If you intend to run Primavera on a SQL Server or SQL Server Express database server, the required SQL Server client files are automatically installed when you install the Project Management module on a client machine.

Running 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 need not be an experienced DBA to perform these steps; however, Oracle, Microsoft SQL Server or SQL Server Express 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 users for you.

If you will be using the Methodology Management module, you will run through the Database wizard twice: first to create the database structure and load data for the project management database, then again for the methodology management database.

Automatically Installing an Oracle Database and Loading Application Data

Complete the following steps to automatically create an Oracle database and load application data:



If you will be using SSL protocol, refer to your Oracle database documentation and the Primavera Knowledgebase for configuration instructions before running the Database wizard (dbsetup).



Primavera Systems 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.



A license key file is required to use the software and should have been provided via e-mail or CD. It contains your company name, serial number, the product components with version number you have purchased, and the number of users allowed. If you will be loading a license key file as part of this procedure, copy the file to a local drive before you begin.

- 1 If you are installing from physical media, an introductory screen will appear that provides installation options.

If the screen does not appear, or if you are installing from a network location, run (dbsetup.sh for Linux) from the \Client_Applications\install\database folder of the P6 physical media or download. Skip to [step 4](#).



For Linux, add the JAVA_HOME Environment variable to the dbsetup.sh file before running it. For example, export JAVA_HOME = /usr/jre 1.5.0_15

- 2 On the main **Primavera** screen, choose **Other Applications**.
- 3 On the **Other Applications** screen, choose **P6 Database Utility** to launch the database wizard.



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

4 On the **Primavera P6** dialog box:

- Choose **Install a new database**.
- Choose **Oracle** as the server type.
- In the **Product key** field, enter a valid product code.

For information on valid product codes, refer to [“Primavera P6 Product Codes”](#) on page 12.

5 On the **Database Selection** dialog box:

- Choose **Project Management and Content Repository in one database** or **Project Management and Content Repository in two different databases**, depending on sizing needs and performance considerations.

Content Repository data is used for collaborative purposes, such as sharing documents. The **Content Repository only** option is available for cases where an attempt was already made to run the database wizard and did not complete.

6 On the **Connection Information** dialog box:

- In the **DBA user name** field, type the Oracle system user name to log on to the database; for example, **system** (which is the default).
- In the **DBA password** field, type the password to log on to the database. If you chose system for the DBA Username, use **manager** as the password. Otherwise, enter the password associated with the Username you entered.
- In the **Database host address** field, enter the server machine name or IP address where Oracle is installed.
- In the **Database host port** field, enter the port number that Oracle is using. The default is 1521.
- In the **Database name (SID)** field, enter the Oracle SID. It can be found in the TNSNAMES.ORA file, which was created when you or your DBA set up the Oracle client.

7 On the **Configure Oracle Tablespaces** dialog box, click **Next** to accept the name for the Data, Index, and LOB tablespaces and estimated tablespace sizes.

You can change the estimated tablespace sizes. Refer to [“Project Management Database Server Sizing Guide”](#) on page 25 for guidelines on sizing.

Mark **Use existing tablespaces** only if the database server to which you are connecting already has existing tablespaces. For a new database server, do not mark this option.

- 8 On the **Specify Oracle Tablespace Locations** dialog box, accept the default locations for the Oracle tablespaces (Data, Index, and LOB), or specify different locations.



*Clicking **Create** on this step will begin the initial setup of the project management database. After this step, you will no longer be able to click **Previous** to change your prior selections. On the next step, however, you will have the option to either click **Next** or **Cancel**.*

- 9 Click **Next** on the **Creating Oracle Tablespaces** dialog box when tablespace creation has completed.
- 10 On the **Create Oracle Users** dialog box, accept the default names for the Oracle administrative user, privileged user, and public user, or specify the appropriate names.



*You cannot enter **privuser** as the administrative username; doing so will cause conflicts.*



*If you are using Oracle 11g, the case used for user names will be the same case used for passwords. For example, if **ADMUSER** is typed for the user name, the password will also be **ADMUSER**, in all uppercase letters.*

You can choose a different default tablespace from the dropdown list in the Default Tablespace field. In the Temporary Tablespace field, use the temporary tablespace that you created prior to starting this procedure.



The temporary tablespace must be of temporary type; otherwise, errors can occur to your database.

- 11 On the **Configuration Options** dialog box,
 - Mark **Load sample data** if you want to include sample project data in the database.



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.

For information on adding view currencies, refer to [“Defining Administrative Preferences and Categories in Project Management”](#) on page 369.

Setting 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 the Project Management module. The default base currency for Primavera is US dollars (\$). The view currency is the monetary unit used to display cost data in Primavera 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 may 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.

- 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.
- Mark **Load license key file**.
- Browse to the location of the LICENSE.TXT file. If the LICENSE.TXT file is not available at this time, you can clear the Load License checkbox and load the file later using the Database configuration wizard. Refer to [“Changing Database Configuration Settings”](#) on page 281 for more information.

- 12 Click **Install** on the Configurations Options dialog box to start the process of loading the database tables with application data.

- 13** On the **Creating Database...** dialog box, click **Next** after the processes have completed.



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

- 14** On the **Finish** dialog box, click **Next** to run the Database wizard again if you will be using the Methodology Management module. Otherwise, click **Finish** to exit the wizard.

Once both sets of application data are installed (Project Management and Methodology Management), you can begin to install client modules and additional components. Refer to [Part 3](#) and [Part 4](#) for more information on configuring the servers and installing client module(s) and additional components.

Automatically Installing a SQL Server Database and Loading Application Data

Complete the following steps to automatically create a SQL Server or SQL Server Express database and load application data:



A license key file is required to use the software and should have been provided via e-mail or CD. It contains your company name, serial number, the product components with version number you have purchased, and the number of users allowed. If you will be loading a license key file as part of this procedure, copy the file to a local drive before you begin.

- 1 If you are installing from physical media, an introductory screen will appear that provides installation options.

If the screen does not appear, or if you are installing from a network location, run **dbsetup.bat** from the \Client_Applications\install\database folder of the P6 physical media or download. Skip to [step 4](#).



The dbsetup.bat file must be run from a mapped drive.

- 2 On the main **Primavera** screen, choose **Other Applications**.
- 3 On the **Other Applications** screen, choose **P6 Database Utility** to launch the database wizard.



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

- 4 On the **Primavera P6** dialog box:
 - Choose **Install a new database**.
 - Choose **Microsoft SQL Server/SQL Express** as the server type.
 - In the **Product key** field, enter a valid product code.

For information on valid product codes, refer to “[Primavera P6 Product Codes](#)” on page 12.

5 On the **Database Selection** dialog box:

- Choose **Project Management and Content Repository in one database** or **Project Management and Content Repository in two different databases**, depending on sizing needs and performance considerations.

Content Repository data is used for collaborative purposes, such as sharing documents. The **Content Repository only** option is available for cases where an attempt was already made to run the database wizard and did not complete.

6 On the **Connection Information** dialog box:

- In the **Sys admin user name** field, type the Microsoft SQL Server system administrator name to register to the server. If you chose the defaults during the Microsoft SQL Server installation, leave SA as the system administrator name.
- In the **Sys admin password** field, type the password for this system administrator. If you chose the defaults during the Microsoft SQL Server installation, leave the password field blank.
- In the **Database host address** field, enter the server machine name or IP address where Microsoft SQL Server is installed.
- In the **Database host port** field, enter the port number that Microsoft SQL Server is using. The default is 1433.

7 On the **Configuring Microsoft SQL Server/SQL Express Database** dialog box, click **Next** to accept the default values, or change them as appropriate for your installation.

If you change the name of the database, duplicate database names are not permitted—you will be prompted to enter a unique name if a database with the specified name already exists.



Do not use a dash (-) in the database name; it will cause errors.

The data file contains the database tables and procedures. The log file contains a record of changes. By default, the Database wizard stores these files in the folder on your server where Microsoft SQL Server is installed. The database name that you specify is used to name the files. If you change the location, the destination folder must exist on the server.

The database code page will default to what is already selected for Microsoft SQL Server. Select a different code page, if necessary.



Clicking Next after this step will begin the initial creation of the project management database. After this step, you will no longer be able to click Previous to change your prior selections. On the next step, however, you will have the option to either click Install or Cancel.

8 On the **Configuration Options** dialog box:

- Mark **Load sample data** if you want to include sample project data in the database.



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.

For information on adding view currencies, refer to [“Defining Administrative Preferences and Categories in Project Management”](#) on page 369.

Setting 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 the Project Management module. The default base currency for Primavera is US dollars (\$). The view currency is the monetary unit used to display cost data in Primavera 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 may 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.

- 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.
 - Mark **Load license key file**.
 - Browse to the location of the LICENSE.TXT file. If the LICENSE.TXT file is not available at this time, you can clear the Load License checkbox and load the file later using the Database configuration wizard. Refer to [“Changing Database Configuration Settings”](#) on page 281 for more information.
- 9** Click **Install** on the Configuration Options dialog box to start the process of loading the database tables with application data.
- 10** On the **Creating Database...** dialog box, click **Next** after the processes have completed.



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

- 11** On the **Finish** dialog box, click **Next** to run the Database wizard again if you will be using the Methodology Management module. Otherwise, click Finish to exit the wizard.

Once both sets of application data are installed (project management and methodology management), you can begin to install client modules and additional components. Refer to [Part 3](#) and [Part 4](#) for more information on configuring the servers and installing client module(s) and additional components. For information on configuring database settings to optimize performance, refer to [“Database Administration”](#) on page 67.

Manual Database Configuration

In this chapter:

Overview

Creating the Database Structure for Oracle and Loading Application Data

Creating the Database Structures for MS SQL Server and Loading Application Data

Changing the Base Currency (Oracle and Microsoft SQL Server)

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

Setup is divided into three steps: creating each database's structure, loading the application data into each database, and setting up the Content Repository.

To use a wizard that automatically creates the database structures and loads the data, refer to [“Automatic Database Installation”](#) on page 31. If you are using Microsoft SQL Server Express you should run the Database wizard.

Overview

Two databases are used to run Primavera:

- The project management database (PMDB) stores the Project Management data used by Primavera. It is a required database.
- The methodology management database (MMDB) stores the methodologies that can be used as templates when creating new projects. You must install this database if you will be using the Methodology Management module.

If you need detailed steps on installing Oracle for the server and client, or SQL Server for the server, contact Primavera Customer Support.

Primavera supports Oracle, Microsoft SQL Server, and Microsoft SQL Server Express databases. The MS SQL Server or Oracle server software must be installed on the database server(s) before you can create the database.



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 Primavera applications. Do not delete it.



If you have manually configured Primavera databases for an earlier version, refer to [“Automatic Database Upgrade”](#) on page 263 for instructions on automatically upgrading your databases to the current version. If you want to manually upgrade your databases, refer to the manual database upgrade documents available from the Primavera Documentation Center, which you can access from the \Documentation\<language> folder of the P6 physical media or download.



P6 version 6.2.1 includes a new encryption algorithm that provides enhanced security for private database login passwords; however, the new encryption algorithm is not automatically enforced when you manually install or upgrade your database. To enforce existing private database login passwords (including the default login and password, privuser) to use the new encryption algorithm, you must reset or change these passwords as described in [“Changing Database Configuration Settings”](#) on page 281.

Creating the Database Structure for Oracle and Loading Application Data

The Oracle database administrator (DBA) creates the project management and methodology management databases, then runs SQL scripts provided by Primavera, which create each database's structure (tables, indexes, relationships, and so on).



The Group Server requires a Unicode project management database when supporting international languages.



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.

You can also use a wizard that automatically creates the database structures and loads the data for you. Refer to “Automatic Database Installation” on page 31 for more information.

These instructions assume you are an Oracle DBA or are familiar with administering Oracle databases. All steps need to be completed and in the order specified. If you have any questions about the manual setup process, please contact Customer Support before proceeding.

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

Create the PMDB Oracle database structures

- 1 Create two folders on a local drive, one named “install” and the other named “source.”
- 2 From the Client_Applications folder of the P6 physical media or download, browse to \install\database\scripts\install. Copy the following folders to the install folder on the local drive:
 - PM_06_02_00
 - JR_01_01_00
- 3 From the Client_Applications folder of the P6 physical media or download, browse to \install\database\scripts\source. Copy the following folders to the source folder on the local drive:
 - PM_06_02_00
 - JR_01_01_00

Creating the Database Tablespaces

- 1 Log into Oracle as a SYSTEM or other DBA privileged user.
- 2 Go to \install\PM_06_02_00 and execute the **orpm_init_db.sql** script.



*Instead of running the **orpm_init_db.sql** script, you can manually create a database with system, temporary, and undo tablespaces. Primavera 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

- 1 Log on to the PMDB database as a SYSTEM or other DBA privileged user.
- 2 Go to \install\PM_06_02_00 and execute the **orpm_create_users.sql** script.



*Running the **orpm_create_users.sql** script will create the following user names: **admuser**, **privuser**, and **pubuser**. If you have created other administrative, private and public user names and wish to use those when running Primavera's database scripts, make sure to replace **admuser**, **privuser** or **pubuser** with your custom user names in all applicable scripts before running them.*

- 3 Log on to the PMDB database as **admuser**.
- 4 Go to \install\PM_06_02_00 and execute the **orpm_tables.sql** script.

Installing Sample Data

- 1 From the P6 Client_Applications folder of the P6 physical media or download, browse to \install\database and copy the **rundataloader.bat** file to a local drive.
- 2 Open a command prompt and change your directory to the location of the **rundataloader.bat** file.

- 3 Execute a statement similar to the following:

```
rundataloader.bat sample:pmdb_ec.zip
admuser/admuser@oracle:<host>:<port>:<instance>
```

where <host> is the server machine name or IP address where Oracle is installed, <port> is the port number that Oracle is using (the default is 1521), and <instance> is the database name or SID (for example, PMDB)



If you want to load empty data instead of sample data, add `_empty` to the end of the zip file name. Empty data includes only the most basic information needed to run the project management database.

Creating Remaining Database Objects

- 1 Log on to the PMDB database as admuser.
- 2 Go to \install\PM_06_02_00 and execute the **orpm_database_version.sql**, **orpm_ins_aux.sql**, and **orpm_querylib.sql** scripts.
- 3 Go to \source\PM_06_02_00 and execute the **orpm_src.sql** script.

Creating Content Repository data

The scripts used for the following steps can be run on a new Oracle instance or on an existing Oracle instance that already contains PMDB data. If you wish to create the Content Repository data in a new Oracle instance, see page 54.

- 1 While still logged in as admuser on the PMDB database, go to \install\JR_01_01_00 and execute the **orjr_ins.sql** script.
- 2 Go to \source\JR_01_01_00 and execute the **orjr_src.sql** script.

Refer to “[Changing the Base Currency \(Oracle and Microsoft SQL Server\)](#)” on page 65 if you do not want your base currency to be US dollars (\$).

Refer to “[Database Administration](#)” on page 67 for more information on database settings you can modify and additional scripts you can run to improve database performance.

If users will be connecting to P6 Oracle databases using Oracle 11g Instant Client, see [“Connecting to Oracle Databases Using Oracle 11g Instant Client”](#) on page 98 for information on administrative settings you must specify to enable P6 users to utilize all available P6 functionality.

Refer to [“Performing Administrative Tasks”](#) on page 284 for information on uploading your license file.

Dropping PMDB Oracle Database Objects

If you make a mistake or want to recreate the database objects for the project management database, first drop the objects created by the database installation scripts. Dropping database objects deletes them permanently.

For your convenience, scripts are provided to drop the database objects. Run the scripts beginning with “or” in the `\Client_Applications\install\database\scripts\install\PM_06_02_00\drop` folder of the P6 physical media or download. Specifically, these are the files to run and the action they take:

ORDP_SPS.SQL	drops stored procedures
ORDP_SYN.SQL	drops synonyms
ORDP_GRN.SQL	revokes privileges
ORDP_FKC.SQL	drops foreign keys constraints
ORDP_PK.SQL	drops primary keys
ORDP_NDX.SQL	drops indexes
ORDP_TAB.SQL	drops tables

You must connect to the server as admuser to drop objects. If data exists, you must drop the objects in the order they are listed above.

Create the MMDB Oracle database structures

If you plan on using the Methodology Management module, all steps below need to be completed, and in the order specified.

- 1 Create two folders on a local drive, one named “install” and the other named “source.” If these folders were already created for the PMDB instructions, the existing folders can be used.
- 2 From the Client_Applications folder of the P6 physical media or download, browse to \install\database\scripts\install. Copy the MM_06_02_00 folder to the install folder on the local drive.
- 3 From the P6 Client_Applications folder of the P6 physical media or download, browse to \install\database\scripts\source. Copy the MM_06_02_00 folder to the source folder on the local drive.

Creating the Database Tablespaces

- 1 Log into Oracle as a SYSTEM or other DBA privileged user.
- 2 Go to \install\MM_06_02_00 and execute the **orrm_init_db.sql** script.



*Instead of running the **orrm_init_db.sql** script, you can manually create a database with system, temporary, and undo tablespaces. Primavera recommends that you create a database with a 100 MB temporary tablespace and a 100 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

- 1 Log on to the MMDB database as a SYSTEM or other DBA privileged user.
- 2 If admuser, privuser, and pubuser are not already created ([step 2](#) of Creating Users and Tables in the PMDB instructions), go to \install\MM_06_02_00 and execute the **orrm_create_users.sql** script.



*Running the **orrm_create_users.sql** script will create the following user names: admuser, privuser, and pubuser. If you have created other administrative, private and public user names and wish to use those when running Primavera's database scripts, make sure to replace admuser, privuser or pubuser with your custom user names in all applicable scripts before running them.*

- 3 Log on to the MMDB database as admuser.
- 4 Go to \install\MM_06_02_00 and execute the **ormm_tables.sql** script.

Installing Sample Data

- 1 From the Client_Applications folder of the P6 physical media or download, browse to \install\database and copy the rundataloader.bat file to a local drive.
- 2 Open a command prompt and change your directory to the location of the rundataloader.bat file.
- 3 Execute a statement similar to the following:

```
rundataloader.bat sample:mmdb_ec.zip  
admuser/admuser@oracle:<host>:<port>:<instance>
```

where <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, MMDB)



If you want to load empty data instead of sample data, add _empty to the end of the zip file name. Empty data includes only the most basic information needed to run the methodology management database.

Creating Remaining Database Objects

- 1 Log on to the MMDB database as admuser.
- 2 Go to \install\MM_06_02_00 and execute the **ormm_database_version.sql** and **ormm_ins_aux.sql** scripts.
- 3 Go to \source\MM_06_02_00 and execute the **ormm_src.sql** script.

Refer to “[Changing the Base Currency \(Oracle and Microsoft SQL Server\)](#)” on page 65 if you do not want your base currency to be US dollars (\$).

Refer to “[Database Administration](#)” on page 67 for more information on database settings you can modify and additional scripts you can run to improve database performance.

If users will be connecting to P6 Oracle databases using Oracle 11g Instant Client, see [“Connecting to Oracle Databases Using Oracle 11g Instant Client”](#) on page 98 for information on administrative settings you must specify to enable P6 users to utilize all available P6 functionality.

Refer to [“Performing Administrative Tasks”](#) on page 284 for information on uploading your license file.

Dropping MMDB Oracle Database Objects

If you make a mistake or want to recreate the database objects for the methodology management database, first drop the objects created by the database installation scripts. Dropping database objects deletes them permanently.

For your convenience, scripts are provided to drop the database objects. Run the scripts beginning with “or” in the `\Client_Applications\install\database\scripts\install\MM_06_02_00\` drop folder of the P6 physical media or download. Specifically, these are the files to run and the action they take:

ORDP_SPS.SQL	drops stored procedures
ORDP_SYN.SQL	drops synonyms
ORDP_GRN.SQL	revokes privileges
ORDP_FKC.SQL	drops foreign keys constraints
ORDP_PK.SQL	drops primary keys
ORDP_NDX.SQL	drops indexes
ORDP_TAB.SQL	drops tables

You must connect to the server as admuser to drop objects. If data exists, you must drop the objects in the order they are listed above.

If you would like to add Content data to the same Oracle instance where PMDB resides, see “Creating Content Repository data” on page 49.

Create the Content Repository database structure in a new Oracle instance

Depending on sizing needs and performance considerations, you may want to set up the Content Repository in a new Oracle instance instead of adding to an existing Oracle instance containing PMDB data.

Creating the Database Tablespaces

- 1 Log into the new Oracle instance as a SYSTEM or other DBA privileged user.
- 2 Go to \install\JR_01_01_00 and execute the **orjr_init_db.sql** script.

Running the script will create the basic structure of the database.



*Instead of running the **orjr_init_db.sql** script, you can manually create a database with system, temporary, and undo tablespaces. Primavera recommends that you set the sizing to autoextend. 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

- 1 Log on to the new Oracle database as SYSTEM or other DBA privileged user.
- 2 Go to \install\JR_01_01_00 and execute the **orjr_create_users.sql** script.

Running the script creates a user named CRUSER.

Creating Content Repository data

- 1 Log on to the new Oracle database as CRUSER.
- 2 Go to \install\JR_01_01_00 and execute the **orjr_ins.sql** script.
- 3 Go to \source\JR_01_01_00 and execute the **orjr_src.sql** script.

Creating the Database Structures for MS SQL Server and Loading Application Data

The Microsoft SQL Server DBA creates the project management and methodology management database, then runs SQL scripts provided by Primavera that create each database's structure (tables, indexes, relationships, and so on).

See ["Client and Server Requirements"](#) on page 20 for more detailed information.

Primavera supports Microsoft SQL Server 2005. These instructions assume you are a DBA or are familiar with how to administer Microsoft SQL Server databases. All steps need to be completed and in the order specified. If you have any questions about the manual setup process, please contact Customer Support before proceeding.

Before you create the Microsoft SQL Server database structure, you should first register to the server as a system administrator (SA) and review the following server-level configuration changes in the Microsoft SQL Server Management Studio:

- **Max Worker Threads** Specify the number of threads used to support the users connected to the server. The default setting (255) may be too high for some configurations, depending on the number of concurrent users. Each worker thread is allocated, even if it is not in use, which means that if there are fewer concurrent connections than allocated worker threads, you could be wasting memory resources.
- **Memory** Keep the setting as Dynamic. Microsoft SQL Server dynamically acquires and frees memory as needed, up to the maximum available memory on your server.
- **Open Objects** Keep the setting as Dynamic. This setting determines the maximum number of objects that can be opened concurrently on Microsoft SQL Server. The value is set automatically depending on current system needs. You should not need to change this value.
- **User Connections** Keep the setting as 0, which designates Microsoft SQL Server to adjust the number of simultaneous user connections allowed based on how many are needed, up to the maximum value.
- **Network Packet Size** Set to 16384.

After configuring the server, stop and start Microsoft SQL Server to ensure that the changes take effect.

Configuring for International Language Support (SQL Server 2005)

For non-Latin language support (Traditional Chinese, Simplified Chinese, Russian, or Japanese), the Group Server requires specific settings when configuring the database. In the database setup, choose the codepage and collation options that coincide with your installation when prompted.

Create the PMDB Microsoft SQL Server database structures

- 1 Create two folders on a local drive, one named “install” and the other named “source.”
- 2 From the Client_Applications folder of the P6 physical media or download, browse to \install\database\scripts\install. Copy the following folders to the install folder on the local drive:

PM_06_02_00
JR_01_01_00

- 3 From the Client_Applications folder of the P6 physical media or download, browse to \install\database\scripts\source. Copy the following folders to the source folder on the local drive:

PM_06_02_00
JR_01_01_00

Creating the Database Tablespaces

- 1 Register to the server as SA user.
- 2 Open Microsoft SQL Server Management Studio. Go to \install\PM_06_02_00 and execute the **sspm_init_db.sql** script.



*Instead of running the **sspm_init_db.sql** script, you can manually create a database named PMDB with a data file of 500 MB or more and a log file of 200 MB or more. Create the file groups **pmdb_dat1**, **pmdb_lob1**, and **pmdb_ndx**, and a database file for each group. Make **pmdb_dat1** the default file group. Depending on your configuration, consider locating these file groups on separate physical drives.*



If you decide to manually create PMDB, be sure to set the Compatibility level to SQL Server 2000 (80).

You can change the initial tablespace sizes and increase or decrease these amounts depending on how much data you plan to store in the database. You can also mark the Automatically Grow File checkbox to specify that these values automatically increase based on need. Refer to “[Project Management Database Server Sizing Guide](#)” on page 25 for guidelines on sizing.



Primavera Systems recommends that you use Microsoft SQL Server Management Studio to perform the following steps.

Creating Users and Tables

- 1 Log on to the PMDB database as SA user.
- 2 Go to \install\PM_06_02_00 and execute the **sspm_create_users.sql** script.



*Running the **sspm_create_users.sql** script will create the following user names: **admuser**, **privuser**, and **pubuser**. If you have created other administrative, private and public user names and wish to use those when running Primavera’s database scripts, make sure to replace **admuser**, **privuser** or **pubuser** with your custom user names in all applicable scripts before running them.*

- 3 Go to \install\PM_06_02_00 and execute the **sspm_tables.sql** script.

Installing Sample Data

- 1 From the Client_Applications folder of the P6 physical media or download, browse to \install\database and copy the rundataloader.bat file to a local drive.
- 2 Open a command prompt and change your directory to the location of the rundataloader.bat file.
- 3 Execute a statement similar to the following:

```
rundataloader.bat sample:pmdb_ec.zip  
sa/sa@sqlserver:<host>:<port>:<instance>
```

where <host> is the server machine name or IP address where SQL Server is installed, <port> is the port number that SQL Server is using (the default is 1433), and <instance> is the database name (for example, PMDB)



If you want to load empty data instead of sample data, add `_empty` to the end of the zip file name. Empty data includes only the most basic information needed to run the project management database.

Creating Remaining Database Objects

- 1 Log on to the PMDB database as SA user.
- 2 Go to `\install\PM_06_02_00` and execute the `sspm_database_version.sql`, `sspm_ins_aux.sql`, and `sspm_querylib.sql` scripts.
- 3 Go to `\source\PM_06_02_00` and execute the `sspm_src.sql` script.

Creating Content Repository Data

The script used for the following step can be run on a new database or on an existing database that already contains PMDB data. If you wish to create the Content Repository data in a new database, see page 64.

While still logged in as SA user on the PMDB database, go to `\install\JR_01_01_00` and execute the `ssjr_ins.sql` script.

Refer to [“Changing the Base Currency \(Oracle and Microsoft SQL Server\)”](#) on page 65 if you do not want your base currency to be US dollars (\$).

Refer to [“Database Administration”](#) on page 67 for more information on database settings you can modify and additional scripts you can run to improve database performance.

Refer to [“Performing Administrative Tasks”](#) on page 284 for information on uploading your license file.

Dropping PMDB Microsoft SQL Server Database Objects

If you make a mistake or want to recreate the database objects for the project management database, first drop the objects created by the database installation scripts. Dropping database objects deletes them permanently.

For your convenience, scripts are provided to drop the database objects. Run the scripts beginning with “ss” in the \Client_Applications\install\database\scripts\install\PM_06_02_00\drop folder of the P6 physical media or download. Specifically, these are the files to run and the action they take:

SSDP_SPS.SQL	drops stored procedures
SSDP_SYN.SQL	drops synonyms
SSDP_GRN.SQL	revokes privileges
SSDP_FKC.SQL	drops foreign keys constraints
SSDP_PK.SQL	drops primary keys
SSDP_NDX.SQL	drops indexes
SSDP_TAB.SQL	drops tables

You must connect to the server as the SA user to drop objects. If data exists, you must run the scripts in the order listed above.

Create the MMDB Microsoft SQL Server database structures

If you plan on using the Methodology Management module, all steps below need to be completed, and in the order specified.

- 1 Create two folders on a local drive, one named “install” and the other named “source.” If these folders were already created for the PMDB instructions, the existing folders can be used.
- 2 From the Client_Applications folder of the P6 physical media or download, browse to \install\database\scripts\install. Copy the MM_06_02_00 folder to the install folder on the local drive.
- 3 From the Client_Applications folder of the P6 physical media or download, browse to \install\database\scripts\source. Copy the MM_06_02_00 folder to the source folder on the local drive.



Primavera recommends that you use Microsoft SQL Server Management Studio to perform the following steps.

Creating the Database Tablespaces

- 1 Log into SQL as SA user.
- 2 Go to \install\MM_06_02_00 and execute the `ssmm_init_db.sql` script.



Instead of running the `ssmm_init_db.sql` script, you can manually create a database named MMDB with a data file of 300 MB or more and a log file of 150 MB or more. Create the file groups `mmdb_dat1`, `mmdb_lob1`, and `mmdb_ndx`, and a database file for each group. Make `mmdb_dat1` the default file group. Depending on your configuration, consider locating these file groups on separate physical drives.



If you decide to manually create MMDB, be sure to set the Compatibility level to SQL Server 2000 (80).

You can change the initial tablespace sizes and increase or decrease these amounts depending on how much data you plan to store in the database. You can also mark the Automatically Grow File checkbox to specify that these values automatically increase based on need. Refer to “[Methodology Management Database Server Sizing Guide](#)” on page 26 for guidelines on sizing.

Creating Users and Tables

- 1 Log on to the MMDB database as SA user.
- 2 If admuser, privuser, and pubuser are not already created ([step 2](#) of Creating Users and Tables in the PMDB instructions), go to \install\MM_06_02_00 and execute the **ssmm_create_users.sql** script.



*Running the **ssmm_create_users.sql** script will create the following user names: admuser, privuser, and pubuser. If you have created other administrative, private and public user names and wish to use those when running Primavera's database scripts, make sure to replace admuser, privuser or pubuser with your custom user names in all applicable scripts before running them.*

- 3 Go to \install\MM_06_02_00 and execute the **ssmm_tables.sql** script.

Installing Sample Data

- 1 From the Client_Applications folder of the P6 physical media or download, browse to \install\database and copy the rundataloader.bat file to a local drive.
- 2 Open a command prompt and change your directory to the location of the rundataloader.bat file.
- 3 Execute a statement similar to the following:

```
rundataloader.bat sample:mmdb_ec_sample.zip  
sa/sa@sqlserver:<host>:<port>:<instance>
```

where <host> is the server machine name or IP address where SQL is installed, <port> is the port number that SQL is using (the default is 1433), and <instance> is the database name (for example, MMDB)



*If you want to load empty data instead of sample data, add **_empty** to the end of the zip file name. Empty data includes only the most basic information needed to run the methodology management database.*

Creating Remaining Database Objects

- 1 Log on to the MMDB database as SA user.
- 2 Go to \install\MM_06_02_00 and execute the **ssmm_database_version.sql** and **ssmm_ins_aux.sql** scripts.
- 3 Go to \source\MM_06_02_00 and execute the **ssmm_src.sql** script.

Refer to “[Changing the Base Currency \(Oracle and Microsoft SQL Server\)](#)” on page 65 if you do not want your base currency to be US dollars (\$).

Refer to “[Database Administration](#)” on page 67 for more information on database settings you can modify and additional scripts you can run to improve database performance.

Refer to “[Performing Administrative Tasks](#)” on page 284 for information on uploading your license file.

Dropping MMDB Microsoft SQL Server Database Objects

If you make a mistake or want to recreate the database objects for the methodology management database, first drop the objects created by the database installation scripts. Dropping database objects deletes them permanently.

For your convenience, scripts are provided to drop the database objects. Run the scripts beginning with “ss” in the \Client_Applications\install\database\scripts\install\MM_06_02_00\drop folder of the P6 physical media or download. Specifically, these are the files to run and the action they take:

SSDP_SPS.SQL	drops stored procedures
SSDP_SYN.SQL	drops synonyms
SSDP_GRN.SQL	revokes privileges
SSDP_FKC.SQL	drops foreign keys constraints
SSDP_NDX.SQL	drops indexes
SSDP_PK.SQL	drops primary keys
SSDP_TAB.SQL	drops tables

You must connect to the server as the SA user to drop objects. If data exists, you must run the scripts in the order listed above.

If you would like to add Content data to the same SQL Server database where PMDB resides, see [“Creating Content Repository Data”](#) on page 58.

Create the Content Repository database structures in a new SQL Server database

Depending on sizing needs and performance considerations, you may want to set up the Content Repository in a new SQL Server database instead of adding to the existing PMDB database.

Creating the Database Tablespaces

- 1 Log on to the new SQL Server database as SA user.
- 2 Go to \install\JR_01_01_00 and execute the **ssjr_init_db.sql** script.

Running the script will create the basic structure of the database.



Instead of running the `ssjr_init_db.sql` script, you can manually create a database with data and log files. Primavera recommends that you set the sizing to automatically grow based on need.

Creating Content Repository data

- 1 Log on to the new SQL Server database as SA user.
- 2 Go to \install\JR_01_01_00 and execute the **ssjr_ins.sql** script.

Changing the Base Currency (Oracle and Microsoft SQL Server)

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



IT IS NOT POSSIBLE TO CHANGE THE BASE CURRENCY ONCE PROJECTS ARE IN PROGRESS.

For information on adding view currencies, refer to [“Defining Administrative Preferences and Categories in Project Management”](#) on page 369.

Setting 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 the Project Management module. The default base currency for Primavera is US dollars (\$). The view currency is the monetary unit used to display cost data in Primavera 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 may 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 script provided by Primavera. By default, US dollars is the base currency, and USD is the short name used in the script. In order to know what short name to use in the script for the currency that you require, you should first review a list of available short names. To do so, run the following query on the project management or methodology management database:

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

Changing the Base Currency

- 1 Create a new folder on a local drive named “common.”
- 2 From the Client_Applications folder of the P6 physical media or download, browse to \install\database\scripts\common. Copy one of the following scripts to the common folder on the local drive:

For Oracle: **or_set_currency.sql**

For SQL Server: **ss_set_currency.sql**

- 3 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. In Windows Explorer, right-click the file, choose Properties, and clear the Read-Only checkbox.

- 4 Open the script for editing and locate the line containing **v_new_base_currency: = ‘USD’**
- 5 Replace USD with the currency short name of your choice.
- 6 Save your changes and run the modified script.

Database Administration

In this chapter:

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Improving Oracle Database Performance

Native Database Auditing

Connecting to Oracle Databases Using Oracle 11g Instant Client

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

Background Processes and Clean Up in P6

Overview

Previous Versions Prior to P6, the task of cleaning up the database was initiated by the PM (Project Management) client application. Depending on the clean up task, these tasks were automatically initiated by the PM client when users logged in and out of individual sessions or when the task was manually initiated via an option on the Tools menu.

Current Version Because clean up tasks can be resource intensive and time consuming, in P6 these tasks are initiated by two background jobs that run on the database server:

- 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 change the settings to tune the behavior of the background jobs for specific environments.

RDBMS Scheduler Since the 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. See [“Configuring the RDBMS Scheduler”](#) on page 69 for the configuration parameters for your RDBMS.

Configuring the RDBMS Scheduler

Oracle

Primavera P6 uses DBMS_JOB to schedule jobs in Oracle. If you are using Oracle 10g or 11g, verify that the Oracle parameter JOB_QUEUE_PROCESSES is set to a minimum of two. Set JOB_QUEUE_PROCESSES to a greater value than two if other DBMS_JOB processes are present on your system.

SQL Server

The SQL Server 2005 job uses the SQL Agent to schedule jobs. If you are using SQL Server 2005, verify that the SQL Server Agent service is started on the server and has a startup type of automatic.

SQL Server 2005 Express

Since Microsoft does not supply a job scheduler with SQL Server 2005 Express, Primavera has created an agent that runs P6 background jobs on SQL Server 2005 Express. This Windows service, Primavera Background Agent (Service Name: PrmBackAgent), is automatically installed when the standalone installation of P6 is used along with SQL Server 2005 Express.



The PrmBackAgent service is installed automatically when you install P6, if it is required, and generally does not need to be manually installed or started unless you have installed SQL Server 2005 Express after installing the standalone version of P6.

Manually Installing PrmBackAgent for SQL Server 2005 Express

Although the service is installed automatically by the Primavera installation when it is required, the service can also be installed manually. To install the service manually, you must be a Windows user with admin access to the databases involved. Follow the procedure below to manually install the service.

- 1 Extract the prmbackgroundagent.exe executable from the Data1.cab file in the Client_Applications folder of the P6 physical media or download.
- 2 Place the prmbackgroundagent.exe file in a directory on the local machine (for example, C:\Primavera\PrmBackAgent).
- 3 From the Start menu, click Run.

- 4 Substituting the appropriate path to the prmbbackgroundagent.exe file from step 2, execute the following command to install the service:

```
c:\primavera\PrmBackAgent\prmbbackgroundagent.exe /install
```

Manually Registering and Starting PrmBackAgent Before starting the service, the name of the database instance containing P6 databases must be added to the registry. Follow the procedure below to manually add the database instance name to the registry.

- 1 Add a new registry key to HKEY_LOCAL_MACHINE\Software\Primavera called "BackgroundAgent."
- 2 Add one new string value to the new key called "Server" with the value matching the instance name of the local SQL Server Express (for example, <local computer name>\sqlexpress).
- 3 When this is complete, use the Services control panel to start the agent. The agent will check each database for an instance of the Primavera schema and run the appropriate jobs.

Settings Table

Settings Table Overview

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

Setting Name The setting name comprises two components: the namespace and the setting name. The namespace component is a dot-notation string representing a formal path to the parameter. The second component identifies the name of the setting. Together these two components make up the full setting name.

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 and Writing 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)
```

By way of example, the following code snippets for the Oracle and SQL server databases demonstrate how these procedures are used to read the setting values:

Oracle Example: To retrieve the value of the `KeepInterval` setting in Oracle, use the following code:

```
SQL> variable vset varchar2(255)
```

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

The system responds:
PL/SQL procedure successfully completed.

```
SQL> print vset
```

SQL Server Example: To retrieve the value of the `KeepInterval` setting in SQL, use the following code:

```
declare @vset varchar(255)
```

```
exec settings_read_string @vset  
OUTPUT,' database.cleanup.Usession' , ' ExpiredSessionTimeout'
```

```
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);
```

The following code snippets for Oracle and SQL server databases demonstrate how this procedure is used to set the value of the `ExpiredSessionTimeout` setting to twelve hours:

Oracle Example: 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' );
```

SQL Server Example: To set the value of the `ExpiredSessionTimeout` setting to twelve hours in a SQL server database, use the following procedure:

- 1 Open the Query Analyzer/SSMS and connect as `privuser`.
- 2 Select the PMDB database, then run the following statement (using 12 hours as an example):

```
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.

Monitoring the High Level Status Settings Each time a job is run it will update the SETTINGS table for the setting_name = 'HeartBeatTime.' The job may 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.

Table 2: 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

Inspecting the BGPLOG Table You can also track the execution of background jobs by inspecting 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.

Table 3: 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)

SYMON is meant to run simple Primavera 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 USESSION_CLEANUP_EXPIRED procedure is currently the only procedure performed by SYMON. This 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 licenses 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.



Primavera 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.

Table 4: USESSION_CLEANUP_EXPIRED Settings

Setting Description: Time-out period for normal sessions.	
Namespace	database.cleanup.Usession
Setting Name	ExpiredSessionTimeout
Default Setting	2h
Type	Interval
Setting Description: Time-out period for long running sessions based on the function preformed in the application (i.e. Scheduling, Leveling, Summarizing, etc.).	
Namespace	database.cleanup.Usession
Setting Name	ExpiredLongSessionTimeout
Default Setting	12h
Type	Interval

DAMON (Data Monitor)

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.

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.
- Processing the PRMQUEUE entries for Project Security.
- 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).
- Running release-specific data clean up.

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

DAMON Procedure Settings

BGPLOG_CLEANUP 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.

Table 5: 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 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. To reduce the workload, the number of records processed is capped by the setting MaxRowsToDelete which is set to 10,000 rows by default. During each pass the procedure will attempt to delete percentage of rows defined by the DeletePercentage setting. The default value of the DeletePercentage is setting is ten percent. The DeleteAllThreshold is effectively the minimum number of rows to delete, which is set to 1,000 by default. If desired the clean up can delete all the rows that can be deleted by setting the DeleteAll setting to true (1).

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

Table 6: 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: Determines whether the procedure will delete all of the REFRDEL records possible on each pass.	
Namespace	database.cleanup.Refrdel
Setting Name	DeleteAll
Default Setting	0 (false)
Type	Boolean

Table 6: REFRDEL_CLEANUP Settings

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

OBSPROJ_PROCESS_QUEUE This procedure is used to defer processing of OBSPROJ updates by queuing the updates to the PRMQUEUE table.

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

Table 7: 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

CLEANUP_PRMQQUEUE This procedure physically deletes records from the PRMQQUEUE 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_PRMQQUEUE procedure:

Table 8: CLEANUP_PRMQQUEUE Settings

Setting Description: The oldest records to keep in the PRMQQUEUE 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 PRMQQUEUE 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

Table 8: CLEANUP_PRMQUEUE Settings

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 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 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.



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:

Table 9: 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

Table 9: CLEANUP_LOGICAL_DELETES Settings

Setting Description: Maximum rows to delete on each pass.	
Namespace	database.cleanup.LogicalDelete
Setting Name	MaxRowsToDelete
Default Setting	10,000
Type	Numeric

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

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

Table 10: 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 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:

Table 11: 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

Table 11: CLEANUP_USESSAUD Settings

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

CLEANUP_OLD_DATA This procedure is empty in P6. It will be used in future releases to perform release related data clean up.

Improving Oracle Database Performance

There are several Oracle database settings you can modify that will improve the performance of your Primavera database.

If you automatically install the database using the database configuration wizard as described in “Automatic Database Installation” on page 31, you are automatically prompted to run the RUN_AS_SYS.SQL and GATHER_STATS.SQL scripts at the end of the installation. If you manually create the database as described in “Manual Database Configuration” on page 45, you should run the script as described below after you create the database.

Grant access to the V_\$TRANSACTION table:

The V_\$TRANSACTION table stores the earliest login time that data was changed. This improves performance when refreshing data because data before that login time is not accessed. Users must have access to view the V_\$TRANSACTION table; otherwise, the earliest login time cannot be viewed and redundant data is accessed, which causes slower performance.

To grant access to this table, connect to Oracle as SYS. Run the RUN_AS_SYS.SQL script located in the \Client_Applications\install\database\scripts\common folder of the P6 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 \Client_Applications\install\database\scripts\common folder of the P6 physical media or download.

Native Database Auditing

Native database auditing permits you to log the edits, additions, and deletions made by users of Primavera 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.

Configuring the Auditing Level

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.

Table 12: 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. For SQL server, column level changes to blobs are not included.

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

Turning Auditing Off and On 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' );
```

SQL Server Example: To enable the overall auditing feature in SQL Server, use the following code:

```
exec settings_write_bool 1,' database.audit' , ' Enabled'
```

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.

Table 13: 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. For SQL server, column level changes to blobs are not included.

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

Table 14: 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.

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');
```

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

```
exec settings_write_string ' 330', ' database.audit.TASK', ' Options'
```



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.

Understanding Auditing Data

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

Table 15: 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)	Primavera user name if the change was made in Primavera's 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

Table 15: PRMAUDIT Table

* Values will differ from SQL Server and Oracle



Select privileges should be granted to the administrative user (*admuser*) 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-level 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
```

Connecting to Oracle Databases Using Oracle 11g Instant Client

If you use Oracle 11g Instant Client to connect to your Oracle P6 databases, you should specify the Oracle connection string in the SETTINGS table. If you do not specify the connection string, users connecting to the database using Oracle 11g Instant Client will not be able to access functions within the Project Management module that rely on the P6 Integration API (for example, Update Baseline).

To enable Oracle 11g Instant Client users to utilize Integration API functionality within the Project Management module, you must add an ADMINISTRATOR_SETTINGS row to the SETTINGS table for each Oracle database you use with P6. When entering a value for this setting, use the standard connection string syntax found in the TNSNAMES.ORA file, preceded by 'jdbc:oracle:thin:@'. For example:

```
jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=<hostname>)(PORT=<portnumber>)))(CONNECT_DATA=(SID=<database>)))
```

The table below summarizes the settings.:

Table 16: ADMINISTRATOR_SETTINGS Settings

Setting Description: Points to the JDBC connection URL for an Oracle P6 database.	
Namespace	Administrator_Settings
Setting Name	JdbcConnectionURL
Default Setting	-
Type	String

Server Installation and Configuration

In this part:

Configuring the Group Server for Timesheets

Installing P6 Web Access

Configuring the Distributed Job Service

Read this part to install and configure the components of Primavera that need to run on a network server.

“[Configuring the Group Server for Timesheets](#)” discusses how to prepare a server for a Timesheets implementation, which requires a Web server.

The “[Installing P6 Web Access](#)” chapter provides instructions for setting up P6 Web Access. The “[Configuring the Distributed Job Service](#)” chapter provides details on how to configure the job service to distribute jobs to multiple servers simultaneously.

Configuring the Group Server for Timesheets

In this chapter:

[Uninstalling a Previous Version of the Group Server](#)

[Installing the Group Server and Timesheets Web Site](#)

[Configuring Group Server/ Timesheets for LDAP Authentication](#)

[Configuring Group Server/ Timesheets for Single Sign- On Authentication](#)

[Configuring Group Server Settings](#)

[Setting up Java Web Start for Timesheets](#)

[Creating Multiple Instances of Group Server](#)

[Group Server Configuration Settings](#)

To implement Timesheets as part of your Primavera installation, you must install the Group Server on your network. The Group Server acts as an intermediary between the Timesheets client module and your database server. This chapter describes how to install and configure the Group Server.

Uninstalling a Previous Version of the Group Server

If you are upgrading from a previous version, including version 6.2, we recommend that you first uninstall the existing Group Server. A new Web site is created during Setup.

From the Windows Control Panel, select Services.

Select the Primavera Group Server entry and click Stop.

Close the Services window.

In the Control Panel window, double-click Add/Remove Programs.

Select Primavera Group Server, then click the Add/Remove button. Follow the steps in the Uninstall wizard, then click Finish when the wizard completes the uninstall.

Installing the Group Server and Timesheets Web Site

After installing the Group Server and Timesheets website, refer to ["Implementing Timesheets"](#) on page 407 for information on configuring Timesheets.

Timesheets is a Web-based module that project team members can use to update project data. Timesheets connects to the project management database via the Group Server, which is a Windows 2003/2008 service.

Timesheets requires a two-part installation: installing and configuring the Group Server and installing the Timesheets Web site. You can install the Group Server on any Windows 2003/2008 Server that has constant access to the project management database. The Timesheets Web site must be installed on a Web server. The files installed to the Timesheets Web site include HTML and Java files, applet download files, the Java JRE installer, and the Timesheets Help site. The installation process allows you to enable users to launch Timesheets via Java Web Start as well.



If you have a previous version of Group Server/Timesheets installed, including version 6.2, you must uninstall the previous version before installing version 6.2.1.



If you will require that timesheets be reviewed and approved, you must install P6 Web Access, as described in ["Installing P6 Web Access"](#) on page 135, to enable user access to the Timesheet Approval application. After you install P6 Web Access and configure Timesheets, you can configure access to the Timesheet Approval application as described in ["Configure Access to Timesheet Approval"](#) on page 426.

For more information about Java Web Start, visit the <http://java.sun.com> Web site.

Java Web Start Java Web Start provides a secure and platform-independent deployment of Timesheets using Java Network Launching Protocol (JNLP) technology. Java Web Start also ensures that users always launch the most recent version of Timesheets under the correct client-side JRE version, even if there is more than one JRE version present.



Supported operating systems for Java Web Start:

Windows XP
Windows Vista
Ubuntu Linux

Supported Web servers for Java Web Start:

Microsoft IIS
Apache

Client requirements for Java Web Start:

JRE
Internet Explorer or Firefox



For Oracle connections, the Group Server machine must have the Oracle Provider for OLE DB installed. A full Oracle client installation (Administrator Setup) will install the required Oracle Provider for OLE DB files. If connecting to a unicode Oracle database, you must install the compatible Oracle OLE DB driver on the machine running the Group Server. For Oracle 10g, the minimum supported version of the OLE DB driver is 10.2.0.2. For Oracle 11g, the recommended version of the OLE DB driver is 11.1.0.6.20.

For SQL Server connections, the Group Server machine requires that the SQL Server client is installed. The SQL Server client is automatically installed when you install Primavera's Project Management module.



FOR LANGUAGE SUPPORT If the Group Server is connecting to a Unicode Oracle database and international language support is required, confirm the following Registry setting under
HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\HOME
The suffix for the NLS_LANG key must coincide with the current language (e.g., CL8MSWIN1251 to support Russian). See the appropriate Oracle NLS documentation for more information.

If the Group Server is connecting to a SQL Server database, the system default locale for the operating system of the Group Server machine must match the codepage setting of the database instance to which it is connecting.

Before performing these steps, you must have already set up the central project management database.

Set up the Group Server and Timesheets files

If you are installing from physical media, an introductory screen will appear that provides installation options.

If the screen does not appear, or if you are installing from a network location, run **GS_Inst.EXE** from the \Client_Applications\install folder of the P6 physical media or download. Skip to [step 3](#).

- 2 On the main **Primavera** screen, click **P6 Timesheets**.



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

- 3 On the **Enter Product Key** screen, enter a valid product code.

For information on valid product codes, refer to “[Primavera P6 Product Codes](#)” on page 12.

- 4 On the **Welcome!** dialog box, click **Next**.
- 5 On the **Choose Components** dialog box, choose the components you want to install. Mark both checkboxes to install the Group Server and Timesheets Web site on the same server. If you choose to install only the Group Server, skip to step 10.
- 6 On the **Choose Language** dialog box, choose to install Timesheets in any of the languages listed.
- 7 On the **Choose Web Destination Location** dialog box, click **Browse** to specify a destination folder for the Web files.

The files will be installed in a folder named \GroupServer\en. If you chose not to install the Group Server, skip to step 12.



If installing to Sun ONE Web Server, you must edit the config\mime.types file to support the Primavera Timesheets JRE auto-installation feature. See “[Support JRE auto-installation on Sun ONE Web Server](#)” on page 112.

- 8 On the **Help URLs** dialog box, specify the location of the Timesheets Help web site.



You can change the web site values later by manually editing the proper files. For the Java Web Start version of Timesheets, edit the timesheet.jnlp file in the \GroupServer\App folder. For the applet version, edit the erps8x6.html in the \GroupServer\en folder.

- 9 On the **Choose Database Type** dialog box, select the database type. The database must already be installed and configured.
- 10 On the **Enter Database Parameters** dialog box, specify the database connection parameters.
 - The database user name must be a privileged user (for example, privuser).
 - If connecting to Oracle, an Oracle DSN need not be predefined. Enter the **Oracle Service Name** (for example, PMDB), which may have been defined using Oracle's Net Configuration Assistant, or refer to your TNSNAMES.ORA file located in \Oracle_Home\Network\Admin.
 - If connecting to Microsoft SQL Server, enter the **SQL Server Database Machine Name**, which is the name of the computer on which the Microsoft SQL Server database is running. In the **Database Schema Name** field, type the name of the database specified when the Microsoft SQL Server database was created, such as PMDB.
- 11 On the **Choose User Authentication Method** dialog box, choose the Group Server authentication method.



If you choose LDAP authentication, additional configuration steps are required after you complete this procedure. For details, see ["Configuring Group Server/Timesheets for LDAP Authentication"](#) on page 114.

- 12 **If you chose Native or LDAP authentication in step 12**, the **Choose Communication Protocol** dialog box is displayed: choose the protocol to connect to the Group Server.

Choose **Socket** for direct communication between the client and the Group Server. If you choose this option, continue with step 14.

Choose **HTTP(s)** for secure transmission of timesheet data using the HTTP(s) protocol. If you choose this option, stop performing these steps and continue with ["Installing Group Server to use HTTP\(s\)"](#) on page 109.

If you chose Single Sign-On authentication in step 12, the **Choose Communication Protocol** dialog box is **not** displayed. Instead, the installation wizard assumes HTTP protocol and modifies the Choose User Authentication Method dialog box (step 12) to allow you to choose a destination folder for the required Group Server servlet.

After accepting the default location or specifying a new location for the servlet, continue the installation procedure as documented in “[Installing Group Server to use HTTP\(s\)](#)” on page 109, beginning with [step 3](#) (page 110).

13 If you chose **Socket** in step 13, the **Server Information** dialog box is displayed.

- In the **Server Name** field, type the name of the computer running the Group Server.
- In the **Port Number** field, accept 9002 as the port number, or specify a port number greater than 1024.

This number is used with the IP address to create a Windows socket (Winsock) connection between the Timesheets client and the Group Server. If your organization uses a firewall, this port must be opened for Internet use.



If you use a port number other than 9002, you must edit the `web.xml` file, as described later in this chapter ([page 113](#)).

14 On the **Enter URL to launch Timesheet application** dialog box, enter the URL for Java Web Start.

To allow users to launch Timesheets via Java Web Start, you have to enter the URL for the Java Web Start Web server. Enter the server IP address, and change the folders if necessary.

You can change the Java Web Start URL later by manually editing the proper files. See “[Changing the Java Web Start URL](#)” on page 124.



Apache URLs are case-sensitive. In case of a mismatch, instead of being processed by the server, the XML content of the JNLP file is displayed in the browser.

15 On the **Start Installation** dialog box, click **Next** to begin the installation.

16 On the **Test Database Connection String** dialog box, click **Test** to test the connection.

If errors are reported, you can modify the database connection string and click **Test** to retry the connection. Use the following format in the Database Connection String field:

If you receive the error "Provider not found," install the Oracle Provider for OLE DB, which can be downloaded from Oracle's Web site.

If connecting to Oracle:

Provider=OraOLEDB.Oracle;Data Source=Oracle Service Name,
where the Oracle Service Name can be found in the
TNSNAMES.ORA file.

If connecting to Microsoft SQL Server:

Provider=SQLOLEDB; Data Source=MachineName; Initial
Catalog=DatabaseSchemaName

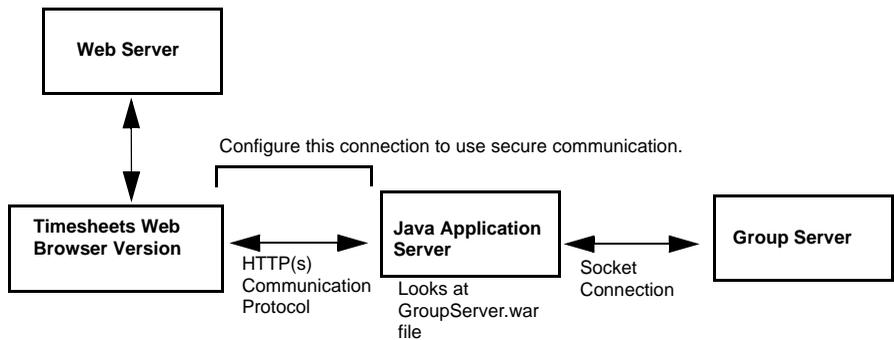
- 17** Click **Next** to continue.
- 18** On the **Start Window service** dialog box, mark the checkbox to start the Primavera Group Server service now. If you do not start it now, you can start it at any time with Microsoft Services in the Microsoft Management Console (the Group Server runs as a Windows service.)
- 19** Click **Next** to continue.
- 20** Click **Finish** to close the Setup wizard.

Setup is now complete. You can run the Group Server Administrator to review or modify additional configuration settings, as described in ["Configuring Group Server Settings"](#) on page 118.

Installing Group Server to use HTTP(s)

When installing the Group Server, you can use the HTTPS protocol for secure transmission of timesheet data. The GroupServer.war file includes a J2EE-compliant servlet that enables client communications to occur over the HTTP protocol. The .war file must be installed on a Java application server, such as JBoss.

The following figure illustrates the relationship between the components. In this figure, the Group Server and the Java application server can reside on the same or separate machines.



If the Group Server and Java application server do not reside on the same machine, you must edit the web.xml file. The web.xml file is contained within the GroupServer.war file. For more information, see [page 113](#).

To use the HTTP protocol, follow these steps:

- 1 To install the Group Server, follow steps 1 through 12, as described earlier in this chapter (“Set up the Group Server and Timesheets files”, beginning on [page 105](#)).
- 2 On the **Choose Communication Protocol** dialog box, choose HTTP(s). Click **Browse** to specify a destination folder for deploying the GroupServer.war file.

By default, this file installs to your inetpub\wwwroot folder. However, you should specify the location that your Java application server uses for storing Web applications.



You may need to deploy the GroupServer.war file manually. On JBoss, simply copy the groupserver.war file to the \jboss-4.0.5.GA\server\primaveraweb\deploy folder and start the application server. On WebLogic, copy the groupserver.war file to the \bea\user_projects\domains\primaveraweb_domain\autodeploy folder and start the application server. On WebSphere, use the Administrative Console to assign the context root “GroupServer” to the groupserver.war file. Refer to the application server’s documentation for more information.

- 3 On the **Server Information** dialog box, specify the URL for the Group Server servlet, which depends on the application server being used and its configuration.

For normal transmission using the HTTP protocol, enter http and the port number to which you have configured your Java application server to service http requests. Use the following format

http://<Java app server>:port number/GroupServer/GroupServer.

For example, the URL for a default JBoss installation is

http://<jboss_server_name>:8080/GroupServer/GroupServer

For secure transmission using the HTTPS protocol, enter https and the port number to which you have configured your Java application server to service https requests.

The default secure port on JBoss is 8443. In this case, for example, specify the secure URL as,

https://<jboss_server_name>:8443/groupserver/groupserver.



Some Java application servers (e.g., IBM WebSphere) are case-sensitive.

You can manually change the URL after Setup by editing the erps8x6.html file in the \GroupServer\Language folder. For more information, see “[Edit the erps8x6.html or timesheets.jnlp File](#)” on [page 112](#).

- 4 On the **Enter URL to launch Timesheet application** dialog box, if you plan to use the Timesheets Java Web Start version, enter the URL that will launch Timesheets.
- 5 Click **Next** to begin the installation.
- 6 On the **Test Database Connection String** dialog box click **Test** to test the connection.

If errors are reported, you can modify the database connection string and click Test to retry the connection. Use the following format in the Database Connection String field:

If connecting to Oracle through ODBC:

Provider=OraOLEDB.Oracle;Data Source=Oracle Service Name,
where the Oracle Service Name can be found in the
TNSNAMES.ORA file.

If connecting to Microsoft SQL Server:

Provider=SQLOLEDB; Data Source=MachineName; Initial
Catalog=DatabaseSchemaName

- 7 Click **Next** to continue.
- 8 On the **Start Window service** dialog box, mark the checkbox to start the Primavera Group Server service now. If you do not start it now, you can start it at any time with Microsoft Services in the Microsoft Management Console (the Group Server runs as a Windows service.)
- 9 Click Next to continue.
- 10 Click **Finish** to close the Setup wizard.

Edit the erps8x6.html or timesheets.jnlp File To change the URL specified for the Group Server servlet during installation, edit the erps8x6.html file or timesheets.jnlp as follows. The erps8X6.html file is located in the language folder within the Group Server install location. For example, for English, the location is GroupServer/en/erps8X6.html.

```
// *** Configurable variables.  
// *** May be changed by the system administrator.  
var ServerName="";  
var ServerPortNum=9002;  
var DebugLevel=0;  
var Protocol='http'; // This should say 'http' for HTTP OR HTTPS, or,  
                    // 'socket' for a traditional socket install.  
  
var url='http://my_server_name:8080/groupserver/groupserver';  
// Or, if you want to use HTTPS,  
"var url='https://my_server_name:8443/groupserver/groupserver';".
```

In the erps8X6.html file, the entire var url entry must appear on a single line.

