

Oracle Primavera® P6™ Reporting Database

Administrator's Guide

Version 6.2.1

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Preface

In this preface

[Using the Administrator's Guide](#)

[P6 Reporting Database
Documentation](#)

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The Oracle Primavera P6 Reporting Database application enables customers to generate two types of databases that can be used to extract and transform data from the Project Management database. This data can then be used to create reports via third party reporting products. The two types of databases are the Operational Data Store (ODS) and the Star Schema Database (Star).

This guide describes how to install and configure the P6 Reporting Database application, and explains how to generate the ODS and Star databases.

Using the Administrator's Guide

This guide is a step-by-step guide to installing and configuring the ODS and Star databases. This guide is organized as follows:

Part 1: Before You Begin Provides an overview of the P6 Reporting Database application. Lists and describes the prerequisites for installing and using the P6 Reporting Database application, and describes the process for setting up Change Data Capture (for Oracle).

Part 2: P6 Reporting Database Installation and Configuration Provides instructions for installing and configuring P6 Reporting Database software for Oracle and Microsoft SQL Server systems.

Part 3: Administrative Tasks Provides information about the administrative tasks for the ODS and Star databases, including adding and deleting users, launching the incremental database update, and changing Spread Bucket Types or Date Ranges. It also provides information about Utility tables and log files, and includes troubleshooting information.

P6 Reporting Database Documentation

You can access the P6 Reporting Database documentation from the physical media or download location. Double-click the applicable PDF file to view the information in Adobe Acrobat Reader. The following table describes the available documentation.

Title	Description
<i>Oracle Primavera P6 Reporting Database Administrator's Guide</i>	<i>Explains how to install and configure the P6 Reporting Database application, and how to generate ODS and Star databases.</i>
<i>Oracle Primavera P6 Reporting Database User's Guide</i>	<i>Explains how to use ODS and Star with the P6 Project Management module to extract data that can be used to create reports through a third-party reporting tool.</i>

Contacting Customer Support

If you have a question about using Oracle Primavera products that you or your network administrator cannot resolve with information in the documentation or Help, contact Customer Support.

For instructions on how to submit a service request for technical support for your products, go to <http://www.oracle.com/primavera/support.html>. This page provides the latest information for contacting support and the support renewals process.

Before You Begin

In this part

[Overview](#)

[Prerequisites](#)

[Setting Up Oracle Change Data Capture](#)

*R*ead this part to learn more about the P6 Reporting Database application, and to learn what the prerequisites are for installing it.

Overview provides an overview of the P6 Reporting Database application.

Prerequisites lists and describes what you need to have in order to install and use the P6 Reporting Database application.

Setting Up Oracle Change Data Capture describes how to start the Change Data Capture process (CDC) on Oracle.

Overview

In this chapter

[Overview of the P6 Reporting Database Application](#)

[ETL Data Process Details](#)

[Scheduling Overview](#)

[Appending New Snapshots to the Star Database](#)

[Date Ranges](#)

[Dimensions](#)

[Calculated Fields](#)

This section provides a general overview of P6 Reporting Database, including the ODS and Star databases and the ETL process.

Overview of the P6 Reporting Database Application

The P6 Reporting Database application works with the Project Management module to provide a robust and powerful reporting solution. Besides the analytical tools already provided with the Project Management module, the P6 Reporting Database application enables customers to use third-party reporting tools to create the following types of reports for portfolios and projects:

- Day-to-day operational reports using the Operational Data Store (ODS)
- Business intelligence analysis using the Star Schema (Star).

ODS The ODS portion of the P6 Reporting Database application is a relational database that supplies day-to-day, easy to understand operational views of the Project Management database.

Persisting and transforming all of the data found in the Project Management database enables customers to create unique reports on any project or portfolio. The ODS provides the most granular view of the Project Management database. It applies API formulas for many types of calculated data that otherwise would not be visible in the Project Management database (for example, percent complete, variances, earned value, and WBS spreads). In order to protect data access, defined Enterprise Reporting users receive the same access to data in the ODS as they do in the Project Management module.

Star Star enables an organization to perform advanced business analysis on project and portfolio data. It supplies a dimensional schema that organizes Project Management database data into hierarchical relationships. With Star, the data can be grouped according to project.