Support JRE auto-installation on Sun ONE Web Server To support successful operation of the JRE auto-installation feature, edit the config\mime.types file to remove the exe reference as shown below.

Before:

```
type=magnus-internal/cgi      exts=cgi,exe,bat
```

After:

```
type=magnus-internal/cgi      exts=cgi,bat
```

Edit the web.xml File If either of the following conditions exists, once the GroupServer.war file has been expanded, you must edit the web.xml file.

- the Primavera Group Server and Java application server do not reside on the same machine
- the Primavera Group Server is not using port number 9002

The web.xml file is located in the \groupserver\WEB-INF folder.

Configure the server and port number to point to the Group Server. This is the location of the TPGS service that is configured during the initial setup.

From the web.xml file:

```
<init-param>
  <param-name>server</param-name>
  <param-value>TPGS_server_name</param-value>
</init-param>
<init-param>
  <param-name>port</param-name>
  <param-value>9002</param-value>
</init-param>
```

Configuring Group Server/Timesheets for LDAP Authentication

To run Group Server/Timesheets using LDAP authentication:

- Select LDAP mode when you install Group Server
- Modify the Timesheets web site file erps8X6.html



You can configure both the HTTP(s) and socket communication protocols by creating two Timesheets web sites, one configured for socket and one for HTTP(s). This might be useful when some Timesheets users run Timesheets inside your corporate network, while others run outside the firewall. Both web sites can be configured to use the same Group Server.



P6 supports the use of LDAP referrals.

Modify the erps8X6.html File

The erps8X6.html file is located in the language folder within the Group Server install location. For example, for English, the location is GroupServer/en/erps8X6.html.

If Group Server is installed to communicate with Timesheets using a socket connection, modify erps8X6.html to match the following settings:



ServerName and Server Port Number are specific to your installation.

```
var ServerName='yourGroupServer ServerName' (only used if  
Timesheets is communicating with Group Server via socket)  
var ServerPortNum=9002 (only used if Timesheets is communicating  
with Group Server via socket)  
var DebugLevel=0;  
var Protocol='socket';  
var url= "; (optional - only used if Timesheets is communicating with  
Group Server via servlet)  
var appType='atP3e'  
var authMode='LDAP';
```

If Group Server is installed to communicate with Timesheets using HTTP(s) protocol, modify erps8X6.html to match the following settings:



URL is specific to your installation.

In the erps8X6.html file, the entire var url entry must appear on a single line.

```
var ServerName=' ' (unused - this is specified in the web.xml in the
Group Server servlet)
var ServerPortNum=9002 (unused - this is specified in the web.xml in
the Group Server servlet)
var DebugLevel=0;
var Protocol='http';

var url='http://yourServerName:780/groupserver/groupserver';
var appType='atP3e'
var authMode='LDAP';
```

Configuring Group Server/Timesheets for Single Sign-On Authentication

To run Group Server/Timesheets using Single Sign-On authentication:

- Select Single Sign-On mode when you install Group Server
- Configure the Web server plug-in you are using to proxy requests
- Modify the Timesheets Web site file erps8X6.html



Timesheets Single Sign-On authentication requires that the Group Server be installed using HTTP protocol.

Configure the Web Server Plug-In for Single Sign-On

The procedure for configuring a Web server plug-in to proxy Group Server requests depends on your application server/Web server combination. For specific instructions, refer to the documentation provided for your application server/Web server.

Modify the erps8X6.html File

After installation, modify the Group Server erps8x6.html files so that the URL for the Group Server servlet contains the fully qualified Web server name and the SiteMinder protected port. An erps8X6.html file is located in each language folder within the Group Server install location. For example, for English, the location is GroupServer/en/erps8X6.html.

Modify the erps8X6.html file as shown in the following settings:



The format of the Group Server servlet URL depends on the server you are using to host the Group Server servlet. The settings shown here are only an example.

```
var ServerName=' ' (unused - this is specified in the web.xml in the
GroupServer servlet)
var ServerPortNum=9002 (unused - this is specified in the web.xml in
the GroupServer servlet)
var Protocol='http';

var url='http://<yourfullyqualifieddomainname>:<yourSiteMinder
protectedportnumber>/groupserver/groupserver';
var appType='atP3e'
var authMode='WebSSO';
```

In the erps8X6.html file, the entire var url entry must appear on a single line.

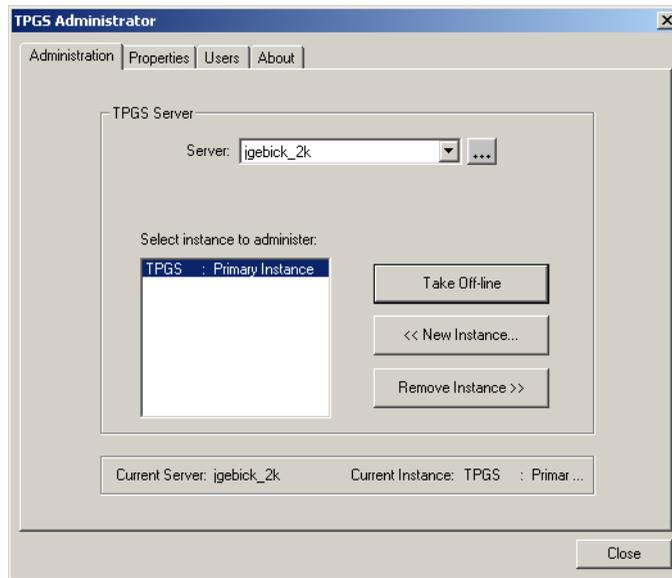
The URL line in the erps8X6.html file identifies the Web server/port number that is being protected by SiteMinder. It is through this URL that the timesheet applet communicates with the GroupServer servlet. For Single Sign-On, all requests for this URL go through the SiteMinder agent that is running on the Web server. In the Web server, you must configure a virtual directory to redirect requests received on the virtual directory to the Group Server servlet.

Configuring Group Server Settings

As the system administrator, you can view and modify additional administrative information using the Group Server Administrator.

Start the Group Server Administrator From the server computer's, on the Windows Control Panel, select TPGS Administrator.

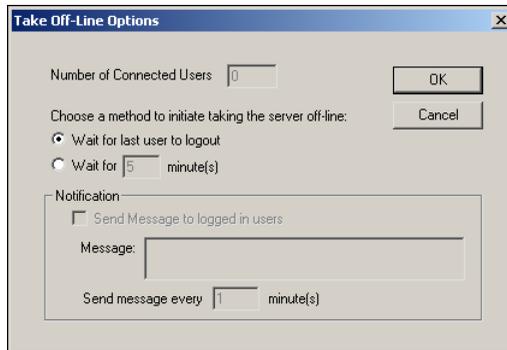
Administer servers The Administration tab displays the current Group Server to administer. If multiple Group Servers are installed, you can choose which server to administer. Click the Browse button in the Server field and navigate to the server you want to add. For security purposes, Primavera Systems recommends placing all Group Servers in the same domain or at a minimum, establishing trust relationships between them.



If you need to take the server offline to perform system maintenance, click Take Off-Line.



Login requests are denied when the server is offline.

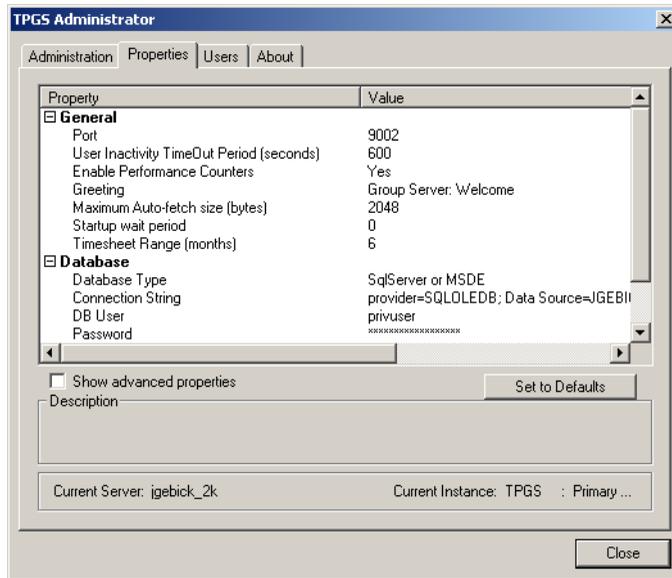


The Take Off-Line Options dialog box displays the number of users currently connected to the server. Choose whether to wait for the last user to exit from Timesheets before taking the server offline automatically, or specify a number of minutes to wait before the server is taken offline. When you choose either option, no new users can start Timesheets.

You can type @TIME in the body of the message, which will automatically report the amount of time remaining before the server goes offline.

Mark the Send Message to Logged in Users checkbox and type a message. You can specify how often to resend the message. Once the Group Server is offline, all client connections are terminated and future connection requests are denied.

Review configuration settings for Group Server The Properties tab provides information about how the Group Server is configured. Generally, you do not need to modify these settings. You can click on each property to display a brief description at the bottom of the dialog box. To modify a setting, click the property and type the new value in the Value column.



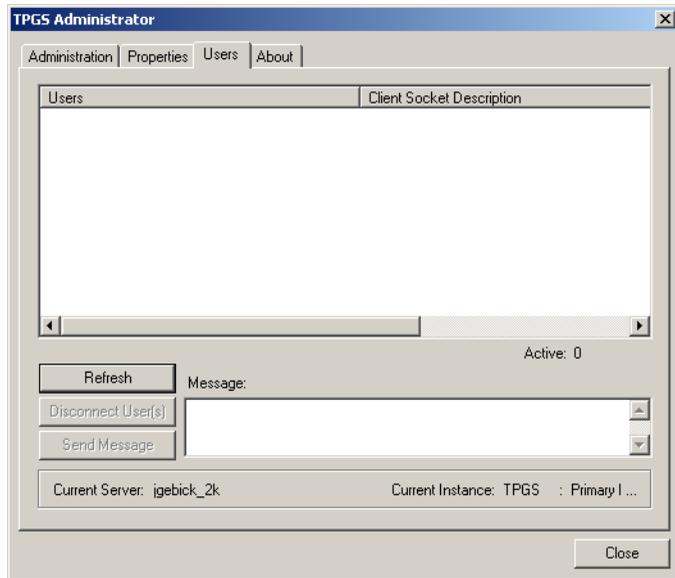
For an explanation of each property and its location in the system registry, see [“Group Server Configuration Settings”](#) on page 129.

Mark the Show Advanced Properties checkbox to show additional properties that you can change. You should not change these properties casually; incorrect settings may prevent the server or operating system from working properly.



You must first close the TPGS Administrator, then stop and restart the Group Server (TPGS) service for changes to take effect.

The Users tab displays the active user names. Click Refresh to refresh the list of users connected. Click Disconnect User(s) to immediately disconnect the currently selected user. You can also send a message to one or more users, for example, a notification before you disconnect them. Select each user name in the Users area, then type a message in the Message field at the bottom of the screen. Click Send Message.



Setting up Java Web Start for Timesheets

Java Web Start provides a secure and platform-independent deployment of Timesheets, using the Java Network Launching Protocol (JNLP) technology. Java Web Start also ensures that users always launch the most recent version of Timesheets under the correct JRE version, even if there is more than one JRE version present.

To learn how to run Timesheets after Java Web Start has been configured, refer to “[Running Timesheets Web Browser Version and Java Web Start Version](#)” on page 423.

How does Java Web Start work? Java Web Start can launch a Java application stored on a server by presenting a link in an HTML page to the user. When the user clicks the link on the HTML page, Java Web Start detects whether the user has the correct JRE version installed and the most recent version of Timesheets cached. If not, Java Web Start automatically downloads the necessary files, then launches Timesheets from the user’s machine. This enables the user to run the most recent version of Timesheets with the required version of the JRE without performing a manual upgrade process. By temporarily hiding, but not overwriting other versions of the JRE, Java Web Start ensures that other applications that need those JRE versions will still run.

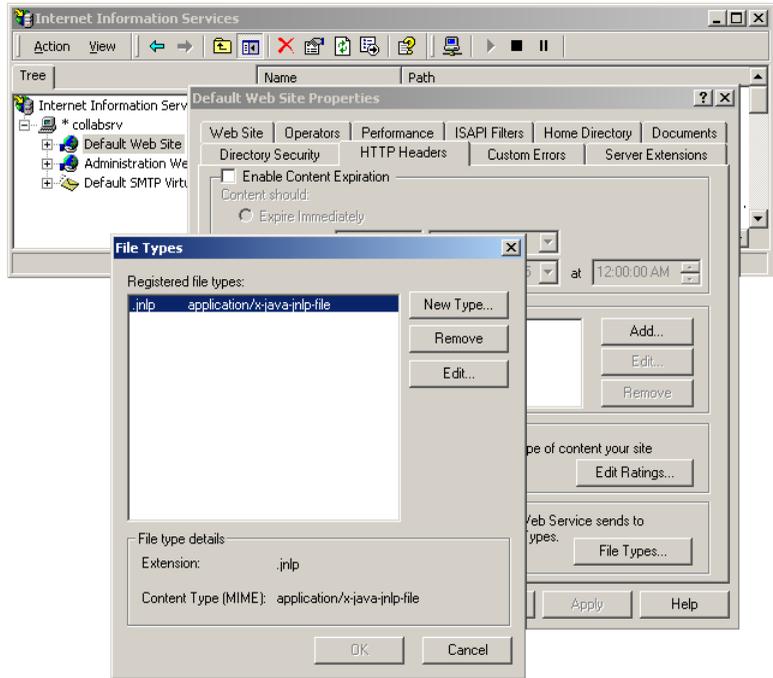


Java Web Start allows you to launch more than one instance of Timesheets at the same time. Previously, Timesheets did not allow multiple instances running at the same time.

Configure Microsoft IIS 6.0 Web server to support JNLP files

Make sure the correct MIME type is set for JNLP files. From the IIS services, select the Default Web Site. Right-click to choose Properties and click the HTTP Header tab. Click the File Types on the bottom of the window and add the following new type if necessary:

.jnlp application/x-java-jnlp-file



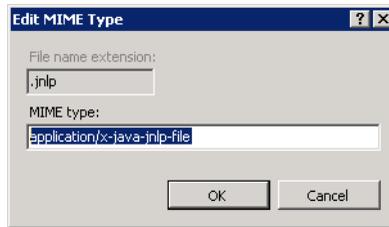
Configure Microsoft IIS 7.0 Web server to support JNLP files

Make sure the correct MIME type is set for JNLP files. To do so, open the Internet Information Service Manager. Expand to the following folder:

<local server>\Sites\Default Web Site\GroupServer



Double-click the MIME Types icon, and click Add in the Actions area. Enter **.jnlp** for the File name extension and **application/x-java-jnlp-file** for the MIME type.



Click OK. Restart the Web server.

Configure Apache Web server to support JNLP files To ensure that the Web server recognizes the JNLP files, add the following two lines to the httpd.conf file if necessary:

AddType application/x-java-jnlp-file .jnlp

AddType application/x-java-archive-diff .jardiff



Remember that Apache URLs are case-sensitive. In case of a mismatch, instead of being processed by the server, the XML content of the JNLP file is displayed in the browser.

Changing the Java Web Start URL If you change the original Java Web Start URL (for example, to move the Java Web Start Web site), you have to edit the URL manually in the following three files:

- Timesheet.jnlp
- Tsres.jnlp
- Download.html

Changing the required JRE version The Timesheet.jnlp file defines the required JRE for Java Web Start when launching Timesheets. When you launch the Java Web Start version of Timesheets, if the required JRE version is not found, it is downloaded and installed.

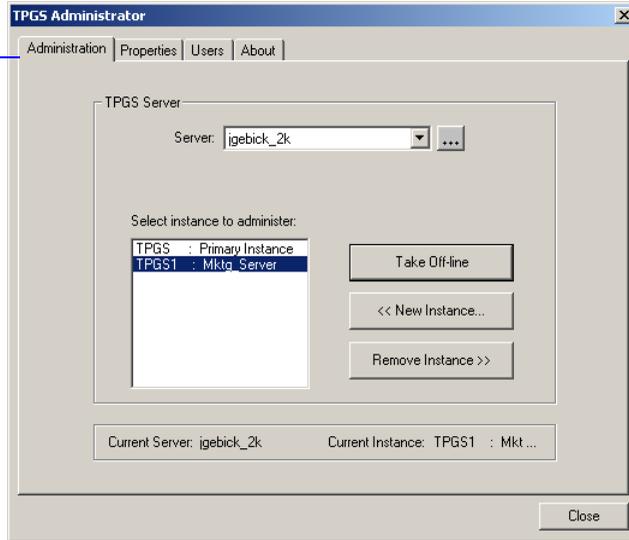
Troubleshooting

- Remember that Apache URLs are case sensitive, even if the user has a Windows client that does not differentiate.
- For non-Windows clients, the server IP address has to be mapped to the server name in the host file.
- For Windows clients, if the URL with the server name is not recognized (you see the content of the JNLP file), use the server IP address in the URL or add an entry for the server in host file.

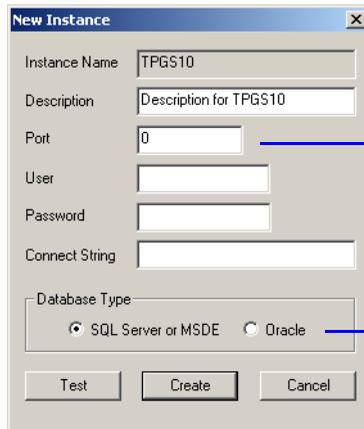
Creating Multiple Instances of Group Server

You can create multiple Group Server instances in the TPGS Administrator. This enables you to access several different databases from the same server machine. You must have a unique database for each new instance. Launching the TPGS Administrator starts the primary instance. To start a new instance, select it from the list.

Select an instance, then use these tabs to view properties/users for that instance.



Create a new instance Click the New Instance button and specify its properties. Type an instance name, description, unique port number, and your privileged administrative database user name and password.



You must specify a port number that differs from other ports used by the Group Server.

Choose the database driver type.

Use the following formats to specify the connection string:

For Oracle:

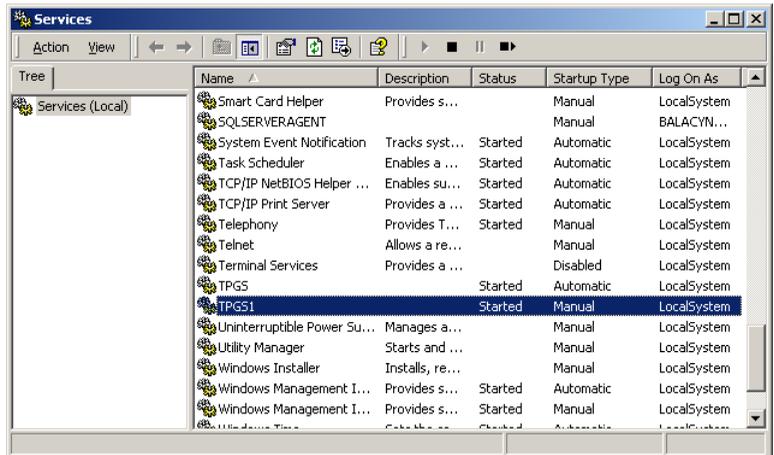
Provider=OraOLEDB.Oracle;Data Source=Oracle Service Name

For Microsoft SQL Server:

Provider=SQLOLEDB; Data Source=MachineName; Initial Catalog=DatabaseSchemaName

You can define the Oracle Service Name using Oracle’s Net Configuration Assistant, or you can refer to your TNSNAMES.ORA file located in \Oracle_Home\Network\Admin.

Once a new instance is created, it appears in the Services dialog box. You can start or stop the instances from the Services dialog box. A new instance has a Manual startup property (does not start automatically after a reboot).



Set up the Web site for a new instance You must create a new Timesheets Web site for each new instance. Once a new Group Server instance is set up in the TPGS Administrator, you must copy the Timesheets Web site to enable clients to connect to the new instance. For example, copy the GroupServer Web site folder to a new name, GroupServer2.

In the GroupServer2 folder, edit the erps8x6.html file to update the port number. For example, by default, the original Group Server instance has a port number equal to 9002. In the erps8x6.html file, change the ServerPortNum variable to match the port number of the newly created instance (9003), as shown.

```
// *** Configurable variables.  
// *** May be changed by the system administrator.  
var ServerName='servername'  
var ServerPortNum=9003
```

Clients can visit the original instance by visiting the index.html file in the GroupServer folder; clients can visit the newly created instance by visiting the index.html file in the GroupServer2 folder.

Group Server Configuration Settings

Configuration settings can be reviewed or modified using the Properties tab in the TPGS Administrator. Mark the Show Advanced Properties checkbox to display all properties. These settings are stored in the Registry in the HKEY\System\CurrentControlSet\Services\TPGS\Configuration key on the computer running the Group Server.



Only experienced administrators should use the Registry to modify configuration settings.



In the tables below, the Value column lists the recommended settings given heavy load conditions (1000 users or more).

[General key values]

Value Name	Value	Description
Allow Negative Actuals	Yes/No	Allow negative actuals when calculated. No - Disallow. Yes - Allow.
Cycle Seed	Yes/No	Controls whether or not to cycle the seed used for password encryption. A seed is a unique, random numeric value, used to make each encrypted password unique. Set to No when load testing, where login requests need constant encrypted password values.
Edit Subordinate Resources' Timesheets	Yes/No	Allow supervisor to modify subordinate resources' timesheets.
Edit Work Product and Document Details	Yes/No	Allow editing of public document path in the Work Product and Document Details dialog box in the timesheet client.
Enable Performance Counters		Sets Performance Monitor counters based on TPGS server activity. Use the Windows Performance Monitor utility to view TPGS performance counters.
Enable Primary Resource to Edit Step's UDF Values Counters	Yes/No	If Y, overrides OBS access to edit step's UDF values. Gives edit rights to primary resources. If N, steps can be edited if user has OBS access to the project. The default value is N.
Greeting		Sets the message that appears in the client when first connected to the TPGS server.

[General key values]

Value Name	Value	Description
LDAP Connect Timeout	15	The maximum amount of time Group Server will allow for a connection attempt to an LDAP data store to succeed. This is only used if the Group Server is configured for LDAP authentication.
Log Transactions		Records transactions for tracing to the event log
Maximum Auto-Fetch Size (bytes)	2048	Maximum size of blobs (notes/memos) in bytes that will be sent automatically in low bandwidth mode.
Maximum Request Size		Largest client TCPIP request that will be accepted by TPGS server.
Port	9002	Sets the TCP/IP port number used by the Group Server to communicate with the Java client. This port must be opened to the Internet, or you can change this setting to specify another port that is open to the Internet. The default value is 9002.
Startup Wait Period (seconds)	0	Amount of time the TPGS service delays before starting. Use this setting if dependent services (such as a database server service) need time to start first.
User Inactivity TimeOut Period	600	Amount of time in seconds a connection can remain idle before being logged off. The default value is 600.

[Database key values]

Value Name	Value	Description
ADO Connection TimeOut (seconds)	15	Amount of time to wait while establishing a connection before terminating the attempt and generating an error message.
ADO Command TimeOut (seconds)	30	Amount of time to wait while executing a command before terminating the attempt and generating an error message.
ADO RecordSet Cache Size	5	The number of records stored in memory at any given time.
ADO Stalled Check Period (seconds)	30	Frequency with which the connection is checked for stalled operations.
Apply Session Setting	Yes/No	Determines whether to execute the SQL command specified in the Session Setting property. The default value is No.
Auto Translate	Yes/No	The Auto translate property of the SQL Server ODBC Driver for a SQL Server Unicode database.
Base Connections	25 (default=10)	Default number of database connections that the TPGS server makes on startup.

[Database key values]

Value Name	Value	Description
Cache Refresh Interval (seconds)	60	Frequency of the TPGS server for refreshing cached data from the database.
Connect Retry Period (milliseconds)	30000	Amount of time to wait before retrying to connect.
Connection String		ADO connection string used to connect to the database. For example, for Oracle, use the connection string "provider=OraOLEDB.Oracle; Data Source = pmdb.world". For example, for SQL Server or SQL Server Express, use the connection string "provider=SQLOLEDB; Data Source=PMDBSRV\ENGLISH;Initial Catalog=TPPM60", where "PMDBSRV" is the database machine name.
Database Type		Type of database ("Oracle" or "Microsoft SQL Server/SQL Express") that the TPGS server uses for data.
DB Connectivity Check	Yes/No	Determines if database connectivity is tested periodically. and if connections are closed and restored upon database shutdown, restart.
DB User	privuser	User name with privileged access used to connect to the database. The default value is privuser.
License Inactivity TimeOut (seconds)	900	Period that inactive licensed client connections are considered to be bad.
Log Invalid Login Attempts	Yes/No	Logs invalid login attempts to the event log. The default value is No.
Log SQL	0	Sets SQL tracing flags for tracing to the event log.
Max Search Result Records	100	Maximum number of records in search results.
Password		Encrypted password of DB user account used to connect to the database.
Session Setting		SQL command to be executed against every database connection created by Group Server.
Sync Period (seconds)	60	Period between updating the sync table in the database.

[Database key values]

Value Name	Value	Description
Synchronize ADO Connection Creation	Yes/No	Blocks other requests while connecting to a database. The default value is Yes.
Temporary Connections	150	Number of database connections that the TPGS server can make as demand warrants. These settings determine how many connections the Group Server has to the database. If you are getting an error where HRESULT = 8004b002, this indicates the Group Server cannot handle the load and needs more database connections to process all requests. A value of 400 is recommended if more than 1000 timesheet users are accessing the Group Server, which will allow more connections so that TPGS can handle a larger load. Consideration is also given to the Oracle Server machine.
Verbose Logging	Yes/No	Determines if verbose logging is enabled when sending error messages to the event log.

[Threading key values]

Value Name	Value	Description
Caching Threads	1	Number of threads that will handle cached transaction processing. This is the minimum number of caching threads. Cache threads in the Group Server are responsible for processing data where the data can be cached. The Group Server will create up to “Maximum Temporary threads per CPU” caching threads as needed.
Coalescing Jobs Busy Threshold	50	Number of coalesced jobs that determine when the coalescing processor is considered busy.
Coalescing Threads	1	Number of threads that will handle coalesced transaction processing. This is the minimum number of coalescing threads. Coalescing threads in the Group Server are responsible for processing jobs which can be coalesced. Coalescing is the act of taking like requests (e.g., open, update timesheet) and coalescing them into a single SQL request to satisfy several clients concurrently with one DB hit, thus greatly improving performance. The Group Server will create up to “Maximum Temporary threads per CPU” coalescing threads as needed.
Coalescing Timeout (milliseconds)	750	Frequency that coalesced requests are fulfilled.
Connection Check Period (seconds)	60	Frequency at which database connections are checked.

[Threading key values]

Value Name	Value	Description
Connection TimeOut Period (seconds)	300	Period of inactivity for which attached database connections are assumed to be good.
License Manager Interval (seconds)	120	Frequency that the license manager is checked for concurrent users.
Message Threads Per CPU	3 (default=1)	Number of threads that will handle socket connections from the client. This is the minimum number of threads which accept messages from the client via a socket connection and create jobs to be processed in the Group Server. The Group Server will create up to "Maximum Temporary threads per CPU" message threads as needed.
Maximum Coalescing Size	20	Maximum number of coalesced transactions that can be queued before they are processed.
Maximum Temporary Threads Per CPU (SMP)	15	Maximum number of threads that can be started by each processor. $MaxTempThreads = CPU > 1 ? MaxTempThreads + (MaxTempThreads * 4 / CPU)$
Thread Inactivity TimeOut Period (seconds)	180	Period of inactivity before a temporary thread is shut down.
Transaction Threads	1	Number of threads that will handle transaction processing. This is the minimum number of threads which create transactions in the Group Server. Transactions created are either Caching, Coalescing, or Update. The Group Server will create up to "Maximum Temporary threads per CPU" transaction threads as needed.
Update Threads	1	Number of threads that will handle update transaction processing. This is the minimum number of Update threads. Update threads in the Group Server are responsible for updating data. The Group Server will create up to "Maximum Temporary threads per CPU" update threads as needed.
Watch Dog Period (seconds)	120	Frequency that the TPGS server checks for connection problems.

[Security keys]

Keys	Value	Description
Accept Filters	Filter #1, *.*.*.*	TCP/IP client addresses that will be accepted.
Reject Filters	Filter #1, *.*.*.255	TCP/IP client addresses that will be rejected.

[Install key values]

Value Name	Value	Description
HTML Path	c:\inetpub\wwwroot\GroupServer	Path to the HTML files.

Installing P6 Web Access

In this chapter:

[Upgrading to P6 Web Access version 6.2.1](#)

[Uninstalling Previous Versions](#)

[Installing the Application Server for P6 Web Access](#)

[Installation Process for P6 Web Access](#)

[Installing the Content and Workflows Repositories](#)

[Configuring and Deploying the Application Server for P6 Web Access](#)

[Starting the Server for P6 Web Access](#)

[Precompiling P6 Web Access](#)

[Stopping the Server for P6 Web Access](#)

[Accessing P6 Web Access from Client Browsers](#)

[Configuration Settings on Client Browsers](#)

[Changing Database Configuration Settings](#)

[Using the Administration Application](#)

[Reviewing and Modifying Configurations for P6 Web Access](#)

[Configuration Settings for P6 Web Access](#)

[Implementing Application Server](#)

This chapter describes how to install P6 Web Access (formerly known as “Primavera’s Web application” or “myPrimavera”) on a Windows, Solaris, AIX, Red Hat Enterprise Linux, or HP-UX server. In addition, this chapter explains how to use the Administration Application of P6 Web Access to review, modify, add, and delete Application Server configurations for P6 Web Access.



Plug-Ins

Upgrading to P6 Web Access version 6.2.1

Before upgrading to P6 Web Access version 6.2.1, you should upgrade the Project Management and/or Methodology Management database to version 6.2.1 and install the 6.2.1 version of the Project Management and/or Methodology Management client modules.



For further details, see [“Automatic Database Upgrade”](#) on page 263 and [“Installing Client Modules and Additional Components”](#) on page 239.



If you are a current Interwoven/iManage user and upgrade to P6 Web Access version 6.2.1, project workflows, project processes, news, discussions, events, and documents data will not be available. If you need this data, contact Primavera Customer Support for information on data migration and the migration tool. Primavera recommends that you migrate the data before upgrading to version 6.2.1.

For customers currently using P6 Web Access version 6.2:

The P6 version 6.2 and 6.2.1 databases use the same schema; however, the P6 version 6.2.1 application suite contains private database login password security enhancements, as well as other enhancements. If you are currently running P6 Web Access version 6.2 and want to upgrade to version 6.2.1 to utilize these enhancements, you do not have to upgrade your databases; however, you must install all applications included in P6 version 6.2.1, including P6 Web Access. Before installing version 6.2.1, you must uninstall version 6.2. For information about uninstalling version 6.2, refer to [“Uninstalling Previous Versions”](#) on page 139.

For the full list of tested configurations for P6 Web Access, go to the `\Documentation\<language>\Tested Configurations` folder of the P6 physical media or download.

To upgrade from myPrimavera 5.0, Primavera’s Web Application 6.0, or P6 Web Access 6.1 to P6 Web Access 6.2.1:

- Uninstall the current version of myPrimavera, Primavera’s Web Application, or P6 Web Access. See [“Uninstalling Previous Versions”](#) on page 139.
- Install one of the supported application servers. See [“Installing the Application Server for P6 Web Access”](#) on page 141.

For a list of supported application servers, see [“Client and Server Requirements”](#) on page 20.

- Install P6 Web Access 6.2.1. See [“Installation Process for P6 Web Access”](#) on page 143.
- Configure and Deploy the application server. See [“Configuring and Deploying the Application Server for P6 Web Access”](#) on page 148.

Uninstalling Previous Versions

You must uninstall any previous versions of P6 Web Access before upgrading to version 6.2.1.

To uninstall myPrimavera 5.0 or Primavera's Web Application 6.0 from a Tomcat 5.5 Server

On Windows, from the Start menu, choose Programs, <app name>, Uninstall <app name>.

On Solaris, change to the webapps directory under the Tomcat install directory and run the `uninstalltc.sh` script.



Tomcat is not a supported application server for P6 Web Access version 6.1 and higher.

To uninstall myPrimavera 5.0, Primavera's Web Application 6.0, or P6 Web Access 6.1/6.2 from a JBoss Server

For 6.1 and earlier installations, rename or delete the “myprimavera” folder from the JBoss install location (for example, `c:\jboss-4.0.4.GA\server`).

For 6.2 installations, rename or delete the “primaveraweb” folder from the JBoss install location.

To uninstall myPrimavera 5.0, Primavera's Web Application 6.0, or P6 Web Access 6.1 from a WebLogic Server

- 1 On Windows, from the Start menu, choose Programs, <app name>, Uninstall <app name>.
On Solaris, run the `uninstall.sh` script in the `<BEA_HOME>\user_projects\<domain>` directory.
- 2 Create a new domain. Use the new domain during the “Configuring WebLogic 10 (sp1)” procedures.

To uninstall myPrimavera 5.0, Primavera's Web Application 6.0, or P6 Web Access 6.1 from a WebSphere Server

- 1 On Windows, from the Start menu, choose Programs, <app name>, Uninstall <app name>.
On Solaris, change to the `installableApps/<app name>` directory under the WebSphere install directory and run the `uninstallws.sh` script.

- 2 Launch the WebSphere Application Console. For 6.1 and earlier installations, remove the current “myPrimavera” deployment. For 6.2 installations, remove the current “primaveraweb” deployment.



If you will use the same <webaccesshome> directory for the new deployment, the existing myprimavera.war file should be deleted from the <webaccesshome> directory to avoid conflict with the new primaveraweb.war file.

Installing the Application Server for P6 Web Access

P6 Web Access supports Red Hat JBoss, BEA WebLogic and IBM WebSphere. For a complete list of supported application servers with version numbers, see “[Client and Server Requirements](#)” on page 20. For a full list of tested configurations for P6 Web Access, go to the \Documentation\<language>\Tested Configurations folder of the P6 physical media or download.



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

Installing JBoss on Microsoft Windows

Install the JDK

The supported version of JBoss requires Java 2 JDK version 5.0 update 15 (1.5.0_15). The JDK is not provided by Primavera. To download the JDK, go to <http://java.sun.com/products/archive>.

Install JBOSS 4.0.5 GA

- 1 Download jboss-4.0.5.GA.zip from the following URL:

[http://sourceforge.net/project/showfiles.php?
group_id=22866&package_id=16942&release_id=456223](http://sourceforge.net/project/showfiles.php?group_id=22866&package_id=16942&release_id=456223)

- 2 Copy the jboss-4.0.5.GA.zip to a local drive.
- 3 Unzip the folder to <JBOSS INSTALL LOCATION> (for example, C:\jboss-4.0.5.GA).
- 4 Go to <JBOSS INSTALL LOCATION>\server.
- 5 Select the folder ‘default,’ press Ctrl-C to copy it, and then press Ctrl-V. This creates a folder named ‘copy of default’.
- 6 Rename the folder called ‘copy of default’ to be ‘primaveraweb’.

Installing JBoss on Red Hat Enterprise Linux

Install the JDK

The supported version of JBoss requires Java 2 JDK version 5.0 update 15 (1.5.0_15). The JDK is not provided by Primavera. To download the JDK, go to <http://java.sun.com/products/archive>.

Install JBOSS 4.0.5 GA

- 1 Download jboss-4.0.5.GA.zip from the following URL:

[http://sourceforge.net/project/showfiles.php?
group_id=22866&package_id=16942&release_id=456223](http://sourceforge.net/project/showfiles.php?group_id=22866&package_id=16942&release_id=456223)

- 2 Copy the jboss-4.0.5.GA.zip to a local drive.
- 3 Unzip the folder to <JBoss INSTALL LOCATION> (for example, /usr/jboss-4.0.5.GA).
- 4 To assure that files can be executed, run the following command:
chmod -R +x *
- 5 Go to the <JBoss INSTALL LOCATION>/server.
- 6 Select the folder 'default,' press Ctrl-C to copy it, and then press Ctrl-V. This creates a folder named 'default(copy)'.
- 7 Rename the folder called 'default(copy)' to be 'primaveraweb'.

Installing WebLogic

Install the JDK

The 10 (sp1) version of WebLogic automatically installs Java 2 JDK version 5.0 update 11 (1.5.0_11) for Windows and Red Hat Enterprise Linux and Java 2 JDK version 5 update 8 (1.5.0_08) for HP-UX. These are the required JDK versions for P6 Web Access.

Install WebLogic 10 (sp1)

Consult WebLogic's documentation for installation instructions.

Installing WebSphere

Install the JDK

The 6.1 version of WebSphere automatically installs the IBM JDK. Installing the recommended fix pack will update the JDK automatically, which is the required JDK for P6 Web Access. For information on which fix packs were tested, refer to the Tested Configurations document.

Install WebSphere 6.1

Consult WebSphere's documentation for installation instructions.

Installation Process for P6 Web Access

For information on installing the project management database, see [“Database Installation and Configuration”](#) on page 29. For information on upgrading a database for compatibility, see [“Automatic Database Upgrade”](#) on page 263.

Before installing or upgrading to P6 Web Access version 6.2.1, you should install the 6.2.1 version of the Project Management and/or Methodology Management database, or upgrade your current version, and install the 6.2.1 version of the Project Management and/or Methodology Management client modules.

If you have previously installed an earlier version of P6 Web Access, Primavera’s Web Application, or myPrimavera, you must uninstall the previous version before installing P6 Web Access version 6.2.1. Refer to [“Uninstalling Previous Versions”](#) on page 139 for more information.



For instructions on installing the Project Management module, see [“Installing Client Modules and Additional Components”](#) on page 239.

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

- 1 Identifying the application server used for P6 Web Access
- 2 Installing P6 Web Access and Administration Application files
- 3 Setting up and configuring the database for P6 Web Access



If you are using JBoss as your application server, you must install Sun Java 2 JDK version 5.0 update 15 (1.5.0_15) prior to installing P6 Web Access.

To install P6 Web Access

1 Launch the following installer from the Web_Access folder of the P6 physical media or download, according to your operating system:

- For Windows platforms, double-click 'SetupMainWin.exe'.
- For Unix platforms, assuming a supported version of the JDK is installed and the JDK location is added to your Unix path, run the appropriate command below from a terminal session:

For a Red Hat Enterprise Linux or Solaris platform:

```
./SetupMainSol.bin
```

For an IBM AIX platform:

```
./setupaix.bin
```

For an HP-UX platform:

```
./setupHP11.bin
```



If executing the binary file is unsuccessful on any of the Unix platforms listed above, you can run the generic Unix JAR installer using the following command: `java -jar setupmain.jar`



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

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

3 On the **Please specify a Primavera Home folder. . .** dialog box, type or browse to the location for the <webaccessshome> folder of P6 Web Access (for example, c:\p6wahome).

Click **Yes** to create the directory, if necessary.



The home folder name cannot contain spaces.

For the full list of tested configurations for P6 Web Access, go to the \Documentation\<language>\Tested Configurations folder of the P6 physical media or download.



The application EAR file (primaveraweb.ear) is copied to the home folder for P6 Web Access. You must then use the application server's deployment tools to deploy the P6 Web Access 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 **P6 Web Access will be installed. . .** dialog box, click **Next** to start the installation.
- 5 On the **Setup and Configuration of the Primavera Database** dialog box, select the database type (Oracle or SQL).
- 6 On the **Please enter the following information. . .** dialog box, 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 or MS SQL Server installation. The Database Host Port field displays the default port for the database type you selected. You can edit this port.



P6 Web Access supports SSL communication between the application server and the database server. For information on configuring SSL, refer to the appropriate database server documentation and the Primavera Knowledgebase.

To use the SSL protocol to securely communicate between the application server and the database server, mark the SSL check box. If you mark the SSL check box, you must specify an SSL-enabled port number in the Database Host Port field.



Using the SSL protocol will impact database performance.

The Public Group ID must be 1 for a standard configuration.

- 7 If there is an existing Primavera configuration, on the **The installer has detected. . .** dialog box, you can choose whether you want to use it, or create a new configuration.



If you are upgrading from a previous version of P6 Web Access against the same database, choose the option to create a new configuration. This is necessary to accommodate newly added configuration settings.

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 Configuration. You can edit the settings for this configuration through the Administration Application of P6 Web Access.

For more information about configurations, see [“Using the Administration Application”](#) on page 175.

For more information, see [“Changing Database Configuration Settings”](#) on page 174.



After installation, you can use the Database Configuration Setup wizard to choose a different configuration, if necessary.

- 8 When the message displays to confirm that the database configuration has completed successfully, click **OK**. Then, click **Finish** to close the Setup wizard.

For information about installing the Job Service, see [“Installing the Job Service and Distributed Job Service”](#) on page 247.



The schedule, apply actuals, and summarize functions of P6 Web Access require you to install the Job Service.

Installing the Content and Workflows Repositories

The Content Repository allows users to collaboratively share and manage documents in P6 Web Access. The Workflows Repository helps users to keep track of project requests. In order for P6 Web Access users to utilize the enhanced document management and the project request functionalities, the Content and Workflows Repositories must be installed.

For information on the Database wizard, see [“Automatic Database Installation”](#) on page 31.

Install the Content Repository

The Content Repository installation is automatically completed when running the Database wizard and installing P6 Web Access. No further installations are needed. However, to enable the Content Repository-related features, you will need to input the Database/Instance/Content Repository Administration Application settings. For detailed information about these settings, refer to the Database Settings subsection in [“Configuration Settings for P6 Web Access”](#) on page 185.



Clustering of the Content Repository is not supported in P6 version 6.2.1.

Install the Workflows Repository

The Workflows Repository is not installed when running the Database wizard and installing P6 Web Access. Instead, the installation files are available online. Detailed instructions on how to locate the installation files and set up the Workflows Repository can be found within the **addworkflowjars** file, which is located in your P6 Web Access home folder (for example, c:\p6wahome). Make sure to first edit, not double-click, the addworkflowjars file. Once you have completed the instructions within the file, you can run it to automate some of the steps.

After installing the Workflow Repository, you will need to input the Database/Instance/Workflow Repository Administration Application settings. For detailed information about these settings, refer to the Database Settings subsection in [“Configuration Settings for P6 Web Access”](#) on page 185.

Configuring and Deploying the Application Server for P6 Web Access

Configuring JBoss 4.0.5 GA on Microsoft Windows

1 Use the P6 Web Access Database Configuration Utility (that automatically launched during setup) to connect to your database.

2 Copy the primaveraweb.ear file to the following location:

```
<JBOSS INSTALL LOCATION>\server\primaveraweb\deploy\
```

3 For international support:

Edit the following file:

```
<JBOSS INSTALL LOCATION>\server\primaveraweb\
deploy\jbossweb-tomcat55.sar\server.xml
```

In the Connector setting, add the parameter
URIEncoding="UTF-8". For example:

```
<!--A HTTP/1.1 Connector on port 8080-->
<Connector port="8080" URIEncoding="UTF-8"
address="{jboss.bind.address}"
maxThreads="250" strategy="ms" maxHttpHeaderSize="8192"
emptySessionPath="true"
enableLookups="false" redirectPort="8443" acceptCount="100"
connectionTimeout="20000" disableUploadTimeout="true"/>
```



When you are using the SSL-connector, add this parameter to its settings as well.

4 Browse to <JBOSS INSTALL LOCATION>\bin.

5 Edit the run.bat command file.

Insert the following line (as all one line) before the :RESTART line:

```
set JAVA_OPTS=
"-Dprimavera.bootstrap.home=<webaccessshome>"
%JAVA_OPTS%
```

Make sure to change <webaccessshome> to the proper location (for example, c:\p6wahome). Also, there is a space between <webaccessshome>' and %JAVA_OPTS%.

6 In the run.bat file, do the following to set the Java options:

- Find the following line:

```
set JAVA_OPTS=%JAVA_OPTS% -Xms128m -Xmx512m
```

- Replace that line with the following (as all one line):

```
set JAVA_OPTS=%JAVA_OPTS% -XX:PermSize=64m  
-XX:MaxPermSize=128m -Xms512m -Xmx512m
```

7 Save the changes to the run.bat file.

8 To enable P6 Web Access to properly display the Project Gantt portlet in Dashboards, you must delete the following folder:

```
<JBOSS INSTALL LOCATION>\server\primaveraweb\  
deploy\jbossweb-tomcat55.sar\jsf-libs
```



Primavera applications do not require this folder to be present; however, deleting this folder may impact other applications currently running on JBoss. Therefore, before deleting this folder, YOU MUST ENSURE THAT THIRD-PARTY APPLICATIONS RUNNING ON JBOSS DO NOT REQUIRE THIS FOLDER TO BE PRESENT. If you do not delete this folder, P6 Web Access users can display the Project Gantt portlet on a dashboard, but the contents of the portlet will not display properly.

9 To start the JBoss application server, create a bat file named 'startP6WebAccessinJBoss.bat' in <webaccessshome> that contains the following:

```
@echo off  
set JBOSS_HOME=C:\jboss-4.0.5.GA  
call %JBOSS_HOME%\bin\run.bat -c primaveraweb
```



If not previously defined, add the JAVA_HOME Environment variable in the startP6WebAccessinJBoss.bat file.

For example,

```
set JAVA_HOME=C:\Program Files\Java\jdk1.5.0_15
```

10 Run the newly created bat file.

11 Service Administrators may want to secure the JMX Console. For instructions, visit the following JBoss web page:

<http://www.jboss.org/wiki/Wiki.jsp?page=SecureTheJmxConsole>

- 12 If using SQL Server, proceed to “Additional Settings for JBoss and WebLogic on Microsoft SQL 2005 Databases” on page 160.

Configuring JBoss 4.0.5 GA on Red Hat Enterprise Linux

- 1 Use the P6 Web Access Database Configuration Utility (that automatically launched during setup) to connect to your database.
- 2 Copy the primaveraweb.ear file to the following location:

<JBOSS INSTALL LOCATION>/server/primaveraweb/deploy/

- 3 For international support:

Edit the <JBOSS INSTALL LOCATION>/server/primaveraweb/deploy/jbossweb-tomcat55.sar/server.xml file.

In the Connector setting, add the parameter `URIEncoding="UTF-8"`. For example:

```
<!--A HTTP/1.1 Connector on port 8080-->
<Connector port="8080" URIEncoding="UTF-8"
address="{jboss.bind.address}"
maxThreads="250" strategy="ms" maxHttpHeaderSize="8192"
emptySessionPath="true"
enableLookups="false" redirectPort="8443" acceptCount="100"
connectionTimeout="20000" disableUploadTimeout="true"/>
```



When you are using the SSL-connector, add this parameter to its settings as well.

- 4 Browse to <JBOSS INSTALL LOCATION>/bin.
- 5 Edit the run.sh command file. Insert the following line (as all one line) in the '# Setup JBoss specific properties' section:

```
JAVA_OPTS="-Dprimavera.bootstrap.home=<webaccessshome>
$JAVA_OPTS"
```

Make sure to change <webaccessshome> to the proper location (for example, /usr/p6wahome). Also, there is space between <webaccessshome> and \$JAVA_OPTS.



If not previously defined, add the JAVA_HOME Environment variable in the run.sh file. For example, export JAVA_HOME = /usr/jdk 1.5.0_15

- 6 Save the changes to the run.sh file.
- 7 Edit the run.conf file, and do the following to set the Java options:

- Find the following line:

```
JAVA_OPTS="-XX:PermSize=64m -XX:MaxPermSize=64m -
Dsun.rmi.dgc.client.gcInterval=3600000 -
Dsun.rmi.dgc.server.gcInterval=3600000"
```

- Replace "-XX:PermSize=64m -XX:MaxPermSize=64m" with the following (as all one line):

```
"-XX:PermSize=64m -XX:MaxPermSize=128m -Xms512m
-Xmx512m"
```

- 8 Save the changes to the run.conf file.
- 9 To enable P6 Web Access to properly display the Project Gantt portlet in Dashboards, you must delete the following folder:

```
<JBOSS INSTALL LOCATION>\server\primaveraweb\
deploy\jbossweb-tomcat55.sar\jsf-libs
```



Primavera applications do not require this folder to be present; however, deleting this folder may impact other applications currently running on JBoss. Therefore, before deleting this folder, YOU MUST ENSURE THAT THIRD-PARTY APPLICATIONS RUNNING ON JBOSS DO NOT REQUIRE THIS FOLDER TO BE PRESENT. If you do not delete this folder, P6 Web Access users can display the Project Gantt portlet on a dashboard, but the contents of the portlet will not display properly.

- 10 Open a terminal. Type the following commands to start the server:


```
cd /<JBOSS INSTALL LOCATION>/bin
./run.sh -c primaveraweb
```
- 11 Service Administrators might want to secure the JMX Console. For instructions, visit the following JBoss web page:


```
http://www.jboss.org/wiki/Wiki.jsp?page=SecureTheJmxConsole
```
- 12 If using SQL Server, proceed to “[Additional Settings for JBoss and WebLogic on Microsoft SQL 2005 Databases](#)” on page 160.

Configuring WebLogic 10 (sp1)



To install P6 Web Access on HP-UX 11i using physical media:

Go to the command prompt. Change your directory to point to the Web_Access folder of the P6 physical media. Then, type the following command, making sure to specify the java executable in the system path:

<physical media_mount> java -jar setupmain.jar

- 1 Run the WebLogic Configuration Wizard to create a server domain for P6 Web Access. On the Configure Server Start Mode and JDK window, you must select Development Mode in the WebLogic Domain Startup Mode left hand pane.
- 2 Copy primaveraweb.ear from the P6 Web Access home folder created during installation to the following folder:
`<bea_home>\user_projects\domains\<your_domain>\autodeploy`
- 3 Make a backup copy of the startWebLogic file in case you need to undo any changes.
 - In Windows, the file is named startweblogic.cmd and is located in:
`<bea_home>\user_projects\domains\<your_domain>\bin\`
 - In Unix, the file is named startweblogic.sh and is located in:
`<bea_home>/user_projects/domains/<your_domain>/bin/`
- 4 Edit the startWebLogic file.
- 5 Locate the line that begins with “set JAVA_OPTIONS=” and add the Primavera bootstrap variable.

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

```
set JAVA_OPTIONS=%SAVE_JAVA_OPTIONS%  
-Dprimavera.bootstrap.home=<webaccesshome>
```

where <webaccesshome> is the P6 Web Access home directory that was set during installation (for example, c:\p6wahome).

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

```
JAVA_OPTIONS=%SAVE_JAVA_OPTIONS%  
-Dprimavera.bootstrap.home="<webaccesshome>"
```

where <webaccesshome> is the P6 Web Access home directory that was set during installation (for example, /usr/p6wahome).

- 6 (Red Hat Enterprise Linux) By default, RedHat does not install all the appropriate libraries for P6 Web Access. In order for P6 Web Access to work under Weblogic 10 (sp1) on RedHat, append the following after the Primavera bootstrap variable (added in [step 5](#)):

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



Be sure to include a space before the -Djava specification. Properties after the bootstrap can be in any order.

- 7 Set the Java Virtual Machine by entering a variable for JAVA_VM, immediately below the JAVA_OPTIONS line (added in [step 5](#)).

The line should look similar to the following:

```
JAVA_VM=-server
```

- 8 Include “<webaccesshome>\license” and “ojdbc5.jar” at the beginning of the WebLogic classpath.

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

```
set CLASSPATH=<webaccesshome>\license\;  
<webaccesshome>\lib\ojdbc5.jar;%SAVE_CLASSPATH%
```

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

```
CLASSPATH="<webaccesshome>/license":  
"<webaccesshome>/lib/ojdbc5.jar":${CLASSPATH}
```

- 9 Save the changes to the startWebLogic file.
- 10 Make a backup copy of the setDomainEnv.cmd (or setDomainEnv.sh for Linux) file in case you need to undo any changes.
- 11 Edit the setDomainEnv file.
- 12 Increase the JVM MaxPermSize setting in the setDomainEnv file to avoid Out-of-Memory errors. The MaxPermSize setting should be set to at least 256m.

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

```
if "%JAVA_VENDOR%"=="Sun" (  
    set MEM_ARGS=%MEM_ARGS% %MEM_DEV_ARGS%  
    -XX:MaxPermSize=256m  
)
```

- In HP-UX, the line should look similar to the following

```
if [ "${JAVA_VENDOR}" = "HP" ] ; then
  MEM_ARGS="${MEM_ARGS} ${MEM_DEV_ARGS}
  -XX:MaxPermSize=256m"
  export MEM_ARGS
```

- 13** Modify memory settings in the setDomainEnv file to maximize performance. To do this, edit the MEM_ARGS line so that values can be set for NewSize, MaxNewSize and SurvivorRatio.

For instance, if the total heap size is 1024, NewSize and Max NewSize should be set to 256, which would then require a value of 8 for SurvivorRatio.

The complete line would look similar to the following:

```
set MEM_ARGS=-XX:NewSize=256m -XX:MaxNewSize=256m
-XX:SurvivorRatio=8 -Xms1024m -Xmx1024m
```

where:

-XX:NewSize= is the minimum size of new generation heap (sum of eden & two Survivor spaces)

-XX:MaxNewSize= is the maximum size of the new generation heap

-XX:SurvivorRatio= is the size of survivor space (ratio of eden to Survivor space)

The Young generation area equals the sum of eden and 2 Survivor spaces.



After completion of [step 13](#), the WebLogic domain instance of P6 Web Access can be started.

- 14** If using SQL Server, proceed to [“Additional Settings for JBoss and WebLogic on Microsoft SQL 2005 Databases”](#) on page 160.

Configuring Oracle WebLogic 10g R3

Configuring Oracle WebLogic 10g R3 involves three steps:

- Creating a WebLogic domain for the P6 Web Services application.
- Deploying P6 Web Access into the WebLogic domain.
- Configuring P6 Web Access

Creating a WebLogic Domain

- 1 Run the WebLogic Configuration Wizard.
- 2 In the **Welcome** window, select **Create a new WebLogic domain** and click **Next**.
- 3 In the **Select Domain Source** window, click **Next** to accept the default selections.
- 4 In the **Configure Administrator Username and Password** window, enter the user name and password information and click **Next**.
- 5 In the **Select Domain Source** window, click **Next** to accept the default selections.
- 6 In the **Configure Server Start Mode and JDK** window, select **Production Mode** in the left pane. Select an appropriate JDK in the right pane and click **Next**.
- 7 In the **Customize Environment and Services Settings** window, click **Next**.
- 8 In the **Create WebLogic Domain** window, enter the domain and location information and click **Create**.
- 9 In the **Creating Domain** window, select **Start Admin Server** and click **Done**.
- 10 When prompted, enter the username and password that you entered in [step 4](#).

Deploying P6 Web Access into the WebLogic domain

Use the following instructions to deploy P6 Web Access into the WebLogic domain:

- 1 In the **Welcome** window of the Administration Console, log in using the user name and password that you entered in step 4 above.
- 2 In the **Change Center** pane of the Administration Console, click **Lock & Edit**.
- 3 In the **Domain Structure** pane, click **Deployments**.
- 4 In the **Summary of Deployments** pane, click **Install**.
- 5 In the **Install Application Assistant** pane, navigate to the P6 Web Access home folder. Select the `primaveraweb.ear` file and click **Next**.
- 6 In the **Install Application Assistant** pane, select **Install this deployment as an application** and click **Next**.
- 7 In the **Install Application Assistant** pane, click **Next** to accept the default options.
- 8 Review the configuration settings you have chosen and then click **Finish** to complete the installation.
- 9 In the **Settings for primaveraweb** window, click **Save**.
- 10 In the **Change Center** pane, click **Activate Changes**.
- 11 In the **Domain Structure** pane, click **Deployments**.
- 12 In the **Summary of Deployments** pane, select **primaveraweb**.
- 13 In the **Summary of Deployments** pane, click the down arrow to the right of the **Start** button and click **Servicing all requests**.
- 14 In the **Start Application Assistant** pane, click **Yes**.
- 15 In the **Summary of Deployments** pane, click the **start Running** link in the **State** column of the row that contains `primaveraweb`.
- 16 Wait a few minutes and then click **Refresh**.
The `primaveraweb` state column should show **Active**.

Configuring WebLogic 10g R3 for P6 Web Access

- 1 Edit the startWebLogic file.
- 2 Locate the line that begins with “set JAVA_OPTIONS=” and add the Primavera bootstrap variable.

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

```
set JAVA_OPTIONS=%SAVE_JAVA_OPTIONS%
-Dprimavera.bootstrap.home=<webaccesshome>
```

where <webaccesshome> is the P6 Web Access home directory that was set during installation (for example, c:\p6wahome).

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

```
JAVA_OPTIONS=%SAVE_JAVA_OPTIONS%
-Dprimavera.bootstrap.home="<webaccesshome>"
```

where <webaccesshome> is the P6 Web Access home directory that was set during installation (for example, /usr/p6wahome).

- 3 (Red Hat Enterprise Linux) By default, RedHat does not install all the appropriate libraries for P6 Web Access. In order for P6 Web Access to work under WebLogic 10g R3 on RedHat, append the following after the Primavera bootstrap variable (added in step 2):

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



Be sure to include a space before the -Djava specification. Properties after the bootstrap can be in any order.

- 4 Set the Java Virtual Machine by entering a variable for JAVA_VM, immediately below the JAVA_OPTIONS line (added in step 2).

The line should look similar to the following:

```
JAVA_VM=-server
```

- 5 Include “<webaccesshome>license” and “ojdbc5.jar” at the beginning of the WebLogic classpath.

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

```
set CLASSPATH=<webaccesshome>\license\;
<webaccesshome>\lib\ojdbc5.jar;%SAVE_CLASSPATH%
```

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

```
CLASSPATH="<webaccesshome>/license":  
"<webaccesshome>/lib/ojdbc5.jar":${CLASSPATH}
```

- 6 Save the changes to the startWebLogic file.
- 7 Make a backup copy of the setDomainEnv.cmd (or setDomainEnv.sh for Linux) file in case you need to undo any changes.
- 8 Edit the setDomainEnv file.
- 9 Increase the JVM MaxPermSize setting in the setDomainEnv file to avoid Out-of-Memory errors. The MaxPermSize setting should be set to at least 256m.

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

```
if "%JAVA_VENDOR%"=="Sun" (  
    set MEM_ARGS=%MEM_ARGS% %MEM_DEV_ARGS%  
    -XX:MaxPermSize=256m  
)
```

- In HP-UX, the line should look similar to the following

```
if [ "${JAVA_VENDOR}" = "HP" ]; then  
    MEM_ARGS="${MEM_ARGS} ${MEM_DEV_ARGS}  
    -XX:MaxPermSize=256m"  
    export MEM_ARGS
```

- 10** Modify memory settings in the `setDomainEnv` file to maximize performance. To do this, edit the `MEM_ARGS` line so that values can be set for `NewSize`, `MaxNewSize` and `SurvivorRatio`.

For instance, if the total heap size is 1024, `NewSize` and `MaxNewSize` should be set to 256, which would then require a value of 8 for `SurvivorRatio`.

The complete line would look similar to the following:

```
set MEM_ARGS=-XX:NewSize=256m -XX:MaxNewSize=256m  
-XX:SurvivorRatio=8 -Xms1024m -Xmx1024m
```

where:

`-XX:NewSize=` is the minimum size of new generation heap (sum of eden & two Survivor spaces)

`-XX:MaxNewSize=` is the maximum size of the new generation heap

`-XX:SurvivorRatio=` is the size of survivor space (ratio of eden to Survivor space)

The Young generation area equals the sum of eden and 2 Survivor spaces.



After completion of step 10, the WebLogic domain instance of P6 Web Access can be started.

- 11** If using SQL Server, proceed to [“Additional Settings for JBoss and WebLogic on Microsoft SQL 2005 Databases”](#) on page 160.

Additional Settings for JBoss and WebLogic on Microsoft SQL 2005 Databases

The following instructions apply when using Microsoft SQL Server 2005 databases. If the Microsoft SQL Server database is localized or installed on a localized operating system, it is necessary to use the SET DATEFORMAT setting in the P6 Web Access admin.jsp. Otherwise, the user will encounter SQL errors when navigating in Resource Planning and Capacity Analysis. Odd behavior might also occur in the Activities view.

For detailed information on the Administration Application, see ["Using the Administration Application"](#) on page 175.

- 1 In the P6 Web Access admin.jsp file (Administration Application), locate the Database folder for the Microsoft SQL Server database used by P6 Web Access.
- 2 In that folder, expand the appropriate Instance folder and then the Session Settings folder (choices will be from 1 to 5).
- 3 Use the following syntax to add a Session Setting:
set DATEFORMAT ymd
- 4 Save the change.
- 5 Restart the application server, and the change will immediately take effect.

Configuring WebSphere 6.1

Changing Java Home for Primavera Administrative BAT files

After installing P6 Web Access, you must change JAVA_HOME in the following files: dbconfigpv.cmd and adminpv.cmd. They are found in the home directory of P6 Web Access.

- 1 Open the dbconfigpv.cmd and adminpv.cmd files with a text editor. Change the following line in each file,

from:

```
set JAVA_HOME=C:\DOCUME~1\ADMINI~1\LOCALS~1\Temp....
```

to:

```
set JAVA_HOME=<WEBSHERE INSTALL DIRECTORY>\AppServer\java
```

- 2 Execute the dbconfigpv.cmd and create a new database connection as described in [“Installation Process for P6 Web Access”](#) on page 143.

Installation on Windows



These steps should be performed immediately after installing P6 Web Access.

- 1 Start the WebSphere Application Server.
- 2 Launch the WebSphere Application Server Administrative Console.
- 3 In the left-hand navigation pane, expand Servers and click 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, type:
-Dprimavera.bootstrap.home=c:\<webaccesshome>
- 9 Click OK. Click the Save link that appears within the message reporting changes.
- 10 In the left-hand navigation pane, expand Applications and click Install New Application.

- 11 Specify the path to the <webaccesshome> folder for P6 Web Access, which contains the primaveraweb.ear file.
For example: c:\p6wahome\primaveraweb.ear.
- 12 For the Context Root, type primaveraweb, then click Next.
- 13 On the Choose to generate default bindings and mappings screen, accept the defaults and click Next.



If the Application Security Warnings screen displays, click Continue.

- 14 On the Specify options for installing enterprise applications and modules screens do the following:
 - For Step 1, mark the checkbox for Pre-compile JSPs, and click Next.
 - In the Step 2 section "Install new application", mark the primaveraweb checkbox, and click Next.
 - In the Step 3 section "Install new application", mark the primaveraweb checkbox, and click Next.
 - On the Step 4 screen (Summary), click Finish. Note that the application EAR file is now deploying and this process might take several minutes.
- 15 To save the master WebSphere configuration, click Save. This process might also take several minutes.
- 16 On the Administrative Console Main screen, in the left-hand navigation, expand Applications and click Enterprise Applications.
- 17 Locate primaveraweb and check its application status. If it is not a green arrow, click the Start button above the Select column.
- 18 If necessary, restart the WebSphere application server.

Installation on AIX 5.2

The following instructions ([step 1](#) through [step 3](#)) are only required for installing P6 Web Access on AIX 5.2.

- 1 To start the P6 Web Access installation from physical media, go to a command prompt and change your directory to point to the root of the P6 Web_Access folder. The "setupaix" file should be found.
- 2 Type the following command to start the installation:
./setupaix
- 3 Follow the steps in "[Installation on Windows](#)" on page 161.

Starting the Server for P6 Web Access

The following procedures assume you have installed P6 Web Access into a supported application server and completed the additional steps outlined in “[Configuring and Deploying the Application Server for P6 Web Access](#)” on page 148.

Starting the Server for P6 Web Access on JBoss

- On Windows, double-click the “startP6WebAccessinJoss.bat” file that was created in [step 9](#) on page 149.
- On Linux, open a terminal and enter the following commands:

```
cd /<JBOSS INSTALL LOCATION>/bin
./run.sh -c primaveraweb
```

Starting the Server for P6 Web Access on WebLogic

- On Windows, from the Start menu, navigate to the BEA WebLogic submenu, then choose User Projects, <domain>, Start Server.

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.
- On Solaris and HP-UX, change to the <bea_home>/user_projects/<domain> directory and run the startWebLogic.sh script.

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.



If P6 Web Access is installed as an application, and 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 the Server for P6 Web Access on WebSphere Advanced Server

- On Windows, Linux, and AIX, from the WebSphere administrative console, start the Primaveraweb module. Primaveraweb is the default module name assigned during installation.

Precompiling P6 Web Access

Although not required for P6 Web Access, precompilation helps to reduce the amount of time it takes for users to load P6 Web Access pages for the first time.

The following instructions apply to all application servers supported by Primavera and need to be performed while the application server is running.

- 1 Copy the "precompile_utility" directory from the Web_Access folder of the physical media or download to the server where P6 Web Access is installed.
- 2 Open a command prompt and go to the newly created "precompile" directory.
- 3 Run a command similar to the following:

```
precompile -u <base URL> -f <input file>
```

where:

<base URL> is the P6 Web Access base URL

<input file> is the P6 Web Access EAR file



The file path of the P6 Web Access EAR file cannot contain spaces.

For example, assuming a standard P6 Web Access installation on WebLogic,

the command should look similar to the following in Windows:

```
precompile -u http://localhost:7001/primaveraweb -f  
c:\<webaccesshome>\primaveraweb.ear
```

the command should look similar to the following in HP-UX-11i:

```
java -jar JSPPrecompile.jar -u http://localhost:7001/primaveraweb  
-f <webaccesshome>/primaveraweb.ear
```

Stopping the Server for P6 Web Access

Stopping the Server on JBoss

From the Windows Command prompt, press Ctrl+c.

Stopping the Server on WebLogic

On Windows and Solaris, in the WebLogic terminal console, press Ctrl+c.

Stopping the Server on WebSphere Advanced Server

On Windows, Linux, and AIX, from the WebSphere administrative console, stop the PrimaveraWeb module. PrimaveraWeb is the default module name assigned during installation.

Accessing P6 Web Access from Client Browsers

To select authentication mode for P6 Web Access, use the Authentication Configuration wizard (LDAPCfgWiz.exe, located in the

\Client_Applications\install\database\ldap-config folder of the P6 physical media or download). Also, specify the configuration settings for P6 Web Access that are required for authentication. For details on the Configuration wizard, see “Configuring Authentication Modes” on page 289. For information about authentication configuration settings, see “Configure Authentication” on page 183.

Users can access P6 Web Access from client browsers using the following URL structure, depending on the application server platform.

On a JBoss application server

`http://serverIP:listenport/ContextRoot/login_cmt`

Example: `http://192.168.0.1:8080/primaveraweb/login_cmt`

The default listenport is 8080. The default context root is primaveraweb.

On a WebLogic application server

`http://serverIP:listenport/ContextRoot/login_cmt`

Example: `http://192.168.0.1:7001/primaveraweb/login_cmt`

The default listenport for new WebLogic domains is 7001. The default context root is primaveraweb.

On a WebSphere application server

`http://serverIP:listenport/ContextRoot/login_cmt`

Example: `http://192.168.0.1:9080/primaveraweb/login_cmt`

The default listenport is 9080. The default context root is primaveraweb.



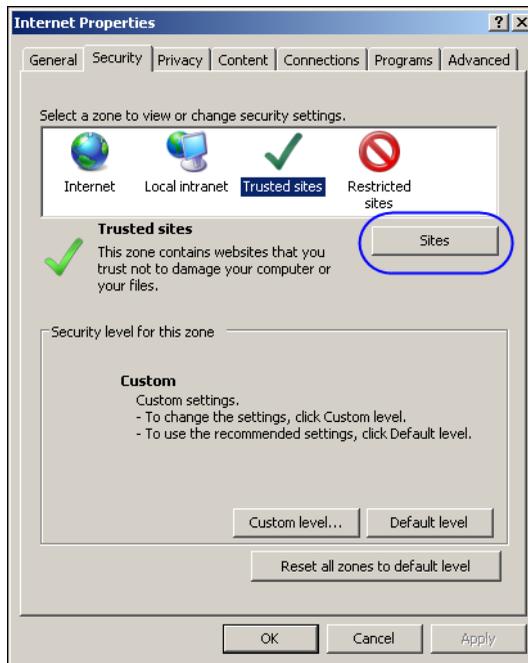
The context root is configurable on all supported application servers. For information about context root configuration, refer to your application server documentation. Also, URLs might be case-sensitive, depending on your application server configuration.

Configuration Settings on Client Browsers

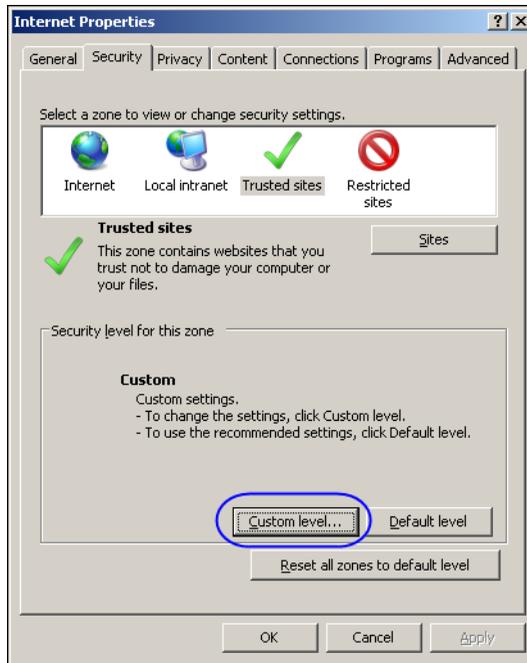
Setting Change to Import from Microsoft Outlook

Users will not be able to import data into P6 Web Access from Microsoft Outlook if Internet Explorer is not configured to allow a specific Active X control. If users need to import from Microsoft Outlook, perform the following on each client machine:

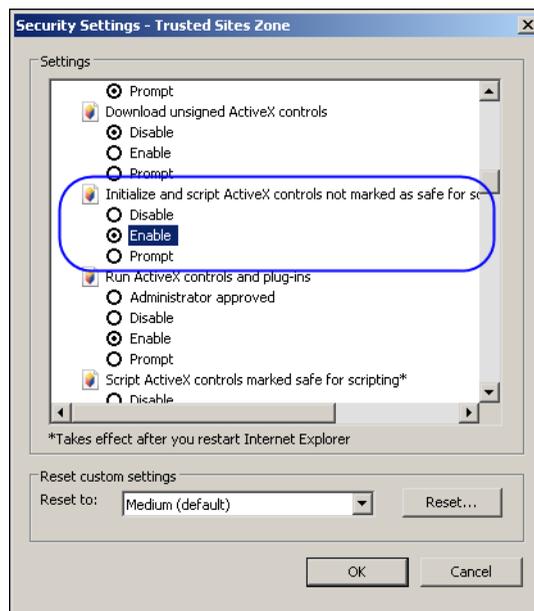
- 1 From the Windows Control Panel, select Internet Options.
- 2 Go to the Security tab and click on Trusted Sites.
- 3 Click on the Sites button and add your P6 Web Access URL to the zone.



- 4 Close the Sites window.
- 5 Click on the Custom level button.



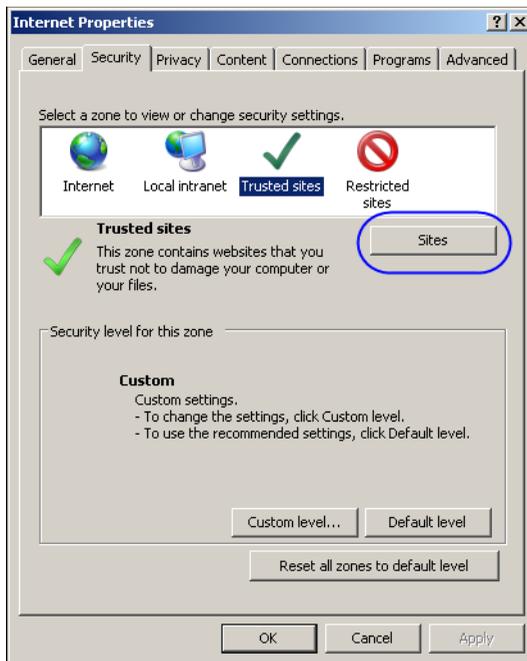
6 Enable the setting, Initialize and script Active X controls not marked as safe for scripting.



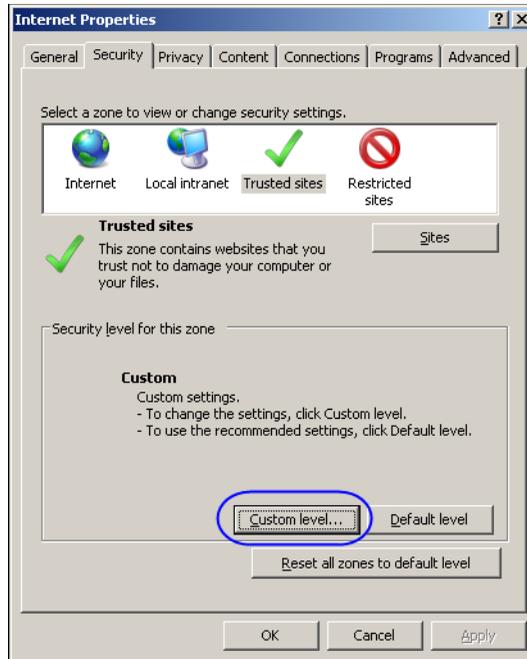
Setting Change to Resolve Export to Excel Issue

When clicking on a link to export to Excel, users might experience a lack of response (no Open/Save dialog box launches) from P6 Web Access if Internet Explorer is not configured properly. If this occurs, do the following on each client machine experiencing the issue:

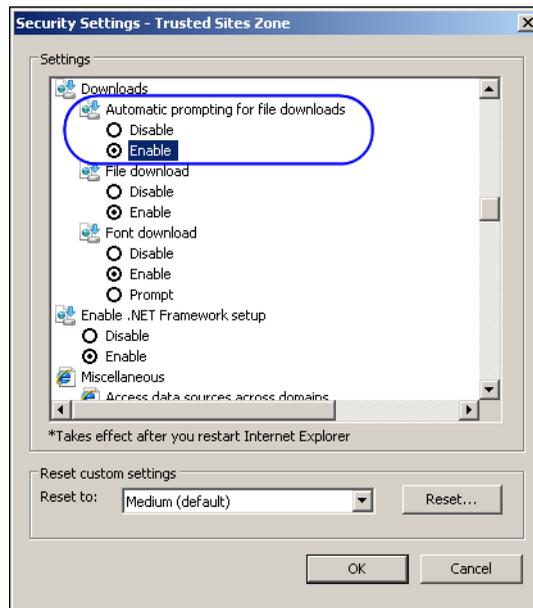
- 1 From the Windows Control Panel, select Internet Options.
- 2 Go to the Security tab and click on Trusted Sites.
- 3 Click on the Sites button and add your P6 Web Access URL to the zone.



- 4 Close the Sites window.
- 5 Click on the Custom level button.



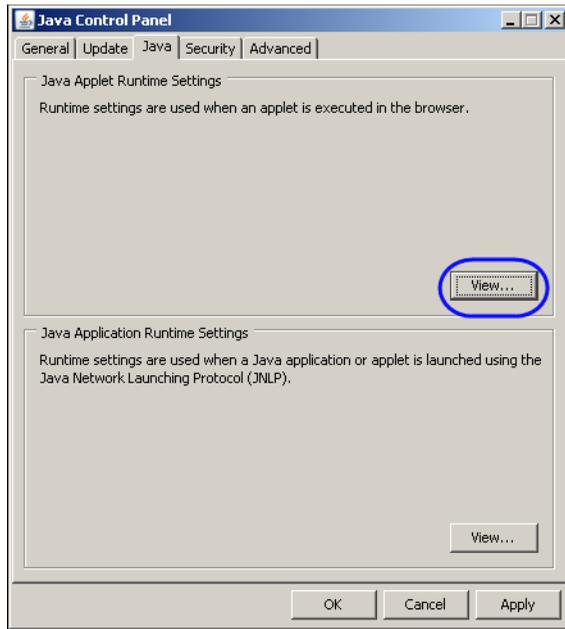
6 Enable the setting, Automatic prompting for file downloads.



Setting Change 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 when using P6 Web Access. If so, do the following on every client machine where the P6 Web Access module is being used:

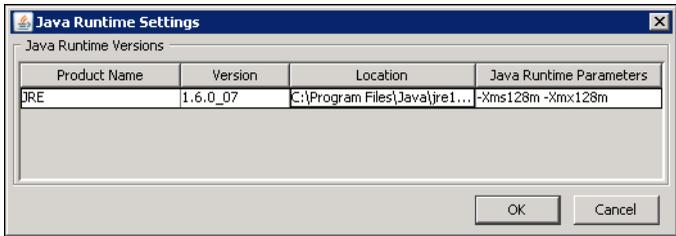
- 1 From the Windows Control Panel, select Java.
- 2 On the Java Control Panel, select the Java tab.
- 3 Under Java Applet Runtime Settings, click View.



- 4 On the Java Runtime Settings screen, in the JRE/1.6.0.07 row, add -Xms<value>m and -Xmx<value>m entries in the Java Runtime Parameters field.

The appropriate values will vary with your configuration; however, we recommend the following values as a starting point:

-Xms128m -Xmx128m



5 Exit the Java Control Panel.

Changing Database Configuration Settings

The Database Configuration wizard enables you to change the database connection settings you specified when you installed P6 Web Access.

The database you select during installation stores one or more Primavera configurations, each one specifying a set of configurable parameters that determine how P6 Web Access operates. During installation, you select an existing Primavera configuration or create a new one. Later, you can use the Database Configuration wizard to select a different Primavera configuration or create a new one.



After selecting a different P6 configuration or creating a new configuration, you must stop and restart the application server for P6 Web Access in order for the changes to take effect.

Starting the Database Configuration wizard on JBoss

From the Start menu, choose Programs, Primaveraweb, Database Configuration Setup.

Starting the Database Configuration wizard on WebLogic

- On Windows, run dbconfigpv.cmd (located in the <webaccesshome> directory you specified when setting up P6 Web Access), or choose Start, Programs, Primavera Web Access 6.2.1, Database Configuration Setup.
- On Solaris and HP-UX, change to the <webaccesshome> directory you specified when setting up P6 Web Access, and run dbconfigpv.sh.

Starting the Database Configuration wizard on WebSphere

- On Windows, run dbconfigpv.cmd (located in the <webaccesshome> directory you specified when setting up P6 Web Access), or choose Start, Programs, Primavera Web Access 6.2.1, Database Configuration Setup.
- On Linux and IBM AIX, change to the <webaccesshome> directory under the WebSphere install directory and run dbconfigpv.sh.

Using the Administration Application

As the system administrator, you can use the Administration Application of P6 Web Access to review, modify, add, and delete Primavera configurations. Primavera configurations are stored in the database for P6 Web Access, which you specified during installation. These configurations contain all of the settings used to run the Application Server for P6 Web Access.



Only experienced administrators should use the Administration Application to modify configuration settings.

You can run the Administration Application of P6 Web Access locally or remotely through a browser. After launching the Administration Application, you will be prompted for a database level user name and password. The default PMDB database-level user name and password is “privuser.” This is case-sensitive, and is all lowercase letters.

Starting the Administration Application on JBoss

Run `adminpv.cmd` (located in the `<webaccesshome>` directory you specified when setting up P6 Web Access, or choose Start, Programs, Primavera Web Access 6.2.1, Administration Application.

Starting the Administration Application on WebLogic

- On Windows, run `adminpv.cmd` (located in the `<webaccesshome>` directory you specified when setting up P6 Web Access, or choose Start, Programs, Primavera Web Access 6.2.1, Administration Application.
- On Solaris and HP-UX, to launch the Administration Application locally, change to the `<webaccesshome>` directory you specified when setting up P6 Web Access, then run the `adminpv.sh` script.
- To launch the Administration Application remotely, launch a browser and navigate to `http://server IP:listenport/ContextRoot/admin.jsp`, where `serverIP:listenport` is the IP address and listen port for the server of P6 Web Access. The default context root is `primaveraweb`.

The installation for P6 Web Access sets the default URLs for remote access to the Administration Application. You can use the application server's configuration utility to change the listen port number and context root.

Starting the Administration Application on WebSphere

- On Windows, run `adminpv.cmd` (located in the `<webaccesshome>` directory you specified when setting up P6 Web Access, or choose Start, Programs, Primavera Web Access 6.2.1, Administration Application.
- On Linux and IBM AIX, to launch the Administration Application locally, change to the `<primaveraweb>` directory under the WebSphere install directory and run the `adminpv.sh` script.
- To launch the Administration Application remotely, launch a browser and navigate to `http://server IP:listenport/ContextRoot/admin.jsp`, where `serverIP:listenport` is the IP address and listen port for the server of P6 Web Access. The default context root is `primaveraweb`.

Reviewing and Modifying Configurations for P6 Web Access

The Administration Application of P6 Web Access presents configuration settings in a tabbed dialog box. Tree view and Table view display the current configurations and settings. Log displays a history of configuration changes, additions, or deletions.

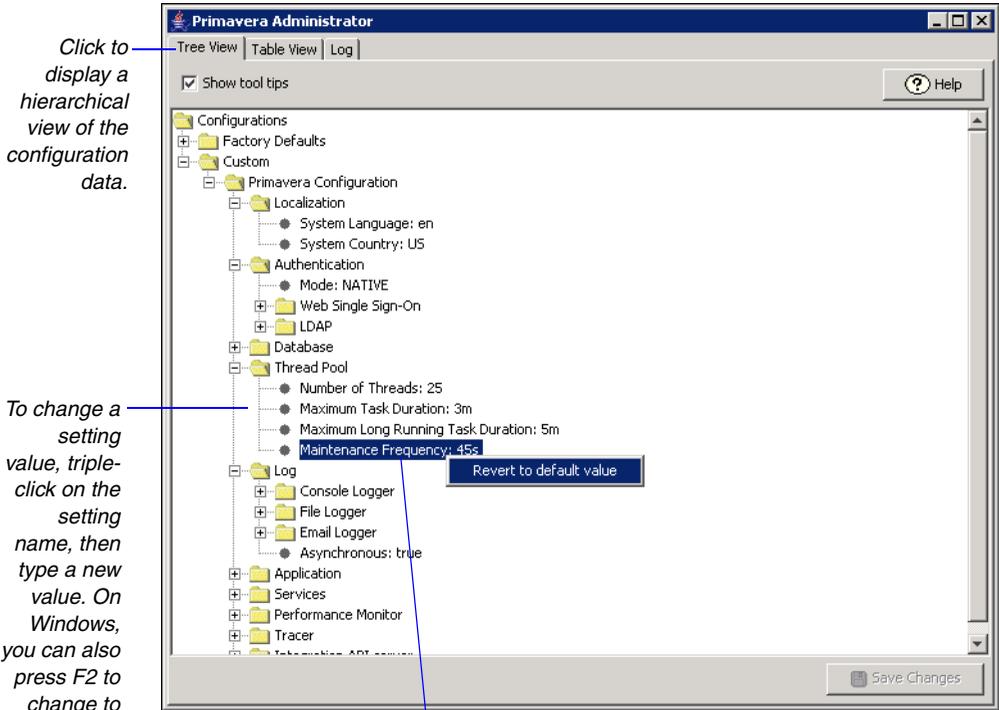


You cannot edit the Factory Default configuration settings. You can only modify custom configurations.

To display brief setting descriptions in Tree or Table view, mark the Show tool tips checkbox. Then, position the mouse over a setting to read the popup description.



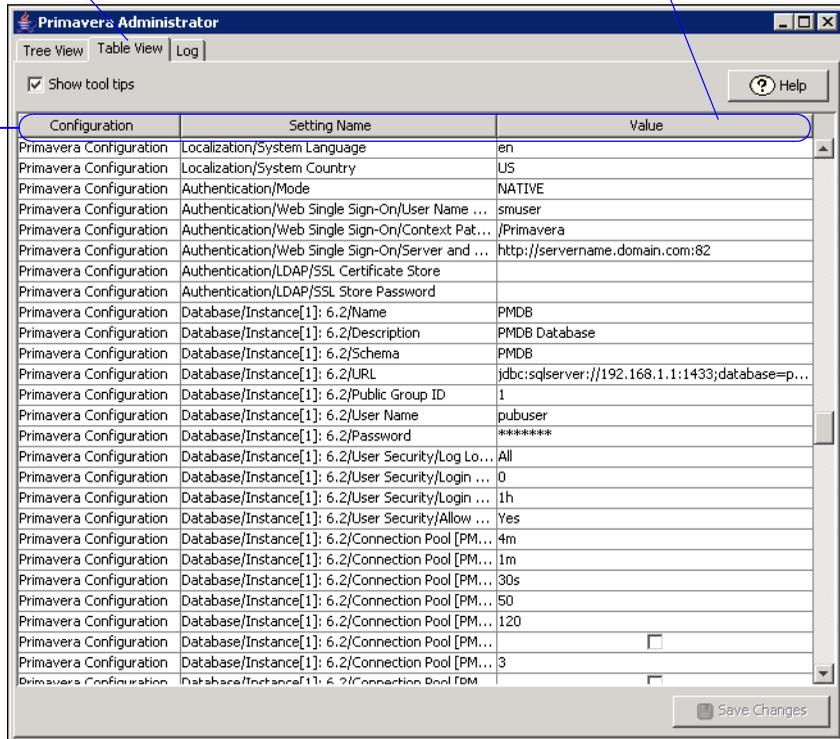
Configurations highlighted in red are out of date. Primavera recommends that you delete these configurations.



Click to display configuration settings in a table format.

To change a setting value, select the setting, click in the Value column, then type a new value.

To sort the table, click a column heading. Sorting can help you distinguish similar settings contained in multiple configurations.



Add configurations for P6 Web Access To create a new configuration, you can duplicate an existing configuration.

- To duplicate a configuration, select the configuration name in Tree View, then right-click and choose Duplicate. Enter a name for the configuration, then click OK. Edit the settings as needed.
- To create a new configuration based on factory default settings, right-click on Factory Defaults in Tree View and choose Duplicate.

Add database instances to a configuration To add a new database instance to a configuration, you can duplicate an existing instance.

- To duplicate a database instance, select the icon representing the instance, then right-click and choose Duplicate. Enter a unique name for the new instance and edit other settings as needed.

Delete configurations and database instances for P6 Web Access To delete a configuration or database instance, select it, then right-click and choose Delete.

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 “[Changing Database Configuration Settings](#)” on page 174).

Configure P6 Web Access to run the Project Architect job service To run the Project Architect job service in P6 Web Access, you must modify the appropriate P6 Web Access configuration to connect the project management database associated with the job service to the methodology management DB Alias specified on the job service machine.

Complete the following steps to configure P6 Web Access to run the Project Architect job service:



If a methodology management DB Alias does not exist on the machine on which you installed the job service, you must use the Database Configuration wizard to create or select one. If a methodology management DB Alias already exists on the job service machine, skip step 1 in the following procedure.



These instructions assume you have already installed the Job Service.

For information on installing and configuring the job service, refer to “[Installing the Job Service and Distributed Job Service](#)” on page 247.

- 1 If necessary, on the job service machine, run the Database Configuration wizard to create or select a methodology management DB Alias that connects the job service machine to the methodology management database you want to associate with P6 Web Access.

For instructions on configuring database connections, refer to “[Changing Database Connection Settings](#)” on page 282.

2 Launch the Administration Application.

For instructions on launching the Administration Application, refer to “Using the Administration Application” on page 175.

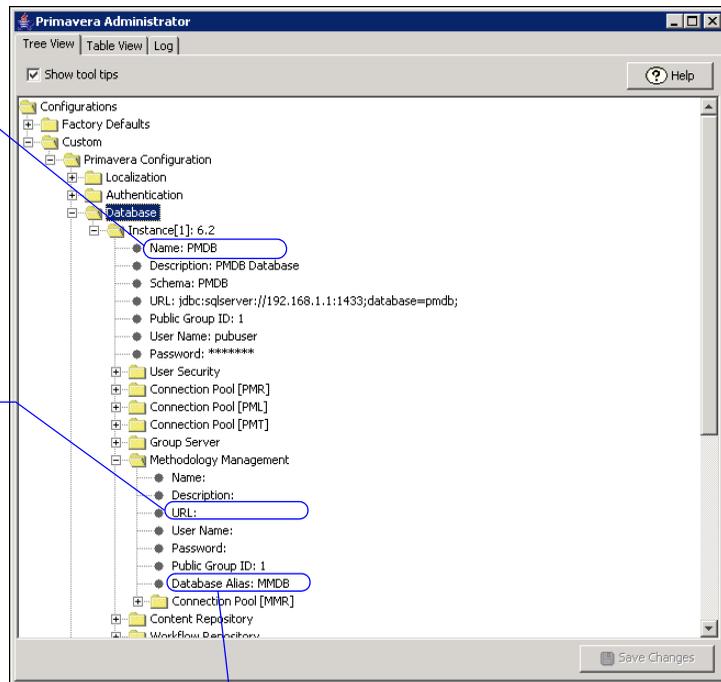
3 In the Tree View, underneath the appropriate Primavera Configuration, navigate to the following location: Database/ Instance/Methodology Management.

4 In the Methodology Management folder, modify the URL so that it points to the same methodology management database you specified in [step 1](#).

5 Modify the DBAlias value to match the DB Alias of the methodology management database you specified in [step 1](#).

Make sure the Job Service points to the project management database instance shown in your database configuration for P6 Web Access.

Modify the URL to point to the methodology management database you specified on the job service machine.



Modify the DB Alias so that it exactly matches the DB Alias of the methodology management database you specified on the job service machine.

Manage access to multiple database instances P6 Web

Access enables you to access data from different project management databases. When you configure P6 Web Access to support multiple database instances, the Login page displays a Database drop-down list that enables users to choose the database instance they want to connect to.

Through the Administration Application, you can configure the server for P6 Web Access 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 Web Access server URL and points to that specific database instance. When users access the URL you specify, the Database drop-down 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 Web Access.

For example, the following URL would log a user into the database instance named Sample.

`http://serverIP:listenport/login_cmt?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 drop-down list.

To require a database parameter with the URL for P6 Web Access

- 1 Launch the Administration Application.
- 2 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.

Use the value you specify as the keyword to bypass the database requirement when logging in to the server for P6 Web Access.

For example, `http://serverIP:listenport/login_cmt?db=bypass`

Configure Authentication P6 Web Access uses up to six configuration settings to support authentication.

- Authentication/Mode
- Authentication/Web Single Sign-On/User Name Header Key
- Authentication/Web Single Sign-On/Context Path Override
- Authentication/Web Single Sign-On/Server and Port Override
- Authentication/LDAP/SSL Certificate Store
- Authentication/LDAP/SSL Store Password



The Authentication/Mode settings must match the mode selected for Group Server.

Because one server instance of P6 Web Access might control more than one database, in addition to specifying an authentication mode through the LDAP Configuration wizard, use the Authentication/Mode configuration setting to specify the overall mode you want to use for the server of P6 Web Access. If using Single Sign-On, you will also need to modify three additional configuration settings required for the policy server. For LDAP authentication with secure communication (SSL) between P6 Web Access and the LDAP server, two additional configuration settings are required.

For more information about each of these settings, refer to the Authentication Settings subsection in the next section, “[Configuration Settings for P6 Web Access](#)”.



A configuration for P6 Web Access might include database instances that are not set to the same authentication mode as the server of P6 Web Access. If a user connects and requests a database that is set to a different authentication mode than the server of P6 Web Access, an error message displays. The user must select a database that matches the authentication mode set for the server of P6 Web Access.

Configuring custom portlets In the Dashboards and Project Workspace of P6 Web Access, 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.

For more information about this setting, refer to the Application Settings subsection in the next section, “[Configuration Settings for P6 Web Access](#)”.



You must update your configuration for this setting to appear. To do so, highlight the configuration, right-click, and select “Update to latest version”.

Configuring and overriding password policy P6 Web Access allows Administrators to control password-related security, such as how many times a user can attempt to login before being denied access, and once locked out, the duration that the user has to wait before attempting to login again. The available settings are detailed in the \Database\Instance\User Security subsection under “[\[Database Settings\]](#)” on page 187.

Administrators can manually override the lock out, if needed. Complete the following steps to reset a P6 Web Access user:

- 1 Log into P6 Web Access as an Admin Superuser.
- 2 On the browser’s address line, remove all text after “action,” replace it with “/useradmin,” and reload the page.

For example, the default components of the URL after login are:

`http://serverIP:listenport/ContextRoot/action/home`

Change to:

`http://serverIP:listenport/ContextRoot/action/useradmin`

- 3 The User Administration page will load, and you will see a list of all active and locked out users. Click on the “Reset User” link for the locked out user. If multiple users are locked out, click on the “Reset All Users” link at the top of the page.

Configuration Settings for P6 Web Access

You can review and modify configuration settings in the Administration Application Tree View or Table View. Configuration settings are stored in the database for P6 Web Access, which you specified during installation.

You can specify durations (time-related values) in several ways:

- As a simple number, which is treated as milliseconds.

For example, 240000 would be equivalent to 4 minutes (240000/60000).

- In the form <n>d<n>h<n>m<n>s, 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



Only experienced administrators should use the Administration Application of P6 Web Access to modify configuration settings.

[Localization Settings]

Setting Name and Description	Default	Valid Ranges/Values
Localization/System Language Language for server string constants	en	—
Localization/System Country Country for server string constants	US	—

[Authentication Settings]

Setting Name and Description	Default	Valid Ranges/Values
Authentication/Mode The method used for client authentication.	NATIVE	Native, LDAP, WebSSO
Authentication/Web Single Sign-On/User Name Header Key The name of the http header you specified in SiteMinder. The value you specify must match the property of a SiteMinder response you have created under the policy domain/realm within which the Web server for P6 Web Access resides. The value of this response should be smuser=uid, where smuser is configurable and uid matches the LDAP server attribute that maps to the Primavera database USER_Name field.	smuser	—
Authentication/Web Single Sign-On/Context Path Override The path used to pass web requests from the SiteMinder Web server to the server of P6 Web Access.	/Primavera	—
Authentication/Web Single Sign-On/Server and Port Override The fully qualified domain name and port for the Web server that SiteMinder is controlling.	http:// servername.domain.com:82	—
Authentication/LDAP/SSL Certificate Store The full path to the keystore that holds the SSL certificate for the LDAP server.	—	—
Authentication/LDAP/SSL Store Password The password for the keystore that holds the SSL certificate.	—	—

[Database Settings]

Setting Name and Description	Default	Valid Ranges/Values
Database/Instance/Name The name of this database instance.	—	up to 32 characters
Database/Instance/Description A description of this database instance.	—	up to 128 characters
Database/Instance/Schema The schema that will be defined for the database.	PMDB	—
Database/Instance/URL The database URL used to establish a connection to the database. Oracle example: jdbc:oracle:thin:@xx.xxx.xxx.xx:yyyy:zzzz SQL example: jdbc:sqlserver://xxxx:yyyy;database=zzzz; x = IP address or hostname y = database listen port z = database name	—	—
Database/Instance/Public Group ID The public group ID used to establish a connection to the database.	1	—
Database/Instance/User Name The name used to establish a connection to the database.	pubuser	—
Database/Instance/Password The password used to establish a connection to the database.	pubuser	—
Database/Instance/User Security/Log Login Attempts Specifies whether or not login attempts to P6 Web Access are tracked in the Web Access logs.	All	All, None, Failed Attempts, Successful Attempts
Database/Instance/User Security/Login Lockout Count 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.	0	0-100000

[Database Settings]

Setting Name and Description	Default	Valid Ranges/Values
<p>Database/Instance/User Security/Login Lockout Duration</p> <p>The length of time that a user is blocked from logging into P6 Web Access, 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 Super user. For more information, see “Configuring and overriding password policy” on page 184.</p>	1h	0-24d
<p>Database/Instance/User Security/Allow Multiple User Sessions</p> <p>Specifies whether a single user can be simultaneously logged into Web Access.</p> <p>A setting of “Yes” will allow a single user to login multiple times on any machine.</p> <p>A setting of “No” restricts a user to logging in only once on any machine.</p> <p>A setting of “Single Machine” allows a user to log in multiple times on the same machine, as long as the application server is configured properly to determine the IP address of the machine making the request. For example, if the application server is behind a proxy server, this setting will default to “Yes” instead of “Single Machine.”</p>	Yes	Yes, No, Single Machine
<p>Database/Instance/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 concurrently 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

[Database Settings]

Setting Name and Description	Default	Valid Ranges/Values
<p>Database/Instance/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 client transaction is requested.</p>	1m	10s - 1h
<p>Database/Instance/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/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>	50	5 - 15000

[Database Settings]

Setting Name and Description	Default	Valid Ranges/Values
<p>Database/Instance/Connection Pool [aaa]/Fetch Size A hint to the database driver for how many rows to fetch at a time. [PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine. [PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs. [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/Connection Pool [aaa]/Trace SQL Trace all SQL sent to the database. [PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine. [PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs. [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/Connection Pool [aaa]/Renewable Free Limit The minimum number of connections that should be available for leases to be renewed. [PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine. [PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs. [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

[Database Settings]

Setting Name and Description	Default	Valid Ranges/Values
Database/Instance/Connection Pool [aaa]/Renewable Leases If false, each connection can be leased only for the MaxLeaseDuration period. 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. [PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine. [PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs. [PMT] Used for the transactional connection pool, which is used in the Business Rule Engine when a client transaction is requested.	PMR - false PML - false PMT - true	true/false
Database/Instance/Connection Pool [aaa]/Maximum Lease Duration The maximum amount of time a database connection can be leased before it is revoked. [PMR] Used for the standard connection pool, which is the most frequently used connection pool in the Business Rule Engine. [PML] Used for the long running connection pool, which is used in the Business Rule Engine when scheduling long running jobs. [PMT] Used for the transactional connection pool, which is used in the Business Rule Engine when a client transaction is requested.	PMR - 2m PML - 10m PMT - 10m	PMR - 5s - 4h PML - 5s - 6h PMT - 5s - 6h
Database/Instance/Group Server/Protocol Protocol for GroupServer	socket	http, https, socket
Database/Instance/Group Server/Server GroupServer host machine name	servername	—
Database/Instance/Group Server/Port GroupServer host listen port	9002	—

[Database Settings]

Setting Name and Description	Default	Valid Ranges/Values
Database/Instance/Group Server/URL GroupServer servlet URL.	http:// servername	—
Database/Instance/Methodology Management/Name Name of this database instance.	—	—
Database/Instance/Methodology Management/Description Description of this database instance.	—	—
Database/Instance/Methodology Management/URL Database URL used to establish a connection to the database.	—	—
<p>Oracle example: jdbc:oracle:thin:@xx.xxx.xxx.xx:yyyy:zzzz</p> <p>SQL example: jdbc:sqlserver://xxxx:yyyy;database=zzzz;</p> <p>x = IP address or hostname y = database listen port z = database name</p>		
Database/Instance/Methodology Management/User Name The name used to establish a connection to the database.	—	—
Database/Instance/Methodology Management/Password The password used to establish a connection to the database.	—	—
Database/Instance/Methodology Management/Public Group ID The Group ID used to establish a connection to the database.	1	—
Database/Instance/Methodology Management/Database Alias The DB Alias name used by the Project Architect job service to create a project plan from a methodology.	MMDB	—
Database/Instance/Methodology Management/Connection Pool [MMR]/Resize Rate The timeout period after which the system will adjust the number of database connections to be equal to the maximum number of database connections concurrently used during the last period.	4m	4m - 12h

[Database Settings]

Setting Name and Description	Default	Valid Ranges/Values
Database/Instance/Methodology Management/ Connection Pool [MMR]/Maintenance Frequency The run frequency of the maintenance that ensures leases have not exceeded the maximum duration.	1m	10s - 1h
Database/Instance/Methodology Management/ Connection Pool [MMR]/Lease Request Wait Timeout The amount of time a request for a database connection will wait.	30s	5s - 2h
Database/Instance/Methodology Management/ Connection Pool [MMR]/Maximum Connections The maximum number of connections the server will have to the database.	50	5 - 15000
Database/Instance/Methodology Management/ Connection Pool [MMR]/Fetch Size A hint to the database driver for how many rows to fetch at a time.	120	—
Database/Instance/Methodology Management/ Connection Pool [MMR]/Trace SQL Trace all SQL sent to the database.	false	true/false
Database/Instance/Methodology Management/ Connection Pool [MMR]/Renewable Free Limit The minimum number of connections that should be available for leases to be renewed.	3	3 - 5
Database/Instance/Methodology Management/ Connection Pool [MMR]/Renewable Leases If false, each connection can be leased only for the MaxLeaseDuration period. 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.	false	true/false
Database/Instance/Methodology Management/ Connection Pool [MMR]/Maximum Lease Duration The maximum amount of time a database connection can be leased before it is revoked.	2m	5s - 4h

[Database Settings]

Setting Name and Description	Default	Valid Ranges/Values
<p>Database/Instance/Content Repository/URL Database URL used to establish a connection to the database.</p> <p>Oracle example: embedded://jdbc:oracle:thin:@xx.xxx.xxx.xx:yyyy:zzzz</p> <p>SQL example: embedded://jdbc:sqlserver://xxxx:yyyy;database=zzzz;</p> <p>x = IP address or hostname y = database listen port z = database name</p>	—	—
<p>Database/Instance/Content Repository/Database User Name The name used to establish a connection to the database. By default, this is admuser for Oracle and sa for SQL.</p>	—	—
<p>Database/Instance/Content Repository/Database Password The password used to establish a connection to the database. By default, this is admuser for Oracle and sa for SQL.</p>	—	—
<p>Database/Instance/Content Repository/Repository Home Location where content repository files will be stored. Specify a location, or type a name and a folder will be created for you in the Bootstrap home directory.</p>	—	—
<p>Database/Instance/Content Repository/Admin User Name Application admin user name for the content repository.</p>	—	—
<p>Database/Instance/Content Repository/Admin Password Application admin password for the content repository.</p>	—	—
<p>Database/Instance/Content Repository/Enable Connection Pooling Provides a pool of shared database connections to the content repository. Utilizes the c3po connection pool.</p>	true	true/false
<p>Database/Instance/Content Repository/Maximum Connections The maximum number of connections that the repository connection pool will have to the database.</p>	25	2-5000

[Database Settings]

Setting Name and Description	Default	Valid Ranges/Values
Database/Instance/Workflow Repository/URL Database URL used to establish a connection to the database. Oracle example: jdbc:oracle:thin:@xx.xxx.xxx.xx:yyyy:zzzz SQL example: jdbc:sqlserver://xxxx:yyyy;database=zzzz; x = IP address or hostname y = database listen port z = database name	—	—
Database/Instance/Workflow Repository/User Name The name used to establish a connection to the database. By default, this is admuser for Oracle and sa for SQL.	—	—
Database/Instance/Workflow Repository/Password The password used to establish a connection to the database. By default, this is admuser for Oracle and sa for SQL.	—	—
Database/Instance/Workflow Repository/Enable Connection Pooling Provides a pool of shared database connections to the workflow system. Utilizes the c3po connection pool.	true	true/false
Database/Instance/Workflow Repository/Maximum Connections The maximum number of connections that the workflow repository connection pool will have to the database.	25	1-5000
Database/Instance/Workflow Repository/Timeout The number of seconds a connection can remain pooled, but unused, before being discarded. If a value of zero is entered, idle connections will never expire.	1m	5s-1h
Database/Instance/Workflow Repository/Connection Test Period The time, in seconds, in which all idle connections will be tested. If a value of zero is entered, no connections will be tested.	5m	5s-1d

[Database Settings]

Setting Name and Description	Default	Valid Ranges/Values
Database/Instance/Session Settings/Setting 1-5 “Alter session” commands used to establish cursor sharing, rule-based mode, SQL trace, and more. Invalid settings in these fields are ignored.	—	alter session set _ = _
Database/Instance/Cost Based Optimization Settings/Enable Enable Cost Based Optimization if true.	false	true/false
Database/Instance/Cost Based Optimization Settings/Dump Matching SQL 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. You must set your logging level to INFO to see these entries.	false	true/false

[Thread Pool Settings]

Setting Name and Description	Default	Valid Ranges/Values
Thread Pool/Number of Threads The number of server threads.	25	2-300
Thread Pool/Maximum Task Duration The maximum duration a thread can be used for one task.	3m	10s - 24d
Thread Pool/Maximum Long Running Task Duration The maximum duration a thread can be used for a long running task.	5m	10s - 24d
Thread Pool/Maintenance Frequency The frequency at which threads are checked for excess time durations.	45s	15s - 24d

[Log Settings]

Setting Name and Description	Default	Valid Ranges/Values
Log/Console Logger/Severity Level Log severity level for the Console Logger.	error	debug, info, warning, error
<p>The ranges are inclusive. For example, choose “debug” to log all messages; choose “warning” to log both warning and error level messages.</p>		
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 - 2073600000
Log/File Logger/Severity Level Log severity level for the HTML Logger.	error	debug, info, warning, error
<p>The ranges are inclusive. For example, choose “debug” to log all messages; choose “warning” to log both warning and error level messages.</p>		
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 - 2073600000
Log/File Logger/HTML Log as HTML.	true	true/false

[Log Settings]

Setting Name and Description	Default	Valid Ranges/Values
Log/File Logger/Enabled Enable the HTML Logger.	true	true/false
Log files are created in a folder named WebAccessLogs, located as follows:		
JBoss on Windows: <i><webaccesshome>\WebAccessLogs</i>		
JBoss on Red Hat Enterprise Linux: <i>/mount_point/<webaccesshome>/AppServer/</i> <i>WebAccessLogs</i>		
WebLogic on Windows: <i><webaccesshome>\WebAccessLogs</i>		
WebLogic on Solaris: <i>/mount_point/<webaccesshome>/WebAccessLogs</i>		
WebSphere on Windows: <i><webaccesshome>\WebAccessLogs</i>		
WebSphere on Red Hat Enterprise Linux: <i>/mount_point/WebSphere/AppServer/WebAccessLogs</i>		
Log/Email Logger/SMTP Host SMTP server that will send the email message.	—	—
Log/Email Logger/From Email Address Set to the email address from which you would like log messages sent.	—	—
Log/Email Logger/To Email Address Set to the email address to which you would like log messages sent.	—	—
Log/Email Logger/Email subject The default Email subject.	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

[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 Preference settings for new P6 Web Access users.	—	—
Application/Ignore Daylight Savings Time Set to false to account for daylight savings time.	true	true/false
Application/Timesheet URL URL for invoking timesheet program	/action/ launchTimesheetSeemlessly	—
Application/Timesheet Codebase URL for the timesheet application Web site	server/GroupServer	—
Application/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_07 that is installed during setup.	—
Application/FireFox Java Plugin URL URL for Firefox users to download Java Plug-in (JRE).	Defaults to the plug-in version 1.6.0_07 that is installed during setup.	—
Application/Internet Explorer Java Plugin Version JRE version used by applets in Internet Explorer	—	—
Application/FireFox Java Plugin Version JRE version used by applets in Firefox	—	—
Application/Maximum Transactions for Excel Import The maximum number of transactions (activities or resources) that can be imported at once from a .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.	—	—

[Application Settings]

Setting Name and Description	Default	Valid Ranges/Values
<p>Application/Logout URL Directs P6 Web Access to a specific URL when the user exits with the Logout/Close icon in the banner of P6 Web Access. Any valid URL can be used. If no URL is specified, P6 Web Access directs the user to the launch page of P6 Web Access.</p>	—	—
<p>Application/Compress Applet Communication Set to true to compress communication between applets and the server.</p>	true	true/false
<p>Application/Compress HTML Content Set to true to compress HTML-related content generated by P6 Web Access, including .html, .js, and css files, and Ajax content.</p>	true	true/false
<p>Application/Maximum Projects in Portfolio The maximum number of projects returned when creating a portfolio with a filter.</p>	1000	1 - 100000
<p>Application/Maximum Loaded Resource Planning Projects The maximum number of projects that can be open in the Resource Planning spreadsheet.</p>	100	1 - 1000
<p>Application/Maximum Portlets per Dashboard 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 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 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>	2000	1 - 15000

If using a supported JRE prior to version 1.6.0_10, the maximum number of activities displayed will be 5000. Also, Primavera recommends that the maximum value be set to 5000 (or lower) if users need to display Earned Value or Baseline-related information. Otherwise, database timeouts may occur.

[Application Settings]

Setting Name and Description	Default	Valid Ranges/Values
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.	64	64-1024
This setting is only valid when using JRE version 1.6.0_10 (or later).		
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
Application/Custom Portlet URL Encryption Key Encryption key for custom portlet user password. 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.	—	—
Application/Transaction Monitor Execution Interval The frequency at which the transaction monitor job runs, which ensures transactions have not been orphaned.	10m	1s - 24d20h31m23s647
Application/Enable Cross Site Scripting Filter Enable or disable the cross site scripting filter. It is not necessary to restart the server after changing the value of this setting.	false	true/false
Application/Notifications/Enable Issue Notifications Enable or disable automated notifications when Issues are added or modified.	false	true/false
Application/Notifications/Enable Invitation Notifications Enable or disable automated notifications when Invitations are added.	false	true/false

[Application Settings]

Setting Name and Description	Default	Valid Ranges/Values
Application/Notifications/Enable Initiation Notifications Enable or disable automated notifications when Invitations are pending.	false	true/false
Application/Notifications/Override Notification Email from User Set to true to always use the system's From email address. Set to false to use the email address of the user who causes notifications to be sent, if their email address is configured.	false	true/false
Application/Notifications/Notification from Email User The email address from which Notifications will be sent when either NotificationsFromEmailOverride is true or the user's email address is not configured	—	—

[Services Settings]

Setting Name and Description	Default	Valid Ranges/Values
Services/License Service/Update Rate The rate at which a Business Rule Engine synchronizes with the database for license counts.	30s	100 - 1m
Services/License Service/Expiration Check Rate The rate at which licenses are checked to see if they should expire.	2m	500 - 15m
Services/Timestamp Service/Refresh Rate The rate at which the database is queried to determine if a table change notification is necessary.	1m	15s - 1h
Services/Registry Service/Refresh Rate The rate at which the database is updated with the status of the Business Rule Engine.	1m30s	15s - 1h
Services/Registry Service/Stale Period The duration of inactivity that indicates an inoperable Business Rule Engine.	4m	1m - 10m
Services/Registry Service/Port The TCP/IP port on which requests to revive dead Business Rule Engines will be received.	9192	1024 - 65535

[Services Settings]

Setting Name and Description	Default	Valid Ranges/Values
Services/Next Key Service/Refresh Rate The rate at which nextkey cache is refreshed.	1m	15s - 1h
Services/Next Key Service/Maximum Cached Keys Maximum nextkeys to cache per table	10	1 - 100
Services/Performance/Use Enterprise Summary Use enterprise level summary data for resources and roles.	false	true/false
<p>This setting specifies whether you want to use EPS level records or Project level records to draw Resource Manager 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) is 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>		
Services/Performance/Maximum Summary Node Count 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.	1000	1-50000
Services/Web Scheduler/Enabled If true, scheduling for jobs from P6 Web Access is performed using the Web Scheduler. If false, scheduling is performed using the Job Service Scheduler.	true	true/false
Services/Web Scheduler/Scheduling Interval Amount of time the Web Scheduler will wait before scheduling the next available job.	5m	1s - 24d20h31m23s647
Services/Web Scheduler/Concurrent Schedulers 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.	2	0-20
Services/Web Scheduler/Active Scheduler Mode If true, jobs are processed continuously until all jobs are scheduled. If false, each job is processed according to the Scheduling Interval.	true	true/false
Services/Web Scheduler/ASAP Cleanup Rate Amount of time at which completed WebASAP scheduler jobs are removed from the database.	1d	1h - 24d20h31m23s647

[Services Settings]

Setting Name and Description	Default	Valid Ranges/Values
Services/Store Period Performance/Enabled Service for storing period performance. If true, ThisPeriod values are stored in the specified financial period.	true	true/false
Services/Store Period Performance/Execution Interval Amount of time the service will wait before checking for any period performance jobs.	5m	1s - 24d20h31m23s647
Services/Store Period Performance/Concurrent Tasks 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.	2	0 - 20
Services/Sync Actual This Period/Enabled Service for synchronizing actuals and ActualThisPeriod values. If true, recalculates actual units and costs for ThisPeriod.	true	true/false
Services/Sync Actual This Period/Execution Interval Amount of time the service will wait before checking for any SyncActualThisPeriod jobs.	5m	1s - 24d20h31m23s647
Services/Sync Actual This Period/Concurrent Tasks 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.	2	0 - 20

[Services Settings]

Setting Name and Description	Default	Valid Ranges/Values
<p>Services/Project Hierarchy Cache/Cache Policy The cache policy to use. The cache policy determines how much data is in the cache and which data is removed to reclaim memory.</p> <p>The allowable values are: FIFO (First In First Out-projects are cleared from the cache in the same order they were added to memory) LRU (Least Recently Used projects are cleared from the cache before more recently used ones) JVMM (Java Virtual Machine Managed-uses soft references to cached elements; memory used by soft references is reclaimed by the JVM as required) PRR (Projects are selected at random to be cleared from cache) PRFIFO (Periodic Refresh First In First Out-same as FIFO, except policy is enforced based on MaintenanceFrequency) PRLRU (Periodic Refresh Least Recently Used-same as LRU, except policy is enforced based on MaintenanceFrequency) PRCC (Periodic Refresh Clear Cache-ignores CacheLimit to flush the entire cache, based on MaintenanceFrequency)</p>	PRR	FIFO, LRU, JVMM, PRR, PRFIFO, PRLRU, PRCC
<p>Services/Project Hierarchy Cache/Cache Limit The maximum number of projects stored in memory.</p>	5000	1000 - 30000
<p>Services/Project Hierarchy Cache/Maintenance Frequency 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 The interval at which the collaboration synchronization service will run. The synchronization service deletes documents and workflows for projects that have been deleted.</p>	1h	1m - 24d20h31m23s647
<p>Services/Asynchronous Jobs/Purge Interval The frequency at which long running job records will be removed from the database.</p>	1h	0 - 24d20h31m23s647
<p>Services/Asynchronous Jobs/Grace Time The minimum age of long running job records removed during purge.</p>	1d	0 - 24d20h31m23s647

[Services Settings]

Setting Name and Description	Default	Valid Ranges/Values
Services/Mail Service/Email Notification Server Hostname or IP address of the email 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.	—	—

[Performance Monitor Settings]

Setting Name and Description	Default	Valid Ranges/Values
Performance Monitor/Enabled Performance monitor packets are sent when true.	false	true/false
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	1024 - 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	1024-65535
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
Integration API server/RMI/Registry Port The port for the RMI Registry. This value is usually set to at least 1024.	9099	1024 - 65535
Integration API server/RMI/Enable The setting that enables the RMI server.	true	true/false
Integration API server/RMI/Enable Compression The setting that enables compression service mode.	true	true/false
Integration API server/RMI/Enable SSL The setting that enables SSL service mode.	true	true/false
Integration API server/RMI/Enable Standard Service The setting that enables Standard service mode.	true	true/false
Integration API server/RMI/Enable HTTP Service The setting that enables HTTP tunneling mode.	false	true/false
Integration API server/RMI/Enable HTTPS Service The setting that enables secure HTTP (SSL) tunneling mode.	false	true/false

[Integration API Server Settings]

Setting Name and Description	Default	Valid Ranges/Values
Integration API server/RMI/Compression Service Port 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.	0	0 - 65535
Integration API Server/RMI/SSL Service Port 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.	0	0 - 65535
Integration API Server/RMI/Standard Service Port 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.	0	0 - 65535
Integration API Server/RMI/HTTP Service Port The port to use for HTTP tunneling mode. A setting of 0 indicates that any available port will be used.	0	0 - 65535
Integration API Server/RMI/HTTPS Service Port The port to use for secure HTTP tunneling mode. A setting of 0 indicates that any available port will be used.	0	0 - 65535
Integration API Server/Session Timeout The amount of time after which an idle client connection will be terminated.	120	1 - 24d

Implementing Application Server Plug-Ins

For a full list of tested configurations for P6 Web Access, go to the P6 \Documentation\<language>\Tested Configurations folder of the P6 physical media or download.

The JBoss, WebLogic, and WebSphere application servers offer a variety of plug-ins that enable you to configure a Web server front-end other than the one provided with the application server. For procedures on configuring a Web server plug-in, refer to the individual application server's documentation.

Configuring the Distributed Job Service

In this chapter:

[Distributed Job Service Overview](#)

[Installing the Distributed Job Service](#)

[Disabling the Windows Firewall](#)

[Configure Access to the Distributed Job Service](#)

[Configure DCOM for the Distributed Job Service](#)

[Configure the Controller and DJS servers](#)

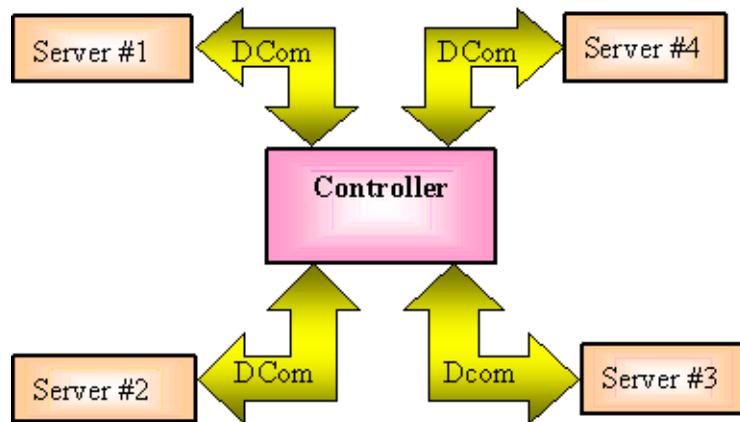
[Job Service Registry Settings](#)

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

Distributed Job Service Overview

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

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



In addition to the preparations described in this section, you must configure the database for P6 Web Access to run the Project Architect job service. Refer to ["Configure P6 Web Access to run the Project Architect job service"](#) on page 180.

Prepare the Controller and DJS servers for installation and configuration

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

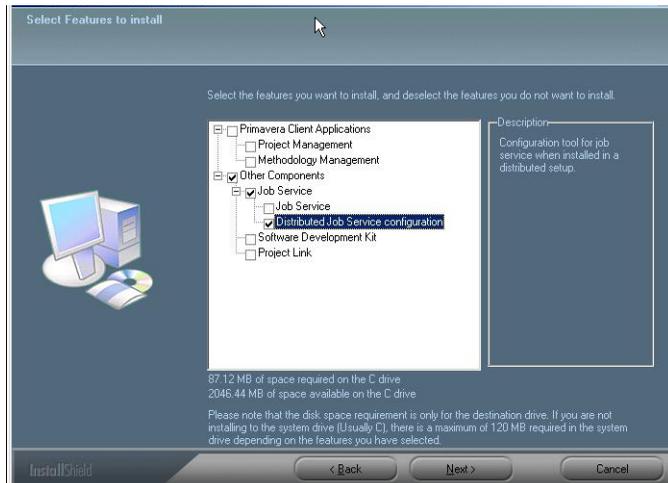
- On the Controller and all DJS servers, define the "Temp" and "TMP" variables in Environment variables (both User variables and System variables).
- Synchronize the system clocks of the Controller and all DJS servers to have identical time stamps in the log files.

Installing the Distributed Job Service

Before installing the Distributed Job Service, identify the Controller and servers (maximum 10). Install the Job Service on each machine as described in “[Installing the Job Service and Distributed Job Service](#)” on page 247. On the Controller, be sure to select the Distributed Job Service Configuration option as shown in the following figure. When you finish the installation, return to this section to configure user access.



Primavera recommends that the controller and all related servers be in the same network domain. Also, each machine should have Windows Server 2003, Windows Server 2008, or Windows XP as the operating system, with Firewall turned off.



Disabling the Windows Firewall

The Windows Firewall, which is enabled by default on Windows 2003 Server and XP, prevents DCOM connections from functioning. You must disable the firewall on the controller and each DJS server.

To disable the Windows Firewall, perform the following steps:

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

Configure Access to the Distributed Job Service

Before configuring DCOM and the DJS, you must create users that have privileges to launch the Job Service, access the registry and path information on the Controller, and access applications across the network.

On the server that controls the domain in which the Controller and DJS servers reside, perform the following steps:

- 1 Create a user group (for example, PrmAdmins).
- 2 For the Controller and each DJS server, add a user name to the user group you just created. For example,
Name of Controller : ControllerUser
Name of Server1 (DCOM Server) : Server1User
Name of Server2 (DCOM Server) : Server2User
Name of Server3 (DCOM Server) : Server3User
- 3 On the Controller and each DJS server, add the group you created to the Local Administrator Group.
- 4 In the Security tab of the DCOM Configuration dialog, add the group you created to each Custom permission.

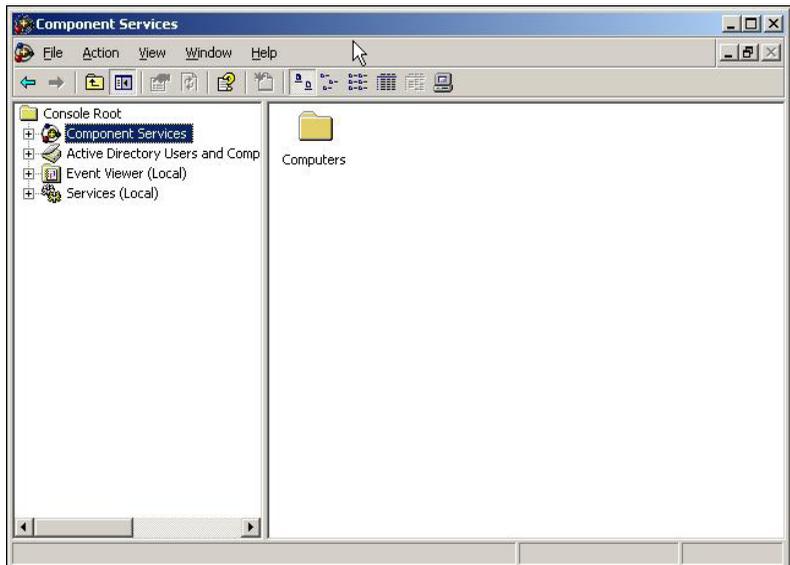


The example above illustrates a multi-user scenario. You can also configure single-user access. For example, you could create a single domain user (e.g., ControllerUser) and add that user to the Local Administrator group on the Controller and each DJS server. Then, when configuring DCOM, you could use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

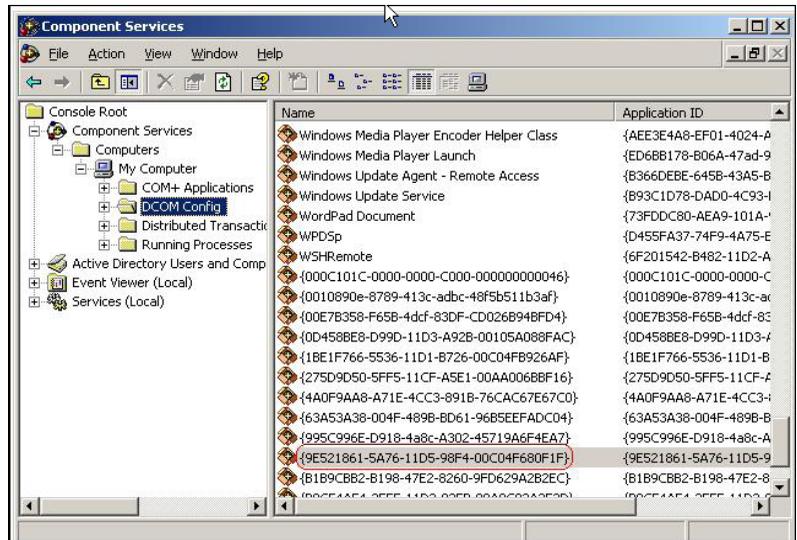
Configure DCOM for the Distributed Job Service

To configure DCOM for the Distributed Job Service on servers running Windows Server 2003, Windows Server 2008, or Windows XP Professional, perform the following steps for the Controller and each DJS server.

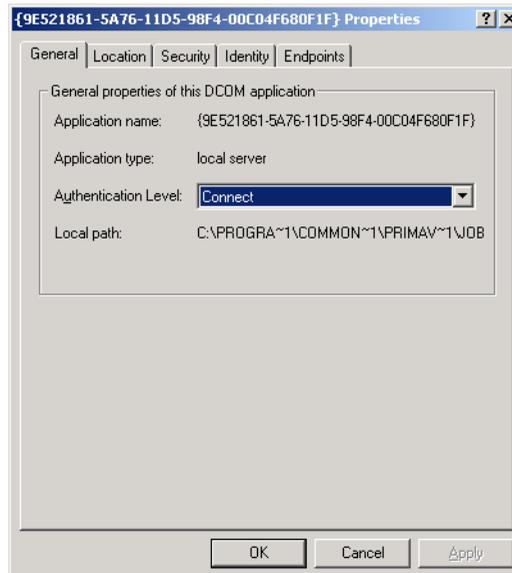
- 1 From the command line (or Start, Run utility), run **dcomcnfg**. The Component Services dialog is displayed.



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



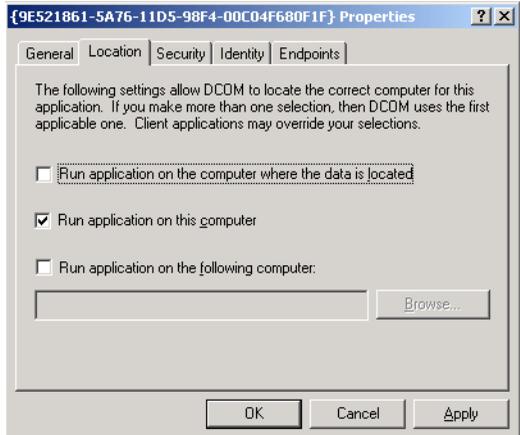
- 3 Right click on the {9E521861-5A76-11D5-98F4-00C04F680F1F} entry in the right panel and select Properties.
- 4 In the Properties dialog, General tab, set the Authentication Level to Connect.



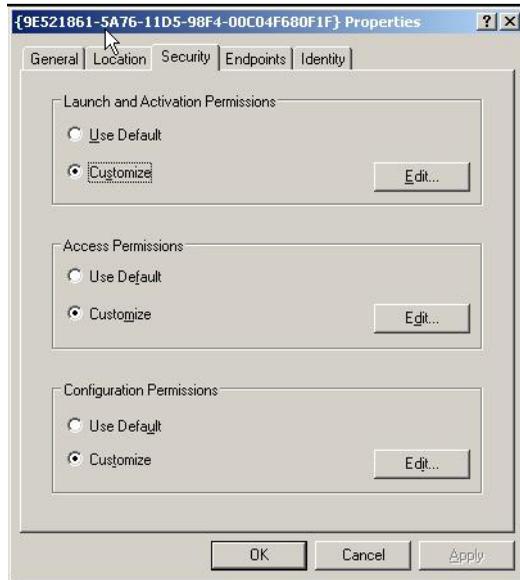


Make sure the Controller and all DJS servers are set to the same Authentication Level. If desired, you can set Connect as the Default Authentication Level in the Default Properties tab of the Distributed COM Configuration Properties dialog.

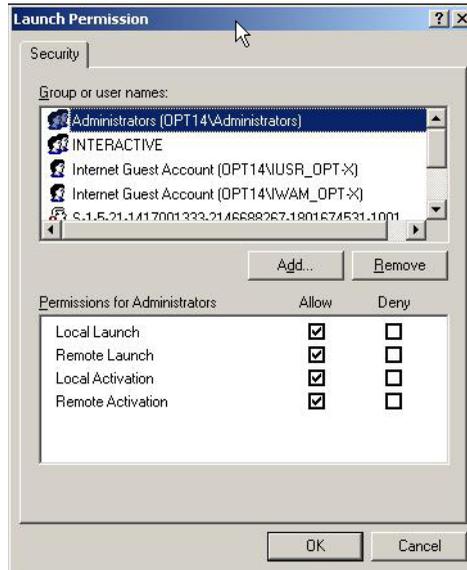
- 5 In the Properties dialog, Location tab, select the Run application on this computer option.



- 6 In the Properties dialog, Security tab, ensure that the Customize options are selected for all permission types, as shown in the following figure.



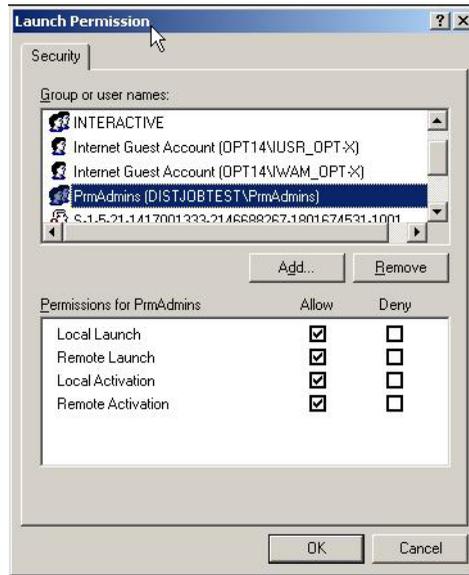
- 7 In the Properties dialog, Security tab, click the Edit button associated with Launch and Activation Permissions.
- 8 In the Launch Permission dialog, Security tab, click Add.



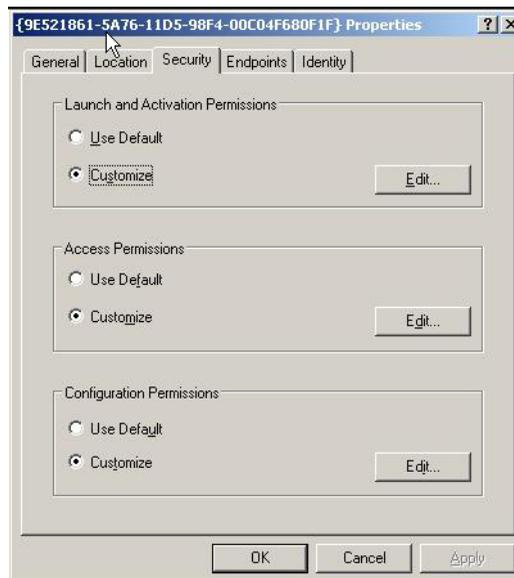
- 9 In the Select Users, Computers, or Groups dialog, enter the user group name you created previously (for example, PrmAdmins). Click OK.



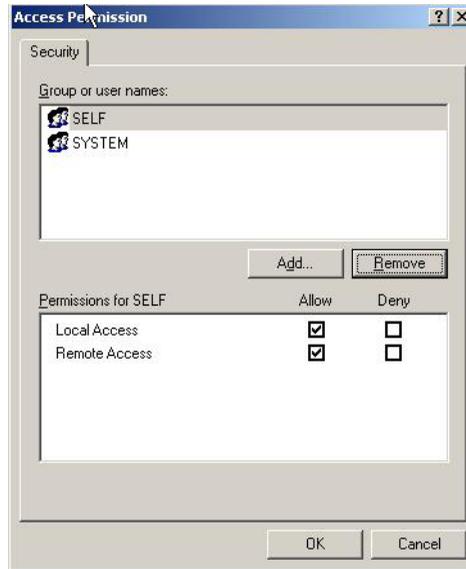
- In the Launch Permission dialog, Security tab, select the user group you added (for example, PrmAdmins), and select Allow for all permissions, as shown in the following figure. Click OK.



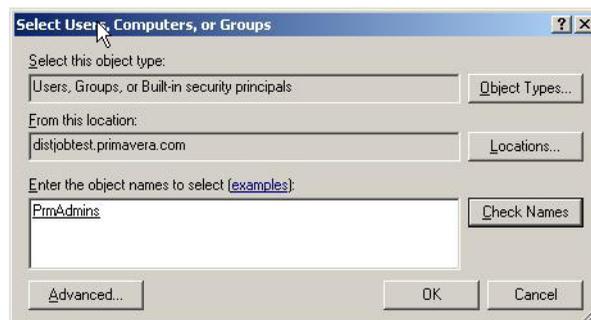
- In the Properties dialog, Security tab, click the Edit button associated with Access Permissions.



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



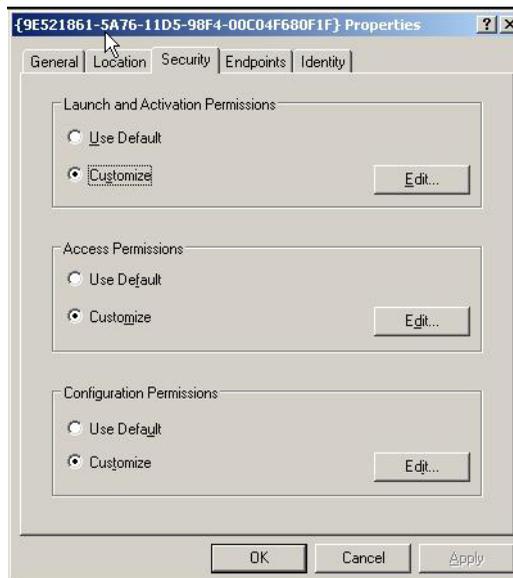
13 In the Select Users, Computers, or Groups dialog, enter the user group name you created previously (for example, PrmAdmins). Click OK.



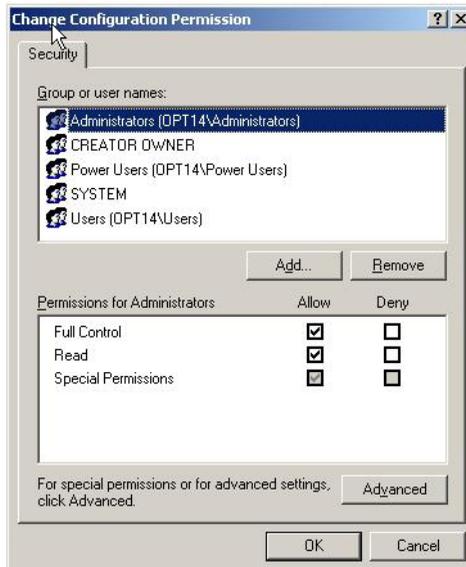
- 14 In the Access Permission dialog, Security tab, select the user group you added (for example, PrmAdmins), and select Allow for all permissions, as shown in the following figure. Then click OK.



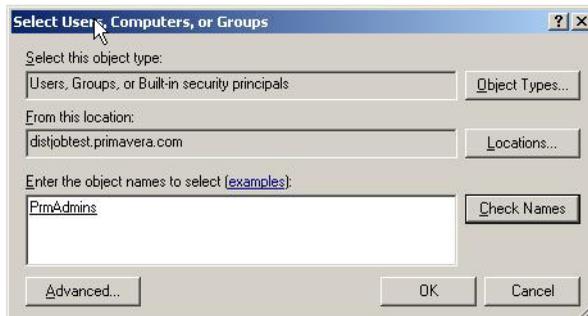
- 15 In the Properties dialog, Security tab, click the Edit button associated with Configuration Permissions.



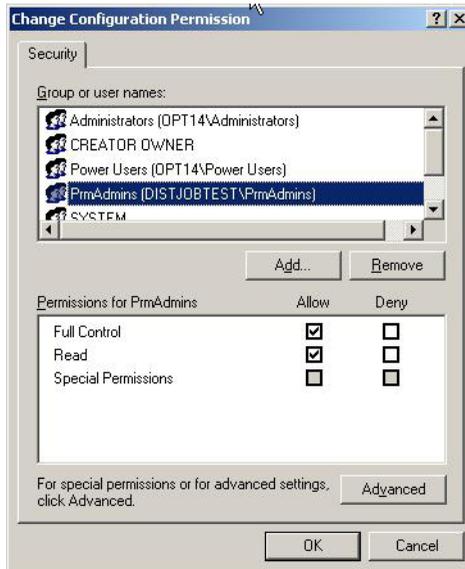
- 16 In the Change Configuration Permission dialog, Security tab, click Add.



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



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



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

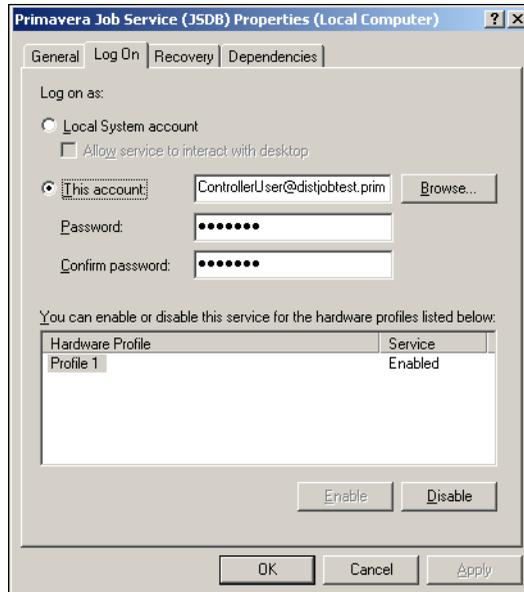


- 20 Click OK to close the dialog.
- 21 On the Controller, launch the Services Control Panel.
- 22 In the Services dialog, double-click the Primavera Job Service (JSDB) to open the Properties dialog.

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



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



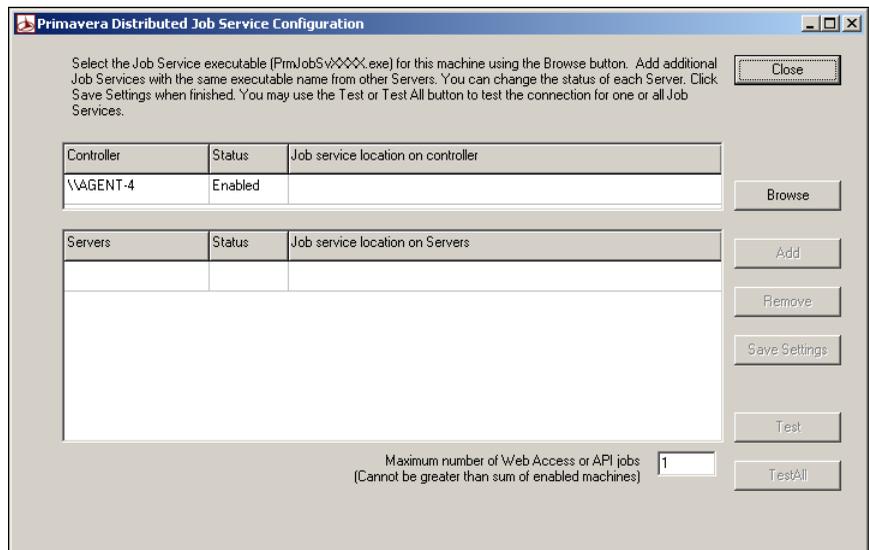
- 24 Click OK to close the dialog.

Configure the Controller and DJS servers

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

- 1 On the Controller, run the DistributedJobsAdmin.exe from the following file location: C:\Program Files\Common Files\Primavera Common\JobService\JSConfig.

The Distributed Job Service Configuration dialog opens (shown in the next figure)

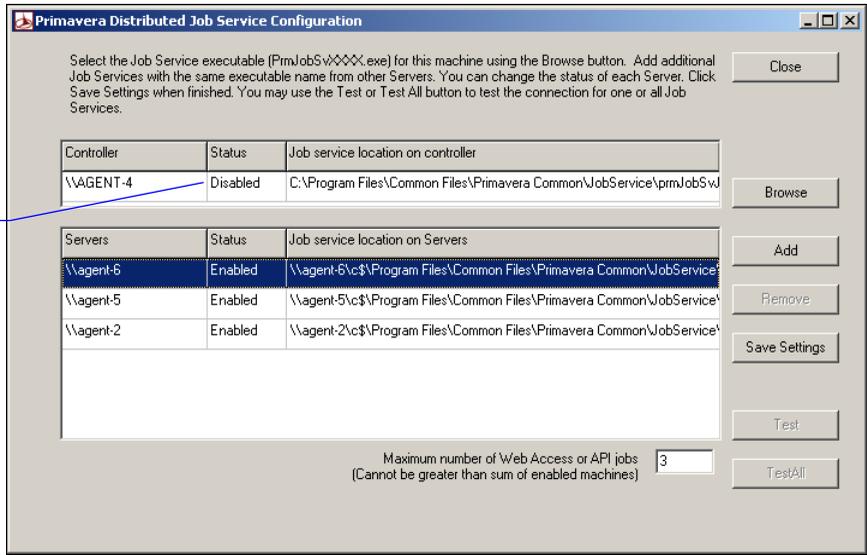


- 2 In the Distributed Job Service Configuration dialog, click Browse. Navigate to the C:\Program Files\Common Files\Primavera Common\JobService folder and select PrmJobSvXXXX.exe, where XXXX equals the DB Alias of the database connection (in this example, XXXX equals JSDB as shown in the next figure).

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

The Distributed Job Service Configuration dialog should appear similar to the next figure.

Select Disabled to disable the DJS on that machine. In this example, the Controller will execute jobs on the servers but not on itself.



 If you have already used the configuration tool, all servers you previously configured appear in the list of servers (bottom grid of previous figure).

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

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

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

- 6 In the Maximum Number of Web Access or API jobs field, enter a value between 0 (zero) and the number of enabled DJS machines.



The Maximum Number of Web Access or API jobs value determines the number of P6 Web Access jobs that can be run at one time. Also, this value does not affect recurring jobs set up using the Job Services dialog in the Project Management module.

- 7 Click Save Settings, Close.

- 8 Reboot the Controller and all DJS servers.



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



After you reboot the Controller and DJS servers, if you modify the DCOM settings you specified in [“Configure DCOM for the Distributed Job Service”](#) on page 216, you must reboot the machine(s) on which you made the modifications.

Job Service Registry Settings

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

Edit (Distributed) Job Service registry settings Type 'regedit' in the Start, Run utility to open the Registry Editor. In the Registry Editor, navigate to the following directory:

My Computer\HKEY_LOCAL_MACHINE\
SYSTEM\CurrentControlSet\Services\PrmJobSvXXXX\Parameters
(where XXXX equals the DB Alias of the database connection).

The following table summarizes the Job Services registry settings.

[Job Service settings]

Setting Name and Description	Default	Valid Ranges/Values
EstablishDBConnectionRetryCount Number of times to try to connect to database on startup.	3	1-10
MaxNumRecurringJobs The maximum number of recurring (Project Management) jobs that can run simultaneously.	4	1-(no maximum)
MaxNumNonRecurringJobs The maximum number of non-recurring (P6 Web Access) jobs that can run simultaneously.	1	1-5
NonRecurringJobCleanupRate Frequency (in seconds) in which completed P6 Web Access jobs are removed from the database (1 minute to 7 days).	3600	60-604800

[Job Service settings]

Setting Name and Description	Default	Valid Ranges/Values
NonRecurringJobRefreshRate Frequency (in seconds) in which P6 Web Access jobs are loaded from the database.	5	1-3600
RecurringJobRefreshRate Frequency (in seconds) in which Project Management jobs are loaded from the database.	600	60-1440
DeleteRemoteLog [test purposes only] If set to false, log file "Prm*.tmp" will not be deleted.	1 (true)	0 (false) 1 (true)

For more information about summarizer jobs, refer to ["About summarizer jobs and P6 Web Access"](#) on page 251.

Edit registry settings for summarizer jobs Type 'regedit' in the Start, Run utility to open the Registry Editor. In the Registry Editor, navigate to the following directory:

My Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Primavera.

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



The following settings apply to the Job Service and the Project Management module. You would typically modify them to improve performance.

[Summarizer settings]

Setting Name and Description	Default	Valid Ranges/ Values
<p>NumProjectsSummarizedAtATime Number of projects that can be summarized at the same time by the Job Service or the Project Management module. To achieve the best possible performance, Primavera recommends that the value of this setting = 20.</p>	1	1-xx
<p>PreQuerySummarizablePct The percentage threshold that determines how the summarizer will analyze a project's need for summarization. If the value of the equation shown below is less than the threshold, each project is considered for summarization individually. If the value of the following equation is greater than the threshold, all projects to be considered for summarization are analyzed simultaneously. The equation that determines this behavior is: # of projects to be summarized / # of projects user can access*100.</p>	50	0-100
<p>MaxDurationToSummarize The maximum remaining duration or the maximum original duration, in hours, that an activity or activity assignment can have in order to be summarized. If an activity or activity assignment has a remaining duration greater than this threshold, it is ignored during summarization. To ensure that all activities are summarized, Primavera recommends that the value of this setting = 100000.</p>	-1	-



The following settings are also available. However, you would not typically need to modify their values, unless you are performing tests.

[Summarizer settings]

Setting Name and Description	Default	Valid Ranges/ Values
<p>EnterpriseSummaries If true, EPS nodes are summarized.</p> <p>Applies only to the Project Management module.</p> <p>Note: The Job Service always summarizes EPS nodes.</p>	0 (false)	0 (false) 1 (true)
<p>ResourceSummaries If true, resources are summarized.</p> <p>Applies to the Job Service and the Project Management module.</p>	1 (true)	0 (false) 1 (true)
<p>ForceEnterpriseSummaries If true, forces an enterprise-level summarization even when no projects are summarized.</p> <p>Applies only to the Job Service.</p>	0 (false)	0 (false) 1 (true)
<p>EnterpriseCommit Controls how frequently to commit EPS summary records to the database, based on the number of rows of data that have been processed. Useful for improving performance when summarizing large jobs.</p> <p>No value commits the EPS summary records when processing is complete.</p> <p>If you assign a value, this value is applied to both the Job Service and the Project Management module.</p>	1000 for the Job Service No value for the Project Management module	1-(no maximum)
<p>PrmJobLogMemoryUsage If true, logs memory usage of PrmJob in megabytes.</p> <p>Applies only to the Job Service.</p>	0 (false)	0 (false) 1 (true)

[Summarizer settings]

Setting Name and Description	Default	Valid Ranges/ Values
RetrySleep The time, in milliseconds, to wait between retry attempts when there is a connection failure. Applies only to the Job Service.	60000	-
MaxRetries The maximum number of retry attempts to make when there is a connection failure. Applies only to the Job Service.	10	-
DumpSettings Set to true to log all settings to a Job.txt file for the summarization job. Applies only to the Job Service.	0 (false)	0 (false) 1 (true)

[Summarizer settings]

Setting Name and Description	Default	Valid Ranges/ Values
<p>PreLoadTASKSUMFINForEPS Preloads TASKSUMFIN records for all projects before summarizing the entire EPS.</p> <p>Set to false to use a “load on demand” approach that will conserve memory but will be much slower due to an increased number of SQL queries for TASKSUMFIN records.</p> <p>Applies to summarizing Financial Periods in the Job Service and the Project Management module. Does not affect the performance of summarization by Weeks or Months.</p>	1 (true)	0 (false) 1 (true)
<p>PreLoadTASKSUMFINForProject Preloads TASKSUMFIN records for each project before summarizing that project.</p> <p>Set to false to use a “load on demand” approach that will conserve memory but will be much slower due to an increased number of SQL queries for TASKSUMFIN records.</p> <p>Applies to summarizing Financial Periods in the Job Service and the Project Management module. Does not affect the performance of summarization by Weeks or Months.</p>	1 (true)	0 (false) 1 (true)
<p>PreLoadTRSRCSUMFN Preloads TRSRCSUMFN records for each project before summarizing any project. Also, during summarization of the entire EPS, it preloads all TRSRCSUMFN records for one resource or role at a time.</p> <p>Set to false to use a “load on demand” approach that will conserve memory but will be much slower due to an increased number of SQL queries for TRSRCSUMFN records.</p> <p>Applies to summarizing Financial Periods in the Job Service and the Project Management module. Does not affect the performance of summarization by Weeks or Months.</p>	1 (true)	0 (false) 1 (true)

Primavera Client Installation and Configuration

In this part:

Installing Client Modules and Additional Components

Automatic Database Upgrade

Creating and Running an Unattended Setup

Changing Database Configuration Settings

Configuring Authentication Modes

Read this part to install and configure the Primavera client modules, additional components, and the stand-alone version. The first chapter, “[Installing Client Modules and Additional Components](#)”, describes how to set up each module and component on a client workstation. If you are upgrading from a previous version of Primavera, read “[Automatic Database Upgrade](#)”. If you want to set up an automated installation rather than install the software manually, read “[Creating and Running an Unattended Setup](#)”.

Once the modules are installed, read “[Changing Database Configuration Settings](#)” to learn how to use the Database Configuration utility to modify database connection information, administer licensing, change user passwords, and configure private database user accounts. Read “[Configuring Authentication Modes](#)” to select a method for validating user access to modules.

Installing Client Modules and Additional Components

In this chapter:

- [Installing Database Client Software](#)
- [Uninstalling Previous Versions](#)
- [Running the Setup Wizard](#)
- [Installing Client Modules](#)
- [Installing the Job Service and Distributed Job Service](#)
- [Installing the Software Development Kit](#)
- [Installing ProjectLink](#)
- [Installing or Upgrading the Stand-Alone Version](#)

Read this chapter to install the Primavera modules (Project Management and Methodology Management), additional components (Job Service, Software Development Kit, and ProjectLink), and the stand-alone version. Run the Setup program on the client/desktop computers that will be used by project personnel.

Install the Primavera client modules only after you install and configure the servers. The Setup wizard needs to connect to the database server when installing client modules.

Installing Database Client Software

Before you install Primavera client modules, 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.

Microsoft SQL Server/SQL Server Express When you install the Project Management module on a client computer, the Microsoft SQL Server client files necessary to connect to Primavera modules are also automatically installed for you. You must use this method to install database client software if you are using SQL Server Express.

Or, if you are using Microsoft SQL Server, you can also use your Microsoft SQL Server installation CD to install the client network utility. If you are unfamiliar with this process, please contact your database administrator.

Oracle 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.



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



Make sure to reference the TNSPING.EXE location in your path environment variable.



The TNSNAMES.ORA file should be in the oracle home folder on the client (local) machine not in a shared location.

Uninstalling Previous Versions

If you are upgrading from previous versions, all client modules other than Job Services are automatically upgraded during the install process; if you are upgrading Job Services, you must first uninstall the previous version of Job Services before installing version 6.2.1.

Although you are not prompted to do so, it's a good practice to restart your computer between uninstalling an application and installing another application.

Uninstalling previous versions of Job Services

- 1 Click Start, Settings, Control Panel, Add or Remove Programs .
- 2 Select the Primavera entry and click Change/Remove.
- 3 On the Welcome screen of the Installation wizard, select Modify.
- 4 On the Select Features to install screen, unselect Job Services and click Next.
- 5 On the Ready to Install the Program screen, click Install.

Running the Setup Wizard

If you do not want to install the software manually, you can run an unattended setup. Refer to [“Creating and Running an Unattended Setup”](#) on page 273.

Install the client modules (Project Management and Methodology Management), additional components (Job Service, Software Development Kit, and ProjectLink), and the stand-alone version by running the Setup wizard. The first several steps of the installation process are exactly the same for all of these Primavera applications. These preliminary steps are documented in this section. When you complete the steps in this section, proceed to the section that contains the instructions for installing the module or component you want to install.

You can install one or more modules. Each module requires approximately 20 MB of disk space.

Administrator rights are required to install Primavera client modules on a computer running Windows XP Professional and Windows Vista.



If version 5.0 or later is currently installed, the Setup wizard upgrades your current installation to version 6.2.1.



The network protocol TCP/IP must be installed on the client computer.



When you install Primavera applications, Primavera automatically installs MDAC 2.8 (English version) if it is not present on your machine. If you are installing Primavera applications on a machine running on a non-English operating system, Primavera recommends that you install the appropriate language version of MDAC 2.8 before installing Primavera. The Primavera installer will not overwrite the existing version of MDAC 2.8. To download the correct MDAC version, go to <http://www.microsoft.com/downloads>.

Preliminary steps for installing the client modules, additional components, and the stand-alone version

- 1 If you are installing from physical media, an introductory screen will appear that provides installation options.

If the screen does not appear, or if you are installing from a network location, double-click **setup.exe** in the Client_Applications folder of the P6 physical media or download. Skip to [step 3](#).

- 2 On the main **Primavera** screen, choose **P6 Client Applications**.



Click Next on each wizard dialog box to advance to the next step. Click Cancel at any time to exit the wizard.

- 3 On the **Welcome** screen, click **Next**.
- 4 On the **Product Code** dialog box, enter a valid product code.

For information on valid product codes, refer to “[Primavera P6 Product Codes](#)” on page 12.

- 5 On the **Select Type** dialog box, choose:
- **Primavera Client Applications** if you want to install only the client modules (Project Management and Methodology Management).
 - **Primavera Stand-alone** if you want to install the stand-alone version.
 - **Custom** if you want to specify the client modules and additional components (including the Job Service, Software Development Kit, and ProjectLink).



For detailed instructions on installing an additional component individually, refer to its section in this chapter.

- 6 On the **Choose Destination Location** dialog box, enter or select the destination folder for the client modules.
- 7 On the **Choose Destination Location** (Common) dialog box, enter or select the destination folder for Primavera common files.
- By default, common files are installed in the Primavera Common folder created during installation. You can choose a different folder.
- 8 Proceed to the section that contains installation instructions for the module or component you want to install:
- For client modules, continue with “[Installing Client Modules](#)” on page 245.
- For the Job Service, continue with “[Installing the Job Service and Distributed Job Service](#)” on page 247.
- For the Software Development Kit, continue with “[Installing the Software Development Kit](#)” on page 254.

For ProjectLink, continue with “[Installing ProjectLink](#)” on page 257.

For the stand-alone version, continue with “[Installing or Upgrading the Stand-Alone Version](#)” on page 259.



You do not have to install these components separately; you can install all components at the same time. The installation instructions are separated into sections to provide administrators information that is relevant only to specific components.

Installing Client Modules

Complete the following steps to install the Project Management and/or Methodology Management modules.



The following instructions assume you are installing the client modules only and that you have completed the steps detailed in “Preliminary steps for installing the client modules, additional components, and the stand-alone version” on page 242.

Install one or more modules

- 1 On the **Select Features to install** dialog box, clear the checkbox for the modules you do not want to install. By default, each module is selected.
- 2 On the **Select Program Folder** dialog box, enter or select the program folder in which the Primavera client icons will be stored on the Start menu.

If you make no changes, these icons are stored under Programs, Primavera.

- 3 Click **Install** to begin the installation.

When the installation is complete, you are prompted to configure the database connection(s).

- 4 On the **Select Driver Type** dialog box, select the driver type for the Primavera database.

If you are installing the Project Management module, you must configure the client’s connection to the project management database. If you are installing the Methodology Management module, you must configure a connection to the methodology management database. If both are being installed, you are prompted to configure the project management database connection first.

- 5 On the **Configure SQL Server Connection** dialog box or the **Configure Oracle Connection** dialog box, enter the database connection settings.

If you are configuring Microsoft SQL Server or SQL Server Express, type the database host name and database name. The database name was specified when the database was created; for example, PMDB. The host name is the name of the computer or IP address where Microsoft SQL Server is installed.

If you are configuring Oracle, 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; for example, a Username of pubuser, and a group ID of 1.
- 7 On the **Validate Database Connection** dialog box, click **Next** to test the database connection.

- 8 Click **Finish** to complete the database connection setup.

If the connection was not successful, click **Back** to revise your settings.

If you chose to install both the Project Management and Methodology Management modules, the Database Configuration wizard starts again so you can configure the connection to the methodology management database.

- 9 Click **Finish** to complete the installation.

Installing the Job Service and Distributed Job Service

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

If you are working with more than one project management database, you can run jobs for all of the databases from one Windows 2003/2008 Server machine by installing multiple instances of the Job Service, as described in this section.

For more information on the distributed job service, refer to ["Configuring the Distributed Job Service"](#) on page 211.

In addition to installing the job service, you must configure the database for P6 Web Access to run the Project Architect job service. Refer to ["Configure P6 Web Access to run the Project Architect job service"](#) on page 180.

If you want to be able to run multiple jobs simultaneously on separate servers, you can install the Distributed Job Service on a controller server that manages the Job Service and distributes jobs to the Job Service servers.

Install the Job Service

Complete the following steps to install the Job Service and/or Distributed Job Service.



The following instructions assume you are installing the Job Service only and that you have completed the steps detailed in ["Preliminary steps for installing the client modules, additional components, and the stand-alone version"](#) on page 242.

- 1 On the **Select Features to install** dialog box, expand **Other Components**, expand **Job Service**, and choose the type of job service to install.

Choose **Job Service** when:

- you want to install the non-distributed Job Service (single server only)
- you want to use the Distributed Job Service but the machine on which you are installing is NOT the controller server.

Choose **Distributed Job Service configuration** only when you want to use the Distributed Job Service and the machine on which you are installing is the controller server.



If you want to run Job Service jobs in a language other than English, you must install the Project Management module on the Job Service machine. You can install it along with the Job Service, or you can install it at another time. After the applications are installed, refer to [“Specify a different language for the Job Service”](#) on page 253 for detailed instructions.



Setup will verify that the user has administrator rights on the computer. If the user does not have administrator rights, the Setup wizard will end.

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

Click the More button if you want to add more than one service.

You can create multiple instances of the Job Service, which enables you to run multiple job services for all project management databases from one Windows 2003/2008 Server machine. Create one job service instance for each database.



When installing multiple instances of the Job Service, you should first stop all existing job services.

For more information on running jobs on multiple databases using the Job Service, see [“Running Job Services on Multiple Databases”](#) on page 250.

The Job Service uses the DB alias to connect to the database server.

- 3 Enter or select the program folder.
- 4 Click **Install** to begin the installation.
- 5 On the **Select Driver Type** dialog box, in the **Job Services driver type** field, choose the database server type: Oracle or Microsoft SQL Server/**SQL Express**.
- 6 If you are connecting to Oracle, on the **Configure ORACLE Connection** dialog box, in the type the Oracle connect string (database name), which can be found in the TNSNAMES.ORA file.

If you are connecting to Microsoft SQL Server or SQL Server Express, on the **Configure SQL Server Connection** dialog box, type the database name and specify the server computer name.

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

8 On the **Validate Database Connection** dialog box, click **Next** to validate the database connection.

The DB alias that you specified is created.

9 On the **Connection Successful** dialog box, click **Finish**.

You are prompted to test the Job Service alias.



*If you are installing on a **SERVER** machine in a Distributed Job Services environment, **DO NOT** click the Test button as described in the following step.*

10 Click **Yes** to test the database connection.

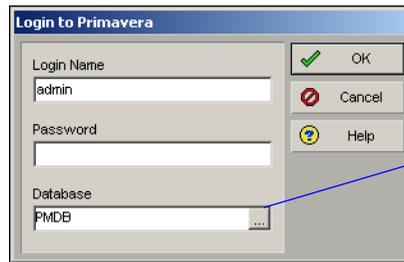
If the test fails, you can still continue the installation.

11 Click **Finish**.

Once the Job Service is installed on your computer and it is able to successfully connect to the database, the service will periodically run any user-defined jobs that are scheduled in the Project Management module.

Running Job Services on Multiple Databases

Once you have installed a separate job service instance for each project management database, you can apply actuals, run a batch report, export projects, schedule, or summarize all of the databases from one Windows 2003/2008 Server machine. Log into the Project Management module and select one of the project management databases that you want to summarize.



Choose the alias for one of the databases you want to summarize.

In the Project Management module, choose Tools, Job Services. Add the job service you want to run for that database. To set up another job service for a second project management database, exit the Project Management module. Log in again and choose a different project management database by selecting its database alias. In the Job Services dialog box, add the job for the currently open database.

About summarizer jobs and P6 Web Access Resource Management functions in P6 Web Access that use summary data rely on the creation of current enterprise resource records. Each record is the sum of all assignments for a resource. To ensure that enterprise records are current, use the methods below when summarizing projects.

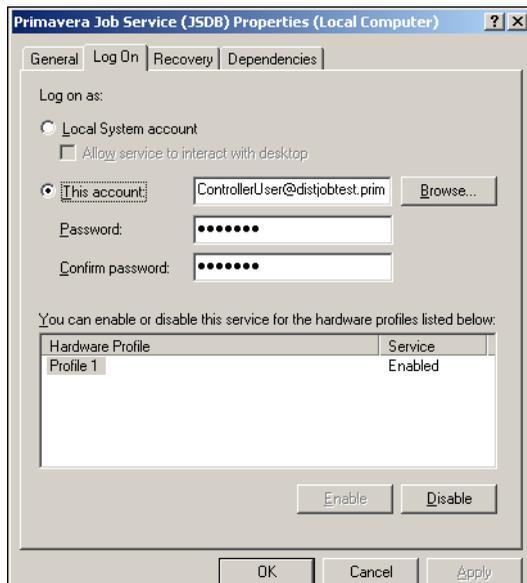
- Summarize the project from within P6 Web Access. Summarizer jobs always update the enterprise records for resources in the selected project.
- In the client/server module, login as Admin Superuser and create a summarizer job to generate enterprise resource records for all resources in the specified projects.
- In the client/server module, if using the menu options to summarize, a registry key must exist for enterprise resource records to be created. To make the key, add EnterpriseSummaries as a D Word under HKEY_LOCAL_MACHINE/SOFTWARE/Primavera and modify the setting value to (1).

For more information on registry settings for summarizer jobs, refer to ["Edit registry settings for summarizer jobs"](#) on page 231.

Configure the Job Service to send jobs directly to a printer

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

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



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

- 1 Complete the steps in the previous section, “[Configure the Job Service to send jobs directly to a printer](#),” to login to the Job Service using your administrator account rather than the system account.
- 2 If you did not install the Project Management module when you installed the Job Service (as described in step 1 on [page 247](#)), install the Project Management module on the Job Service machine.

For detailed instructions on installing the Project Management module, refer to “[Installing Client Modules](#)” on page 245.
- 3 After the Project Management module is installed and the database configured, start the module by choosing Programs, Primavera, Project Management from the Start menu.
- 4 Login to the Project Management module using the same administrator account you used to login to the Job Service.
- 5 On the Welcome dialog, choose **Open Global Data Only**.
- 6 Choose **Tools, Set Language**, then select the desired language.



The Job Service will run jobs in the selected language assuming that the Job Service continues to run using the administrator account you used to login in Step 1. If, at any time, a different login is specified, you must repeat these steps using the alternate login. You cannot run Job Service jobs in a different language using the local system account.

Installing the Software Development Kit

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



The Integration API (Application Programming Interface) can also be used to connect directly to the project management database. This tool requires the ability to write client code in Java. For further information, see the Integration API Administrator's Guide.



P6 Web Services allows you to seamlessly integrate Primavera's project management functionality into other applications via open standards, including XML, SOAP, and WSDL. For further information, see the P6 Web Services Administrator's Guide.

Install the Software Development Kit

Complete the following steps to install the Software Development Kit.



The following instructions assume you are installing the Software Development Kit only and that you have completed the steps detailed in [“Preliminary steps for installing the client modules, additional components, and the stand-alone version”](#) on page 242.

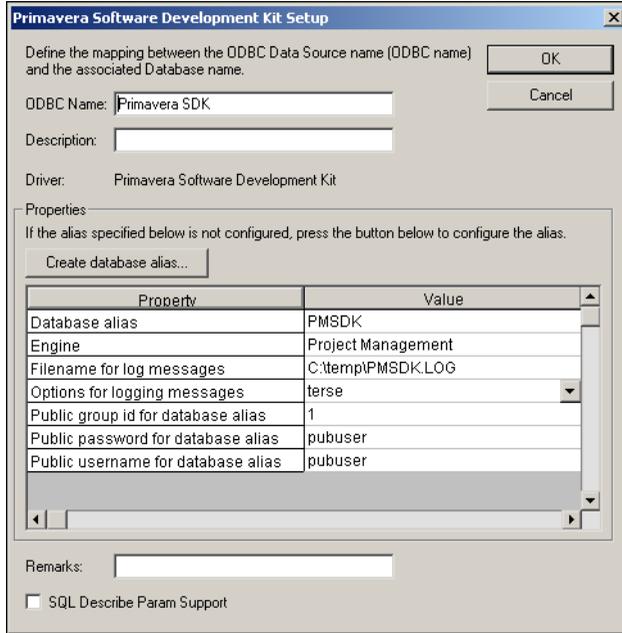
- 1 On the **Select Features to install** dialog box, expand **Other Components** and choose **Software Development Kit**.
- 2 Click **Install**.
- 3 Click **OK** after reading the explanation of the remaining process.

You will be creating a DB alias named PMSDK for use with the SDK. You will then create an ODBC user data source name (DSN) called PrimaveraSDK. The ODBC DSN will use the DB alias to connect to the project management database.

- 4 On the **Select Driver Type** dialog box, select the driver type of your database server. You can select Oracle or Microsoft SQL Server/SQL Express.
- 5 Type the connection information as required for your database type.
If you are configuring Oracle, on the **Configure ORACLE Connection** dialog box, type the Oracle connect string.

If you are configuring Microsoft SQL Server or SQL Server Express, on the **Configure SQL Server Connection** dialog box, type the database name and server computer name.
- 6 On the **Enter Public Information** dialog box, enter your public login information that was defined by your administrator; for example, a Username of pubuser, and a group ID of 1.
- 7 On the **Validate Database Connection** dialog box, click **Next** to validate the database connection.
- 8 On the **Connection Successful** dialog box, if the connection was successful, a DB alias named PMSDK was created. Click **Finish**.
If the connection was not successful, click **Back** to re-enter the database information.
- 9 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 PrimaveraSDK is created.



Once the SDK is installed on your computer, you can connect to the project management database using the ODBC DSN. The SDK documentation is located in your \Program Files\Common Files\Primavera Common\PMSDK\Doc folder.



To access the 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 SDK and all applications using the SDK need to run in Administrator mode.



The SDK documentation can be read using a Web browser. Open the INDEX.HTM file to view the table of contents for the documentation.

Installing ProjectLink

ProjectLink is a plug-in that enables Microsoft Project (MSP) users to work in the MSP environment while being connected to Primavera's enterprise features. The functionality enables MSP users to open/save projects from/to the Project Management module database from within the MSP application. With ProjectLink, MSP users have the ability to invoke Primavera's resource management within the MSP environment. ProjectLink enables users to use MSP for daily project maintenance while also having access to the enterprise capabilities available within Primavera applications.

Install ProjectLink

Complete the following steps to install ProjectLink.



The following instructions assume you are installing ProjectLink only and that you have completed the steps detailed in ["Preliminary steps for installing the client modules, additional components, and the stand-alone version"](#) on page 242.

- 1 On the **Select Features to install** dialog box, expand **Other Components** and choose **Project Link**.
- 2 Enter or select the program folder.
- 3 Click **Install**.
- 4 Click **Finish** when the download is complete.

After you have successfully completed the installation, Primavera ProjectLink will appear as a toolbar in Microsoft Project. You can also choose Tools, Primavera ProjectLink in Microsoft Project to access any ProjectLink dialog box. ProjectLink Help is automatically installed in the same folder in which you installed the program. You can also access ProjectLink Help by clicking the help icon in any ProjectLink dialog box.

Ensuring Access to ProjectLink

Access to ProjectLink is user-specific, not machine-specific. Only the user that installs ProjectLink on a machine can use ProjectLink on that machine. For example, a typical computer will have multiple defined users (e.g., Administrator, All Users, <User Name>). If ProjectLink is installed by the 'Administrator' user, only the 'Administrator' user can view/access ProjectLink in Microsoft Project; when any other user logs in on that machine, ProjectLink is not visible.

To ensure that users can access ProjectLink on their computer, you should allow users to physically install ProjectLink through the Install wizard as previously described in this section. If it is not possible for each user to physically install ProjectLink (e.g., the administrator performs the install for all users), you can enable access to ProjectLink on a user's computer by performing the following steps after ProjectLink is installed:

- 1 On the user's computer, log in using the same login that was used to install ProjectLink (e.g., 'Administrator').
- 2 Using the Start, Run utility, type **regedit** and click OK.
- 3 In the Registry Editor, navigate to the following directory:
HKEY_CURRENT_USER\Software\Microsoft\Office\MSPProject\Addins
- 4 Select the PMAddin.PrimaveraAddin folder.
- 5 Choose Registry, Export Registry File.
- 6 Export the registry file to a location on the user's computer that the user can access (e.g., c:\<user>\My Documents).
- 7 Login to the user's computer with the user's login.
- 8 Repeat steps 2 and 3.
- 9 Choose Registry, Import Registry File.
- 10 Import the registry file you exported in step 6.

The user should now be able to access ProjectLink on the local machine.

Installing or Upgrading the Stand-Alone Version

Before you begin, make sure your computer is running Windows XP Professional (SP2) or Windows Vista. Also, even though you are running Primavera as a stand-alone product, a network interface card or modem must be installed and TCP/IP networking software must be running on the computer.



Primavera recommends that you make a backup copy of your database before you upgrade.



Be sure you check in any projects that are checked out before you upgrade the database.



When installing Primavera on Windows XP or Vista, you must have administrator rights to your computer. See your network administrator for more information or contact Primavera Customer Support.



A license key file is required to use the software and should have been provided via e-mail or CD. It contains your company name, serial number, the product components with version number you have purchased, and the number of users allowed. If you will be loading a license key file as part of this procedure, copy the file to a local drive before you begin.

Install/upgrade the stand-alone version

Complete the following steps to install/upgrade the Primavera stand-alone version.



The following instructions assume you are installing or upgrading the stand-alone version only and that you have completed the steps detailed in “Preliminary steps for installing the client modules, additional components, and the stand-alone version” on page 242.

- 1 If installing the standalone version for the first time on this computer, on the **Select Features to install** dialog box, mark the checkbox next to **Sample Projects** if you want to install sample projects.
- 2 Select the program folder name in which the Primavera icons will be stored on the Start menu.

If you make no changes, these icons are stored under Programs, Primavera.



If you are upgrading from a previous version, you might be prompted that a Primavera folder already exists. Click Yes to install P6 in this folder.

- 3 If you are upgrading the standalone version and have kept the default password for logging into Microsoft SQL Server Express (“prima” for P5 and “Prima123Vera” for P6 versions 6.0 and 6.1), skip to [step 5](#). If you are upgrading from P5, your password for logging into Microsoft SQL Server Express will automatically update to “Prima123Vera,” in accordance with strong password policy requirements.

If you are upgrading the standalone version and have a different password other than the default for Microsoft SQL Server, you will be prompted to enter the password. After entering the password, the following will occur, depending on the version from which you are upgrading:

- If upgrading from P5, your password will automatically be changed to “Prima123Vera.” You may set up a custom password after completing the upgrade to P6 version 6.2.1.
- If upgrading from P6 version 6.0 or 6.1, your custom password will remain intact.

4 If installing the standalone version for the first time on this computer, on the **Select License File** dialog box, in the **Select a license file for the newly created database** field, browse to the location of the LICENSE.TXT file.

5 Click **Install** to begin the installation/upgrade.

During the installation, the setup program automatically installs and configures Microsoft.NET Framework and Microsoft SQL Server Express. The setup also installs/upgrades the project management and methodology management databases.



If a Primavera MSDE instance is already present on your computer, the setup will upgrade it to a SQL Server Express instance.

6 On the **InstallShield Wizard Complete** dialog box, choose whether to restart your computer now or later, then click **Finish**. After the installation is complete, you must restart your computer before you can use the software.

You can launch a module by clicking Start, Programs, Primavera, then select the module of your choice.

Automatic Database Upgrade

In this chapter:

[Upgrade Process Overview](#)

[Upgrading an Oracle Database to P6](#)

[Upgrading a Microsoft SQL Server Database to P6](#)

Read this chapter to upgrade your database to P6 version 6.2.1 when version 5.0, 6.0, or 6.1 is already installed. You need to upgrade your database if you want to preserve your project data for use with the new version of Primavera. A wizard automatically upgrades your database for you.

Primavera 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 \Documentation\<language>\ Technical Documentation\Manual Upgrades folder of the P6 physical media or download.

If you are upgrading a standalone installation, see “[Installing or Upgrading the Stand-Alone Version](#)” on page 259.

Upgrade Process Overview

You can upgrade your existing Primavera database (v5.0, 6.0, or 6.1) to P6 version 6.2.1. You must upgrade both your project management and methodology management databases so they will work with the new version.

To upgrade a stand-alone installation, see [“Installing or Upgrading the Stand-Alone Version”](#) on page 259.

You can upgrade your database automatically using the Database wizard. The wizard runs the necessary scripts to upgrade the database structure and an upgrade program to add data required by the new version.



If you are a current Interwoven/iManage user and upgrade to P6 Web Access version 6.2.1, project workflows, project processes, news, discussions, events, and documents data will not be available. If you need this data, contact Primavera Customer Support for information on data migration and the migration tool. Primavera recommends that you migrate the data before upgrading to version 6.2.1.

For customers currently using P6 version 6.2:

The P6 version 6.2 and 6.2.1 databases use the same schema; however, the P6 version 6.2.1 application suite contains private database login password security enhancements, as well as other enhancements. If you are currently running P6 version 6.2 and want to install version 6.2.1 to utilize these enhancements, you do not have to upgrade your databases. However, you must install version 6.2.1 of the P6 suite of applications.

For the P6 client applications (Project Management, Methodology Management, Job Service, ProjectLink, SDK), the P6 version 6.2.1 installer automatically upgrades your 6.2 installation. For some applications, such as P6 Web Access, Timesheets/Group Server, P6 Web Services, P6 Integration API, and the Enterprise Reporting Database, you must uninstall 6.2 before installing version 6.2.1.

For instructions on installing P6 client applications, refer to [“Installing Client Modules and Additional Components”](#) on page 239. For P6 Web Access installation instructions, refer to [“Installing P6 Web Access”](#) on page 135. For Group Server/Timesheets installation instructions, refer to [“Configuring the Group Server for Timesheets”](#) on page 101. For P6 Web Services, the P6 Integration API, and the P6 Enterprise Reporting Database, refer to the corresponding Administrator’s Guide for installation instructions.

To upgrade from version 5.0, 6.0, or 6.1 The following list summarizes the steps required to upgrade to P6 version 6.2.1:

- Back up your project management and methodology management databases before beginning the upgrade process to ensure you will not lose any data due to unexpected problems.
- Run the Database wizard to automatically upgrade your existing project management and methodology management databases.
- Test the new databases to ensure the upgrade succeeded.
- Install the new Group Server and any additional components as described in this guide.

Privileges The following privileges included in the P6 Project Management module are either new or modified. Assign them to your users as needed if you are currently using a previous version.

New Global Privileges

New Project Privileges

Create Project Requests
 Edit Project Requests Templates
 Edit User Defined Fields

Edit Future Periods

If you are currently running Primavera with Oracle, see [“Upgrading an Oracle Database to P6”](#) on page 266.

If you are currently running Primavera with Microsoft SQL Server, see [“Upgrading a Microsoft SQL Server Database to P6”](#) on page 269.

Private database login passwords Private database login passwords use a new, stronger encryption algorithm beginning in P6 version 6.2.1. Private database login passwords created in version 6.2 and earlier will continue to use the old encryption algorithm until you modify or reset existing passwords in version 6.2.1. Refer to [“Performing Administrative Tasks”](#) on page 284 for instructions on modifying or resetting existing private database login passwords.



User logins and passwords are not affected by the new encryption algorithm.

Upgrading an Oracle Database to P6

If you want to use the databases from Primavera 5.0, 6.0, or 6.1 with P6 version 6.2.1, you need to upgrade them 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 project management and methodology management databases.

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 may 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 will be using SSL protocol, refer to your Oracle database documentation and the Primavera Knowledgebase for configuration instructions before running the Database wizard (dbsetup).

Upgrade an Oracle project management or methodology management 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 Primavera 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 \Client_Applications\install\database folder of the P6 physical media or download to start the Database wizard.



The dbsetup.bat file must be run from a mapped drive.



For Linux, add the JAVA_HOME Environment variable to the dbsetup.sh file before running it. For example, export JAVA_HOME = /usr/jre 1.5.0_15

3 On the **Primavera P6** dialog box:

- Choose **Upgrade an existing database**.
- Choose **Oracle** as the server type.
- In the **Product Key** field, enter a valid product code.

For information on valid product codes, refer to “[Primavera P6 Product Codes](#)” on page 12.

4 On the **Connection Information** dialog box:

- In the **Administrative User Name** field, log on to the database as an administrative user, such as admuser. The username 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.
- In the **Administrative Password** field, type the password associated with the User Name you entered.
- In the **Database Host Address** field, enter the server machine name or IP address where Oracle is installed.
- In the **Database Host Port** field, enter the port number that Oracle is using. The default is 1521.
- In the **Database Name (SID)** field, enter the Oracle SID. 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, select your privileged and public user names for the database; for example, privuser and pubuser.

6 On the **Ready to Begin Upgrading Data** dialog box, verify that the the current version of your existing database is listed correctly. Choose **Yes, upgrade my database**, then click **Upgrade**.

The upgrade process could take several minutes, depending on its size.

- 7 On the **Upgrading Database...** dialog box, click **Next** after the process has completed.



If the database upgrade fails, see PrimaveraDatabaseSetup.log located in the user home directory (for example, C:\Documents and Settings\Administrator). Contact Customer Support if further assistance is needed.

- 8 On the **Finish** dialog box, click **Next** to run the Database wizard again if you are using the Methodology Management module. Otherwise, click Finish to exit the wizard.
- 9 If necessary, run the Database Configuration wizard from the client and update your license in the database.

Refer to [“Changing Database Configuration Settings”](#) on page 281 for more information.

Your database is now ready to use with P6 version 6.2.1.

Upgrading a Microsoft SQL Server Database to P6

If you want to use the databases from Primavera 5.0, 6.0, or 6.1 with P6 version 6.2.1, you need to upgrade the database(s) by performing the following sets of steps. 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 both the project management and the methodology management databases.

Upgrade a Microsoft SQL Server database

1 Perform a full backup of the current databases.

If you are unsure how to back up your SQL Server database, do not proceed with the upgrade. Contact your database administrator, your database vendor, or Primavera 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 in the \\Client_Applications\install\database folder of the P6 physical media or download to start the Database wizard.



The dbsetup.bat file must be run from a mapped drive.



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

3 On the **Primavera P6** dialog box:

- Choose **Upgrade an existing database**.
- Choose **Microsoft SQL Server/SQL Express** as the server type.
- In the **Product Key** field, enter a valid product code.

For information on valid product codes, refer to “[Primavera P6 Product Codes](#)” on page 12.

4 On the **Connection Information** dialog box:

- In the **Administrative User Name** field, type the Microsoft SQL Server system administrator name to register to the server. If you chose the defaults during the Microsoft SQL Server installation, leave SA as the system administrator name.
- In the **Administrative Password** field, type the password for this system administrator. If you chose the defaults during the Microsoft SQL Server installation, leave the password field blank.
- In the **Database Host Address** field, enter the server machine name or IP address where Microsoft SQL Server is installed.
- In the **Database Host Port** field, enter the port number that Microsoft SQL Server is using. The default is 1433.
- In the **Database Name** field, enter the name of the existing database that you want to upgrade.

5 On the **Ready to Begin Upgrading Data** dialog box, verify that the the current version of your existing database is listed correctly. Choose **Yes, upgrade my database**, then click **Upgrade**.

The upgrade process could take several minutes, depending on its size.

6 On the **Upgrading Database...** dialog box, click **Next** after the process has completed.



If the database upgrade fails, see PrimaveraDatabaseSetup.log located in the user home directory (for example, C:\Documents and Settings\Administrator). Contact Customer Support if further assistance is needed.

7 On the **Finish** dialog box, click **Next** to run the Database wizard again if you are using the Methodology Management module. Otherwise, click **Finish** to exit the wizard.

Configure the Microsoft SQL Server database

1 Follow the instructions below to verify that the isolation level setting on the upgraded database has been set to “read committed snapshot.”

- Open Microsoft SQL Server Management Studio.
- Open a new query window for the updated database and execute the following command:

dbcc useroptions

- Look for **isolation level** in the Set Option column and verify that the value is set to **read committed snapshot**.
- If the value is set to **read committed snapshot**, skip to [step 3](#). If the value is set to **read committed**, proceed to [step 2](#).

2 Execute the following command to fix the isolation level setting:

```
alter database <database name> set read_committed_snapshot on
```



Only the connection executing the alter database command is allowed in the database. There must be no other open connection in the database until the execution of the command is complete.

3 If necessary, run the Database Configuration wizard from the client and update your license in the database.

Refer to “[Changing Database Configuration Settings](#)” on page 281 for more information.

Your database is now ready to use with P6 version 6.2.1.

Creating and Running an Unattended Setup

In this chapter:

Creating Unattended Setup Files

Running an Unattended Setup

This section provides instructions for creating an unattended setup of Primavera applications and running an unattended setup on client computers. An unattended setup enables administrators to install Primavera applications on client computers without having to run through the setup process each time. It also ensures that each user receives the same Primavera configuration.



You cannot use unattended setup for a stand-alone configuration.

Creating Unattended Setup Files

An unattended setup allows an administrator to install Primavera modules on a client computer without having to answer the configuration prompts of the Setup wizard. All configuration details for the installation are specified when the unattended setup files are first created. You can choose which client modules to install, configure the connection to the project management database, and specify the destination folders where the program files are copied. Unattended installations ensure that all client modules are configured identically at setup.

To create an unattended setup, you enter command lines to automatically create a response file and launch the Primavera 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.

The unattended setup can be run by an administrator on client computers by entering the appropriate command lines. The unattended setup will silently install Primavera according to the configuration you specify in the response file.

For information on running an attended setup, see ["Running an Unattended Setup"](#) on page 278.



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.

Create unattended setup files

- 1 Select a computer that does not have Primavera currently installed.
- 2 Copy the contents of the Client_Applications folder (of the P6 physical media or download) to a folder on the local machine.

Primavera recommends creating a new folder, such as Primavera_Install. Do not include spaces in the folder name.
- 3 Open a command line by choosing Start, Run. Type 'cmd' and click OK.
- 4 Enter a command line that will access the directory to which you copied the Primavera installation files. For example,

```
cd c:\Primavera_install
```



In the next step, you will enter a command that creates a response file, then automatically launches the Primavera setup in record mode. The response file will record your selections while you proceed through the Primavera setup. Users with administrator privileges will then be able to install Primavera from the response file you create. There are no restrictions on the name of the response file; however, Primavera recommends that you name it 'setup.iss'.

- 5 Enter the following command line to create a response file and to launch the Primavera setup in record mode, where pathname = the directory you accessed in Step 4 (e.g., Primavera_install):

```
setup /r /f1"c:\pathname\setup.iss"
```



*Do not include a space between the **f1** and the quote **"**.*

The Primavera setup launches automatically. On the **Welcome** dialog box, read the recommendations and click **Next**.



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

- 6 On the **Product Code** dialog box, enter a valid product code.

For information on valid product codes, refer to "[Primavera P6 Product Codes](#)" on page 12.
 - 7 On the **Setup Type** dialog box, choose **Custom**.
-

- 8 On the **Choose Destination Location** dialog box, accept the default installation folder or click **Browse** to specify a different folder.
- 9 On the **Choose Destination Location (common files)** dialog box, accept the default location for Primavera common files or click **Browse** to specify a different folder.
- 10 On the **Select Features to install** dialog box, mark the checkbox next to each application you want installed when a user with administrator privileges runs this unattended setup on a client machine.

If you select only the Software Development Kit, components from the Project Management and Methodology Management modules are also installed.



You should not include the Job Service or Distributed Job Service when configuring an unattended setup unless you are creating an unattended setup that will only be run on server machines that you intend to use as Job Service or Distributed Job Service servers.

- 11 If you chose to include the Job Service or Distributed Job Service in the previous step, enter or select the database alias of the job service database.
- 12 On the **Select Program Folder** dialog box, accept the default location (Primavera) for Primavera program icons or select/type a different folder name.
- 13 On the **Ready to Install the Program** dialog box, click **Install** to begin the installation.
- 14 When the installation is complete, you are prompted to configure the database connection(s). The connections you must configure, and the order in which you are prompted, depend on the applications you chose to install in step 10.



*If you chose to include the Job Service or Distributed Job Service in the unattended setup, you are first prompted to configure the job service database. Click **Yes**. After configuring the job service database, you are prompted to test the database connection. Click **Yes** to test the connection, or **No** to continue configuring database connections.*

When prompted, click **Yes** to configure the project management or methodology management database connection.

- 15 On the **Select Driver Type** dialog box, choose the database type from the list in the **Project Management driver type** field.
- 16 If users will be connecting using SQL Server, on the **Configure SQL Server Connection** dialog box, enter the server host name and the database name. The host name is the name of the computer or IP address where Microsoft SQL Server is installed. The database name was specified when the database was created; for example, PMDB.

If users will be connecting using Oracle, on the **Configure ORACLE Connection** dialog box, enter the Oracle connection string; for example, PMDB.



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.

- 17 On the **Enter Public Login Information** dialog box, enter your public login information that was defined by your administrator; for example, a Username of pubuser, and a group ID of 1.
- 18 On the **Validate Database Connection** dialog box, click **Next** to test the database connection.

If the connection is not valid, you can go back and change your settings.
- 19 On the **Connection Successful** dialog box, click **Finish**.
- 20 If you chose to include the Methodology Management module in the unattended installation, repeat steps 14 - 19 to configure the methodology management database.
- 21 Copy and paste the contents of the folder you created in Step 2 to a network location accessible to all computers that need to run the unattended setup. This folder should contain the contents of the P6 Client_Applications folder as well as the 'setup.iss' response file.

Refer to the next section for instructions on running an unattended setup on a client machine.

Running an Unattended Setup

An unattended setup is a special installation program that uses the configuration file you or another administrator created in the previous section (“[Creating Unattended Setup Files](#)” on page 274) 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 may have provided a different name.

Running an unattended setup saves you time and effort, and it ensures that every Primavera client module 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.



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 Primavera on client machines using the unattended setup. For example, you can physically run the unattended setup on each machine, write scripts that will run the unattended setup on the client machines you specify, or provide these instructions to users with administrator privileges, who can run the unattended setup on his/her computer.



The following instructions assume that an administrator or the owner of the client computer is physically running the unattended setup from the client computer. Also, as an example, the folder containing the required files is named "Primavera_install," the setup file is named 'setup.iss,' and the log file is named 'setup.log.' The administrator who configured the unattended setup may have provided different names.

Run an unattended setup

- 1 On the client computer, open a command line by choosing Start, Run. Type 'cmd' and click OK.
- 2 Enter a command line that will access the directory on the network server that contains the contents of the P6 Client_Applications folder, the 'setup.iss' file, and the 'setup.log' file. For example,

cd e:\Primavera_install

If you are unsure of the location of the unattended setup file, refer to your system administrator.

- 3 Enter a command line to run the unattended setup, where pathname = the directory you accessed in step 2 (e.g., Primavera_install). For example:

setup.exe /s /f1"e:\pathname\setup.iss" /f2"c:\pathname\setup.log"



*Do not include a space between the **f1** and **f2** and the parentheses ("").*

The Primavera installation launches automatically. You will not see a dialog box; however, a Primavera taskbar icon indicates that the installation is in progress. The installation is complete when the taskbar icon closes.

- 4 Confirm that the files were successfully installed by navigating to the appropriate folder on the local drive.

By default, Primavera applications are installed in c:\Program Files\Primavera. The administrator who configured the unattended setup may have supplied a different default installation folder.

If the Primavera applications were not installed, or if you cannot run a Primavera application, contact your system administrator. All errors are logged in the 'setup.log' file (or equivalent).

Changing Database Configuration Settings

In this chapter:

[Changing Database Connection Settings](#)

[Performing Administrative Tasks](#)

The Database Configuration wizard enables you to alter database connection settings for Primavera client modules. This chapter describes how to change database connection settings, configure licenses, change user passwords, and administer private database login names and passwords.

Changing Database Connection Settings

Use the Database Configuration wizard to change connection settings for a 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.



To be able to change database connection settings, the Database Configuration wizard must access the module's initialization (INI) file. This file is located in the module's folder; for example, the INI file for the Project Management module is PM.INI. If the wizard cannot locate the module's INI file, you will be prompted to browse for it.

Change database configuration settings

- 1 From the client computer's desktop, click Start, then choose Programs, Primavera, Help and Utilities, Database Configuration.
- 2 On the **Welcome** dialog box, click **Next**.



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

- 3 On the **What would you like to do?** dialog box, choose **Configure my database connections**.
- 4 On the **Select Database Alias** dialog box, choose the appropriate database; for example, PMDB.
- 5 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.

- 6 Type the new connection settings for the database.

If the client computer is connecting to an Oracle database, on the **Configure ORACLE Connection** dialog box, type the connection string, which can be found in the TNSNAMES.ORA file.

If the client computer is connecting to Microsoft SQL Server or SQL Server Express, on the **Configure SQL Server Connection** dialog box, type the server host name and the database name. The database name was specified when the database was created; for example, PMDB. The host name is the name of the computer or IP address where Microsoft SQL Server is installed.

- 7 On the **Enter Public Login Information** dialog box, enter your public login information that was defined by your administrator; for example, a Username of pubuser, and a group ID of 1.

The public login is used by module users to connect to the database.

- 8 On the **Validate Database Connection** dialog box, click **Next** to test the database connection.

If the test connection fails, you can ignore the error or click **Back** to correct the settings now.

- 9 On the **Connection Successful** dialog box, click **Finish**.

If you create a new DB alias for a module, the module's INI file is updated to reflect the change. If multiple modules are installed on one client computer, changing the DB alias for one module does not affect the other modules.

If you change the database connection settings for a DB alias and multiple modules share that alias to access the database, your changes affect all the modules that share the alias.

Performing Administrative Tasks

Use the Database Configuration wizard to configure application licensing, change user passwords, and administer private database logins.

If you want to configure application licensing, you can use the wizard to connect to the database and store the license in the database. You can store two types of licenses using the Database Configuration wizard: the new license you receive from Primavera when you implement a new or upgraded Primavera installation; or, the incremental license you receive from Primavera when you purchase additional users for your existing license.

You can also use the Database Configuration wizard to change the passwords of module user logins. Note that these logins are not database logins but are the Primavera logins that are administered using the Project Management module.

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 database is a private database login. You can modify existing logins or create new ones using the Database Configuration wizard.



In P6 version 6.2.1, Primavera provides a stronger encryption algorithm for private database login passwords. All private database login passwords created or modified in P6 version 6.2.1 and later will use the new encryption algorithm. All private database login passwords created in 6.2 and earlier versions will continue to use the previous encryption algorithm until you reset or modify the existing passwords. Refer to the instructions for resetting existing passwords to use the new encryption algorithm in ["To administer private database logins:"](#) on page 287 for details.

Run the Database Configuration wizard Whether you are configuring application licensing, changing user passwords, or administering private database logins, most of the steps required to perform these administrative tasks are the same. Complete the following steps to perform all of these tasks:

- 1 From the client computer's desktop, click Start, then choose Programs, Primavera, Help and Utilities, Database Configuration.

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

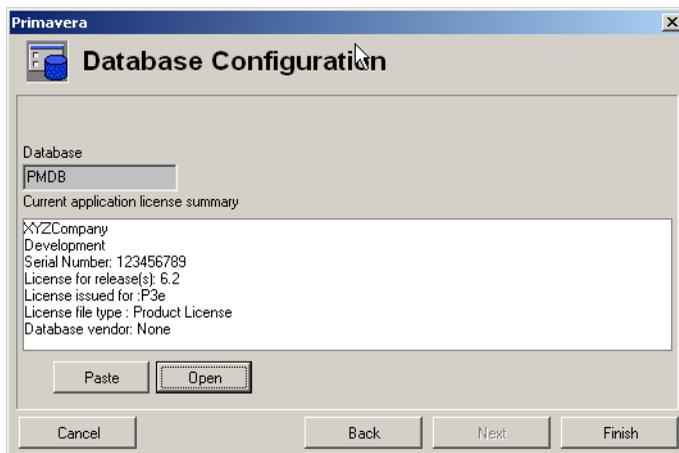


Click Next on each wizard dialog box to advance to the next step.

- 3 On the **What would you like to do?** dialog box, choose **Administration Tasks**.
- 4 On the **Select Administration Task** dialog box, choose the appropriate administrative task: Configure database license, Change application users password, or Administer private database logins.
- 5 On the **Select Database Alias** dialog box, select the appropriate database.
- 6 On the **Database Configuration** dialog box, type the name and password of a privileged database user.
This login should have administrative rights on the database.
- 7 Complete the following instructions that correspond to the administrative task you are performing:

To configure application licensing:

You can paste a license or load one from a file. To paste a new license in place of the old license, copy the license, click Paste, and click Yes to overwrite the old license. To add a license from a file, click Open. Click Finish to close the wizard.





After applying any licensing changes that affect P6 Web Access, the application server hosting P6 Web Access must be restarted before the changes will take effect.

To change user passwords:

Select the module login and set its new password.

If the Password Policy is not enabled in Admin Preferences, the following screen will appear:

Primavera Database Configuration

Select the application username whose password you wish to change, then enter a new password and confirmation, and click Next.

NOTE: This is for application user logins. It is not the same as the username and password used to connect to the database.

Application username: admin Database alias: PMDB

New password: xxxxxx Confirmation: xxxxxx

Buttons: Cancel, Back, Next, Finish

If the Password Policy is enabled in Admin Preferences, the following screen will appear, detailing the requirements for a new password:

Primavera Database Configuration

Select the application username whose password you wish to change, then enter a new password and confirmation, and click Next.

NOTE: This is for application user logins. It is not the same as the username and password used to connect to the database.

Application username: admin Database alias: PMDB

New password: xxxxxxxx Confirm new password: xxxxxxxx

(Minimum of 8 characters. Must contain at least 1 letter and 1 number.)

Buttons: Cancel, Back, Next, Finish

Click OK, then click Finish to close the wizard.

To administer private database logins:

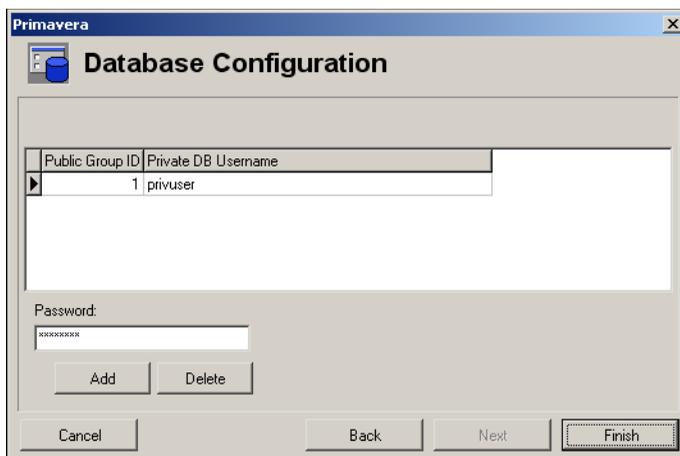
Review the explanation of private database logins and click Next.

To modify the settings for a login, click the appropriate cell and type the new value. To add a new login, click Add. To delete a login, select the login and click Delete.

All new or modified private database login passwords are encrypted using the new encryption algorithm implemented in version 6.2.1. If you upgraded to version 6.2.1, all existing private database login passwords will continue to use the previous encryption algorithm until you modify or reset the existing passwords. Resetting existing private database login passwords maintains the passwords but updates them to use the new encryption algorithm.

To retain an existing private database login password but reset it to use the new encryption algorithm:

- 1 Select an existing login.
- 2 In the Password field, highlight the password, then press the Delete key on your keyboard.
- 3 In the Password field, type the same password you deleted.



Click Finish to close the wizard.

Configuring Authentication Modes

In this chapter:

Authentication in Primavera

Process Overview

Choosing an Authentication Scheme

Configuring the Project Management module

Login Procedures and Authentication

This chapter describes the Primavera authentication modes, outlines the steps required to implement an authentication scheme, and explains how to use the configuration wizard to specify the mode you want to use for client/server and Web modules. It also details configuration steps for the Project Management module.

Authentication in Primavera

Typically, within an organization, user access to software applications is managed through authentication and authorization mechanisms. Simply put, authentication is the process of validating user identity and authorization is the mechanism used to control access to specific resources or data.

Primavera supports three authentication modes: Native (the original Primavera authentication scheme), Single Sign-On, and LDAP.

- **Native**

Native authentication is the default mode for all Primavera modules. In this mode, when a user attempts to log in to a Primavera module, authentication is handled directly through the module with the Primavera database acting as the authority.

- **Single Sign-On**

Single Sign-On authentication, which provides access control for Web applications, is available for Group Server and P6 Web Access. In this mode, when a user attempts to log in to a Primavera module (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)**

LDAP is directory-based authentication and is available for client/server and Web applications. In this mode, when a user attempts to log in to a Primavera module, the user's identity is confirmed in an LDAP-compliant directory server database. Additionally, Primavera supports the use of LDAP referrals, which allows authentication to extend to another domain.



If the Project Management module is configured for Single Sign-On or LDAP authentication, all Project Management module applications (e.g., Update Baseline, Claim Digger) or other Primavera applications (e.g., Pertmaster) that use the Primavera Integration API must be separately configured for Single Sign-On or LDAP authentication using the API AdminApp java utility. For more information on the API, refer to the Primavera Integration API Administrator's Guide in the \Integration\API folder of the P6 physical media or download. P6 Web Services can also be configured to use LDAP authentication. For more information on P6 Web Services, refer to the P6 Web Services Administrator's Guide.

Regardless of the authentication scheme you choose, Primavera controls user authorization through the project management or methodology management database. For details about user authorization, see [“Administering Users and Security”](#) on page 309.

Process Overview

By default, all Primavera modules are installed using Native authentication. After you install Primavera client/server modules and additional components, you can choose a different authentication scheme.

To specify an authentication scheme:

The Borland Database Engine and the database client software must be installed on the machine used to run the Authentication Configuration wizard.

- Run the Authentication Configuration wizard to choose an authentication mode for the project management database (PMDB) and, if applicable, methodology management database (MMDB). Configure the Project Management module, if necessary.
- Configure settings in the Timesheets Web site file erps8X6.html. For information, see [“Configuring the Group Server for Timesheets”](#) on page 101.
- Configure administrative settings for P6 Web Access. For information, see [“Installing P6 Web Access”](#) on page 135.



If you are upgrading from a previous version of Primavera software, refer to the procedures in [“Automatic Database Upgrade”](#) on page 263 before running the Authentication Configuration wizard.

Authentication mode is database-driven, so the Authentication Configuration wizard enables you to first specify a database connection setting, then choose authentication modes for the modules that access that database.

Although the wizard prompts you to separately choose an authentication mode for client/server modules and Web modules, you must use a consistent authentication scheme within the Primavera suite when choosing Native authentication; that is, both client/server and Web modules must use Native mode. LDAP authentication can be used for both client/server and Web modules, or LDAP client/server authentication can be combined with Single Sign-On, which is available only for Web modules.

For LDAP authentication, the configuration utility also enables you to specify LDAP servers, map LDAP attributes to Primavera database fields, and provision users.

Choosing an Authentication Scheme

After installing Primavera, use the Authentication Configuration wizard to set up an authentication scheme, which includes one or more of the following steps:

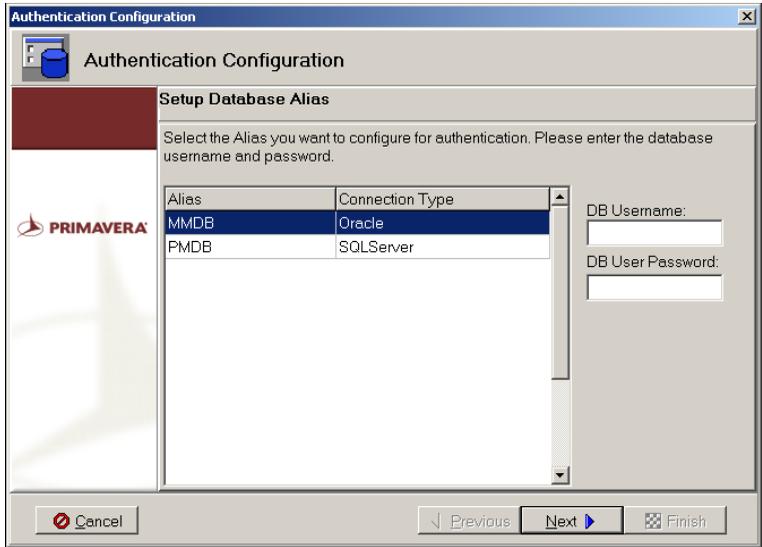
- Selecting an authentication mode
- Configuring LDAP servers
- Provisioning LDAP user information to a Primavera database

Depending on the authentication modes you select for client/server and Web modules, the wizard guides you through the applicable steps. When initially configuring Primavera modules to use LDAP mode for either client/server or Web modules, you can provision users. Once you have configured an LDAP authentication mode, you can also run the Authentication Configuration wizard at a later time to reprovision user information as necessary.

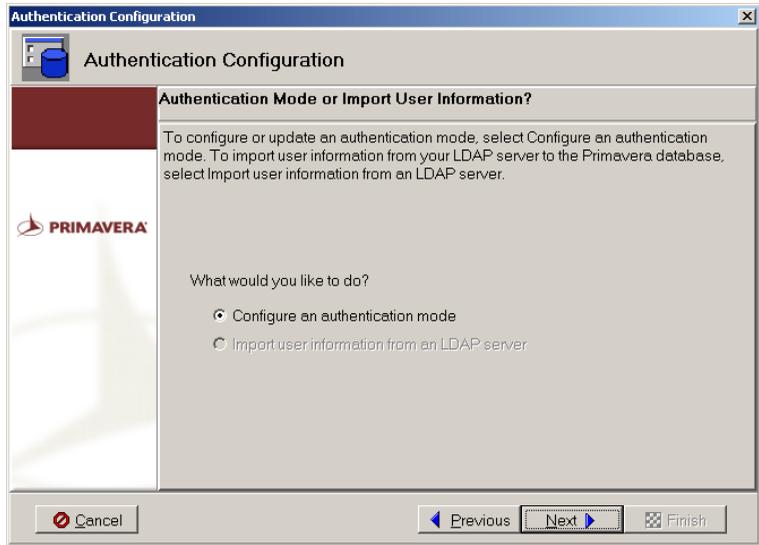
The Authentication Configuration wizard is provided in the Client_Applications folder of the P6 physical media or download. You can run the wizard directly from physical media or from a network location.

Selecting an authentication mode and configuring LDAP servers

- 1 From the \Client_Applications\Install\Database\ldap_config folder of the P6 physical media or download, double-click LDAPCfgWiz.exe.
- 2 Select the database alias you want to provision LDAP information for, then type the database user name and password.

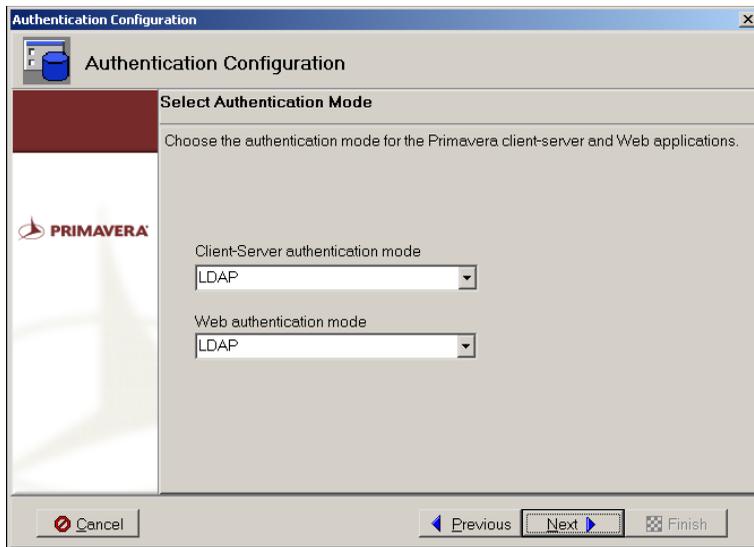


3 Choose to configure an authentication mode.



 *The Import option is active only if the database has previously been configured for either LDAP or Single Sign-On mode.*

4 Choose an authentication mode for the client-server and Web modules.

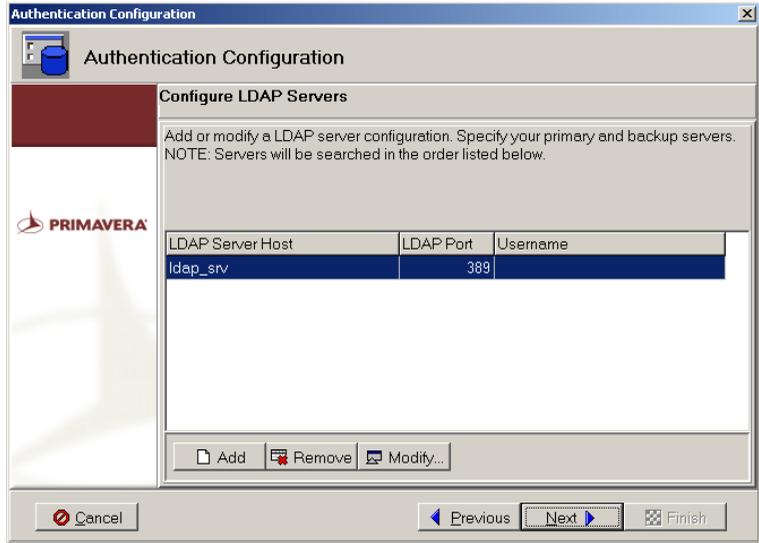


If you choose Native, the Finish button becomes active so you can exit the wizard.

For all other authentication mode selections, continue through the wizard to configure additional information as described in the following steps.

- 5 To add a new LDAP server, click Add.

If previously configured LDAP servers are listed, you can modify the information or remove server entries.



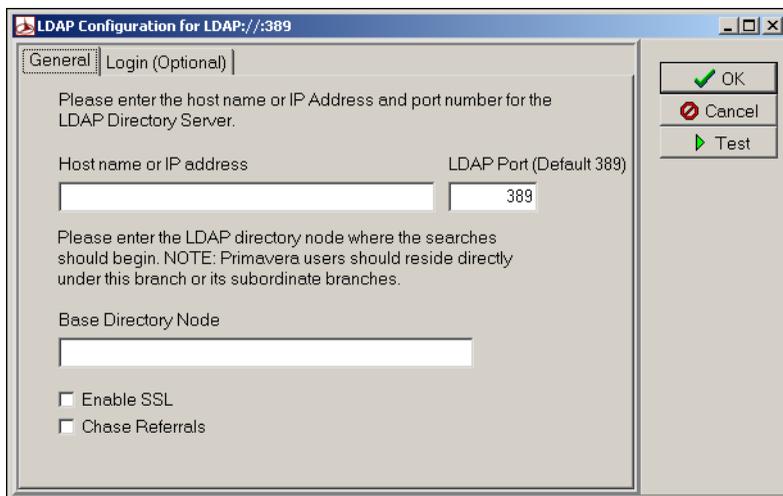
- 6 On the General tab, specify the LDAP directory server host name or IP address, listening port, and Base Directory Node.

For Base Directory Node, specify the location in the directory information tree (DIT) that is the location from which to start the search for module users during login. Base Directory Node is also the location where the provisioning function begins the search for directory server users.

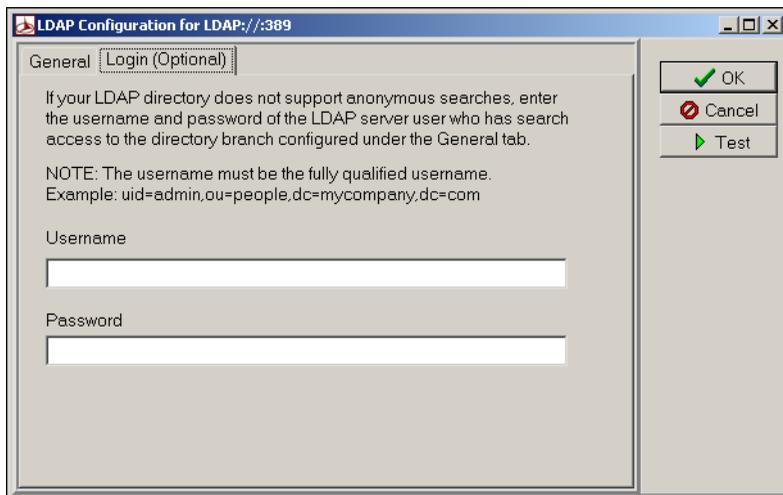
To use SSL protocol for communication with the LDAP server, mark the Enable SSL checkbox. To use referrals, mark the Chase Referrals checkbox.



For P6 Web Access, if choosing SSL, you will need to configure two settings that identify the location and password for the keystore that holds the SSL certificate. For details about configuration settings for P6 Web Access, see "Installing P6 Web Access" on page 135.



If the LDAP server does not allow anonymous searches, click the Login tab. Type the user name and password of an LDAP server user who has search access for the Base Directory Node you specified on the General tab.



When you are finished configuring the LDAP server, click OK or, to validate connection with the LDAP server, click Test, then click OK after a successful connection message.

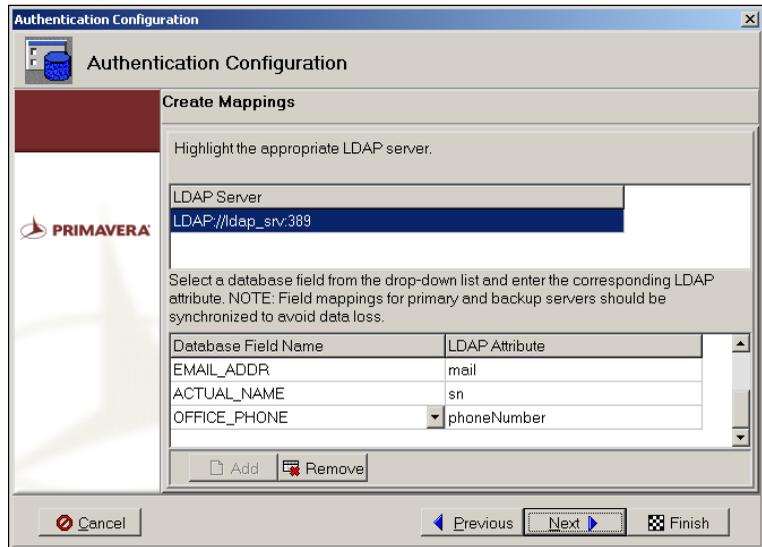
USER_NAME is a required field that must be mapped and can not be deleted. Up to four fields can be mapped between the LDAP store and the project management/methodology management database.

- 7 Select an LDAP server. Then, in the LDAP attribute column, specify the term/field in the LDAP store that corresponds to the Primavera project management/methodology management database USER_NAME field.

Optionally, specify the LDAP term/field for e-mail address, actual name, and office phone number. To add fields, click Add. To remove a field, select it and click Remove.



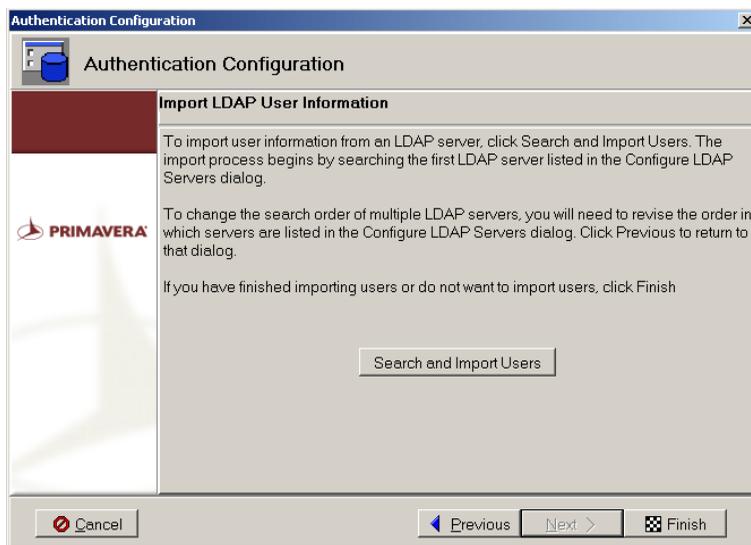
If you are unsure of the correct LDAP terms, check with your LDAP directory server administrator.



- 8 To provision LDAP user information to the Primavera database, click Next. You can search the LDAP directory server or import an LDIF file to provision users.

To exit the wizard, click Finish.

- 9 Click Search and Import Users.



When you provision users, changed records are updated in the Primavera 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 Primavera database. You will need to manually delete these users.

10 To import from an LDIF file, click Load LDIF, then navigate to the file you want to import and click OK.

To import from an LDAP server, you can run an existing search or define a new search.

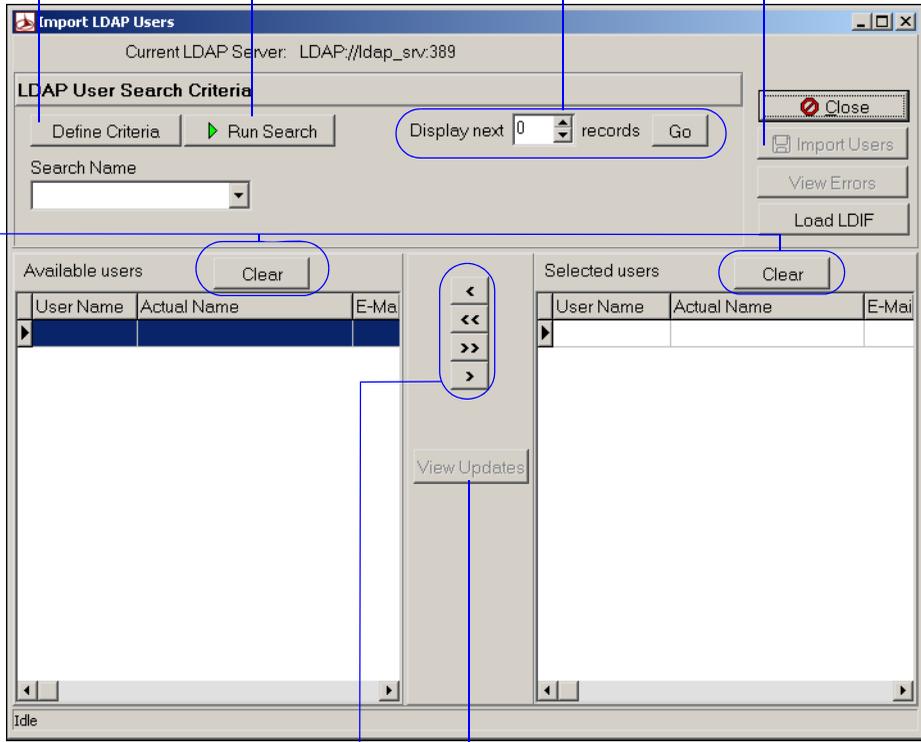
If one or more previously defined searches exist, the name of the most recently run search is displayed next to the Search Name drop-down list. To initiate the current search, click Run Search. Results display in the Available Users section. To specify a new search, click Define Criteria.

Displays the name of the current search.

Starts the search based on the filter selected in the Search Name drop-down list.

To set the number of search results listed at one time, type a number or click the arrow buttons. To advance through the list, click Go.

Click to save information for the selected users to the Primavera database.



Click to remove the current search results or currently selected users.

After running a search, select the Available users you want to add to the Primavera database, then click the right arrow button. To remove a user from the Selected users list, click the left arrow button. Click the double arrows to add or remove all listed users.

For the selected users, click to compare records between the Primavera db and LDAP store. Status is indicated by background color. White indicates a match, blue indicates that the db record differs from the record in the LDAP store, and red indicates that the user record does not exist in the database.

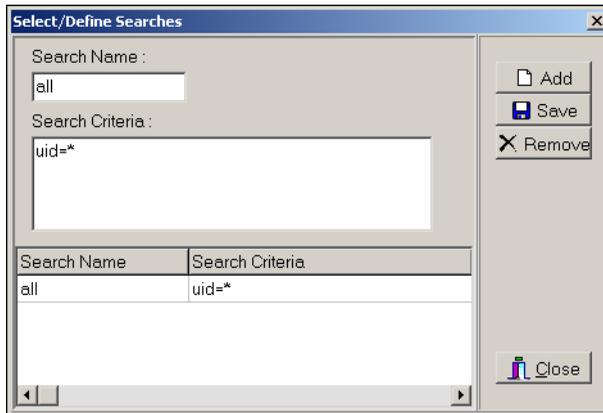
When you click Define Criteria, the Select/Define Searches dialog box displays so you can add, modify, and delete searches.

- To add a search, click Add. Type a unique name for the search. In the Search criteria field, specify the LDAP search filter you want to use. When finished specifying criteria, click Save, then click Close.



Search filter syntax should adhere to the rules outlined in RFC 2254.

- To modify a search name or criteria, edit the existing information, click Save, then click Close.
- To delete a search, select it. Click Remove, then Close.



After provisioning users, you will need to set up Primavera user accounts for the imported users by assigning security profiles and licenses through the Project Management or Methodology Management modules.

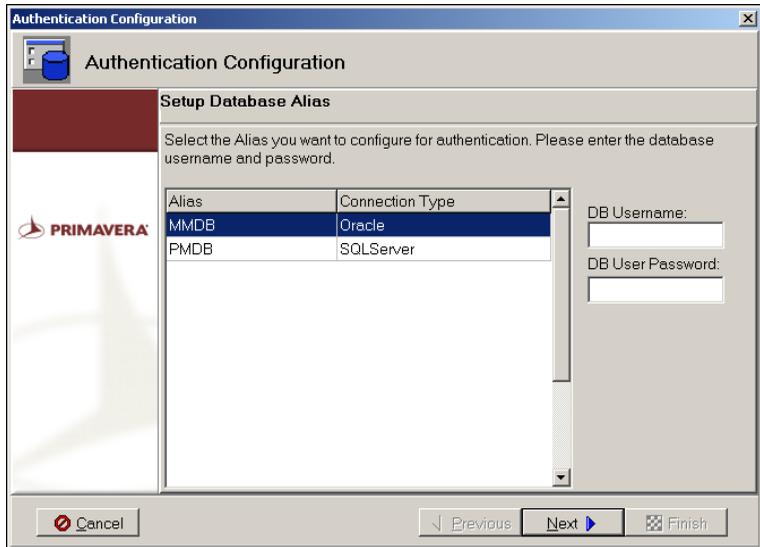
- 11 When finished importing user information, in the Import LDAP Users dialog box, click Close. To exit the Authentication Configuration wizard, click Finish.

Provisioning LDAP user information to the Primavera database

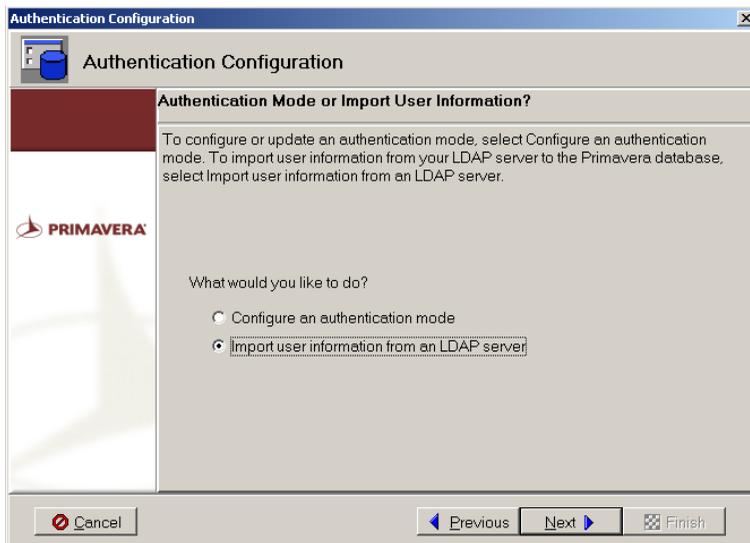


When you provision users, changed records are updated in the Primavera database and new users are added. However, users that have been deleted from the LDAP directory or LDIF file are not automatically removed from the Primavera database. You will need to manually delete these users.

- 1 From the \Client_Applications\Install\Database\ldap_config folder of the P6 physical media or download, double-click on the file LDAPCfgWiz.exe.
- 2 Select the database alias you want to provision LDAP information for, then type the database user name and password.



- 3 Choose to import user information.



The Import option is active only if the database has previously been configured for either LDAP or Single Sign-On mode.

- 4 Follow steps 9 - 11 (beginning on [page 298](#)) in “[Choosing an Authentication Scheme](#)” which describes how to set up an authentication scheme, including the provisioning of users.

Configuring the Project Management module

The Project Management module contains Update Baseline and Claim Digger tools. In order for these features to work in LDAP mode, an Administration setting must be changed. Perform the following steps:

For detailed information on authentication configuration settings for P6 Web Access, see ["Configure Authentication"](#) on page 183.

- 1 On the server where the Project Management module is installed, go to \Program Files\Common Files\Primavera Common\Java and run **admin.cmd** to launch the Administration Application.
- 2 Ensure that the Custom/INTERNAL_PLUGINS/Authentication/Mode configuration setting has a value of **LDAP**.

Login Procedures and Authentication

Login procedures for Primavera modules vary according to the authentication mode selected.

In Native mode

- Primavera modules present a login dialog that prompts for a user name and password. In Native mode, the use of passwords may be optional, depending on the password policy chosen in Administrative Preferences.

In LDAP mode

- All Primavera modules (Project Management, Methodology Management, Timesheets, P6 Web Access, and Software Development Kit) require a login password.

Additionally, because passwords are stored and authenticated against an LDAP directory, the capability for users to change passwords within a Primavera module is disabled.

In Single Sign-On mode

- For Timesheets, the Primavera login dialog box never appears. Instead, login credentials are requested and validated by SiteMinder. Once a user is authenticated, the Timesheets launch page appears.
- For P6 Web Access, login credentials are requested and validated by SiteMinder. Once a user is authenticated, the launch page for P6 Web Access appears so the user can select a database and language.

The capability for users to change passwords within Timesheets and P6 Web Access is disabled because passwords are stored and authenticated against a directory server user store.

Primavera Application Administration

In this part:

Administering Users and Security

Defining Administrative Preferences and Categories in Project Management

Defining Administrative Preferences and Categories in Methodology Management

Implementing Timesheets

Defining Financial Periods

This part describes how to set up security and preferences after all needed Primavera components are installed.

Read “[Administering Users and Security](#)” to learn how to use the Project Management module to set up user accounts to secure project data.

“[Defining Administrative Preferences and Categories in Project Management](#)” explains how to apply a series of parameters and values that apply to all projects in the Project Management module.

Read the “[Defining Administrative Preferences and Categories in Methodology Management](#)” chapter to learn how to apply a series of parameters and values that apply to all methodologies in the Methodology Management module.

If you installed Timesheets, refer to “[Implementing Timesheets](#)” to set up users and timesheets, and to configure access to Timesheet Approval.

In the “[Defining Financial Periods](#)” chapter, learn how to define financial periods that can be used to store past period actuals.

Administering Users and Security

In this chapter:

Understanding Security in Primavera

Process Overview

Defining Global Profiles

Defining Project Profiles

Adding Users in the Project Management Module

Assigning OBS Elements and Project Profiles

Assigning OBS Elements to the EPS

Defining User Access to Resources

Defining User Access to P6 Web Access Functionality

Setting Security in the Methodology Management Module

Primavera 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 Web Access functionality.

Read this chapter to understand the process for setting up users and implementing security in Primavera.

Understanding Security in Primavera

Each person who will be using any component of the Primavera suite must be registered as a “user” with the appropriate licensing rights. Additional security privileges determine each user’s access to data. Use the Project Management module to administer security for the Project Management and Timesheets modules, and P6 Web Access. The Methodology Management module administers its own security.

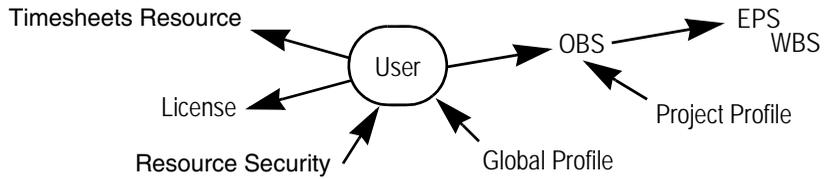
To ensure security at various levels of data, the Project Management module provides two sets of security profiles:

- **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. The Project Management module 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 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. You can also control user access to resource data by implementing resource security.

The Methodology Management module uses its own set of users and security profiles to control access to methodology data. See [“Setting Security in the Methodology Management Module”](#) on page 361

The following diagram illustrates the relationships between a user, the OBS, EPS, and WBS. If a user will be accessing Timesheets to update time, he/she will also need to be associated with a resource in the Project Management module.



Useful Primavera Terms

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

User Any person who needs access to Primavera components, including the Project Management, Methodology Management, Timesheets modules, and P6 Web Access.

Resource The people, materials, and/or equipment that perform the work on activities. In the Project Management module, you can build a resource hierarchy that includes the required resources across all projects in the organization. Resources are assigned to activities in the Project Management module and can be set up to use Timesheets 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 the Project Management module, 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.

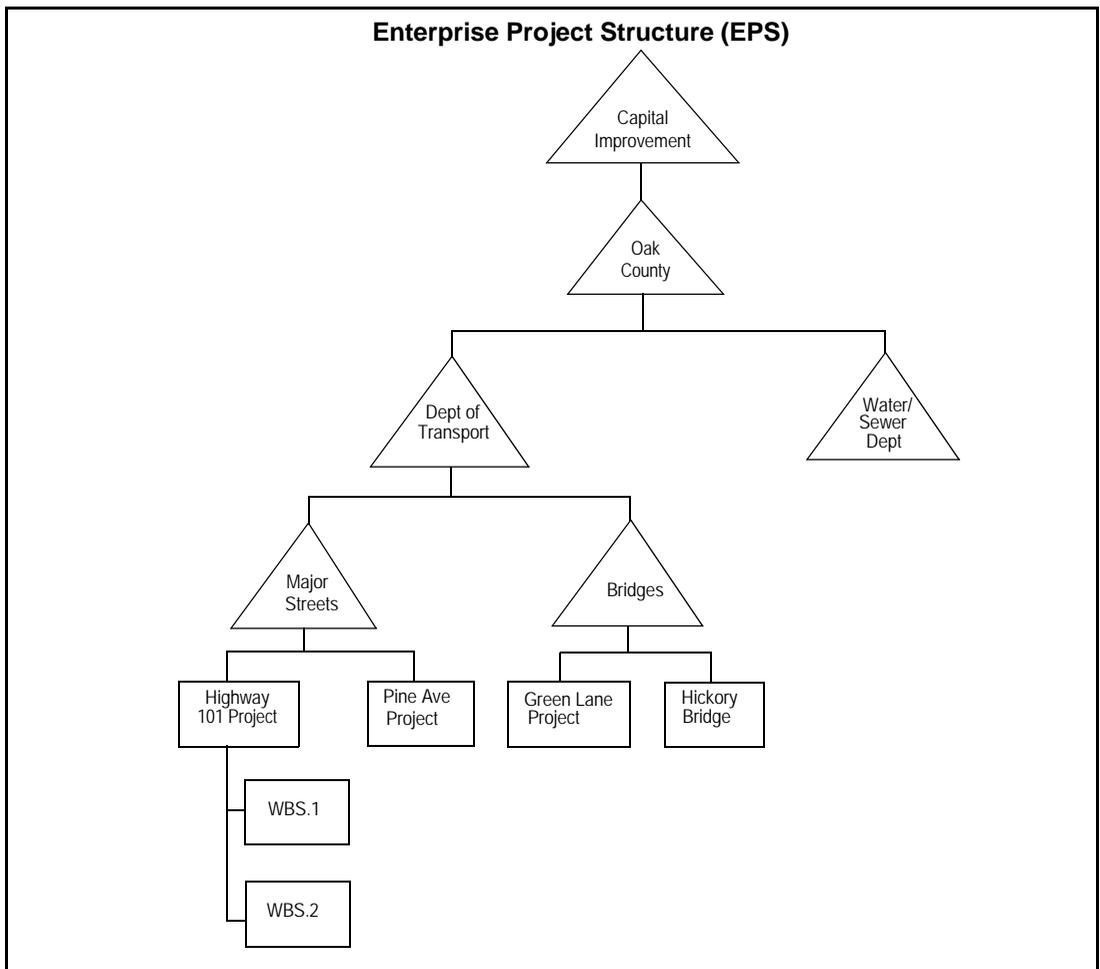
An OBS is not the same as a resource pool. While resources are assigned to activities, OBS elements are associated with EPS nodes and projects. The OBS element corresponding to an EPS node is the manager responsible for all work included in that branch of the hierarchy. In this way, an OBS supports larger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

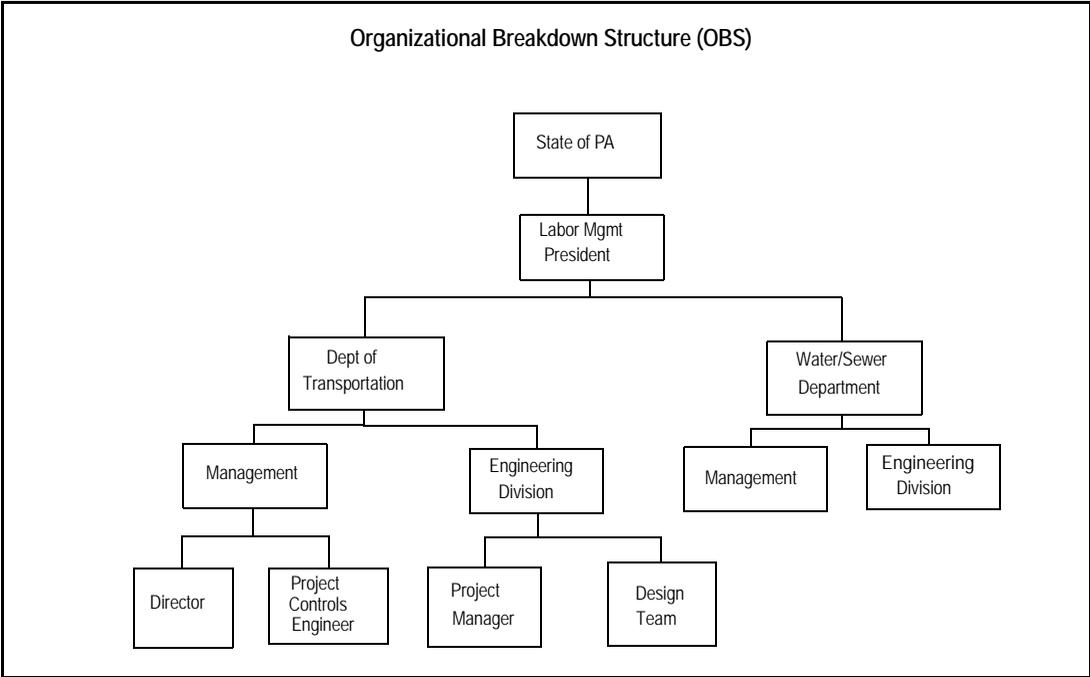
A user does not have to be included in the OBS if he/she may need to access the Project Management module but is not part of the responsible management structure. Similarly, a user may or may not be a part of the resource hierarchy. For example, if the user is a resource assigned to activities and needs to update a timesheet in Timesheets, he/she must be

included in the resource hierarchy; however, a user who is an executive requiring access to the Web Portfolio Management application is not a part of the resource pool.

For more information on resources, OBS, EPS, and WBS, see the *Project Management Reference Manual*.

Review the following portions of a sample EPS for Capital Improvement projects in Oak County and its corresponding portion of the OBS.



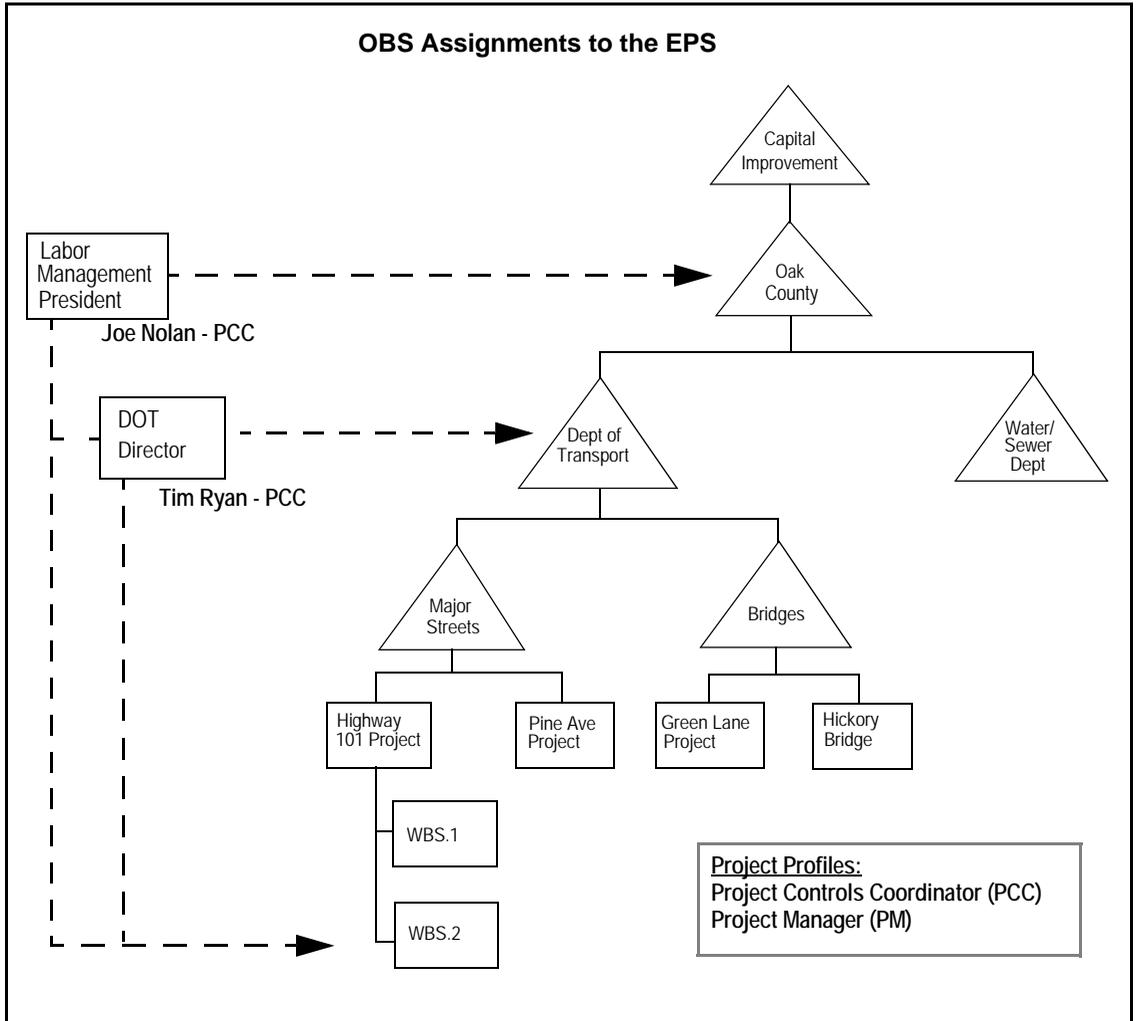


With these structures defined, you can map users to their corresponding roles in the OBS, which in turn can be assigned to each level in the EPS. The EPS level to which you assign the OBS determines the nodes/projects the associated user can access. For example, if you assign an OBS element to the root node of the EPS, the users associated with that OBS element can access the projects in the entire EPS. If you assign an OBS element to one branch of the EPS, the associated users can access only projects within that branch.

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

For example, suppose that two project profiles are defined: one that allows edit access to all data, including administration rights (Project Controls Coordinator profile), and one that allows viewing and editing of most, but not all, project data (the Project Management module profile). Joe Nolan, the President of Labor Management, is assigned to the Project Controls Coordinator 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 Project Controls Coordinator rights to all projects under DOT.



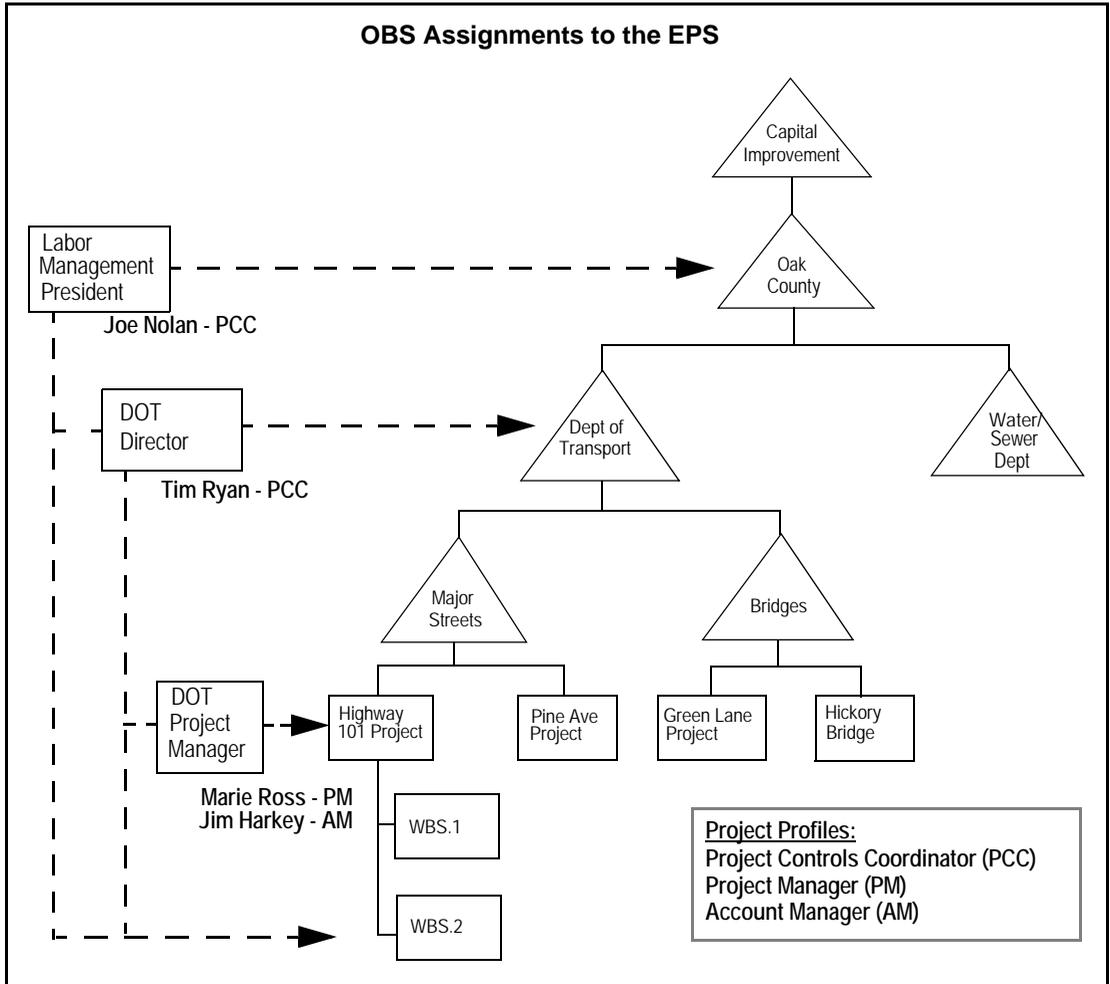
You can further control the access to projects by assigning OBS elements at the project and/or WBS level. In the previous example, if Marie Ross is the Project Manager in the Engineering Division responsible for the Highway 101 project, you can assign her to that OBS element with a Project Manager profile.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

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

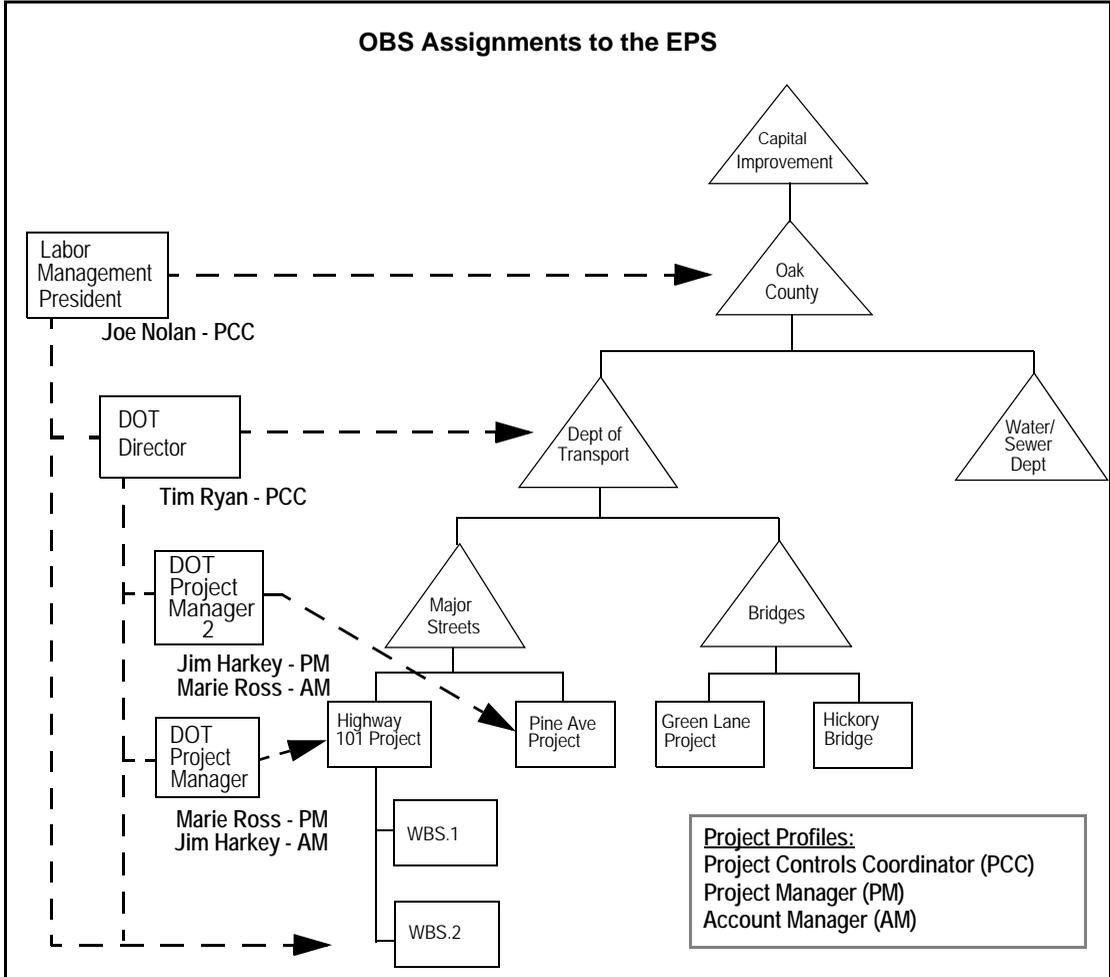
You can assign multiple users to the same OBS element and/or you can assign each user to multiple OBS elements. This flexibility enables you to provide access to the same EPS branch or project to more than one responsible manager (OBS element), and it allows you to control access by the same user across different EPS nodes and projects.

For example, suppose Marie Ross, who is a Project Manager in the Engineering Division responsible for the Highway 101 project, also needs access to the Pine Avenue project; however, you want to limit her access to reviewing and editing financial data only. Also suppose that Jim Harkey, another Project Manager in the Engineering Division, is responsible for the Pine Avenue project. He needs Project Manager access to the Pine Avenue project, but he also needs to review financial information in Marie's Highway 101 project.

You first would create another project profile that specifies viewing/ editing rights to just project costs and financial data (Account Manager profile) and then make the following assignments:



To designate that Jim Harkey has Project Manager rights to the Pine Avenue project and Marie Ross has Account Manager rights to the Pine Avenue project, you would need to add another element to the OBS.



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

The following section provides guidelines for setting up users and administering security in Primavera.

Process Overview

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 Primavera to manage your projects successfully, you must first administer users and set up structures in the Project Management module, 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 Methodology Management module uses its own security model to control access to the methodology management database. See [“Setting Security in the Methodology Management Module”](#) on page 361.

The following steps provide guidelines and a general process for administering users and security in Primavera. Because the structures are global across the company, some steps may 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.

- 1 Create global and project security profiles in the Project Management module.

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 Profiles”](#) on page 321 and [“Defining Project Profiles”](#) on page 328.

- 2 Add users in the Project Management module.

You must add each user who needs access to any Primavera component. At a minimum, each user is assigned a login name, license, and a global profile. See [“Adding Users in the Project Management Module”](#) on page 335 for more information.

The Project Management Reference Manual (PMRefMan.pdf) is available online and can be accessed from your industry-specific folder in the \Documentation\ <language>\ folder of the P6 physical media or download. View the information using Adobe Acrobat Reader (also available in the Documentation folder).

- 3 Set up the OBS for your company and assign each element of the OBS to the appropriate users and project profiles.

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 "Setting Up the Organizational Breakdown Structure" in the *Project Management Reference Manual* for more information. Also, see "[Assigning OBS Elements and Project Profiles](#)" on page 349.

- 4 Set up the EPS for your company and assign the responsible manager (OBS) to each node.

Identify your company's project structure, which is global across the organization. See "Setting Up the Enterprise Project Structure" in the *Project Management Reference Manual* for more information.

- 5 Define the resources necessary to complete the projects across the organization, and link resources to users if they will be using Timesheets.

See "Defining Resources and Roles" in the *Project Management Reference Manual* for more information. Also, see "[Adding Users in the Project Management Module](#)" on page 335 later in this chapter.

- 6 Define user access to resource data.

See "[Defining User Access to Resources](#)" on page 355.

- 7 Define user interface views that restrict and provide access to P6 Web Access functionality according to the requirements of your company's functional roles.

See "[Defining User Access to P6 Web Access Functionality](#)" on page 359.

- 8 Add projects to the EPS and define the WBS for each project.

Project managers perform this step. They can further control security within their own projects by assigning specific OBS elements to WBS levels. Refer to the *Project Management Reference Manual* for more information.

The remainder of this chapter provides additional information on this process.

Administrators can also set preferences for data in the Project Management module. See "[Defining Administrative Preferences and Categories in Project Management](#)" on page 369.

Defining Global Profiles

A global profile determines a user's access to application-wide information and settings, such as resources, global codes, and the OBS. The Project Management module requires that you assign a global profile to each user.

You can define an unlimited number of global profiles in the Project Management module. In addition, the Project Management module provides two predefined global profiles: Admin Superuser and No Global Privileges. The Admin Superuser profile allows complete access to all global information and all projects. This profile is assigned to the user Admin when you install Primavera modules. For security reasons, you should 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, the Project Management module does 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 Timesheets user and does not require access to the Project Management module. If a user with licensed access to the Project Management module is assigned this profile, the user can log in to the Project Management module but has no access to project data and 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.

When defining each global profile, the Admin Superuser may designate that users have the ability to add/delete, edit, assign, or view secure codes. Secure codes enable privileged users to hide Project, Activity, and Resource 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.

Secure codes are structured hierarchically. In other words, if a user is granted add/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.



The Project Management module does not limit the group of codes that a user can edit or assign. Once you designate a security privilege, the same security privilege applies to all codes (secure or not). If you designate add/delete, edit, assign, or view privileges to a user, that user has the ability to add/delete, edit, assign, or view all existing codes.

Create global profiles In the Project Management module, choose Admin, Security Profiles. Choose Global Profiles, then click Add. Type the new profile's name. To make the new profile the default global profile, mark the Default checkbox. In the Privilege area, mark the appropriate Has Privilege checkboxes to grant privileges to the profile.

Select a global profile...

...then review the privileges associated with that profile.

Click to view the privileges in alphabetical order.

For information on assigning global profiles, see ["Adding Users in the Project Management Module"](#) on page 335.

The following table defines each global privilege:



The following table groups global privileges by functionality. The privileges are listed in the same order as displayed in the Security Profiles dialog box. To view the privileges in alphabetical order in the Security Profiles dialog box, click the Privileges bar as shown in the previous image.



Privileges that are new or modified in P6 are marked with an asterisk (*).

Privilege Name	Privilege Definition
Edit Global Change Definitions	Create, edit, and delete Global Change specifications available to all users.
Edit Admin Preferences and Categories	Change administrative preferences and categories as defined in the Admin Preferences and Admin Categories dialog boxes. Edit currency data in the Currencies dialog box.
Delete Resources	Remove resources from the project management database. This privilege automatically grants the Add Resources and Edit Resources privileges.
Add Resources	Create resources. This privilege automatically grants the Edit Resources privilege.
Edit Resources	Edit resource data. Display resource price/unit (if the View Resource Costs global privilege is also granted), and resource skill level (a resource's role proficiency), in reports.
View Resource Role Proficiency	View, group/sort, filter, and report on resource and role proficiency. A user must have this privilege to view and search by resource and role proficiency in P6 Web Access.
Approve Resource Timesheets	Review, approve, and reject submitted timesheets as a Resource Manager in the Timesheet Approval application.
Edit Cost Accounts	Create, edit, and delete cost accounts.
Import Global Data for XER, MSP, XLS, and P3	Import projects, resources, and roles from XER, MSP, XLS, and P3 formats. A user must also have the Create Project within EPS project privilege to import and create new projects. A user must also be a super user to update a project from XER, XLS, or P3 formats, or to import MSP formats using Project Link.
Import XML	Import projects from the Project Management module XML and Microsoft Project XML format. A user must also have the Create Project within EPS project privilege to import and create new projects.
Edit Global Reports	Create, edit, and delete global reports; edit report groups and global report batches; and save global reports created or modified by the Report Wizard.
Edit Global Tracking Layouts	Create, edit, and delete global tracking layouts in the Project Management module.

Privilege Name	Privilege Definition
Edit Roles	Create, edit, and delete global roles.
Edit Global Activity Codes	Edit the name of global activity codes in both P6 Web Access and the Project Management module. This privilege automatically enables you to add, edit, and delete global activity code values as well.
Add Global Activity Codes	Add new global activity codes and code values in both P6 Web Access and the Project Management module. This privilege automatically enables you to edit existing global activity codes and code values as well.
Delete Global Activity Codes	Delete global activity codes and code values in both P6 Web Access and the Project Management module. This privilege automatically enables you to add and edit global activity codes and code values as well.
Edit Issue Forms	Add, edit, and delete issue forms and issue form categories in P6 Web Access.
Edit Global Calendars	Create, edit, and delete global calendars and shifts.
Edit Resource Calendars	Create, edit, and delete resource calendars and shifts.
Edit Security Profiles	Create, edit, and delete global and project security profiles.
Edit Users	Add, edit, and remove Project Management module users.
Edit Timesheet Dates	Create and delete timesheet batches.
Add/Edit Global Activity and Assignment Layouts and Filters	Create, edit, and delete global activity and resource assignment layouts, views, and filters.
Edit OBS	Create, edit, and delete global OBS hierarchy.
Edit Project Codes	Edit the name of project codes. This privilege automatically enables you to add, edit, and delete project code values as well.
Add Project Codes	Add new project codes and code values. This privilege automatically enables you to edit existing codes and code values as well.
Delete Project Codes	Delete project codes and code values. This privilege automatically enables you to add and edit project codes and code values as well.

Privilege Name	Privilege Definition
Edit Resource Codes	Edit the name of resource codes. This privilege automatically enables you to add, edit, and delete resource code values as well.
Add Resource Codes	Add new resource codes and code values. This privilege automatically enables you to edit resource codes and code values as well.
Delete Resource Codes	Delete global resource codes and code values. This privilege automatically enables you to add and edit resource codes and code values as well.
Edit Global Portfolios	Create, edit, and delete global portfolios in the Project Management module and in P6 Web Access.
Administer Global External Applications	Administer the list of global external applications.
Edit Funding Sources	Create, edit, and delete funding sources in the Funding Sources Dictionary.
Run Project Architect	Run the Project Architect wizard. The wizard enables Project Management module users to create a new project based on methodologies imported from the Methodology Management module and to add methodologies to an existing project.
View Resource and Role Costs	View all values for labor and nonlabor resource costs and price/unit values for roles. If this privilege is not granted to a user, all areas in the Project Management module that display monetary values for roles and labor, material, and nonlabor resources display dashes and cannot be edited. For resources, such areas include resource price/time, values in resource profiles in the Activities window and monetary values in Tracking layouts. For roles, the area is the price/unit value in the Roles dialog box.
Administer Job Services	Administer the Job Services; set up the Apply Actuals, Batch Reports, Export, Schedule, and Summarize services to run at specific time intervals.
Edit Personal Resource Calendar	Enables users to edit their own resource calendars if they do not have the Edit Global and Resource Calendars global privilege. This privilege or the Edit Global and Resource Calendars privilege is required for access to the Import Appointments feature of P6 Web Access.

Privilege Name	Privilege Definition
Create Project Requests*	Initiate predefined workflow processes for reviewing new project requests. A separate privilege, Edit Project Requests, is required to create the templates that define the available workflow processes.
Edit Project Requests Templates*	Create, edit, and modify templates that define workflow processes for reviewing new project requests.
Add and Delete Secure Codes	Create, edit, assign, view, and delete all global and EPS-level secure activity codes and values, as well as all global secure issue codes and values.
Edit Secure Codes	Edit, assign, and view global and EPS-level secure activity codes and values, as well as all global secure issue codes and values.
Assign Secure Codes	Assign and view global and EPS-level secure activity codes and values, as well as all global secure issue codes and values.
View Secure Codes	View global and EPS-level secure activity codes and values, as well as all global secure issue codes and values.
Edit User Interface Views	Create, edit, and delete user interface views in P6 Web Access. This privilege also grants you the right to assign user interface views to users in both P6 Web Access and the Project Management module.
View All Global/Project Data via SDK	Access the SDK in read only mode, without superuser privileges.
Edit Global Resource and Role Teams	Create, edit, and delete global Resource Teams and Role Teams. A Resource/Role Team is a collection of resources/roles. Resource/Role Teams are available in P6 Web Access.
Edit Resource Curves	Create, edit, and delete resource distribution curves.
Edit User Defined Fields*	Create, edit, and delete user defined fields. Without this privilege, you can only view user defined fields. In P6 Web Access, enables access to the Project User Defined Fields section on the Administration Home page, where you can create, edit, and delete project user defined fields.

Privilege Name	Privilege Definition
Add/Edit Global Project/WBS Layouts and Portfolio Views	Create, edit, and delete global project and WBS layouts. In P6 Web Access, create, edit, and delete portfolio views. This privilege is required to save view changes made to the Portfolios > Portfolio Analysis page in P6 Web Access.
Edit Microsoft Project Templates	Create, edit, and delete Microsoft Project Templates used to import/export data from/to Microsoft Project.
Edit Activity Step Templates	Create, edit, and delete Activity Step Templates used to add a set of common steps to multiple activities.
Add Global Issue Codes	Create new issue codes and issue code values in P6 Web Access.
Edit Global Issue Codes	Edit issue codes and issue code values in P6 Web Access.
Delete Global Issue Codes	Delete issue codes and issue code values in P6 Web Access. This privilege automatically enables you to add and edit global issue codes and issue code values as well.
Edit Financial Period Dates	Create, edit, and delete financial periods in the Financial Period dictionary. A user must also be assigned the Edit Period Performance project privilege to edit period data.
Edit Global Scenarios	Create, edit, and delete global scenarios in P6 Web Access.
Edit Global Dashboards	Create, edit, and delete global dashboards in P6 Web Access.
Edit Projects from Scorecards	Add, edit, and delete projects from scorecards in the Portfolio View portlet and the Portfolio Analysis page in P6 Web Access. This privilege is required to save data changes made to the Portfolio Analysis page. To edit project data in a scorecard, a user must also be assigned the 'Edit Project Details Except Financials' project privilege. To edit project cost data in a scorecard, a user must also be assigned the 'Edit Project WBS Financials' project privilege. To add a project from a scorecard, a user must also be assigned the 'Create Project Within EPS' project privilege. To delete a project from a scorecard, a user must also be assigned the 'Delete Project Within EPS' project privilege.

Defining Project Profiles

A project profile is a role-based profile that limits privileges to specific project data, such as baselines, the WBS, and thresholds. The Project Management module 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 define an unlimited number of project profiles in the Project Management module. In addition, the Project Management module provides a predefined project profile called Project Superuser. The Project Superuser profile allows complete access to elements within a project.

For more information on assigning users to OBS elements, see [“Assigning OBS Elements and Project Profiles”](#) on page 349.

Project profiles are applied to users via OBS assignments. The Project Management module 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.

Create project profiles Choose Admin, Security Profiles. Choose Project Profiles, then click Add. Type the new profile’s name. To make the new profile the default project profile, mark the Default checkbox. In the Privilege area, mark the appropriate Has Privilege checkboxes to grant privileges to the profile.

You can create an unlimited number of project profiles based on the varying roles in your company.

Click to list the privileges in alphabetical order



To allow read-write privileges for all aspects of a project, you can assign a user to a project's root OBS element and then apply the Project Superuser profile to the OBS assignment.

The following table defines each project privilege:



The following table groups each privilege by functionality. The privileges are listed in the same order as in the Security Profiles dialog box. To view the privileges in alphabetical order in the Security Profiles dialog box, click the Privileges bar as shown in the previous image.



Privileges that are new or modified in P6 are marked with an asterisk (*).

Privilege Name	Privilege Definition
Create Project within EPS	Create, copy, and paste projects within the EPS.
Delete Project within EPS	Delete, cut, and paste projects within the EPS.
Summarize Project	Summarize data for all projects in the EPS.
Edit Project Details Except Financials	Edit fields in General, Dates, Defaults, Resources, and Settings tabs in Project Details. A user must be assigned this privilege to select the project baseline.

Privilege Name	Privilege Definition
Administer Project External Applications	Administer links to external applications.
Schedule Project	Schedule a project.
Level Resources	Level resources for a project.
Apply Actuals	Apply actuals to activities in a project.
Store Period Performance	Store actual this period values for actual units and costs in a project's financial periods. A user must be assigned the Add/Edit Project Activities Except Relationships project privilege before you can assign this privilege.
Edit Period Performance	Edit period performance values for labor and nonlabor units as well as labor, nonlabor, material, and expense costs. A user must be assigned the View Project Cost/Financials project privilege before you can assign this privilege.
Maintain Project Baselines	Add, save, and delete a project's baselines. A user must be assigned this privilege, and the Edit Project Details Except Financials project privilege, to add a project baseline in the Project Management module.
Run Baseline Update	Update a project's baselines with new project data using the Update Baseline utility.
Assign Project Baseline	Select the project baseline for a project. A user must also be assigned the Edit Project Details Except Financials project privilege to select the project baseline.
Edit Project Work Products and Documents	Create, edit, and delete a project's work products and documents. In P6 Web Access, relate items to documents, change a document's access level, add and delete folders, and start project document reviews. In addition to this privilege, the Content Repository must be configured to change a document's access level, add and delete folders, and start project document reviews.
Add/Edit Project Template Documents	In P6 Web Access, create, edit, delete, check out, and start reviews for project template documents. A user needs to have the privilege to 'Edit Project Work Products and Documents' also. In addition to this privilege, the Content Repository must be configured to check out and start reviews for project template documents.

Privilege Name	Privilege Definition
View Project Costs/ Financials	View all monetary values for a project. If a user cannot view project costs, all features that display monetary values are replaced by three dashes (---) in the Project Management module and cannot be edited by the user. The ability to view resource price/time is controlled by the View Resource and Role Costs global privilege.
Edit Project Activity Codes	Modify a project's activity codes in both P6 Web Access and the Project Management module.
Add Project Activity Codes	Create a project's activity codes in both P6 Web Access and the Project Management module.
Delete Project Activity Codes	Remove a project's activity codes from the project database in both P6 Web Access and the Project Management module.
Edit EPS Activity Codes	Modify EPS-level activity codes in both P6 Web Access and the Project Management module.
Add EPS Activity Codes	Create EPS-level activity codes in both P6 Web Access and the Project Management module. This privilege automatically enables you to edit existing EPS-level activity codes as well.
Delete EPS Activity Codes	Remove EPS-level activity codes in both P6 Web Access and the Project Management module. This privilege automatically enables you to add and edit existing EPS-level activity codes as well.
Monitor Project Thresholds	Run the threshold monitor for a project.
Publish Project Website	Publish a project's Web site.
Edit Project Reports	Edit a project's reports and edit a project's report batches.
Edit Project Calendars	Create, edit, and delete a project's calendars.
Run Global Change	Run Global Change to update activity detail information.
Check In/Check Out Project	Check projects in and out of the Project Management module.
Assign Issue Forms	In P6 Web Access, assign issue forms to a project.

Privilege Name	Privilege Definition
View Timesheets in Reports	Run reports against timesheets for all resources in a project from the My Reports portlet in P6 Web Access. This privilege does not grant access to the Timesheet Approval application.
Import/View Contract Manager Data	Import and view data from Contract Manager.
Edit Project WBS Except Financials	Edit WBS hierarchy (add/remove/move WBS nodes), notebook entries, earned value settings, milestones (steps), work products and documents, and dates.
Edit Project WBS Financials	Edit WBS budget logs, funding sources, spending plan, and financial data at the project level. Edit cost data at the activity level, including resource assignments.
Edit EPS Except Financials	Edit EPS hierarchy (add/remove/move EPS nodes), edit EPS notebook, and edit all EPS-related data except financial information.
Edit EPS Financials	Edit EPS budget logs, funding sources, and spending plan.
Project Top-Down Estimation	Run Top-Down Estimation for a project.
Approve Timesheets as Project Manager	Review, approve, or reject timesheets for a project.
Edit Project Expenses	Create, edit, and delete a project's expenses.
Edit Project Thresholds, Issues and Risks	Create, edit, and delete a project's thresholds, issues, and risks.
Edit Project Activity Relationships	Create, edit, and delete a project's activity relationships.
Add/Edit Project Activities Except Relationships	Create and edit a project's activity information, except activity relationships.
Perform Activity Resource Requests	Assign resource requests to activities in P6 Web Access.
Delete Project Activities	Delete a project's activities.

Privilege Name	Privilege Definition
Delete Project Data with Timesheet Actuals	Delete a project's activities that have timesheet actuals applied to them. A user needs to have the privilege to 'Delete Project Activities' also.
Create Workgroups	Add a new workgroup in P6 Web Access.
Delete Workgroups	Delete a workgroup in P6 Web Access.
Modify Project Workspace and Workgroup Preferences	In P6 Web Access, customize the project workspace and workgroup preferences.
Edit Resource Assignments for Resource Planning	Assign, delete, and modify resource assignments on a project or WBS level in the Web Resource Management module. Users can also define search criteria, and conduct a search for resource assignments. For users that do not have this privilege, the resource assignment information on the Plan Resource 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.
Edit Contract Manager Project Link	Create, edit, and delete a link to a Primavera Contract Manager project.
Edit Activity ID	Edit Activity IDs in the Project Management module and P6 Web Access.
Edit Role Assignments for Resource Planning	Assign, delete, and modify role assignments on a project or WBS level in the Web Resource Management module. Users can also define search criteria for role assignments. For users that do not have this privilege, role assignment information on the Plan Resources 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.

Privilege Name	Privilege Definition
Edit Committed Flag for Resource Planning	Identify committed resource and role assignments on a project or WBS level on the Plan Resources page in the Web Resource Management module. This privilege also requires the Edit Resource Assignments for Resource Planning privilege.
Edit Future Periods*	Enter or edit future period values in the Budgeted Units and Remaining (Early) Units fields in both P6 Web Access and the Project Management module. To assign this privilege to a user, you must first assign the 'Add/Edit Project Activities Except Relationships' project privilege to the user; otherwise, you cannot select this privilege.
Add/Edit Project Level Layouts	Create, edit, and delete project level layouts in Activities, Assignments, or WBS views.

Adding Users in the Project Management Module

Depending on your security profile, the Users dialog box enables you to add and remove users and control user access to Primavera components. You must add a user in the Project Management module for each person who needs access to any Primavera component, except for the Methodology Management module, which uses its own security data.

At a minimum, each user requires a login name, global profile, and licensing information (component and access level). You can also provide additional information about the user, such as an e-mail address and office phone number.

If your company's OBS is established, and you know which OBS elements to associate with each user, you can make the assignments in the Project Access tab in the Users dialog box. See "Assigning OBS Elements and Project Profiles" on page 349.



If your organization centralizes user information in an LDAP directory, you can add Primavera users by provisioning from the LDAP store. For more information, see "Configuring Authentication Modes" on page 289. After you provision users, you will need to assign each user a security profile and license.

If your company uses P6 Web Access, you might want to create a default prototype user before adding new users. The prototype user enables you to define default dashboards and global preference settings that apply to all users of P6 Web Access. See "Adding a prototype user and defining default settings for P6 Web Access" on page 346 for more information.

Add new users Choose Admin, Users. Click Add.

- If Password Policy is not enabled in Administrative Preferences, click the General tab, type the user's login name and personal name, then click Password. Type the user's password, then retype the password to verify it. Click OK. If the user will be accessing Timesheets, you can associate the user with a resource in the Project Management module at this time, or you can create the link when you add resources. Click the Contact tab and type the user's e-mail address and telephone number.
- If Password Policy is enable in Administrative Preferences, the Add User dialog box will appear. You will be required to fill in the Login name, Personal name, Enter new password, and Confirm new password fields. Click OK. If the user will be accessing Timesheets, you can associate the user with a resource in the Project Management module at this time, or you can create the link when you add resources. Click the Contact tab and type the user's e-mail address and telephone number.



For more information on Administrative Preferences, see "Defining Default Settings" on page 370.



If the Project Management module is running in LDAP authentication mode, when you click Add, a dialog appears for you to enter a user name and verify it against the LDAP store. When you click Test, if the user exists in the LDAP store, the actual name, e-mail address, and telephone number fields are populated—if you previously mapped those fields through the Authentication Configuration tool. To add the user, click Add. When you click Test, if the user is not found in the LDAP store, a message appears to notify you that the user cannot be added.

Displays the list of users who require access to any Primavera component

Identifies the name required to log in to Primavera components

The Password button does not appear if the Project Management module is running in LDAP authentication mode.

Login Name	Personal Name	Global Profile	Resource
RMAR	Robert Marshall	<Admin Superuser>	RMAR.F
Robert Lane	Robert Lane	Resource Manager	
Russell Mead	Russell Mead	<Admin Superuser>	
Sally Young	Sally Young	<No Global Privileges>	
Stephanie Morg	Stephanie Morgan	Resource Manager	
Steve Johnson	Steve Johnson	All Except Users & Profiles	
Stuart Bronsky	Stuart Bronsky	Administrator	
Taneisha	Taneisha	<Admin Superuser>	

General | Contact | Global Access | Project Access | Licensing

Login Name: RMAR Personal Name: Robert Marshall

Password: [button]

Resource ID / Resource Name for Timesheets: RMAR Robert Marshall

If the user will be accessing Timesheets, he/she must be linked to a resource in the Project Management module.

Associate resources and users Choose Admin, Users. Click the General tab, then click the Browse button in the ResourceID/Resource Name field to select a resource for the selected user. If the resource is already associated with another user, you are prompted to replace the association. The Project Management module allows a resource to be associated with only one user to maintain a single login name for project resources and users of both the Project Management module and Timesheets. You can also set this association from the Timesheets tab of Resource Details.

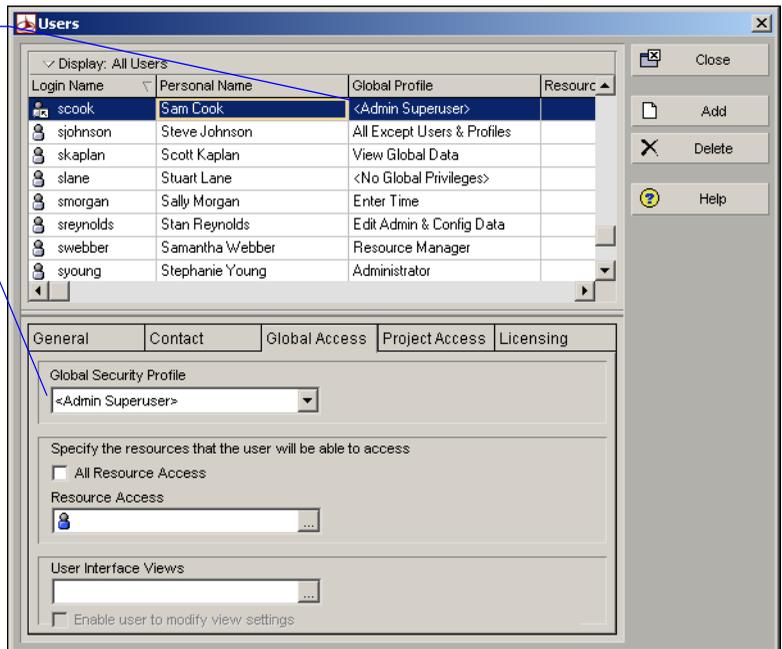
For more information, see [“Defining Global Profiles”](#) on page 321.

Assign a global profile A global profile determines a user’s access to application-wide features, such as resources and roles. The Project Management module requires that each user be assigned a global profile. Choose Admin, Users. Select the user to whom you want to assign a global profile. Click the Global Access tab, then select the user’s global profile.

You can also double-click in the Global Profile column and choose the appropriate profile for the selected user.

The Admin Superuser profile allows read-write access to all global and project data.

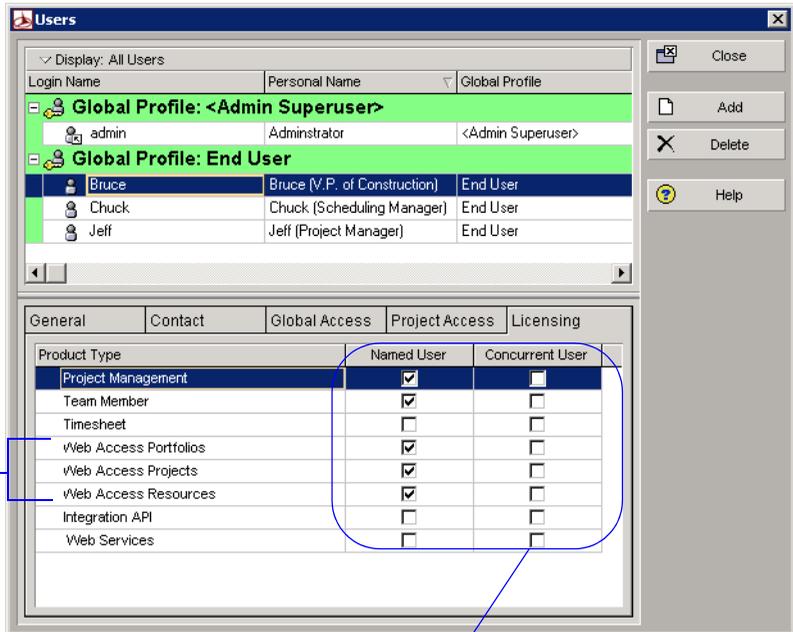
For information on defining resource access settings for users, refer to [“Defining User Access to Resources”](#) on page 355. For information on assigning user interface views to users, refer to [“Defining User Access to P6 Web Access Functionality”](#) on page 359.



Assign the global profile <No Global Privileges> to users who may only access Timesheets. These users must also be granted access to Timesheets via a “Team Member” or “Timesheets” license.

Assign product licensing Each user accessing Primavera must be assigned the appropriate licensing. For each component of Primavera, a user identified as a named user is guaranteed access to the designated product. A concurrent user can access the designated component, along with other concurrent users, as long as the maximum number of available concurrent licenses has not been exceeded.

Choose Admin, Users. Select the user for whom you want to set database access for licensed users of Primavera products. Click the Licensing tab. For each component you want the user to have access to, mark the checkbox in the Named or Concurrent column. If your organization has both named and concurrent licenses, you can assign a combination of named and concurrent licenses to a user for different components (e.g., named user for P6 Web Access but concurrent user for Project Management); however, a user cannot have both a named and concurrent license for a single component. Clear the checkbox if a user is not a valid licensed user of the corresponding Primavera component.



These licenses control access to each functional area of the Primavera Web application (Portfolios, Projects, and Resources).

Mark or clear to indicate the selected user's licensing access to the corresponding Primavera component.



The total number of named users must not exceed the maximum number of named users stored in your license file. Primavera Systems provides you with a license file based on the number of named users purchased. You can designate more concurrent users than the allowed maximum. Concurrent users access the software on a first-come, first-served basis. Once the maximum number of concurrent users is exceeded, no more users are able to log in to the software. Primavera Systems provides you with a license file based on the number of concurrent users purchased.

Marking a component's checkbox gives the user access to the following:



All licenses except Timesheet, Integration API, and Web Services provide access to the Dashboards Home page in P6 Web Access; however, the portlets available on the Dashboards Home page, and the Dashboards Action Menu items available, are dependent on each user's license and security privileges.

- **Project Management** — Provides access to the Project Management module and the Projects section of P6 Web Access. When a user has both a Project Management and Web Access Projects license, only the Web Access Projects license is used when the user logs into P6 Web Access.
- **Team Member** — Provides access to Primavera Timesheets and to limited functionality in P6 Web Access, including Dashboards and the Projects section (Workspace and Activities tabs). Access to P6 Web Access 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, designated as an activity owner, or invited to join the project. For users who require access to Timesheets, you must grant them either the Team Member license or the Timesheet license; you can not grant a user both licenses. For more detailed information on the Team Member license, see [“What does the Team Member license enable a user to access?”](#) on page 341.
- **Timesheet** — Provides access to Primavera Timesheets and enables users to log into P6 Web Access to import appointments only (if properly configured). For users who require access to Timesheets, you must grant them either the Team Member license or the Timesheet license; you can not grant a user both licenses.

- **Web Access Portfolios** — Provides access to the following functionality in P6 Web Access: the Portfolios section, Project Performance portlets, the Portfolio View portlet in the Dashboards section, and document management functionality (if the Content Repository is configured).
- **Web Access Projects** — Provides access to the following functionality in P6 Web Access: the Projects section, Project Performance portlets in the Dashboards section, and document management functionality (if the Content Repository is configured). When a user has both a Project Management and Web Access Projects license, only the Web Access Projects license is used when the user logs into P6 Web Access.
- **Web Access Resources** — Provides access to the following functionality in P6 Web Access: the Resources section, Resources portlets in the Dashboards section, and document management functionality (if the Content Repository is configured).
- **Integration API** — Provides access to the API only. The API allows direct access to the Project Management module via Java.
- **Web Services** — Provides access to P6 Web Services, which uses open standards, including XML, SOAP, and WSDL, to seamlessly integrate Primavera’s project management functionality into other applications. Using P6 Web Services, organizations can share Primavera project management data between applications independent of operating system or programming language.



All licenses, except Timesheets, Integration API, and Web Services, provide access to Primavera ProjectLink. Access to project data in Primavera ProjectLink is dependent on security privilege settings and OBS access to projects, regardless of license.



Some Primavera products, such as the SDK and the Job Service, do not require a license.



Users can view project data in P6 Web Access without a Team Member license as long as they have a Web Access Portfolios, Web Access Projects, or Web Access Resources license. 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, they are an invited user to the project, or they are the project owner.

What does the Team Member license enable a user to access?

The Team Member license provides access to Timesheets and to some P6 Web Access functionality. The following sections describe the P6 Web Access functionality a Team Member-licensed user can access.



All information in this section assumes that the Team Member license is the ONLY license assigned to a user. If the Team Member license is not the only license assigned to a user, the user can access all of the functionality described in this section in addition to the functionality enabled by the user's other assigned licenses.

In general, all Team Member-licensed users can:

- create private and multi-user dashboards
- create private and multi-user portfolios (from the Dashboards action menu only)
- import appointments
- create private and multi-user activity views
- set global and project preferences

Depending on OBS access to projects (as described in the following sections), Team Member-licensed users 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



Invited users to projects can access the same project data as a Team Member-licensed user without OBS access to the project, as described in this section. In P6 Web Access, users with the required license and privilege can invite users to a project on the Invited Users page in the Projects section or on the Manage Invited Users page of a workgroup.



If you assign a user interface view to a user who has only a Team Member license, view settings are ignored; the functionality available to Team Member-licensed users is always controlled by the license. For more information on assigning user interface views, refer to [“Defining User Access to P6 Web Access Functionality”](#) on page 359.

Dashboards

In the Dashboards section of P6 Web Access, Team Member-licensed users can create private and multi-user dashboards, create private and multi-user portfolios, import appointments, 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 licensed Team Member can be associated with a project via OBS access, by assignment as an activity resource, through invitation to join a project, and by assignment as activity owner in a Reflection project.



The Reflection project and Activity Owner features can be used together to collect and review activity progress information from licensed Team Members who are not assigned as activity resources and who do not use the Timesheets application for status reporting. For more details, refer to [“Using Reflection projects and Activity Owner features to collect and review activity status”](#) in the Project Management Help.

Team Member-licensed 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 Web Access, regardless of a user's license.
- My Calendar
- My Reports
- Action Required
- Project and Document Workflows
- Cost Worksheet
- Custom Portlet

All other portlets are not available to Team Member-licensed users.

Projects

In the Projects section of P6 Web Access, Team Member-licensed users can access the Open Project dialog, the Manage Activity Views page, the Project Workspace, and the Activities page.

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, and all projects the user is invited to. Users can access the Open Projects dialog by choosing Open Projects from the Projects action menu in the global navigation bar.

From the **Manage Activity Views page**, a Team Member-licensed user can create and edit private and multi-user activity views. Users can access the Manage Activity Views page by choosing Manage Activity Views from the Projects action 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 can not access features and functions that change project data. For example, they can not 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.



Team Member-licensed users cannot delete activities or add/edit WBS elements.

In the **Project Workspace**, Team Member-licensed 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 Web Access, regardless of a user's license.
- **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.
- Project Reports
- 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 Manager portlets — Users can view all Contract Manager portlets if P6 Web Access is configured to access Contract Manager and the P6 Web Access project is linked to a Contract Manager project.

All other Project Workspace portlets are not available to Team Member-licensed users.

For information on creating a default user interface view for new users, refer to [“Defining User Access to P6 Web Access Functionality”](#) on page 359.

Adding a prototype user and defining default settings for P6 Web Access

As an administrator, you can create a prototype user that enables you to create default global Dashboards and select Global Preferences that apply to all new P6 Web Access users. Defining a prototype user configuration, in combination with defining user interface views, ensures that new users of P6 Web Access will have a consistent interface customized for the business needs of the organization. After you complete the steps below, the prototype user configuration you create is automatically copied to each new P6 Web Access user you add.



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.

To create a prototype user configuration, do the following:

- 1 In the Project Management module, choose Admin, Users.
- 2 Click Add. A (New User) row is added to the Users table.
- 3 In the Login Name column, or in the Login Name field on the General tab, type a login name for the prototype user (for example, prototype_user).
- 4 In the Global Profile column, select a Global Profile (Admin Superuser, for example) that will enable the prototype user to appropriately configure default Dashboards and Global Preferences for all new users.

For more information about assigning a Global Profile, see [“Assign a global profile”](#) on page 337.

- 5 Log into P6 Web Access as the new prototype user, using the login name you set for the prototype user.

Click Help on the Manage Dashboards or Dashboard Preferences pages for details on creating a dashboard, choosing the portlets to display in a dashboard, and specifying user access.

- 6 From the Dashboards action menu in the global navigation bar, choose Manage Dashboards to create default global dashboards that will be displayed for each new P6 Web Access user. Be sure to select All Users as the access type on the Access tab of Dashboard Preferences to ensure that each dashboard you create is a global dashboard.



If upgrading from myPrimavera 5.0 to P6 Web Access: After the upgrade and before adding new users, log into P6 Web Access as the prototype user and make sure that all selected dashboards for the prototype user are global. Otherwise, users dependent on the prototype may not have a dashboard displayed after the upgrade.



By default, the maximum number of portlets you can display in a dashboard is twelve. You can change this setting in the Primavera Administration Application. For the Primavera Configuration you want to modify, the Maximum Portlets per Dashboard setting is located in the Application folder. Refer to [“Configuration Settings for P6 Web Access”](#) on page 185 for more information.

If upgrading from myPrimavera 5.0 to P6 Web Access: After upgrading, only twelve portlets will be selected. The program will automatically select the portlets in this order: wide, narrow, custom.

- 7 At the top right of P6 Web Access, click Preferences. On the Global tab, set the Global Preferences you want to apply to new users. When finished, click Save and Close.
- 8 Log out of P6 Web Access.
- 9 Log into the Primavera Administration Application.
- 10 Expand the configuration for which you want to add the prototype user (for example, Primavera Configuration), then expand the Application folder.

For information on changing configuration settings, refer to [“Reviewing and Modifying Configurations for P6 Web Access”](#) on page 177.
- 11 Select the PrototypeUser setting, then press F2 to edit the field.
- 12 Type the prototype user login name you created, click Save Changes, and exit the Administration Application.

- 13** In the Project Management module, choose Admin, Users, then select the Login Name of the prototype user you created. On the Licensing tab, clear all boxes under “Named User” and “Concurrent User” to ensure against unauthorized login.
-

Assigning OBS Elements and Project Profiles

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 thresholds. 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.



OBS assignments can be made at both the project and WBS levels; therefore, a project and its WBS elements may 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.

For more information on project profiles, see ["Defining Project Profiles"](#) on page 328.

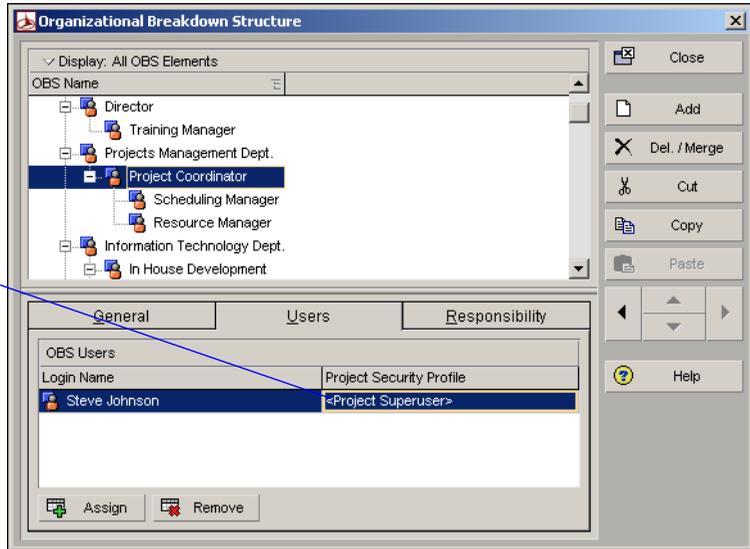
You can assign a user an OBS element and a corresponding project profile in the Users dialog box when you are adding users, or you can make the assignment in the OBS dialog box during or after creating the OBS.



The Project Management module does not require that each user have a project profile; however, a user cannot access a project without a project profile or the global profile, Admin Superuser.

Assign users and project profiles to OBS elements Choose Enterprise, OBS. Click the Users tab. Select the OBS element whose user and project profile you want to specify, then click Assign. Select the user to associate with the specified OBS element, then click the Select button. A default project profile is associated with the user. Double-click the project profile to choose another project profile from the predefined list.

Double-click to select another project profile. To grant the user read-write privileges for all aspects of a project, select Project Superuser.



Assign OBS elements and project profiles to users You can also assign OBS elements and project profiles to a user when you first add the user. Choose Admin, Users. Click the Project Access tab. Select the user to whom you want to assign an OBS element and project profile, then click Assign. Select the OBS element associated with the user, then click the Select button. A default project profile is associated with the user. Double-click the project profile to choose another profile from the predefined list.



If an OBS element is the Responsible Manager for several projects in the EPS, any user you associate with that OBS element will have access to all the corresponding projects.

The screenshot displays two windows from the Primavera software. The 'Users' window shows a list of users with columns for Login Name, Personal Name, Global Profile, and Resource. Sally Young is selected. Below the list are tabs for General, Contact, Global Access, and Project Access. The 'Assign Access to OBS' dialog is open, showing a tree view of OBS elements. 'Projects Management Dept.' is selected, and its sub-elements are visible. A blue arrow points from the 'Assign' button in the 'Users' window to the 'Assign Access to OBS' dialog.

Click to assign the OBS element associated with the selected user. A user can have more than one OBS assignment, depending on the user's role in different projects.



To deny the user access to an OBS element's project information, select the Responsible Manager's name, then click Remove.

Assigning OBS Elements to the EPS

For more information on the EPS, see “Setting Up the Enterprise Project Structure” in the *Project Management Reference Manual*.

In the Project Management module, your database of projects is arranged in a hierarchy called the enterprise project structure (EPS). The EPS can be subdivided into as many levels or nodes as needed to parallel work 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.

User access and privileges to nodes within the EPS hierarchy are implemented through a global 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.

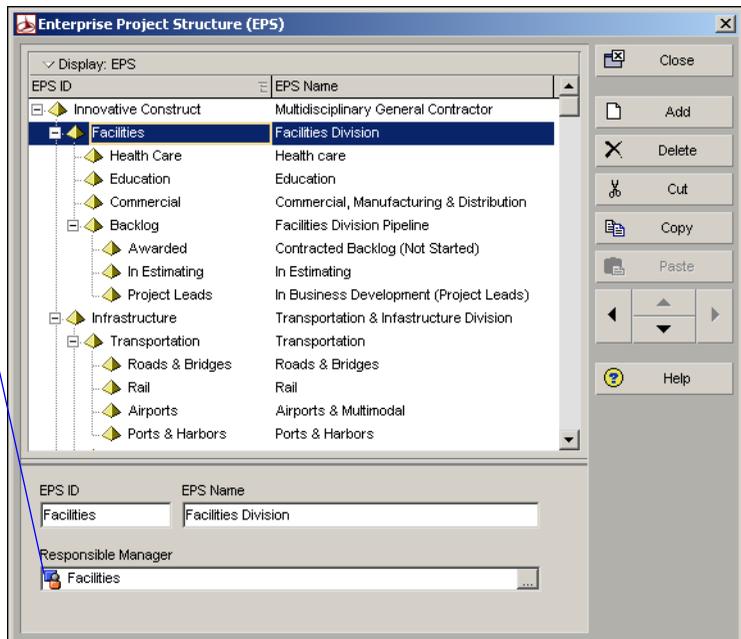
Once you have added users and associated them with OBS elements and project profiles, you can define the EPS and assign a responsible manager (OBS element) to each level. You must specify a responsible manager for each node of the EPS.

Assign OBS elements to the EPS You can assign the responsible manager (OBS element) to each level of the EPS when you create the project structure. Choose Enterprise, Enterprise Project Structure. Select the EPS node, then click the Browse button in the Responsible Manager field to select the appropriate OBS element. The users associated with the responsible manager will have access rights to the selected 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.



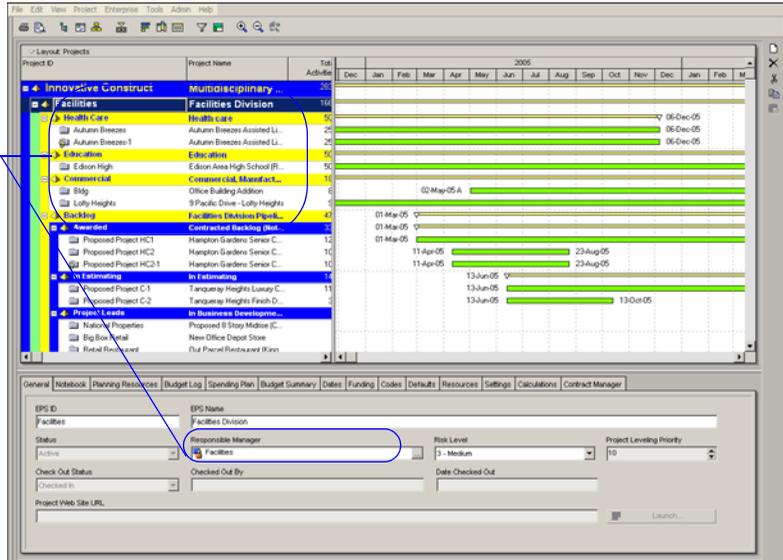
If more than one user is responsible for the same node of the EPS, you must assign each of those users to the corresponding OBS element.

You must specify a responsible manager for each node in the EPS to enable security rights and privileges; the Project Management module uses the OBS root as the default for all nodes if you don't provide one.



You can also assign/review the responsible manager in the Projects window. Choose Enterprise, Projects, then click the General tab.

The user assigned to this OBS element has access to the Apex Project node and all nodes/projects beneath it.



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 “Setting Up the Enterprise Project Structure” and “Reviewing Work Breakdown Structures” in the *Project Management Reference Manual* for more information.

Defining User Access to Resources

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 restrict 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.



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:

- **All Resource Access** disables resource security and provides access to all resources. This is the default option for upgrading users. Admin Superusers always have all resource access, no matter what option is selected.
- **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.
- **Resource Node** 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.



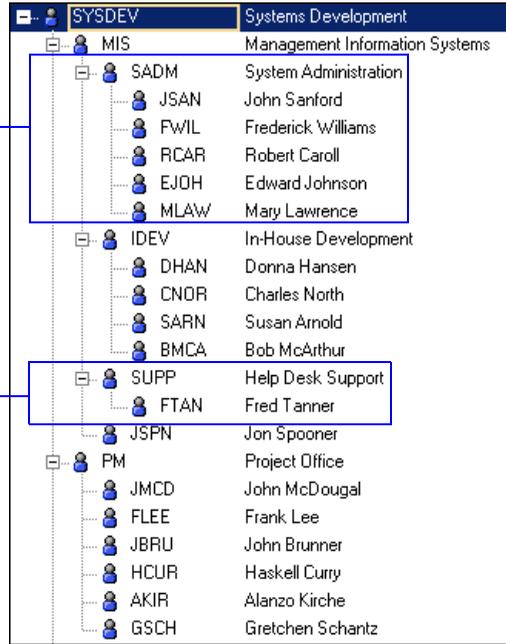
You can assign only one resource node to each user. Multiple resource nodes are not supported.

The following example shows how resource access is determined by the root resource assigned to different users.

If USER1 has restricted access with root resource SADM assigned, USER1 would see only these resources in the resource dictionary.

If USER2 has restricted access with root resource SJPP assigned, USER2 would see only these resources in the resource dictionary.

If USER3 has no resource access, USER3 would not see any resources in the resource dictionary.



Refer to the “Defining Resources and Roles” chapter in the *Project Management Reference Manual* for more information on setting up the resource hierarchy.

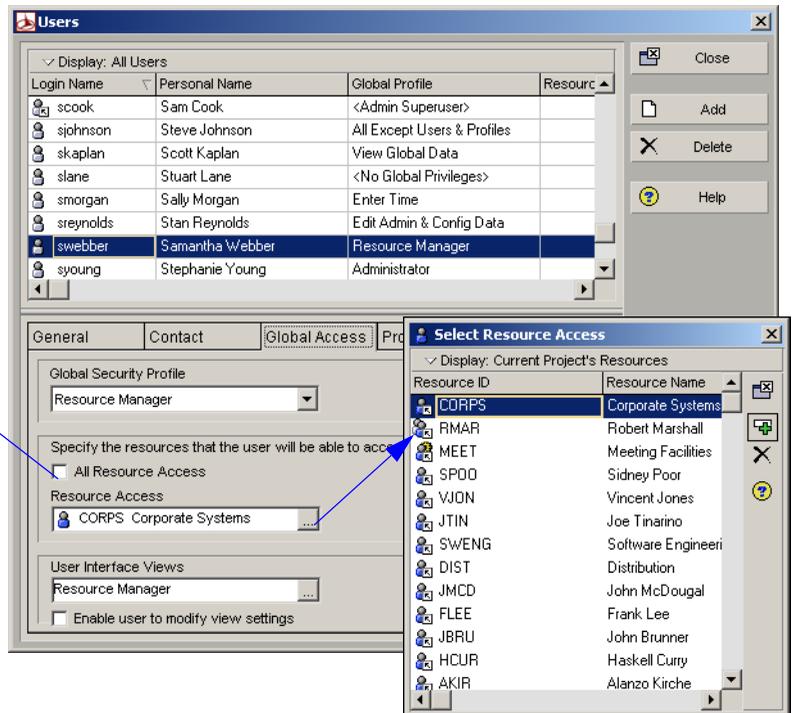
Implementing resource security Before you implement resource security, you must first set up your resource hierarchy in a manner that enables you to assign users to single resource nodes. For example, you can use resource security to restrict user’s access to resources who are not in the same department or geographic location. In this case, you would create a resource hierarchy containing separate branches for each department or geographic location. Once the resource hierarchy is in place, you can implement resource security by completing the following steps:

- 1 In the Project Management module, choose Admin, Users.

The Users dialog displays a filtered users list based on your resource access.

You can display All Resource Access and Resource Access columns in which you can enter/edit resource access settings. These two columns display the same resource security information as the Global Access tab.

Select the desired user, then select All Resource Access if you want the user to have access to all resources. If you want to limit the user’s resource access to a particular resource node, click the browse button to select the resource node you want the user to have access to.



- 2 Select the Global Access tab.
- 3 Select the user that you want to set resource security for.

You can select only one user at a time.

Resource access settings are ignored for Admin Superusers. Admin Superusers always have all resource access.

- 4 Set resource access for the selected user as follows:
 - To provide all resource access to the selected user, mark the All Resource Access checkbox.
 - To restrict resource access to a single resource node for the selected user, unmark the All Resource Access checkbox. Then, click the browse button in the Resource Access field and select a resource.
 - If you do not want the selected user to have any resource access, unmark the All Resource Access checkbox and be sure there is no resource selected in the Resource Access field.

Defining User Access to P6 Web Access Functionality

For more information on user interface views, and for detailed instructions on creating and assigning user interface views in P6 Web Access, refer to the P6 Web Access Help.

In addition to licensing and security privileges, you can further control access to P6 Web Access functionality using user interface views. A user interface view is a defined set of tabs, pages, and Action Menu items that a user assigned to that view can access in each section of P6 Web Access (Dashboards, Portfolios, Projects, and Resources). 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. User interface views can only be defined in P6 Web Access and can be assigned to users in both P6 Web Access and the Project Management module.



You must designate one user interface view as the default view for new P6 Web Access users. The default view controls user access to functionality only for new users who are not assigned to a user interface view. Existing P6 Web Access users who do not have an assigned user interface view can continue to access all functionality.

When creating user interface views in P6 Web Access, provide a name for each user interface view that enables you to easily identify the user interface view's associated functionality.

Creating user interface views is a useful way to enhance security and enable users to more easily access the functionality they use when performing project work and managing projects. For example, executives may require access to some, but not all, project information. In this case, you can create a user interface view named 'Executive' that provides access to some or all Portfolios functionality, along with access to the Projects data executives require.

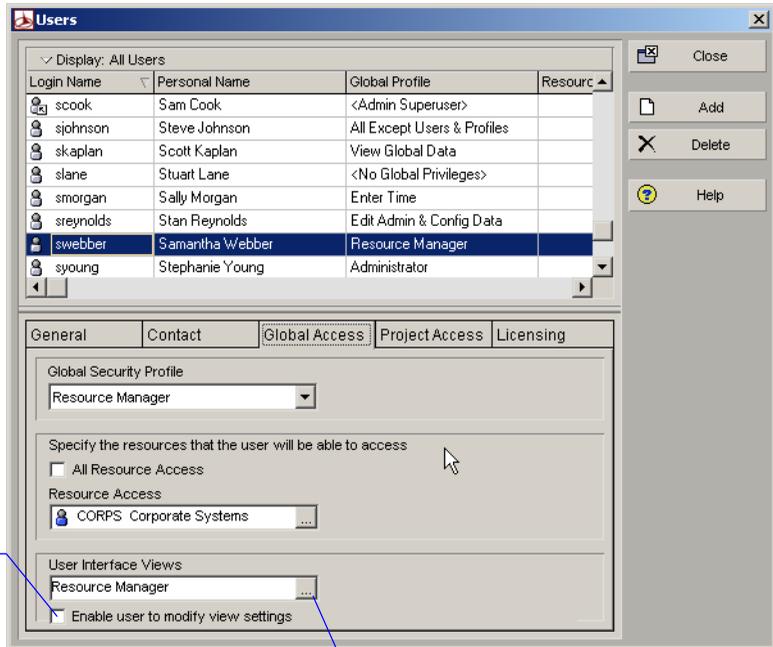


A user's associated license and security privilege settings always override the settings defined in the user's assigned user interface view. For example, if a user has a Primavera Web Resources license but not a Primavera Web Portfolios license, the user cannot access any functionality in the Portfolios section of P6 Web Access, even if Portfolios functionality is enabled in the user's assigned user interface view. Additionally, if you assign a user interface view to a user who has only a Team Member license, view settings are ignored; the functionality available to Team Member-licensed users is always controlled by the license. For more information on functionality available to Team Member-licensed users, refer to ["What does the Team Member license enable a user to access?"](#) on page 341.

You can also use user interface views to hide P6 Web Access functionality your organization does not use. For example, if your organization does not use Primavera Timesheets for time reporting, you can hide the Approve Timesheets Action Menu item in the Dashboards section.

Assign a user interface view to a user in the Project Management module Choose Admin, Users. Select the user to whom you want to assign a user interface view, then click the Global Access tab. In the User Interface Views section, click the Browse button to select a user interface view. Mark the **Enable user to modify view settings** checkbox if you want to enable the user to change personal user interface view settings in View Preferences in P6 Web Access.

In addition to customizing the P6 Web Access interface using user interface views, you can create a prototype user to specify default dashboards and global preference settings. Refer to “Adding a prototype user and defining default settings for P6 Web Access” on page 346.



Mark this checkbox to allow the user to change his or her user interface view settings. When a user changes user interface view settings, the changes do not affect the settings of other users assigned to the same view.

Click to select a user interface view.

Setting Security in the Methodology Management Module

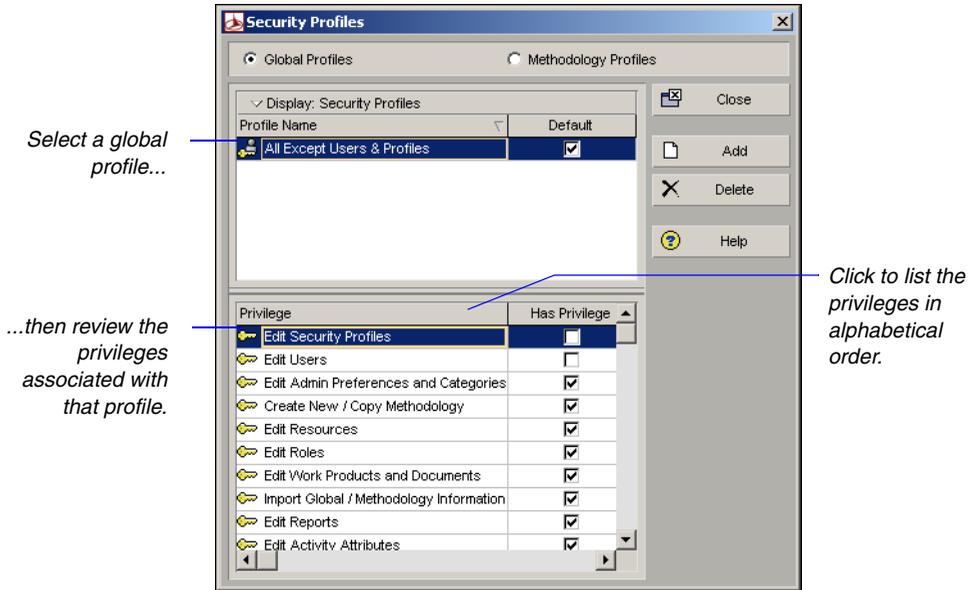
The Methodology Management module uses its own set of users, global profiles, and methodology profiles to control access to Methodology Management data. These security data are stored in the methodology management database.

No security data are shared between the Project Management and Methodology Management modules. Methodology Management uses its own OBS, users, global and methodology profiles, and license.

The security model for Methodology Management differs from the Project Management module. Only one methodology can be open at a time, and there is no EPS. Users and methodology profiles cannot be assigned to OBS elements; methodology profiles must be assigned directly to users to allow the user access to a methodology.

This section discusses the process of creating security profiles and users in the Methodology Management module.

Create global profiles In the Methodology Management module, choose Admin, Security Profiles. Choose Global Profiles, then click Add. Type the new profile’s name. To make the new profile the default global profile, mark the Default checkbox. In the Privilege area, mark the appropriate Has Privilege checkboxes to grant privileges to the profile.



The following table defines each global privilege:



The following table groups each privilege by functionality. The privileges are listed in the same order as in the Security Profiles dialog box. To view the privileges in alphabetical order in the Security Profiles dialog box, click the Privileges bar as shown in the previous image.



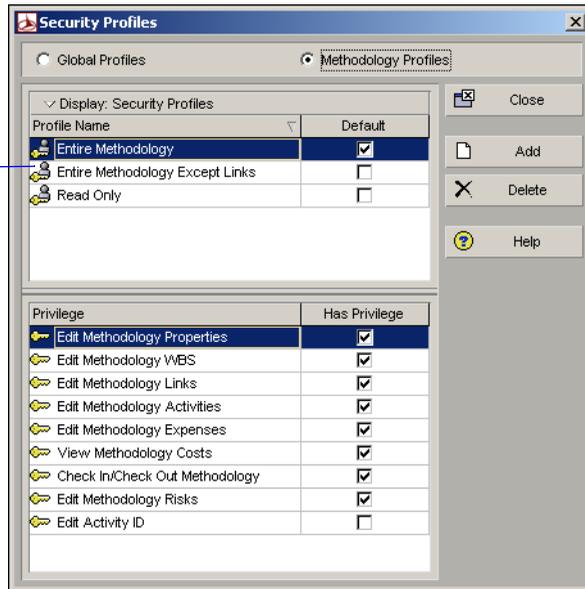
Privileges that are new or modified in P6 are marked with an asterisk (*).

Privilege Name	Privilege Definition
Edit Security Profiles	Change security profile information.
Edit Users	Create and delete Methodology Management module users, and change user access permissions.
Edit Admin Preferences and Categories	Change administrative preferences as defined in the Admin Preferences dialog box. Create, change, and delete administrative categories as defined in the Admin Categories dialog box. Edit currency data in the Currencies dialog box.
Create New / Copy Methodology	Create, import, or copy a methodology.
Edit Resources	Create, delete, and change elements of the resource hierarchy.
Edit Roles	Create, delete, and change role information.
Edit Work Products and Documents	Create, delete, and change work product and document records.
Import Global / Methodology Information	Import global and methodology information.
Edit Reports	Create, edit, and delete reports; save reports in the Report Wizard.
Edit Activity Attributes	Create, change, and delete activity attributes.
Edit Activity Codes	Create, change, and delete global activity codes and values.
Edit Estimation Factors	Create, change, and delete estimation factors.
View Resource Prices	View resource prices.
Edit Global Activity Layouts and Filters	Create, delete, and change global activity layouts and filters.
Edit OBS	Create, delete, and change organizational breakdown structure information.
Edit Methodology Codes and Resource Codes	Create, delete, and change methodology and resource codes.

Privilege Name	Privilege Definition
Edit User Defined Fields	Create, edit, and delete user-defined fields. Users that do not have this privilege can view user-defined fields.
Edit Microsoft Project Templates	Create, edit, and delete Microsoft Project Templates used to import/export data from/to Microsoft Project.
Edit Activity Step Templates	Create, edit, and delete Activity Step Templates used to add a set of common steps to multiple activities.

Create methodology profiles Choose Admin, Security Profiles. Choose Methodology Profiles, then click Add. Type the new profile's name. To make the new profile the default methodology profile, mark the Default checkbox. In the Privilege area, mark the appropriate Has Privilege checkboxes to grant privileges to the profile.

You can create an unlimited number of methodology profiles based on the varying roles in your company.



The following table defines each methodology privilege:



Privileges that are new or modified in P6 are marked with an asterisk ().*

Privilege Name	Privilege Definition
Edit Methodology Properties	Create, delete, and change a methodology's properties, as defined in the Methodology Properties dialog box.
Edit Methodology WBS	Create, delete, and change a methodology's work breakdown structure (WBS) elements and versions.
Edit Methodology Links	Create, delete, and change a methodology's links, if the user has this privilege for both linked methodologies.
Edit Methodology Activities	Add, change, and delete activities and activity information.
Edit Methodology Expenses	Add, change, and delete expenses.
View Methodology Costs	View methodology cost information.
Check In/Check Out Methodology	Check methodologies in and out of the Methodology Management module.
Edit Methodology Risks	Create, delete, and change a methodology's risks.
Edit Activity ID	Edit methodology activity IDs.

Add new users Choose Admin, Users. Click Add.

- If Password Policy is not enabled in Administrative Preferences, click the General tab, type the user's login name and personal name, then click Password. Type the user's password, then retype the password to verify it. Click OK.
- If Password Policy is enable in Administrative Preferences, the Add User dialog box will appear. You will be required to fill in the Login name, Personal name, Enter new password, and Confirm new password fields. Click OK.



For more information on Administrative Preferences, see "Defining Default Settings" on page 394.



If the Methodology Management module is running in LDAP authentication mode, when you click Add, a dialog appears for you to enter a user name and verify it against the LDAP store. When you click Test, if the user exists in the LDAP store, the actual name, e-mail address, and telephone number fields are populated—if you previously mapped those fields through the Authentication Configuration tool. To add the user, click Add. When you click Test, if the user is not found in the LDAP store, a message appears to notify you that the user cannot be added.

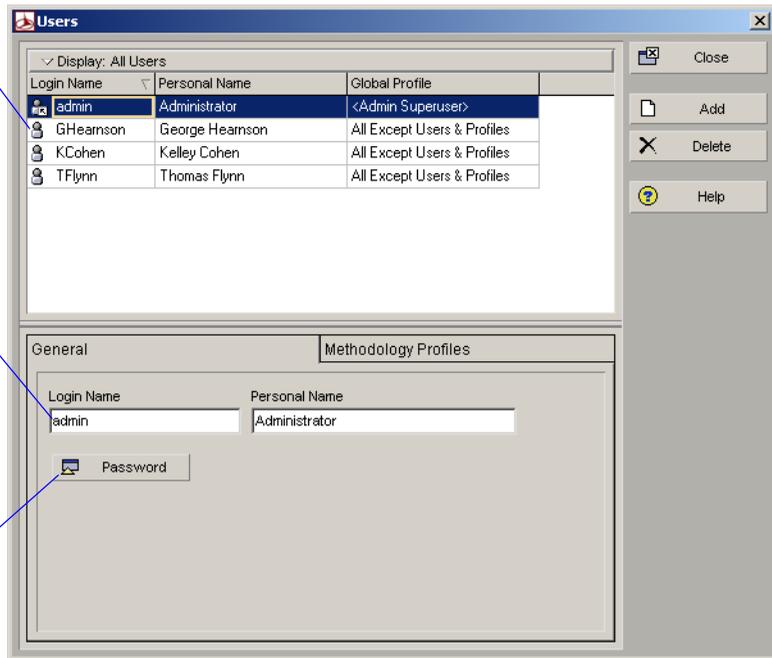


If your organization centralizes user information in an LDAP directory, you can add Primavera users by provisioning from the LDAP store. For more information, see [“Configuring Authentication Modes”](#) on page 289. After you provision users, you will need to assign each user a security profile.

Displays the list of users with access to the Methodology Management module

Identifies the name required to log in to the Methodology Management module

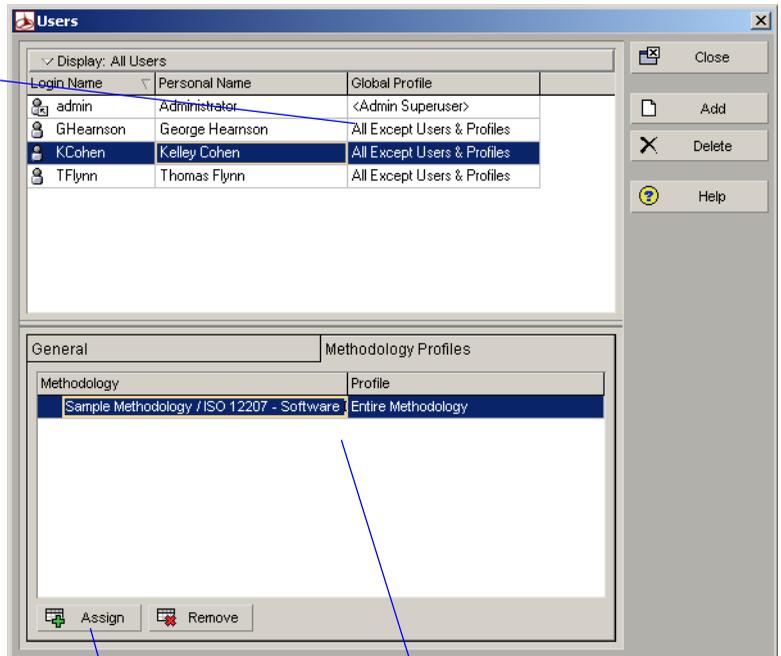
The Password button does not appear if the Methodology Management module is running in LDAP authentication mode.



Product licensing You do not need to assign product licensing for the Methodology Management module. For each license of the Project Management module that you have purchased, you automatically are granted one license of the Methodology Management module.

Assign a global profile and methodology profiles A global profile determines a user's access to global data, such as resources and roles; methodology profiles restrict the user's access to methodology data. The Methodology Management module requires that each user be assigned a global profile. To open a methodology, the user must be assigned a methodology profile for that methodology. Choose Admin, Users. Select the user to whom you want to assign a global profile and methodology profiles. Click the Methodology Profiles tab.

Double-click in the Global Profile column and choose the appropriate profile for the selected user.



Click to select a methodology to which the user requires access...

...then double-click in the Profile column and choose a methodology profile for the selected user.



The Methodology Management module includes an Admin Superuser global profile that allows complete access to all global information and methodologies.



The Methodology Superuser profile grants read-write privileges to all aspects of a methodology. A user with Admin Superuser global privileges automatically has Methodology Superuser access to all methodologies. If a user creates a new methodology, that user is automatically granted the Methodology Superuser profile for that methodology.

Defining Administrative Preferences and Categories in Project Management

In this chapter:

[Defining Default Settings](#)

[Defining Standard Categories and Values](#)

[Defining Currencies](#)

The Project Management module enables your organization to define a series of module-wide parameters and values that apply to all projects in an enterprise project structure (EPS). Use these settings to customize the module to meet specific project management requirements and standards. While all users can view these settings, a user must have special security privileges to edit them.

This chapter discusses the types of settings you can specify: Administrative Preferences, which are default settings; Administrative Categories, which are standard values that apply to all projects; and Currencies, which consist of a base currency used to store costs in the database and a view currency used to display cost data in windows and dialog boxes.

Defining Default Settings

For detailed information on each field in Admin Preferences, click Help in the Admin Preferences dialog box.

Use the Admin Preferences dialog box to specify default settings established by the project controls coordinator. Choose Admin, Admin Preferences.

General information Use the General tab to specify general default options, such as the weekday on which the calendar week begins. You can also change the character used to separate hierarchy levels in resource, project, and activity codes; roles; cost accounts; and WBS elements.

The screenshot shows the Admin Preferences dialog box with four sections: Code Separator, Starting Day of Week, Activity Duration, and Password Policy. Callouts provide detailed explanations for each section:

- Code Separator:** The character used for separating concatenated codes. It is also the default WBS code separator for new projects. The field contains a period (.)
- Starting Day of Week:** Specify the starting day of the week for calendars. The dropdown menu is set to Sunday.
- Activity Duration:** Specify the default duration for new activities. The field is set to 1.
- Password Policy:** Primavera requires a minimum length of 8 characters and at least one number and one letter in a user's password. The checkbox for "Enable password policy" is unchecked.

Callout text for Code Separator: *The character that separates hierarchy levels in roles, resource codes, project codes, cost accounts, and activity codes; it is also the default separator for WBS codes in all new projects. You can enter a WBS code separator for specific projects in the Settings tab of Project Details.*

Callout text for Starting Day of Week: *The first day of the week for global, project, and resource calendars*

Callout text for Activity Duration: *The default duration for new activities in all projects; simplifies the process of adding new activities*

Callout text for Password Policy: *The policy used for password creation and changes. Mark to enable a strong password policy. When unmarked, passwords can be from 0 to 20 characters and can be all letters or numbers.*



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 in an Activity Usage Profile.

Timesheets Use the Timesheets tab to specify default setup options when using the Timesheets module.

Mark to enable assign privileges for all newly created projects. For individual projects, you can override this setting on the Project Details Resources tab.

Mark to require that all new resources use timesheets, unless you specify otherwise.

Mark to save the history of timesheet submission, approval, rejection, reviewers, and associated dates. If you select this option, add the Timesheet History subject area to a timesheet report to view the historical data.

Mark to require that all resources report their hours on a daily basis for each assigned activity. If you select this option, you can optionally specify a maximum number of hours a resource can enter per day.

Choose 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.



If there is a discrepancy between the number of decimal places you enter in the **Maximum hours a resource can enter per day** and **Maximum number of decimal digits for recording hours in timesheets** fields, values a user enters in a timesheet field may 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 timesheets, if a user enters 10.5 in a timesheet field, 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.

The Timesheet Approval Level section contains the following options:

- **Auto Submission** – Choose to indicate that resource timesheets do not need to be submitted or approved. Timesheet data are automatically updated in the database when you apply actuals.
- **Auto Approval** – Choose to indicate that resource timesheets do not require management approval. Timesheets are approved automatically when they are submitted.
- **1 Approval Level** – Choose to indicate that resource timesheets require approval by the resource/cost 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/cost manager approval, and you select this option, the status of all current timesheets that have received one level of approval changes to “Approved.”
- **2 Approval Levels** – Choose to indicate that resource timesheets require approval by project and resource/cost 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** – If you choose 2 Approval Levels, mark to indicate that project managers must approve timesheets before resource/cost managers.
- **Default Resource Manager Approving Timesheets** – The name of the manager who approves resource timesheets, unless you specify otherwise. Click the Browse button to select a new manager.

For more information on implementing the Timesheets module, see “Configuring the Group Server for Timesheets” on page 101 and “Implementing Timesheets” on page 407.

Timesheet Privileges Use the Timesheet Privileges tab to define privileges for reporting hours.

The default number of days users can preview an activity before it starts

Default time window to access activities

Not-started activities (days) 60

Completed activities (days) 60

Privileges for logging hours on timesheets

- Log hours on future timesheets
- Log hours on not-started activities
- Log hours on completed
 - Activities and Assignments
 - Assignments only
- Log hours on activities before the activity start date
- Log hours on activities after the activity finish date

Specify resource privileges for entering hours in timesheets.

The default number of days users can review an activity after it ends

Data limits Use the Data Limits tab to specify the maximum number of levels for hierarchical structures. You can also specify the maximum number of baselines and activity codes that can be included in a project.

The maximum combined number of hierarchy levels in the EPS and WBS: 1 is the lowest, and 50 is the highest.

Field	Value
EPS/WBS tree maximum levels	5
CBS tree maximum levels	8
Resources tree maximum levels	20
Role tree maximum levels	4
Cost Account tree maximum levels	8
Activity Code tree maximum levels	4
Resource Code tree maximum levels	4
Project Code tree maximum levels	4
Maximum activity codes per project	8
Maximum baselines per project	4
Maximum baselines copied with project	1

The maximum number of hierarchy levels in these structures: 1 is the lowest, and 25 is the highest.

The maximum number of activity codes in projects: 0 is the lowest, and 500 is the highest.

The maximum number of baselines in projects. You can enter an unlimited number.

Maximum baselines copied with project: Specify the maximum number of baselines that can be copied with the project. You can enter a number between 1 and 50 in this field.



If you change maximum hierarchy level settings, the new settings apply only when you add new elements or edit existing elements.

ID lengths Use the ID Lengths tab to specify the maximum number of characters for IDs and codes.

The maximum number of characters in these IDs and codes: 1 is the lowest, and 20 is the highest.

ID Lengths

Specify the maximum number of characters to allow for ID fields at each tree level.

Project ID maximum characters	20
WBS Code maximum characters	10
Resource ID maximum characters	10
Activity ID maximum characters	10
Cost Account ID maximum characters	10
Role ID maximum characters	10



If you change the maximum number of characters in an ID or code, the new number applies only when you add new IDs/codes or edit existing IDs/codes.

Time Periods Use the Time Periods tab to define the default number of hours in a workday, workweek, workmonth, and workyear. These values are used as conversion factors when displaying the time units and duration display formats you select. You can also specify abbreviations for displaying minutes, hours, days, weeks, months, and years.

Valid entries range from 1.0 to 168.0.

Valid entries range from 1.0 to 744.0.

Valid entries range from 1.0 to 24.0.

Valid entries range from 1.0 to 8784.0.

Type a one-character abbreviation to use when displaying the time units and duration display formats you select.

Hours per Time Period			
Specify the number of work hours for each time period.			
Hours/Day	Hours/Week	Hours/Month	Hours/Year
<input type="text" value="8.0"/>	<input type="text" value="40.0"/>	<input type="text" value="172.0"/>	<input type="text" value="2000.0"/>
<input checked="" type="checkbox"/> Allow users to specify the number of work hours for each time period			
Time Period Abbreviations			
Specify the abbreviation for each time period.			
Minutes	Hours	Days	
<input type="text" value="n"/>	<input type="text" value="h"/>	<input type="text" value="d"/>	
Weeks	Months	Years	
<input type="text" value="w"/>	<input type="text" value="m"/>	<input type="text" value="y"/>	

Allowing Users to Define the Default Hours per Time Period

Primavera calculates and stores time unit values in hourly increments. However, through User Preferences, each user can choose to display time unit values as hours, days, weeks, months, or years. When a user displays data in time unit fields in increments other than hours, the Project Management module converts the data based on the Admin Preference Hours per Time Period settings. Conversely, if a user enters time units in increments other than hours, the Admin Preference Hours per Time Period settings are used to convert these input values to hours for database calculation and storage.

As an administrator, you can specify the conversion factors or you can allow users to specify the conversion factors. If you want to specify the conversion factors, enter the number of hours to use as a conversion factor in each Hours per Time Period field. If you want users to specify the conversion factors, mark the 'Allow users to specify the number of work hours for each time period' checkbox.

Enabling users to enter their own Hours per Time Period settings in User Preferences prevents time unit data from being displayed incorrectly when they view summary or detailed schedule data for their activities in spreadsheets, reports, etc. (which can occur when the Admin time period settings and the activity calendar time period settings do not match). If you do not allow users to specify the User Preference Hours per Time Period and the user preference for display is set to an increment other than hours, when a user enters hours for an activity that uses different hours/time period calendar values than the Admin Preference Hours per Time Period settings, the display output may not be as expected. This occurs because the display reflects the conversion factor of the Admin Preference Hours per Time Period settings, not the hours/time period defined by the activity's calendar. For example,

User Preferences, Time Units = day

Admin Preferences, Hours per Time Period = 8h/d

Activity calendar = 10h/d

User-entered activity duration = 30h

Duration display = 3d6h (30h duration/8h per day, based on the conversion factor)

To avoid an unexpected display result, mark the 'Allow users to specify the number of work hours for each time period' checkbox. Then, advise users to set the Hours per Time Period values in User Preferences according to the activity calendar used by their role in the organization. For example, if engineers use an 8-hour activity calendar, engineers should enter 8 for the Hours/Day user preference. Likewise, if construction workers use a 10-hour activity calendar, construction workers should enter 10 as the Hours/Day user preference. Advising users to set the user preference according to their role will provide users with an accurate representation of their activity durations.

Earned value Use the Earned Value tab to specify default settings for calculating earned value. You can change the settings for specific WBS elements in the Earned Value tab in Work Breakdown Structure Details.

For details about the fields on the Earned Value tab, see the Project Management Reference Manual.

Technique for computing performance percent complete

Activity % Complete 50/50 % Complete
 Use WBS Milestones Custom % Complete
 0/100 % Complete

Technique for computing Estimate to Complete (ETC)

ETC = remaining cost for activity
 or
 $ETC = PF * (Budget\ at\ Completion - Earned\ Value)$, where:

PF = 1
 PF = 1 / Cost Performance Index
 PF = 1 / (Cost Performance Index * Schedule Performance Index)
 PF =

Earned value calculation

When calculating earned value from a baseline use

Choose which type of baseline value is used to calculate earned value.

Reports Use the Reports tab to define up to three sets of headers, footers, and custom labels for reports.

Report Headers and Footers

Specify three sets of header, footer, and custom labels to place on application reports.

First Set Second Set Third Set

Header Label 1

Footer Label 1

Custom Label 1

Choose to define a set that consists of a header, footer, and custom text label...

...then specify the custom text for that set's header, footer, and custom label.

Options Use the Options tab to specify the time intervals in which cost and quantity summaries should be calculated for activities and resources/roles: by calendar intervals, by financial period intervals, or both. Your choices determine the data available for display in charts and spreadsheets that display summarized activity and assignment data in P6 Web Access and the Project Management module. The By calendar option is selected by default. You can choose to not summarize by calendar intervals, however this is not recommended for most companies.

To ensure that P6 Web Access users can view activity and assignment data (both actual to date and past period actual) in Financial Period timescale intervals in charts and spreadsheets, choose to summarize by financial period; choosing this option additionally ensures that Financial Period timescale intervals in the Project Management module accurately display summarized actual to date values for closed projects.



If you modify summarization settings (for example, you select the 'By financial period' option) after upgrading to P6 Web Access version 6.2.1 from P6 version 6.0 or earlier, some projects are ignored when you summarize all projects. Specifically, projects that were summarized prior to upgrading, and have not been modified since, WILL NOT BE SUMMARIZED when you choose to summarize all projects.

To include summary financial period data for these projects, after upgrading you must delete the existing summary data for these projects, then summarize each project (either individually or through the job service). To delete summary data for a project, in the Projects window in the Project Management module, right-click on the project name and choose Delete Project Summaries.

Summarizing by both calendar and financial period intervals will increase the runtime of summarizer jobs. If you experience performance issues, refer to ["Job Service Registry Settings"](#) on page 230 for information on how to improve summarizer performance.



Financial periods must be properly defined for P6 Web Access users to display a Financial Period timescale, even if data is summarized by financial period. See ["Defining Financial Periods"](#) on page 429 for more information on properly configuring financial periods.



If you choose to summarize by financial period intervals and you want data for closed projects to be included when users display a Financial Period timescale, you must summarize each closed project once. For more information on summarizing projects, refer to the Project Management Reference Manual.

You can select whether users can access methodologies to add activities or create new projects using Project Architect. To enable users to launch Content Repository documents and the Timesheet Approval application from the Project Management module, type the URL to the P6 Web Access server. The Workflow Administrator is the web user responsible for administrative tasks related to P6 Web Access workflow templates, which are used for project requests. Click the browse button to select. You can additionally use this tab to set up a link to the Contract Manager module (formerly known as Expedition).

The time interval to which activity costs and quantities should be summarized.

Choose this option to enable users to view summary data and edit high-level planning assignments in financial period timescale intervals in P6 Web Access, and to ensure accurate data display in financial period timescale intervals in the Project Management module.

To enable users to launch Content Repository documents and the Timesheet Approval application from the Project Management module, type the URL to the P6 Web Access server.

Specify the interval to summarize and store resource spreads

Select summarization periods

By calendar

WBS Level Week

Resource/Role Assignment Level Week

By financial period

Project Architect

Allow use of Project Architect

Web Access Server URL

Workflow Administrator

...

Link to Contract Manager

Enable Link to Contract Manager

8.5.4

9.x and higher URL:

The time interval to which resource/role assignment cost and quantities should be summarized.

If connecting to Contract Manager version 9.x or higher, type the URL of the Contract Manager Web server. The URL must include the server name (or IP address). The port number is also required if you are not using 80, the default port.



Once a link to the Contract Manager module is set up, users can create a link to a Contract Manager project to import and view project-level data. Refer to the Project Management Reference Manual for more information.

Rate Types Use the Rate Types tab to provide a title for each of the five available Price/Unit fields. The title should describe what the rate type represents. The rate type titles you define appear wherever the rate types are displayed in a list or column.

You can define new titles for these rate types, for example, Commercial Rate or Government Rate.

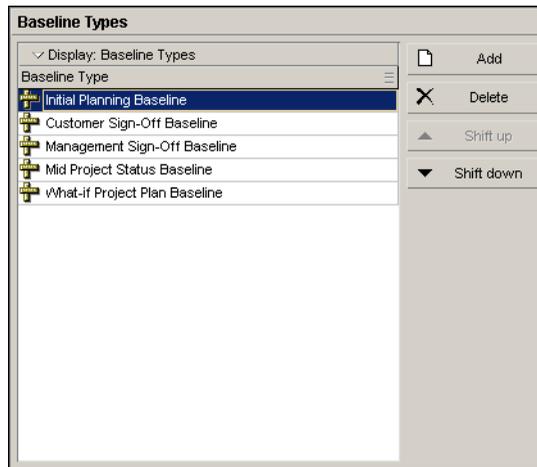
Default Title	User-defined Title
cost_per_qty	Price / Unit
cost_per_qty2	Price / Unit2
cost_per_qty3	Price / Unit3
cost_per_qty4	Price / Unit4
cost_per_qty5	Price / Unit5

Defining Standard Categories and Values

Use the Admin Categories dialog box to define standard categories and values that you can apply to all projects. Choose Admin, Admin Categories.

For more information about baselines, see the Project Management Reference Manual.

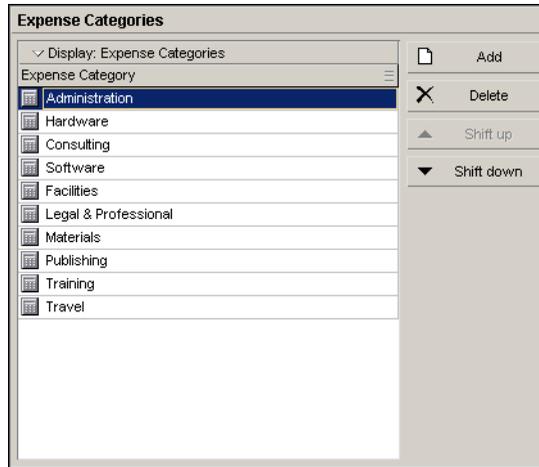
Baseline types Use the Baseline Types tab to create, edit, and delete baseline types. Baseline types enable you to categorize and standardize baselines across projects. To change the name of a baseline type, double-click it, then type a new name. The change applies to all projects to which the baseline is assigned.



Click the Shift Up/Shift Down buttons to move the selected category/type to a higher/lower position in the display. This changes the order in which the categories/types are listed when you assign them. These buttons are available only when the list is not sorted alphabetically.

For more information about expenses, see the Project Management Reference Manual.

Expense categories Use the Expense Categories tab to create, edit, and delete expense categories. Expense categories can be used to categorize and standardize project expenses, and to organize and maintain your expense information. To change an expense category, double-click it, then type a new name. The change applies to all projects to which the expense item is assigned.

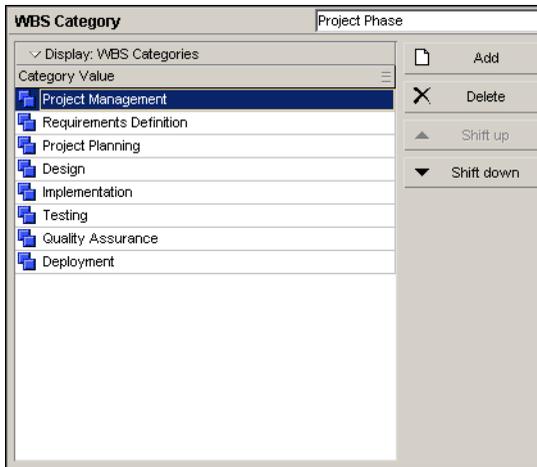


For more information about the WBS, see the Project Management Reference Manual.

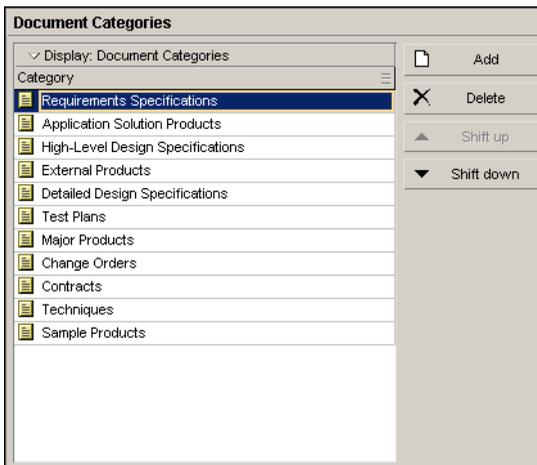
WBS custom category Use the third tab on the Admin Categories dialog box to define a custom WBS category and category values. The tab displays the name you define. To change the category name, click in the field in the top right, then type a new name. Use this category to organize, filter, and report WBS information in all projects. To change a category value, double-click it, then type a new name. The change applies to all projects to which the WBS item is assigned.



If you change the WBS category, the category's values or value assignments do not change.

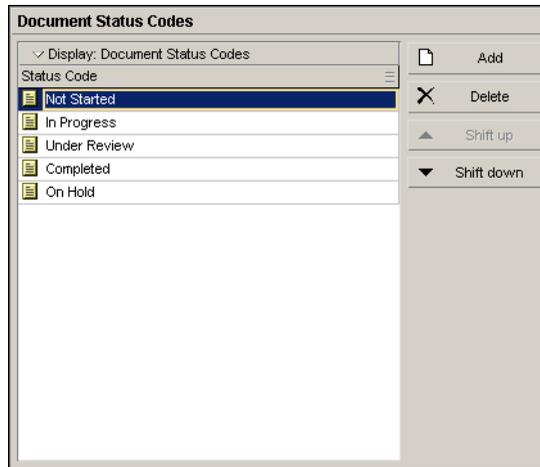


Document categories Use the Document Categories tab to set up categories for work products and documents, then assign these categories to documents in the Work Products and Documents window and activities in the WPs & Docs tab of Activities Details. To change a document category, double-click it, then type a new name. The change applies to all projects to which the document is assigned.



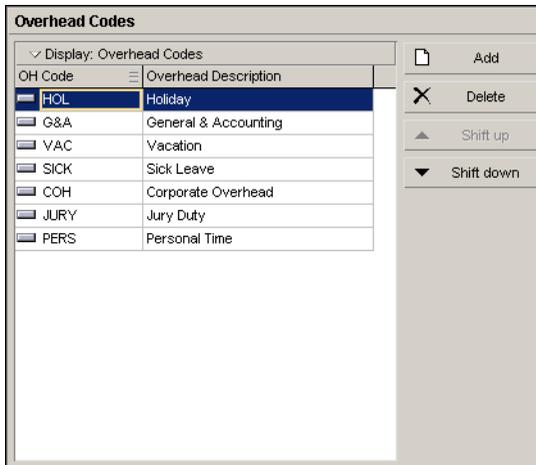
For more information about work products and documents, see the Project Management Reference Manual.

Document status Use the Document Status tab to create, edit, and delete document status types. Status types identify the current status of work products and documents within a project. Use them to determine which documents can be assigned to activities or WBS elements. To change a status type, double-click it, then type a new name. The change applies to all projects to which the document is assigned.



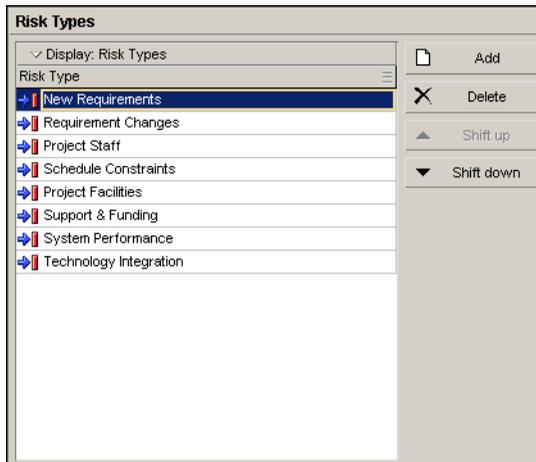
For more information about the Timesheets module, see the Project Management Reference Manual.

Overhead codes Use the Overhead Codes tab to create, edit, and delete overhead activity codes for Timesheets module users. Timesheets module users add overhead activities to their timesheets to log timesheet hours that are not associated with project activities. To change a code, double-click it, then type a new name. The change applies to all projects in which the code is assigned.



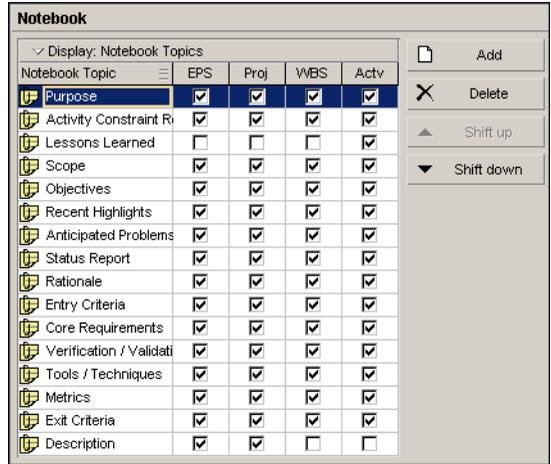
For more information about risks, see the **Project Management Reference Manual**.

Risk types Use the Risk Types tab to create, edit, and delete risk types, or categories of possible risks. Risk types allow you to classify and standardize risks across projects. To change a risk type, double-click it, then type a new name. The change applies to all projects in which the risk is assigned.

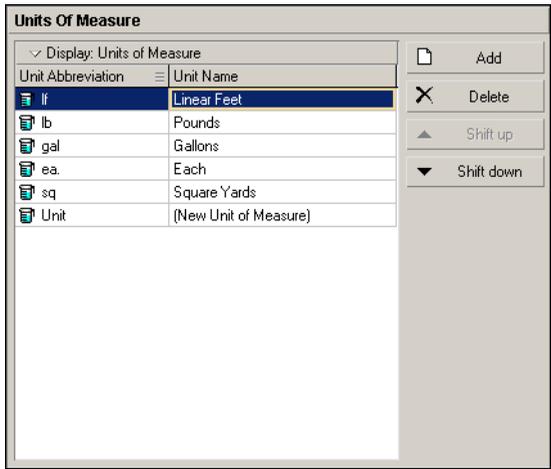


For more information about activity notes, see the Project Management Reference Manual.

Notebook topics Use the Notebook Topics tab to create, edit, and delete notebook topics. Notebook topics typically consist of instructions or descriptions for performing an activity. However, notebook topics can also be assigned at the EPS, project, and WBS levels. Examples include Purpose, Entry Criteria, Tools and Techniques, and Exit Criteria. To change a notebook topic, double-click it, then type a new name. The change applies to all notebook assignments.



Units of Measure Use the Units of Measure tab to set up units of measure labels that you can assign to material resources. To change a unit of measure label, double-click it, then type a new name. The change applies to all unit of measure assignments.



Defining Currencies

You can specify the monetary unit or *base currency* used to store cost data for all projects in the database, as well as the monetary unit or *view currency* used to display cost data in windows and dialog boxes.



Only a user with Admin Superuser privileges can change the base currency and define additional view currency types.

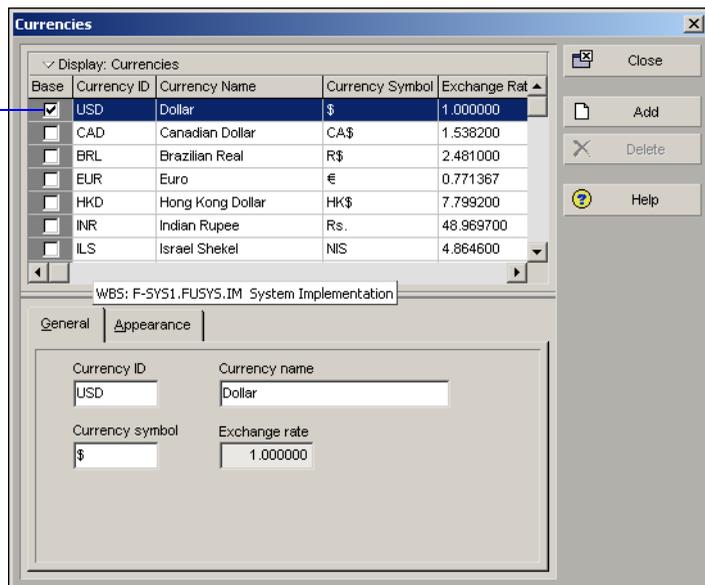
The exchange rate for the base currency is always 1.0. If you select a different currency than the base currency to view cost data, the base currency value is multiplied times the current exchange rate for the view currency to calculate the values displayed in cost and price fields.

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 in windows and dialog boxes. Similarly, if you enter 10 Euros in a cost or price field, it is stored in the database as \$13.30.



When you enter values in cost and price fields, they are always displayed in the view currency.

Indicates the currency is the base used to store cost data



Use the Currencies dialog box to set up the base and view currencies.



If you are upgrading from a previous version of the Project Management module, you should set up the base currency in the new version before you start adding and changing projects.

Define a base currency The base currency, by default, is U.S. dollars. To define a different currency as the base, choose Admin, Currencies. Select the base currency, then, in the General tab, type the currency's ID, name, and symbol. The exchange rate for the base currency is always one. Click the Appearance tab to further define how the currency is displayed.

Separates whole values from decimal values in the currency display, for example, 500.5 or 500,5

Separates groups of digits in the currency display, for example, 300,000 or 300-000

Decimal symbol	Number of decimal places
.	2
Digit grouping symbol	
.	
¤ = Universal currency symbol	
Positive currency format	Negative currency format
¤1.1	(¤1.1)

Indicates how many decimal places to display, for example, none (70), one (70.1), or two (70.14)

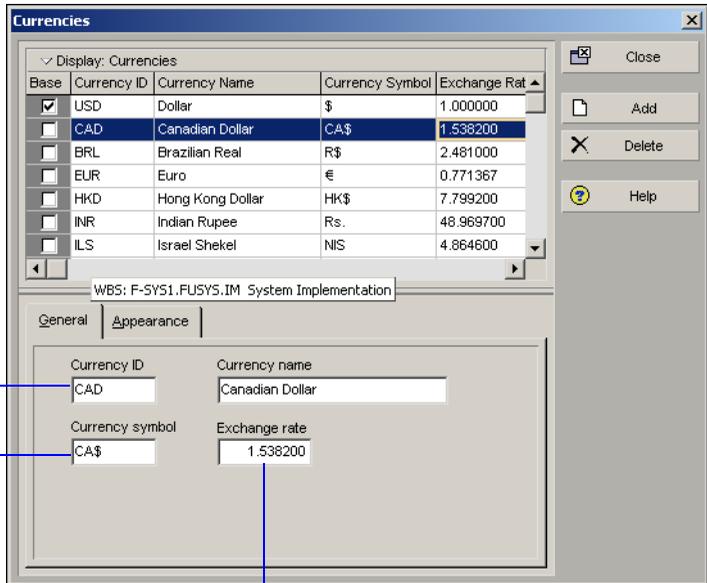


If you want to view costs in the old base currency, you will need to add it to the list of available currencies.

Add a view currency Choose Admin, Currencies. Click Add. Specify the currency's ID, name, symbol, and exchange rate, and indicate how the currency should be displayed.

Choose Edit, User Preferences, then click the Currency tab to select the currency used to view costs.

Type an ID that clearly defines the currency type.
Enter the universal symbol used to identify the currency.



Enter the current global exchange rate for the currency.

Defining Administrative Preferences and Categories in Methodology Management

In this chapter:

[Defining Default Settings](#)

[Defining Standard Categories and Values](#)

[Defining Currencies](#)

The Methodology Management module enables your organization to define a series of module-wide parameters and values that apply to all methodologies. Use these settings to customize the module to meet specific project management requirements and standards. While all users can view these settings, a user must have special security privileges to edit them.

This chapter discusses the types of settings you can specify: Administrative Preferences, which are default settings used in the module; Administrative Categories, which are standard values that apply to all methodologies in the module; and Currencies, which consist of a base currency used to store cost data in the database and a view currency used to display cost data in windows and dialog boxes.

Defining Default Settings

Use the Admin Preferences dialog box to specify default settings established by the project controls coordinator. Choose Admin, Admin Preferences.

General information Use the General tab to specify general default options for new activities, such as the duration type, percent complete type, and activity type. You can also change the character used to separate hierarchy levels in resource, methodology, and activity codes; and work breakdown structure (WBS) elements.

The character that separates hierarchy levels in roles, resource codes, methodology codes, and activity codes; it is also the default separator for WBS codes in all new methodologies.

The screenshot shows a dialog box with three main sections:

- Code Separator:** A text input field containing a period character (.), with a description: "Specify the character for separating code fields for WBS, Activity Code, Resource Code and Methodology Code trees."
- Defaults for New Activities:** Three dropdown menus: "Duration Type" (Fixed Duration & Units), "Percent Complete Type" (Duration), and "Activity Type" (Task Dependent). Description: "Specify the default settings for new activities."
- Password Policy:** A checkbox labeled "Enable password policy" which is currently unchecked. Description: "Primavera requires a minimum length of 8 characters and at least one number and one letter in a user's password."

These default types are used only for new activities. Changing these settings does not affect existing activities.

The policy used for password creation and changes. Mark to enable a strong password policy. When unmarked, passwords can be from 0 to 20 characters and can be all letters or numbers.

ID lengths Use the ID Lengths tab to specify the maximum number of characters for IDs and codes.

The maximum number of characters in these IDs and codes: 1 is the lowest, and 20 is the highest.

ID Lengths
Specify the maximum number of characters to allow for ID fields at each tree level.

WBS Code maximum characters	7
Resource ID maximum characters	7
Activity ID maximum characters	7
Role ID maximum characters	7



If you change the maximum number of characters in an ID or code, the new number applies only when you add new IDs/codes or edit existing IDs/codes.

Data limits Use the Data Limits tab to specify the maximum number of levels for hierarchical structures.

The maximum number of hierarchy levels in these code types: 1 is the lowest, and 25 is the highest.

The maximum number of hierarchy levels in these structures: 1 is the lowest, and 25 is the highest.



If you change maximum hierarchy level settings, the new settings apply only when you add new elements or edit existing elements.

Timeperiods Use the Time Periods tab to define the default number of hours in a workday, workweek, workmonth, and workyear. The module uses these values as conversion factors when displaying the time units and duration display formats you select. You can also specify abbreviations for displaying minutes, hours, days, weeks, months, and years.

The screenshot shows two configuration windows. The top window, titled "Hours per Time Period", contains four input fields: "Hrs/Day" (8.0), "Hrs/Week" (40.0), "Hrs/Month" (172.0), and "Hrs/Year" (2000.0). The bottom window, titled "Time Period Abbreviations", contains six input fields: "Minutes" (n), "Hours" (h), "Days" (d), "Weeks" (w), "Months" (m), and "Years" (y). A blue oval highlights the "Minutes" through "Years" fields in the bottom window.

Valid entries range from 1.0 to 168.0. (Callout pointing to Hrs/Week)

Valid entries range from 1.0 to 744.0. (Callout pointing to Hrs/Month)

Valid entries range from 1.0 to 24.0. (Callout pointing to Hrs/Day)

Valid entries range from 1.0 to 8784.0. (Callout pointing to Hrs/Year)

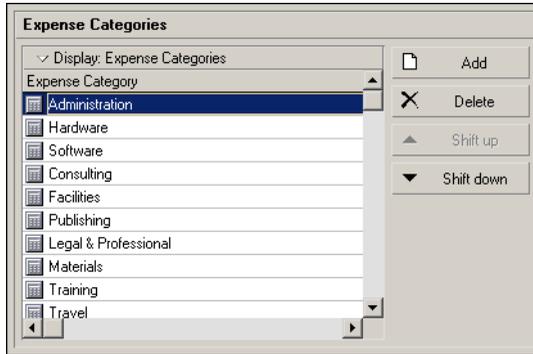
The module uses these abbreviations when displaying the time units and duration display formats you select. You can type a new one-character abbreviation. (Callout pointing to the abbreviations fields)

Defining Standard Categories and Values

Use the Admin Categories dialog box to define standard categories and values that you can apply to all methodologies. Choose Admin, Admin Categories.

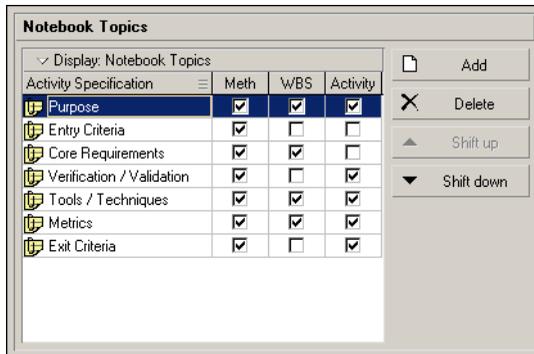
For more information about expenses, see the **Methodology Management Reference Manual**.

Expense categories Use the Expense Categories tab to create, edit, and delete expense categories. Expense categories can be used to categorize and standardize methodology expenses, and organize and maintain your expense information. To change an expense category, double-click it, then type a new name. The module applies the change to all activities to which the expense item is assigned.



For more information about activity notes, see the **Methodology Management Reference Manual**.

Notebook topics Use the Notebook Topics tab to create, edit, and delete notebook topics. A notebook typically consists of instructions or descriptions for performing an activity. You can also assign notebooks to categorize notes about methodologies and WBS elements. Mark the appropriate Methodology, WBS, and Activity checkboxes to activate the availability of a selected notebook topic in the Notebook Topics tab. Examples of topics include Purpose, Entry Criteria, Tools and Techniques, and Exit Criteria. To change a notebook topic, double-click it, then type a new name. The module applies your change to all methodologies, WBS elements, and activities to which the notebook topic is assigned.

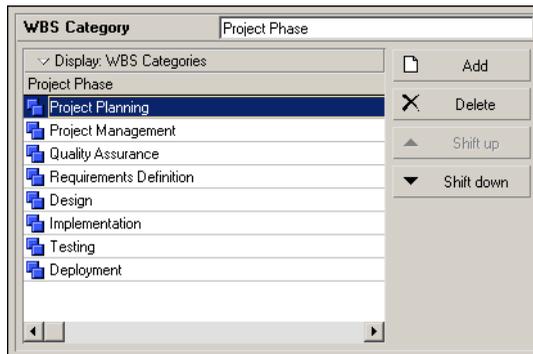


For more information about the WBS, see the Methodology Management Reference Manual.

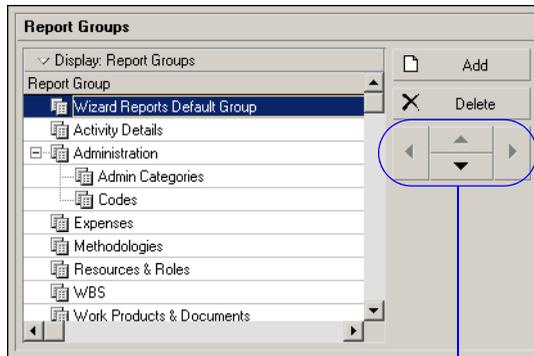
WBS custom category Use the third tab on the Admin Categories dialog box to define a custom WBS category and category values. To change the category name, click in the field in the top right, then type a new name. Use this category to organize, filter, and report WBS information in an open methodology. To change a category value, double-click it, then type a new name. The module applies the change to all methodologies to which the WBS item is assigned.



If you change the WBS category, the module does not change any of the category's values or value assignments.

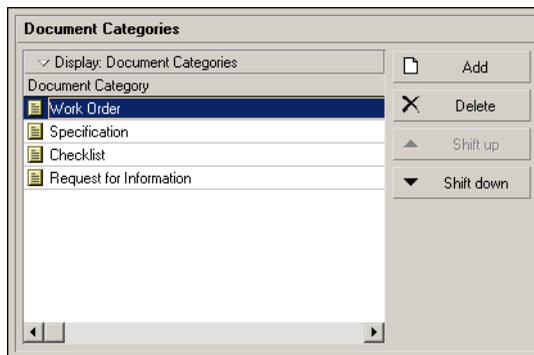


Report groups Use the Report Groups tab to create, edit, and delete report groups, which help you organize reports.



Click the left/right arrows to indent or outdent a selected report category to further categorize it in the hierarchy. Click the up/down arrows to move a selected report category up or down in the hierarchy.

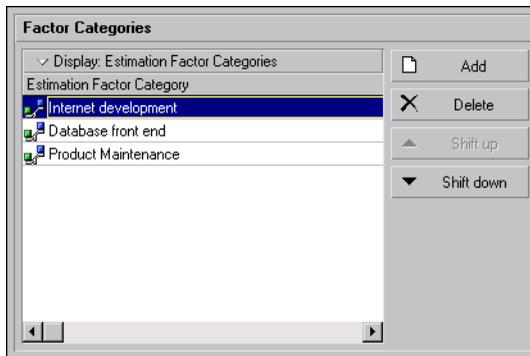
Document categories Work products typically refer to activity output, such as blueprints or testing plans, and documents refer to items such as standards and guidelines. Use the Document Categories tab to set up categories for work products and documents, then assign these categories to work products and documents in the Work Products and Documents window, and to WBS elements and activities in the WPs & Docs tab of Work Breakdown Structure Details and Activity Details, respectively. To change a document category, double-click it, then type a new name. The module applies the change to all WBS elements and activities to which the document category is assigned.



For more information about establishing estimation data, see the Methodology Management Reference Manual.

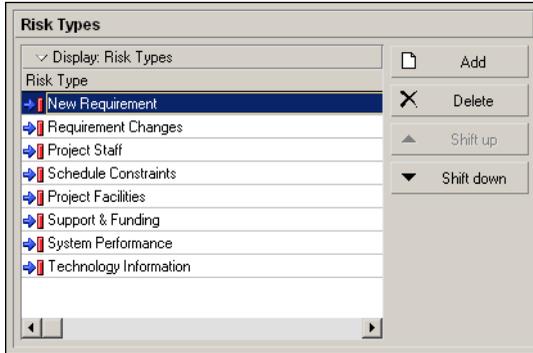
Factor categories Use the Factor Categories tab to set up categories for organizing estimation factors in methodologies. These factors are used in Project Architect to calculate a project size and complexity value for performing bottom-up estimating in the Project Management module.

Estimation factor categories are beneficial when you want to assign sets of factors to each methodology and categorize them according to a specific area or phase, such as Internet development and product maintenance. To change an estimation factor category, double-click it, then type a new name. The Methodology Management module applies the change to all methodologies to which the estimation factor category is assigned.

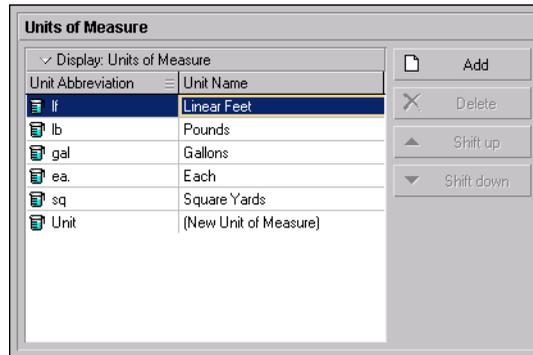


Once you establish estimation factor categories, you can assign one or more estimation factors to them in the Estimation Factors dialog box (choose Define, Estimation Factors).

Risk types Use the Risk Types tab to identify, categorize, and prioritize potential risks associated with specific WBS elements. To change a risk type, double-click it, then type a new name. The module applies the change to all WBS elements to which the associated risk type is assigned.



Units of measure Use the Units of Measure tab to set up units of measure labels that you can assign to material resources. To change a unit of measure label, double-click it, then type a new name. The change applies to all unit of measure assignments.



Defining Currencies

You can specify the monetary unit or *base currency* used to store cost data for all methodologies in the database, as well as the monetary unit or *view currency* used to display cost data in windows and dialog boxes.



Only a user with Admin Superuser privileges can change the base currency and define additional view currency types.

The exchange rate for the base currency is always 1.0. If you select 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 in windows and dialog boxes. Similarly, if you enter 10 Euros in a cost or price field, it is stored in the database as \$13.30.



When you enter values in cost and price fields, they are always displayed in the view currency.

Indicates the currency is the base used to store cost data

Base	Currency ID	Currency Name	Currency Symbol	Exchange Ra
<input checked="" type="checkbox"/>	USD	Dollar	\$	1.000000
<input type="checkbox"/>	ARS	Argentine Peso	\$	3.569740
<input type="checkbox"/>	AUST	Australian Dollar	A\$	1.796400
<input type="checkbox"/>	BRL	Brazilian Real	R\$	2.481000
<input type="checkbox"/>	U.K.£	British Sterling Pound	£	0.685097
<input type="checkbox"/>	CAD	Canadian Dollar	CA\$	1.538180
<input type="checkbox"/>	CNY	Chinese Yuan	Y	8.276900

General	Appearance
Currency ID	Currency name
USD	Dollar
Currency symbol	Exchange rate
\$	1.000000

Use the Currencies dialog box to set up the base and view currencies.



If you are upgrading from a previous version of the module, you should set up the base currency in the new version before you start adding and changing methodologies.

Define a base currency The base currency, by default, is U.S. dollars. To define a different currency as the base, choose Admin, Currencies. Select the base currency, then, in the General tab, type the currency's ID, name, and symbol. The exchange rate for the base currency is always 1.0. Click the Appearance tab to further define how the currency is displayed.

Separates whole values from decimal values in the currency display, for example, 500.5 or 500,5

Separates groups of digits in the currency display, for example, 300,000 or 300-000

Decimal symbol	Number of decimal places
.	2
Digit grouping symbol	
,	
R = Universal currency symbol	
Positive currency format	Negative currency format
[R]1.1	[R]1.1

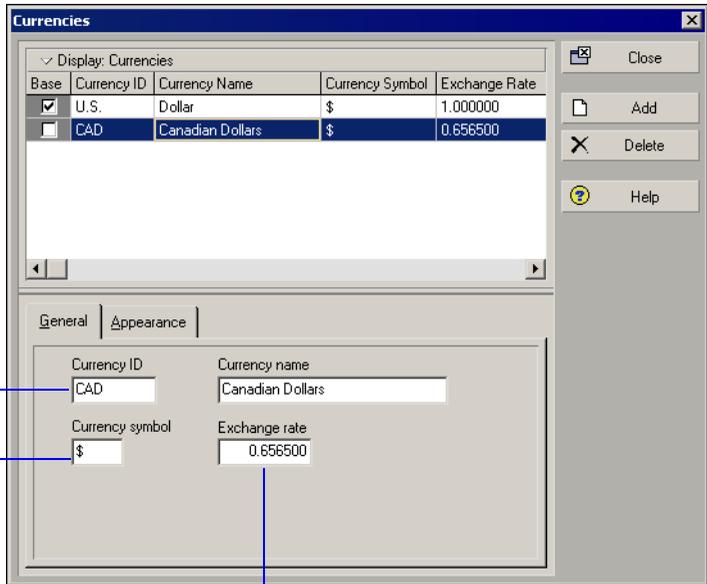
Indicates how many decimal places to display, for example, none (70), one (70.1), or two (70.14)



If you want to view costs in the old base currency, you will need to add it to the list of available currencies.

Add a view currency Choose Admin, Currencies. Click Add. Specify the currency's ID, name, symbol, and exchange rate, and indicate how the currency should be displayed.

Choose *Edit, User Preferences*, then click the *Currency* tab to select the currency used to view costs.



Type an ID that clearly defines the currency type.

Enter the universal symbol used to identify the currency.

Enter the current global exchange rate for the currency.

Implementing Timesheets

In this chapter:

[Implementation Overview](#)

[Setting Timesheet Preferences](#)

[Configuring Resources to Use Timesheets](#)

[Creating Timesheets for Timesheets Users](#)

[Setting Project-Specific Timesheets Preferences](#)

[Using Overhead Codes](#)

[Running Timesheets Web Browser Version and Java Web Start Version](#)

[Configure Access to Timesheet Approval](#)

Project team members can use Timesheets to submit timesheets that update their activities in the Project Management module. This chapter describes how to configure the Project Management module for use with Timesheets, how to run Timesheets once it has been configured, and how to configure access to the Timesheet Approval application for timesheet approval managers.

Implementation Overview

Timesheets 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.

Timesheets consists of the Timesheets client, the database server that contains your organization's projects, and the Group Server, which links the Timesheets client and database server. Additionally, the P6 Web Access application server hosts the Timesheet Approval application, which timesheet approval managers use to review resource timesheets.



Installation and configuration of Timesheets is slightly different for the Web Browser version and the Java Web Start version. Refer to [“Configuring the Group Server for Timesheets”](#) on page 101 for complete details on how to configure either version of Timesheets.



To support the full functionality of Primavera Timesheets, you must use a supported browser. See [“Client and Server Requirements”](#) on page 20 for information on supported configurations.

Before you implement Timesheets, first ensure that the following steps have been completed:

- Install the project management database, as described in [“Database Installation and Configuration”](#) on page 29.
- Install a Web server, if one is not already available.
- Install the Group Server, as described in [“Configuring the Group Server for Timesheets”](#) on page 101.
- Install the Timesheets Java files on the Web server, as described in [“Installing the Group Server and Timesheets Web Site”](#) on page 103.
- If you are using Timesheets Java Web Start version, configure Java Web Start as described in [“Setting up Java Web Start for Timesheets”](#) on page 122.

After the Timesheets files have been installed, use the Project Management module to perform the following steps, which are described in more detail in this chapter:

- Set preferences for how users will use timesheets.
- Configure resources to use Timesheets.
- Create timesheets.
- Set project-specific preferences for Timesheets.
- Create overhead codes for recording nonproject hours.

Finally, if your organization plans to use the Timesheet Approval application, perform the following, which is described as noted:

The Timesheet Approval application, when properly configured, is accessible from P6 Web Access, the Project Management module, and as a stand-alone application. Since P6 Web Access hosts the Timesheet Approval application, you must install P6 Web Access regardless of how users will access the application.

- Install and configure P6 Web Access as described in [“Installing P6 Web Access”](#) on page 135.
- Specify timesheet approval requirements in Admin Preferences as described in this chapter.
- Assign product licensing and the required security privileges to timesheet approval managers as described in [“Administering Users and Security”](#) on page 309.
- Configure access to Timesheet Approval as described in [“Configure Access to Timesheet Approval”](#) on page 426.

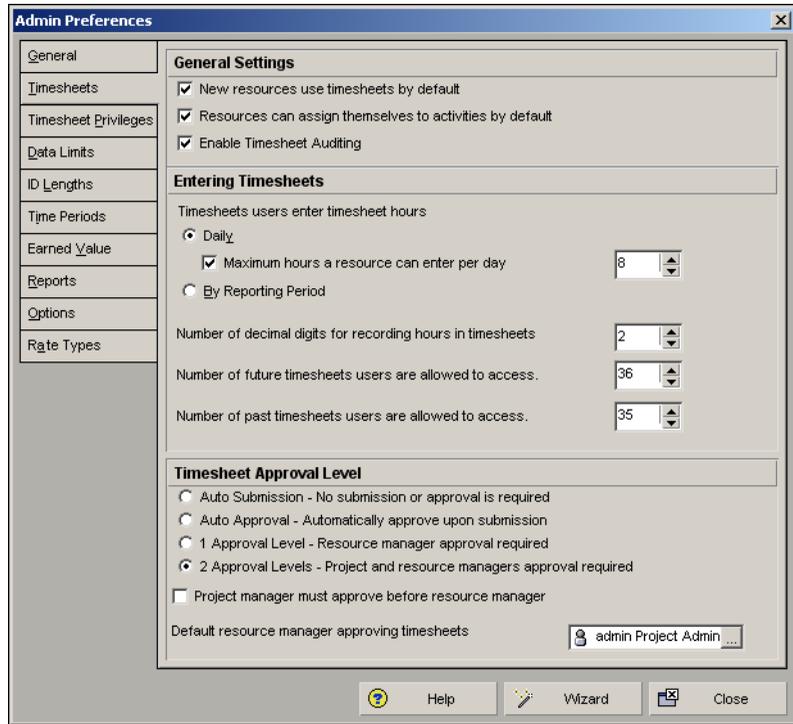


When you have actual units assigned to resource assignments (whether they came from an imported project or whether you decided to start using Timesheets in the middle of your project), all pre-existing actual values are lost the first time you use Timesheets unless you run the Timesheet Actualizer. For more information, see the readme in the \Tools\Actualizer folder of the P6 physical media or download.

Setting Timesheet Preferences

Use the Timesheets and Timesheet Privileges tabs in the Admin Preferences dialog box in the Project Management module to configure how Timesheets users use timesheets to update project data in the Project Management module. You can determine how often users must report their time, which activities and timesheets users can view, how timesheets are approved before project data is updated, and which privileges are assigned to users for logging time.

Set preferences for timesheets In the Project Management module, choose Admin, Admin Preferences. Click the Timesheets tab.



The General Settings section contains the following options:

- **New resources use timesheets by default** Mark to require that all new resources use timesheets, unless you specify otherwise.

- **Resources can assign themselves to activities by default** Mark when 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 Details Resources tab.
- **Enable Timesheet Auditing** Mark if you want to save the history of timesheet submission, approval, rejection, reviewers, and associated dates. If you select this option, you can add the Timesheet History subject area to a timesheet report to view the historical data.

The Entering Timesheets section contains the following options:

- **Timesheets users enter timesheet hours Daily** Choose to require that all resources report their hours on a daily basis for each assigned activity.
- **Maximum hours a resource can enter per day** If you choose to require that all resources report their hours on a daily basis, you can optionally 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 a resource's activities, a resource can not report more than a combined total of 12 hours per day.
- **Timesheets users enter timesheet hours By Reporting Period** Choose 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.
- **Number of decimal digits for recording hours in timesheets** The number of decimal places a resource can use when entering hours in timesheets. Type or click the arrows to select a new number.
- **Number of future timesheets users are allowed to access** The number of future timesheets a resource can view beyond the current timesheet period. Type or click the arrows to select a new number.
- **Number of past timesheets users are allowed to access** The number of past timesheets a resource can view before the current timesheet period. Type or click the arrows to select a new number.



If there is a discrepancy between the number of decimal places you enter in the **Maximum hours a resource can enter per day** and **Maximum number of decimal digits for recording hours in timesheets** fields, values a user enters in a timesheet field may 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 timesheets, if a user enters 10.5 in a timesheet field, 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.

For information on approving timesheets, see the “Updating, Scheduling, and Leveling” chapter in the *Project Management Reference Manual*.

The Timesheet Approval Level section contains the following options:

- **Auto Submission** Choose to indicate that resource timesheets do not need to be submitted or approved. Timesheet data are automatically updated in the database when you apply actuals.
- **Auto Approval** Choose to indicate that resource timesheets do not require management approval. Timesheets are approved automatically when they are submitted.
- **1 Approval Level** Choose to indicate that resource timesheets require approval by the resource/cost 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/cost manager approval, and you select this option, the status of all current timesheets that have received one level of approval changes to “Approved.”
- **2 Approval Levels** Choose to indicate that resource timesheets require approval by project and resource/cost 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** If you choose 2 Approval Levels, mark to indicate that project managers must approve timesheets before resource/cost managers.
- **Default Resource Manager Approving Timesheets** The name of the manager who approves resource timesheets, unless you specify otherwise. Click the Browse button to select a new manager.



Once Timesheets users have begun submitting timesheets, if you change the approval level to a lower setting, all currently submitted timesheets are altered to reflect the change. For example, if you change your setting from 2 Approval Levels to Auto Submission, all timesheets, including those that are currently approved by only one manager, are changed to no longer require submission or approval, and the project management database is updated with their data when you apply actuals.

Set Timesheets user privileges In the Project Management module, choose Admin, Admin Preferences. Click the Timesheet Privileges tab.

The default number of days Timesheets users can preview an activity before it starts

The default number of days Timesheets users can review an activity after it ends

Admin Preferences

Default time window to access activities

Not-started activities (days) 60

Completed activities (days) 60

Privileges for logging hours on timesheets

Log hours on future timesheets

Log hours on not-started activities

Log hours on completed

Activities and Assignments

Assignments only

Log hours on activities before the activity start date

Log hours on activities after the activity finish date

Help Wizard Close

The Privileges for Logging Hours on Timesheets section contains the following options:

- **Log hours on future timesheets** Mark to indicate that users can report hours on timesheets with dates after the current timesheet period (for example, entering vacation time in advance).

- **Log hours on not-started activities** Mark to indicate that users can report hours for activities that have not been marked as started.
- **Log hours on completed Activities and Assignments** Mark to indicate that users can report hours for activities and assignments after they have been marked as completed.
- **Log hours on completed Assignments only** Mark to indicate that users can report hours for assignments that have been marked as completed.
- **Log hours on activities before the activity start date** Mark to indicate that users can report hours for activities on dates before their start dates.
- **Log hours on activities after the activity finish date** Mark to indicate that users can report hours for activities on dates after their finish dates.

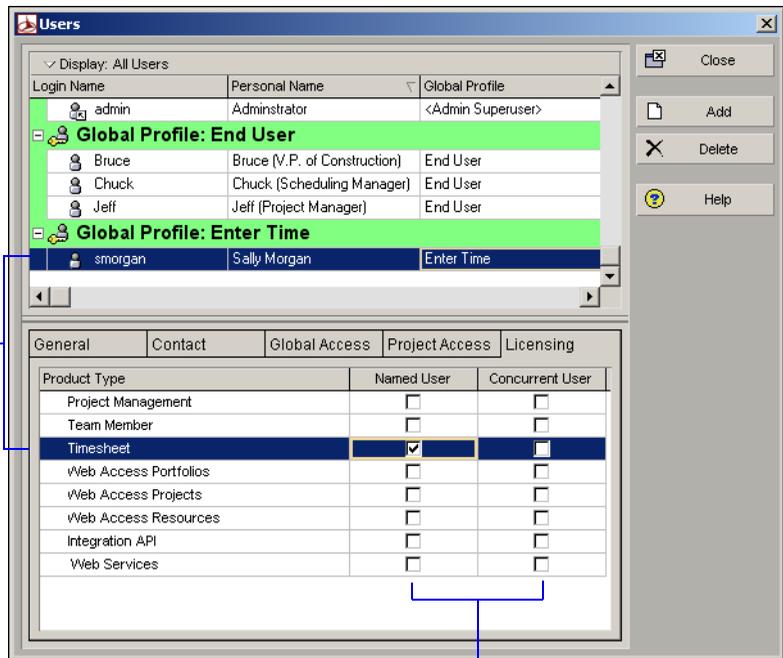
Configuring Resources to Use Timesheets

To enable a project resource to use Timesheets, you must assign a user login account to the resource and set the resource to use timesheets.

Create a user login for Timesheets In the Project Management module, choose Admin, Users. Click Add. Type a unique login name, then click the Licensing tab. Mark the Named or Concurrent User checkbox next to Team Member or Timesheet.

For more information on the functionality associated with licenses, refer to [“Assign product licensing”](#) on page 338.

The Timesheet license provides access to the Timesheets application and enables the user to log into P6 Web Access to import appointments only (provided that this functionality is configured for the user). The Team Member license provides access to the Timesheets application and, in P6 Web Access, enables the user to access some dashboard portlets, the project workspace (for projects they have rights to access), the activities to which they are assigned, and more. You can not assign both the Team Member and Timesheets licenses to a user; you must choose which one to assign.



Ensure that the user is given permission to log in to Timesheets.

Named Users have a specific license associated with their login name and are guaranteed access to the specific application and database. Concurrent Users share access among a specified number of concurrent licenses. A Concurrent User can access the application and database provided a concurrent license is available when the user attempts to login.



A user login must have a resource assigned to it for the user to access Timesheets. To assign a resource to a login name in the Users dialog box, select the General tab. In the **Resource ID / Resource Name for Timesheets** field, click the browse button to select a resource. You can also associate users with resources in the Resources window as described in [“Configure resources to use timesheets”](#) on page 417.

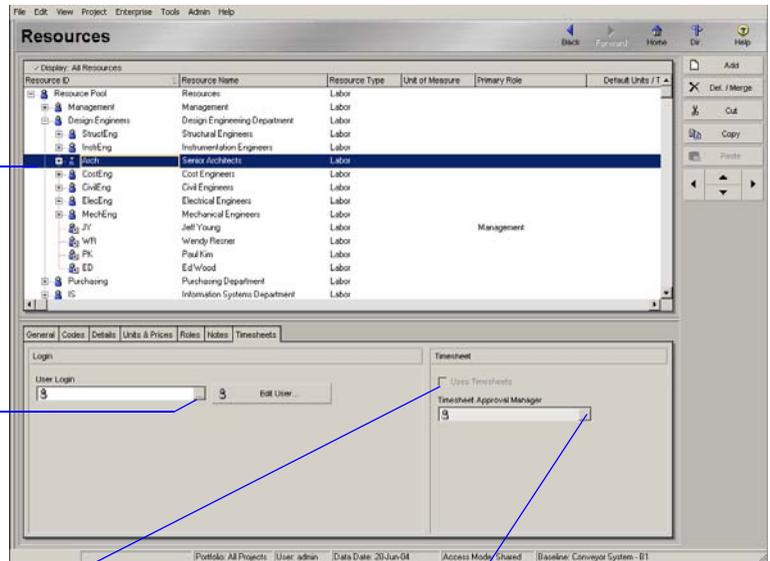
Configure resources to use timesheets In the Project Management module, choose Enterprise, Resources. Display resource details, then click the Timesheets tab.

1 Select the resource.

2 Click the Browse button to assign a user login to the resource.

3 Mark to enable the resource to use timesheets to report progress.

4 Click to select an approval manager.



Each resource can be associated with only one user login.



If you marked the New Resources Use Timesheets by Default checkbox on the Timesheets tab of the Admin Preferences dialog box, when you create a new resource, the Use Timesheets checkbox is marked automatically. You still must assign a user login to the resource and grant that user permission to log in to Timesheets.



Users designated as timesheet approval managers are not automatically granted access to Timesheets, even if they are assigned the required license. To enable timesheet approval managers to access Timesheets, you must configure them as timesheet resources, as you would any other resource that requires access to Timesheets. Configuring timesheet approval managers as timesheet resources enables approval managers to log in to Timesheets to edit the timesheets of their reporting resources.

Set overtime policy You can enable users to enter overtime in their timesheets. In the Project Management module, choose Enterprise, Resources, then click the Details tab. Mark the Overtime Allowed checkbox. Type the overtime factor by which the resource's standard price is multiplied to determine the overtime price (standard price * overtime factor = overtime price).

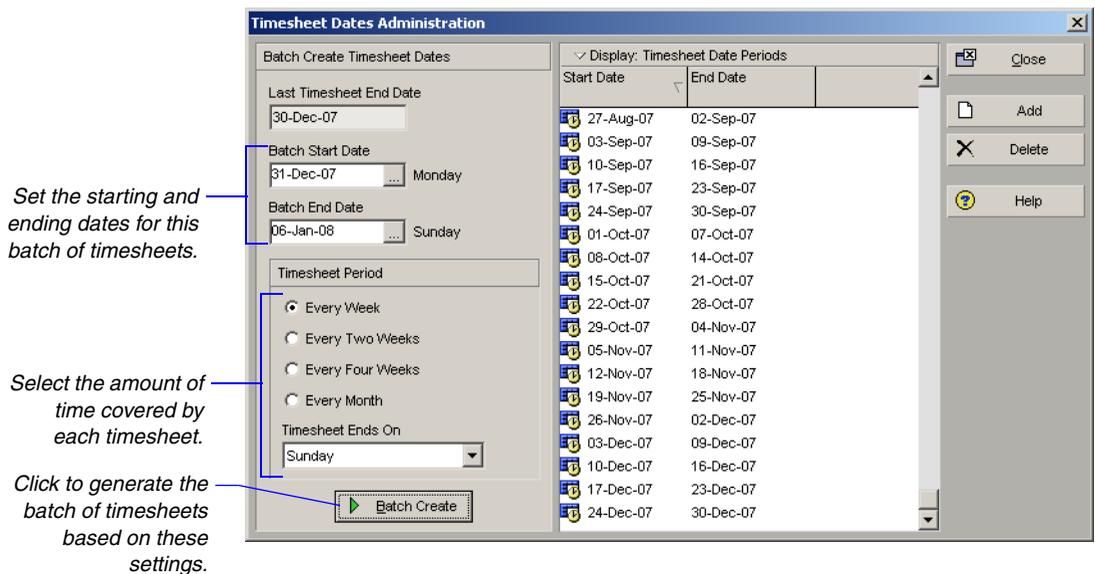


Resources indicate overtime with a slash (/) in the time field. For example, if a resource worked 10 hours in one eight-hour day, the user types 8/2 for that day.

Creating Timesheets for Timesheets Users

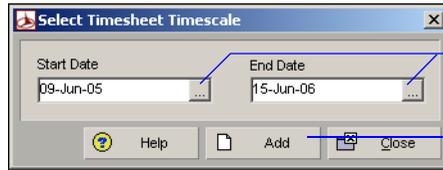
Use the Timesheet Dates Administration dialog box to create timesheets for Timesheets users. You can also view a list of previous timesheets and determine which timesheets are currently in use by Primavera Timesheets users. Users cannot view any timesheets in Timesheets until you create them in the Project Management module.

Create a batch of timesheets In the Project Management module, choose Admin, Timesheet Dates.



To create another set of timesheets, reset the batch start and end dates, select the appropriate timesheet period, then click Batch Create.

Create a single timesheet In the Project Management module, choose Admin, Timesheet Dates. Click Add.



Click to set the starting and ending dates for this timesheet.

Click to generate the timesheet.



You cannot create new timesheets that have start and end dates that overlap existing timesheet dates.

Setting Project-Specific Timesheets Preferences

For each project in an organization, you can control how resources report the status of their activities.

Set project-specific Timesheets preferences In the Project Management module, choose Enterprise, Projects. Select the project, then click the Resources tab.

Mark to allow resources to view activities that belong to inactive projects, to report activities or assignments as completed, and to choose which activities they should begin next.

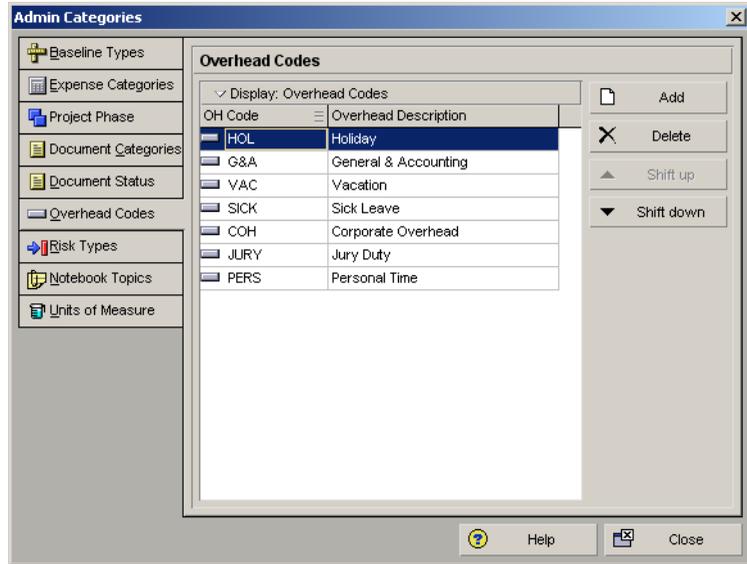
Timesheets	Assignment Defaults
<input type="checkbox"/> Resource can view activities from an inactive project <input checked="" type="checkbox"/> Resources can assign themselves to activities <input type="checkbox"/> Primary resources can mark activities as completed <input type="checkbox"/> Resources can mark assignments as completed <input checked="" type="radio"/> Resources can edit activity assignment percent complete <input type="radio"/> Resources can edit activity assignment remaining units	Specify the default Rate Type for new assignments Price / Unit <input type="text"/> <input checked="" type="checkbox"/> Drive activity dates by default Resource Assignments <input checked="" type="checkbox"/> Resources can be assigned to the same activity more than once

Choose whether resources indicate progress on activities by entering percentages or units of time remaining.

Using Overhead Codes

Overhead codes enable users to log hours that are not associated with project activities; for example, users can enter time for vacations, holiday hours, sick time, or general administrative work as overhead activities.

Add overhead codes If the existing set of overhead codes is not adequate, you can add new codes. In the Project Management module, choose Admin, Admin Categories, then click the Overhead Codes tab. Click Add. Type a unique code for the overhead type and a short description.



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.

Running Timesheets Web Browser Version and Java Web Start Version

After you install and configure Group Server/Timesheets (as described in “[Configuring the Group Server for Timesheets](#)” on page 101) and implement Timesheets as described in this chapter, users can access either the Web Browser version or the Java Web Start version by following the instructions in this section.



Timesheets Java Web Start version users only have to complete these steps the first time they attempt to access Timesheets. After completing these steps, users can access Timesheets Java Web Start version by choosing Start, Programs, Primavera Timesheets, Primavera Timesheets.

Timesheets Web Browser version users must always access Timesheets using the URL specified in Step 1.

Run Timesheets

- 1 To load the Timesheets version from the server, visit the URL where the Timesheets launch page is located (the server you specified during installation).

- **For Timesheets Web Browser version**, enter:

<Web server>/GroupServer/en/Index.html, where /en is the language subfolder.

For example, *http://10.12.14.123/Groupserver/en/index.html*.

- **For Timesheets Java Web Start version**, enter:

<Web server>/GroupServer/App/index.html.

For example, *http://10.12.14.123/Groupserver/App/index.html*.



If the Web Server is not using the default port, you must enter the port number after the IP address separated by a semicolon (:).

2 For Timesheets Web Browser version:

Click Run Timesheets. If prompted, click Yes to install the Java files from Primavera Systems. 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 is automatically launched. Click Yes to install the required JRE and accept the license agreement.



You will only be prompted to download the Java files the first time you click the Run Timesheets link.

For Timesheets Java Web Start version:

Click Launch Primavera Timesheets Application. One of the following scenarios will occur depending on your current JRE version:

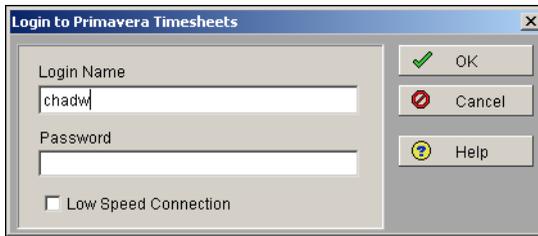
- **If a JRE is not installed**, you are prompted to download the required JRE version. Click the provided link and download the JRE. When the JRE installation completes, Java Web Start launches Timesheets.
- **If the required JRE version is present**, Java Web Start uses the existing JRE.
- **If a JRE version earlier than the required version is present**, Java Web Start automatically downloads the required JRE, installs it, then launches Timesheets. 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.



Downloading the JRE may take some time, depending on your network speed.

- 3 If prompted, click Grant Always to run the applet.
- 4 Type your login name and password.

For the Java Web Start version, this dialog contains a drop-down menu in which you can choose the language for Timesheets. For the Web Browser version, the language is determined by the URL you enter in Step 1.

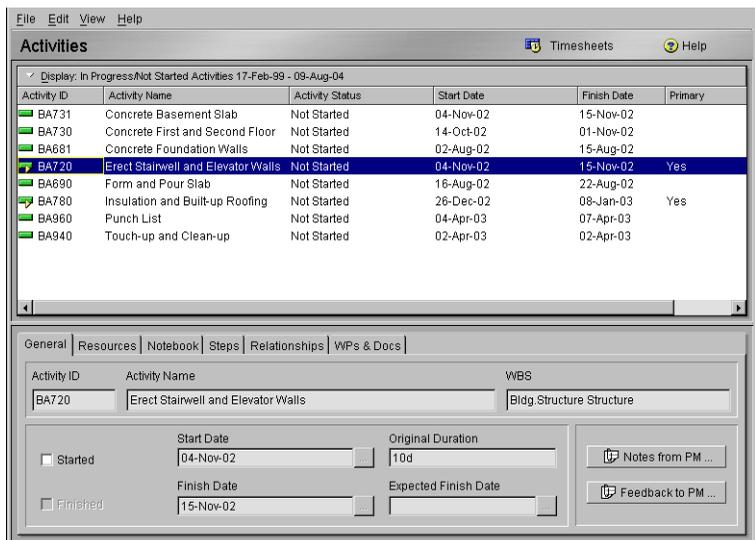


If Timesheets is running in Single Sign-On authentication mode, the preceding dialog box does not appear. Instead, login credentials are requested and validated by the policy server.

Your activities appear in the Activities window.



Before a user can log on to Timesheets, the project administrator must configure the Project Management module for Timesheets users. See [“Implementing Timesheets”](#) on page 407.



Configure Access to Timesheet Approval

For information on using the Timesheet Approval application, click **Help** in Timesheet Approval, or refer to the **P6 Web Access Help**, **Project Management Help**, or **Project Management Reference Manual**.

If your organization requires resource timesheets to be approved by resource/cost managers and/or project managers, timesheets can be reviewed in the Timesheet Approval application. When properly configured, any user with the appropriate license and security privilege can access Timesheet Approval from P6 Web Access, the Project Management module, or as a virtual stand-alone application.



Prior to P6.1, Timesheet Approval was available from both the Project Management module and P6 Web Access as separate applications. Starting with P6.1, the web version of Timesheet Approval was made available from within P6 Web Access and the Project Management module, and as a stand-alone application. Due to these enhancements, all new or upgrading organizations that want to use Timesheet Approval MUST INSTALL P6 WEB ACCESS.

Preliminary setup Before configuring access to Timesheet Approval, be sure to complete the following:

- Install and configure P6 Web Access on a supported application server as described in [“Installing P6 Web Access”](#) on page 135.
- Configure user licensing as described in [“Assign product licensing”](#) on page 338.

To access Timesheet Approval from P6 Web Access or as a stand-alone application, users must be assigned at least one of the following licenses: Project Management, Team Member, Web Access Portfolios, Web Access Projects, or Web Access Resources. To access Timesheet Approval from the Project Management module, users must be assigned the Project Management license.

- Assign global and/or project profiles to timesheet approval managers, as described in [“Administering Users and Security”](#) on page 309, 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 “[Setting Timesheet Preferences](#)” on page 410.

To configure access to Timesheet Approval from P6 Web Access:

For information on creating and assigning user interface views, refer to “[Defining User Access to P6 Web Access Functionality](#)” on page 359.

P6 Web Access users with the appropriate license and security privilege can access Timesheet Approval by choosing **Approve Timesheets** from the Dashboards action menu in the global navigation bar. To ensure that the option appears, you must include the Approve Timesheets Action Menu item in each approval manager's assigned user interface view.

For new user interface views you create, and for organizations that do not utilize user interface views, the Approve Timesheets Action 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.

For users upgrading to P6.1 and later, the Approve Timesheets Action Menu item appears for users who had rights to approve timesheets in previous releases.

To configure access to Timesheet Approval from the Project Management module:

Project Management module users with the appropriate license and security privilege can access Timesheet Approval by choosing **Tools > Time Approval**. To ensure that Timesheet Approval opens when users select it, you must specify the P6 Web Access URL.

- 1 In the Project Management module, choose **Admin > Admin Preferences**, then select the **Options** tab.
- 2 In the **Web Access Server URL** field, enter the URL to the P6 Web Access server in the form of:

http://P6_Web_Access_Server_Name:port_number/context_root.

For example: http://P6WebServer:8080/primaveraweb
- 3 Click **Close**.



Opening Timesheet Approval from the Project Management module does not provide access to other areas of P6 Web Access.

To configure access to Timesheet Approval as a stand-alone application:

Any user with the appropriate license and security privilege can access Timesheet Approval as a virtual stand-alone application. To ensure that timesheet approval managers can access Timesheet Approval as a stand-alone application, you must install and configure P6 Web Access, then communicate the location of the Timesheet Approval application on the P6 Web Access server.

After installing and configuring P6 Web Access, complete the following steps:

- 1 Send an e-mail to timesheet approval managers containing the URL of Timesheet Approval in the form of:

`http://P6_Web_Access_Server_Name:port_number/context_root/
action/timesheetapproval.jnlp`

For example: `http://P6WebServer:8080/primaveraweb/action/
timesheetapproval.jnlp`

- 2 Instruct users to click on the link.

Java Web Start and the required JRE are installed on the user's machine (if necessary), and users are prompted to login to Primavera.

- 3 Instruct users to enter their Primavera username and password, select the appropriate database, and select a language to login to Timesheet Approval.

If Timesheet Approval is successfully downloaded, users can subsequently log into Timesheet Approval by selecting **Primavera > Primavera Timesheet Approval** from the Windows Start menu.

Defining Financial Periods

In this chapter:

**Defining Financial Periods in the
Project Management Module**

Read this chapter if you want to define customized financial periods in the Financial Periods dictionary of the Project Management module. After creating financial periods, you can plan and record activity and assignment progress per financial period and store these values as past period actuals when you close out a period. Additionally, P6 Web Access users can display and, in some cases, edit activity and assignment data in financial period timescale intervals.

Defining Financial Periods in the Project Management Module

For more information on financial periods, including storing period performance and editing past period actuals, refer to the *Project Management Reference Manual* or Help.

For more information on displaying a financial period timescale in P6 Web Access, refer to the P6 Web Access Help.

The Project Management module enables you to define your organization's global financial periods in the Financial Periods dialog box. Customized financial periods provide more accurate display and reporting of actual units and costs. Rather than spreading units and costs evenly throughout the length of a project, users can view how actual units and costs were incurred by customized financial period. Users can store period performance for any predefined period in the Financial Period dictionary.

In P6 Web Access, for the range of defined financial periods, users can display summary project data in financial period timescale intervals in charts and spreadsheets, as well as edit high-level planning assignments in financial period intervals.



You must have the Edit Financial Period Dates global privilege to add or edit 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 project privilege. To edit past period actual data after storing period performance, users must have the Edit Period Performance project privilege.

Financial period considerations for P6 Web Access users In P6 Web Access, users can customize many tabs and pages to display a financial period timescale if financial periods are properly defined in the Project Management module. To enable P6 Web Access users to display financial period timescale intervals, you must adhere to the following guidelines when creating financial periods:

- all defined financial periods must have a minimum duration of one week (seven days)
- there can not be a time gap between any two financial periods



Following these requirements only ensures that P6 Web Access users can display a financial period timescale. To ensure that data is displayed in financial period timescale intervals in P6 Web Access, you must additionally summarize projects by financial period. To summarize projects by financial period, choose Admin, Preferences, select the Options tab, then select the 'By financial period' option. For more information on this option, see "Options" on page 380.

Create batches of financial periods In the Project Management module choose Admin, Financial Periods.

After the batch is created, click in the *Period Name* column to edit the name. Names must be unique. When you create a financial period, the default name is YYYY-MM-DD (e.g., 2007-04-01). To ensure the financial periods are listed in the proper order (e.g., in the Columns dialog box), you should use the default name or a sequential naming convention (e.g., 2005 Fiscal Month 1, 2005 Fiscal Month 2, etc.).

Enter the batch start and end dates.

Choose the timescale for each financial period in the batch, along with the day of the week you want the periods to end on.

Click to generate the batch of financial periods.

Period Name	Start Date	End Date
Fiscal Month 1	Jan-01-05	Jan-31-05
Fiscal Month 2	Feb-01-05	Feb-28-05
Fiscal Month 3	Mar-01-05	Mar-31-05
Fiscal Month 4	Apr-01-05	Apr-30-05
Fiscal Month 5	May-01-05	May-31-05
Fiscal Month 6	Jun-01-05	Jun-30-05
Fiscal Month 7	Jul-01-05	Jul-31-05
Fiscal Month 8	Aug-01-05	Aug-31-05
Fiscal Month 9	Sep-01-05	Sep-30-05
Fiscal Month 10	Oct-01-05	Oct-31-05
Fiscal Month 11	Nov-01-05	Nov-30-05
Fiscal Month 12	Dec-01-05	Dec-31-05
FY 2004	Jan-01-06	Jan-28-06

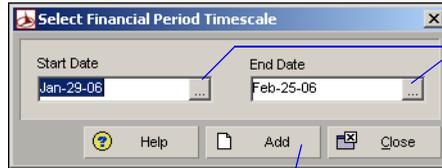


The start and end dates of a financial period cannot overlap existing financial periods. Also, you cannot modify the start and end dates of a financial period after you create it.



If your organization summarizes project data by financial period (as specified on the Admin Preferences, Options tab), to ensure that all project data in the database will be summarized (including closed projects), you must create financial periods that span the date range of all projects in the database. For example, if the oldest project in your database has a project start date of October 1st, 2001, your financial periods should begin on or before that date.

Create a single financial period In the Project Management module choose Admin, Financial Periods. Click Add.



Click to select the start and end dates for the financial period. To create a daily financial period, select the same start and end date.

Click to add the period to the dictionary.



All periods start at midnight and end at 11:59 PM. You can create financial periods with durations as short as one day; however, to enable users to display financial period timescale intervals in P6 Web Access, all financial periods must have a minimum duration of one week (seven days).

Delete a financial period In the Project Management module choose Admin, Financial Periods. Select the financial period(s) you want to delete. Click Delete.



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 Web Access) 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.

Appendices

**Appendix A: Running Primavera
Databases in One Oracle Instance**

**Appendix B: Undoing Changes in the
Project Management Database**

*T*hese appendices describe how to run the Project Management and Methodology Management modules in one Oracle database instance and how to undo changes you've made to the project management database.

Appendix A: Running Primavera Databases in One Oracle Instance

In this appendix:

[Process Overview](#)

[Running MMDB and PMDB in a Single Oracle Instance](#)

[Upgrading a Single Instance Database from Primavera 5.0, 6.0, or 6.1 to P6 version 6.2.1](#)

Read this appendix if you want to run the project management database (PMDB) and the methodology management database (MMDB) in one Oracle instance. If you already are running PMDB and MMDB in a single Oracle instance, read the section on upgrading.

Process Overview

The following steps outline the process for running the PMDB and MMDB databases in one Oracle instance.

- Create an Oracle instance and install the PMDB database server as described in [“Database Installation and Configuration”](#) on page 29.
- Create the MMDB database and load data as described in this section.
- Install the Primavera client, which can install the Project Management and/or Methodology Management modules, as described in [“Primavera Client Installation and Configuration”](#) on page 237.
- Configure the database alias for PMDB.
- Configure the database alias for MMDB.



Be sure you have enough disk space available to run both databases in the same Oracle instance.

At the end of the process, your database should look like the following:

For PMDB

User	Default Tablespace
admuser	pmdb_dat1
privuser	pmdb_dat1
pubuser	pmdb_dat1

For MMDB

User	Default Tablespace
admuser1	mmdb_dat1
privuser1	mmdb_dat1
pubuser1	mmdb_dat1

Running MMDB and PMDB in a Single Oracle Instance

The following steps describe how to run MMDB and PMDB in the same Oracle instance. These steps should be performed by your database administrator (DBA). The shell of the PMDB and MMDB databases should already be created before starting the instructions below, which guide you through creating the database structure and loading data.



A license key file is required to use the software and should have been provided via e-mail or CD. It contains your company name, serial number, the product components with version number you have purchased, and the number of users allowed. If you will be loading a license key file as part of this procedure, copy the file to a local drive before you begin.

Creating the Databases

Create the Project Management database

- 1 Create the database structure and load the PMDB database as described in [“Automatically Installing an Oracle Database and Loading Application Data”](#) on page 35.



If you have an existing project management database and you need to preserve the data, you should NOT set up and install the databases as described in [“Manual Database Configuration”](#) on page 45; otherwise, your existing data will be deleted and replaced.

- 2 On the **Finish** dialog box, click **Next** to run the Database wizard again for the Methodology Management module. Use the instructions below to continue.

Create the Methodology Management database

- 1 On the **Primavera P6** dialog box:
 - Choose **Install a new database**.
 - Choose **Oracle** as the server type.
 - In the **Product Key** field, enter a valid product code.

For information on valid product codes, refer to [“Primavera P6 Product Codes”](#) on page 12.

- 2 On the **Database Selection** dialog box:
 - Choose **Methodology Management database**.

- 3 On the **Connection Information** dialog box:
- In the **DBA User Name** field, type the Oracle system user name to log on to the database; for example, **system** (which is the default).
 - In the **DBA Password** field, type the password to log on to the database. If you chose system for the DBA Username, use **manager** as the password. Otherwise, enter the password associated with the Username you entered.
 - In the **Database Host Address** field, enter the server machine name or IP address where Oracle is installed.
 - In the **Database Host Port** field, enter the port number that Oracle is using. The default is 1521.
 - In the **Database Name (SID)** field, enter the Oracle SID used for MMDB. It can be found in the TNSNAMES.ORA file, which was created when you or your DBA set up the Oracle client.

- 4 On the **Configure Oracle Tablespaces** dialog box, click **Next** to accept the name for the Data, Index, and LOB tablespaces and estimated tablespace sizes.

You can change the estimated tablespace sizes. Refer to [“Methodology Management Database Server Sizing Guide”](#) on page 26 for guidelines on sizing.

Mark **Use existing tablespaces** only if the database server to which you are connecting already has existing tablespaces. For a new database server, do not mark this option.

- 5 On the **Specify Oracle Tablespace Locations** dialog box, accept the default locations for the Oracle tablespaces (Data, Index, and LOB), or specify different locations.



*Clicking **Create** on this step will begin the initial setup of the methodology management database. After this step, you will no longer be able to click **Previous** to change your prior selections. On the next step, however, you will have the option to either click **Next** or **Cancel**.*

- 6 Click **Next** on the **Creating Oracle Tablespaces** dialog box when tablespace creation has completed.
- 7 On the **Create Oracle Users** dialog box, accept the default names for the Oracle administrative user, privileged user, and public user. By default, the users will be admuser1, privuser1, and pubuser1.

You can choose a different default tablespace from the dropdown list in the Default Tablespace field. In the Temporary Tablespace field, use the temporary tablespace that you created prior to starting this procedure.



The temporary tablespace must be of temporary type; otherwise, errors can occur to your database.

8 On the **Configuration Options** dialog box,

- Mark **Load Sample Data** if you want to include sample project data in the database.



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.

For information on adding view currencies, refer to [“Defining Administrative Preferences and Categories in Project Management”](#) on page 369.

Setting 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 the Project Management module. The default base currency for Primavera is US dollars (\$). The view currency is the monetary unit used to display cost data in Primavera 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 may 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.

- 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.
 - Mark **Load License**.
 - Browse to the location of the LICENSE.TXT file. If the LICENSE.TXT file is not available at this time, you can clear the Load License checkbox and load the file later using the Database configuration wizard. Refer to [“Changing Database Configuration Settings”](#) on page 281 for more information.
- 9** Click **Install** on the Configurations Options dialog box to start the process of loading the database tables with application data.
- 10** On the **Creating Database...** dialog box, click **Next** after the processes have completed.



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

- 11** On the **Finish** dialog box, click **Finish** to exit the wizard.



If you need to drop the MMDB objects created by the database installation script, run the scripts in the \Client_Applications\install\database\scripts\install\MM_06_02_00\oneinstance folder of the P6 physical media or download. You must log onto the database as admuser1. To drop PMDB objects, refer to [“Dropping PMDB Oracle Database Objects”](#) on page 50.

Setting up the Client Environment

Install the client modules

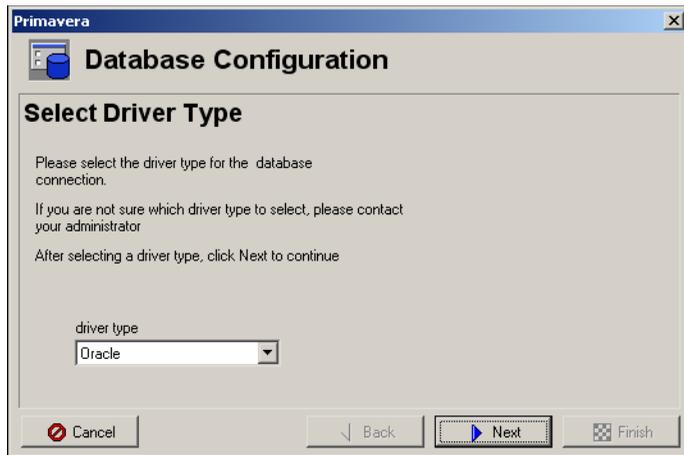
Install the Primavera client modules on each workstation, as described in [“Installing Client Modules and Additional Components”](#) on page 239.

Configure the database alias for PMDB

- 1 While installing the client modules, the Database Configuration wizard will automatically launch to allow you to change/review the connection settings and database alias for PMDB, as shown in the next five figures.



The Database Configuration wizard can be run at a later time on the client computer by going to Start, Programs, Primavera, Help and Utilities, Database Configuration.



Primavera Database Configuration

Configure ORACLE Connection

Enter the Oracle connection information below.

Oracle Connection String

Cancel Back **Next** Finish

Primavera Database Configuration

Enter Public Login Information

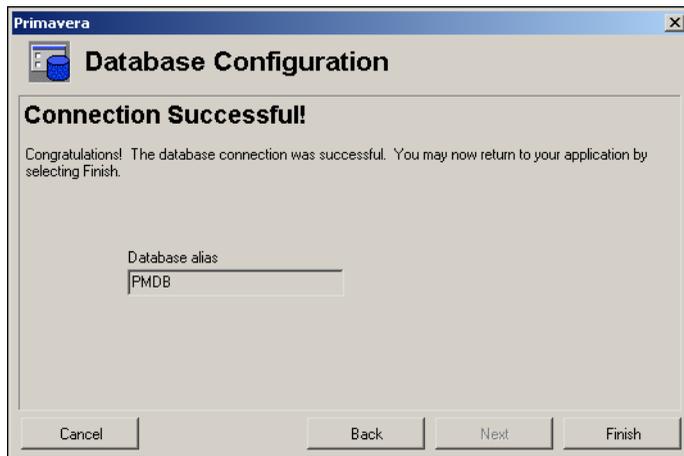
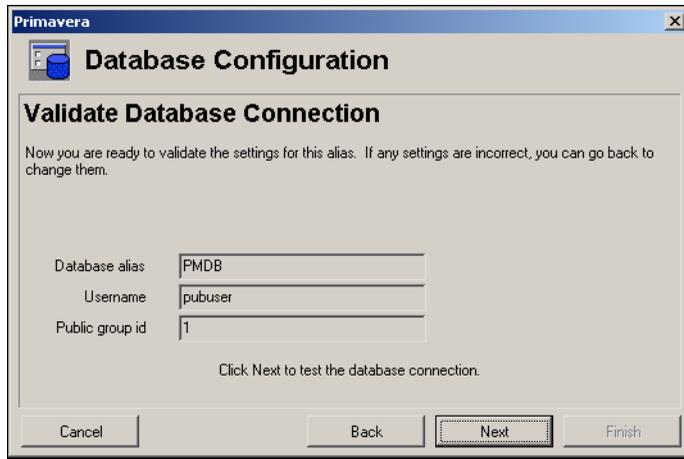
Enter the public username and password to use for connecting to this database. The public login is used to establish the initial connection to the application's database. It should be given to you by your administrator.

Also, specify which public group id you have been assigned. If you are not sure which public login or group id to use, please contact your administrator.

Database Alias

Username Password Public group ID

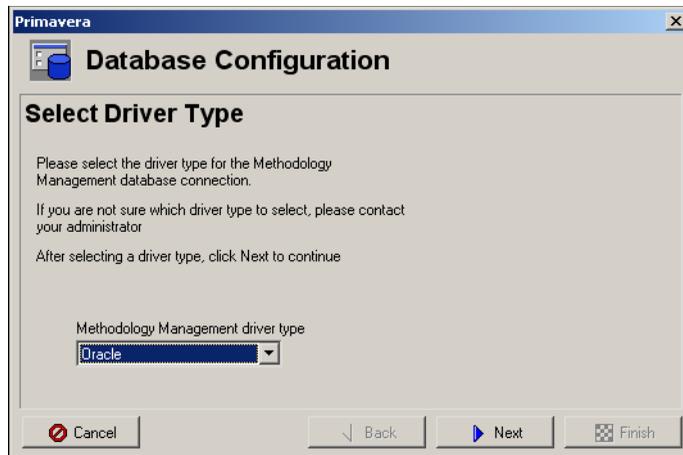
Cancel Back **Next** Finish



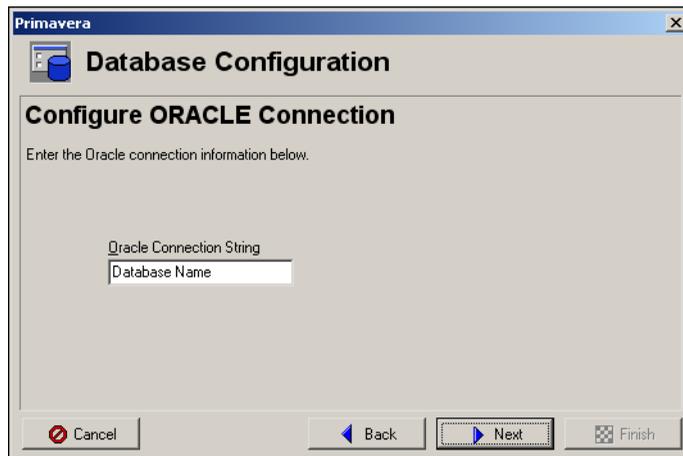
Configure the database alias for MMDB

Continue using the Database Configuration wizard to create an alias for MMDB.

- 1 Enter MMDB as the database alias and select Oracle as the driver type.



2 Enter the Oracle database name or SID.



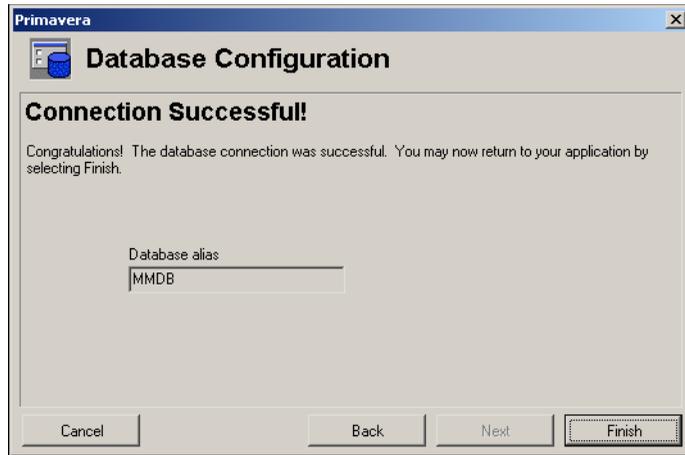
3 Enter **pubuser1** as the Username and Password.

The screenshot shows a window titled "Primavera Database Configuration" with the subtitle "Enter Public Login Information". The text inside reads: "Enter the public username and password to use for connecting to this database. The public login is used to establish the initial connection to the application's database. It should be given to you by your administrator. Also, specify which public group id you have been assigned. If you are not sure which public login or group id to use, please contact your administrator." Below this text are three input fields: "Database Alias" containing "MMDB", "Username" containing "pubuser1", "Password" containing "XXXXXXXX", and "Public group ID" containing "1". At the bottom are four buttons: "Cancel", "Back", "Next" (highlighted with a dotted border), and "Finish".

4 Click Next to validate the database connection.

The screenshot shows the same "Primavera Database Configuration" window, now titled "Validate Database Connection". The text reads: "Now you are ready to validate the settings for this alias. If any settings are incorrect, you can go back to change them." Below this text are three input fields: "Database alias" containing "MMDB", "Username" containing "pubuser1", and "Public group id" containing "1". At the bottom are four buttons: "Cancel", "Back", "Next" (highlighted with a dotted border), and "Finish".

The following dialog indicates if the connection was successful.



Once you complete these steps, you will be able to run the Methodology Management and Project Management modules using the aliases you established, while still connecting to the same database.

Upgrading a Single Instance Database from Primavera 5.0, 6.0, or 6.1 to P6 version 6.2.1

If you are configured to run your PMDB and MMDB database in a single Oracle instance and you are using version 5.0, 6.0, or 6.1, follow these steps to upgrade the database for use with P6 version 6.2.1.



If you are a current Interwoven/iManage user and upgrade to P6 Web Access version 6.2.1, project workflows, project processes, news, discussions, events, and documents data will not be available. If you need this data, contact Primavera Customer Support for information on data migration and the migration tool. Primavera recommends that you migrate the data before upgrading to version 6.2.1.

Backup the existing database

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 Primavera 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.



You should NOT set up and install the databases as described in “[Manual Database Configuration](#)” on page 45; otherwise, your existing data will be deleted and replaced with default application data.

Upgrade the Project Management database

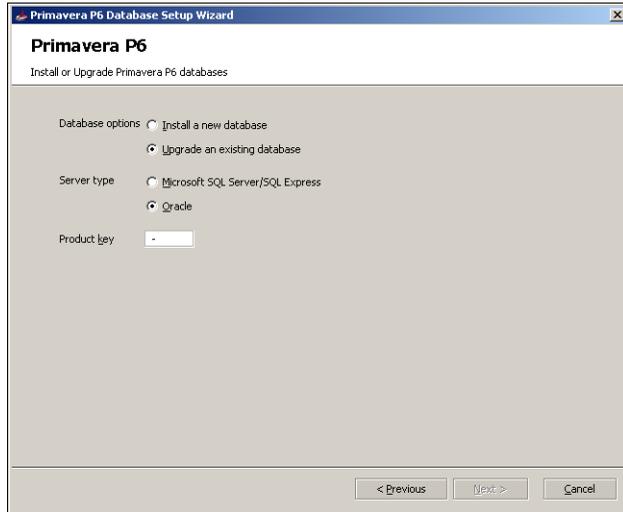
- 1 Upgrade the database structure and load application data as described in “[Upgrading an Oracle Database to P6](#)” on page 266.
- 2 On the **Finish** dialog box, click **Next** to run the Database wizard again for the Methodology Management module. Use the instructions below to continue.

Upgrade the Methodology Management database

- 1 On the **Primavera P6** dialog box:
 - Choose **Upgrade an existing database**.
 - Choose **Oracle** as the server type.

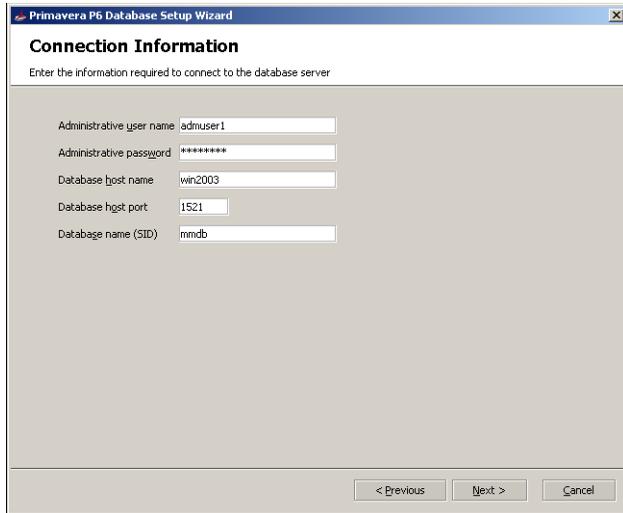
- In the **Product Key** field, enter a valid product code.

For information on valid product codes, refer to “[Primavera P6 Product Codes](#)” on page 12.

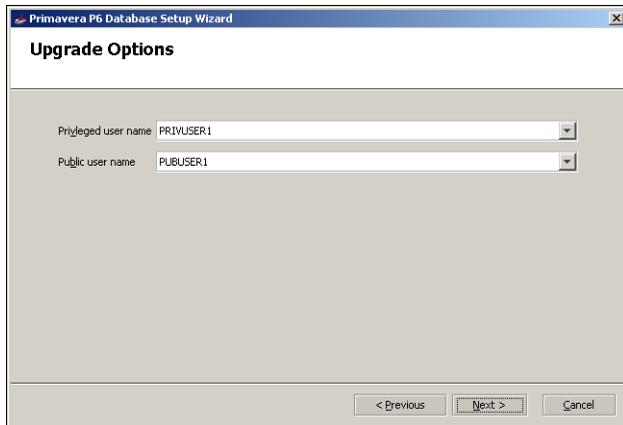


2 On the **Connection Information** dialog box:

- In the **Administrative User Name** field, log on to the database as admuser1. The username 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.
- In the **Administrative Password** field, type the password associated with the User Name you entered.
- In the **Database Host Address** field, enter the server machine name or IP address where Oracle is installed.
- In the **Database Host Port** field, enter the port number that Oracle is using. The default is 1521.
- In the **Database Name (SID)** field, enter the Oracle SID. It can be found in the TNSNAMES.ORA file, which was created when you or your DBA set up the Oracle client.

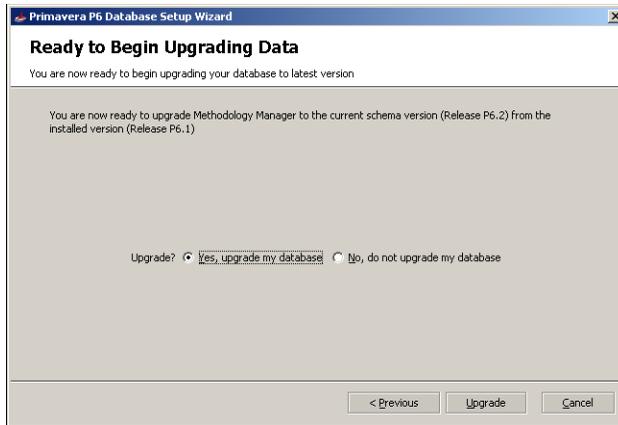


- 3 On the **Upgrade Options** dialog box, select privuser1 as your privileged user name and pubuser1 as your public user name for the database.

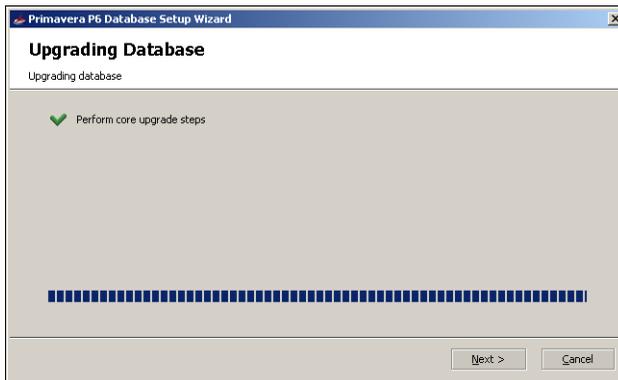


- 4 On the **Ready to Begin Upgrading Data** dialog box, verify that the the current version of your existing database is listed correctly. Choose **Yes, upgrade my database**, then click **Upgrade**.

The upgrade process could take several minutes, depending on its size.

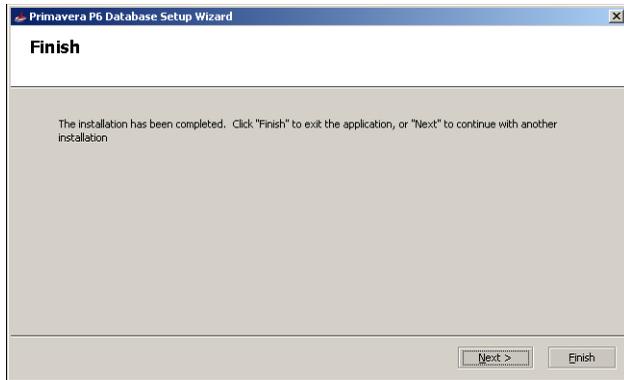


- 5 On the **Upgrading Database...** dialog box, click **Next** after the process has completed.



If the database upgrade fails, see PrimaveraDatabaseSetup.log located in the user home directory (for example, C:\Documents and Settings\Administrator). Contact Customer Support if further assistance is needed.

- 6 On the **Finish** dialog box, click **Finish** to exit the wizard.



- 7 If necessary, run the Database Configuration wizard from the client and update your license in the database.

Refer to [“Changing Database Configuration Settings”](#) on page 281 for more information.

Your database is now ready to use with P6 version 6.2.1.

Appendix B: Undoing Changes in the Project Management Database



In this appendix:

[Understanding Undo](#)

[Configuring Safe Deletes](#)

The Undo feature enables you to change certain actions made to a project. For example, if you add a resource to an activity then decide you do not want the resource assignment, you can choose to undo this action.

This chapter explains what actions you cannot undo, and what tasks will prevent you from undoing an action.

Understanding Undo

Use undo to replace project data to its previous state before changes were made. You can undo edits, additions, and deletions in the Activity and Resource Assignments windows in the Project Management module. Undo stores actions that were made to the project database, however, certain actions will clear the stored actions:

- Creating projects
- Opening and closing projects
- Summarizing data
- Updating progress
- Applying Actuals
- Refreshing data
- Importing
- Auto scheduling
- Logging in as a different user
- Changing portfolios
- Opening the Project Portfolios, User Preferences, Admin Preferences, and Time Approval dialog boxes
- Exiting the application

For more information on using the Undo feature, see the Project Management module Help.

Undo an action Choose Edit, Undo. The latest action stored for undo will display next to the Undo command. For example, if you add a resource assignment to an activity, then choose to remove the assignment from the activity, the Undo command in the Edit menu will display as Undo Add Activity Resource Assignment.

Configuring Safe Deletes

The project management database normally handles restoring deleted data using a safe delete setting. Deleted data remains in the project management database until you choose to permanently clear it. Use the Undo command (Edit, Undo) to restore data that has been deleted.

Turn off safe deletes To instantly clear deletes from the project management database when data is deleted, you have to turn off the safe deletes function. If you are running SQL Server, you can use its administrative tools to execute SQL commands. 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' and CONFIG_TYPE = 'ACTIVE'

This is only loaded at startup. If you change this value while PM is running, the setting will not apply. You can run 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', 'N')
```

To turn on safe deletes after its been turned off run the following update statement:

```
UPDATE ADMIN_CONFIG SET CONFIG_VALUE = 'Y' WHERE  
CONFIG_NAME = 'SAFEDELETE' AND CONFIG_TYPE =  
'ACTIVE'
```

To turn off safe deletes after its been turned on run the following update statement:

```
UPDATE ADMIN_CONFIG SET CONFIG_VALUE = 'N' WHERE  
CONFIG_NAME = 'SAFEDELETE' AND CONFIG_TYPE =  
'ACTIVE'
```


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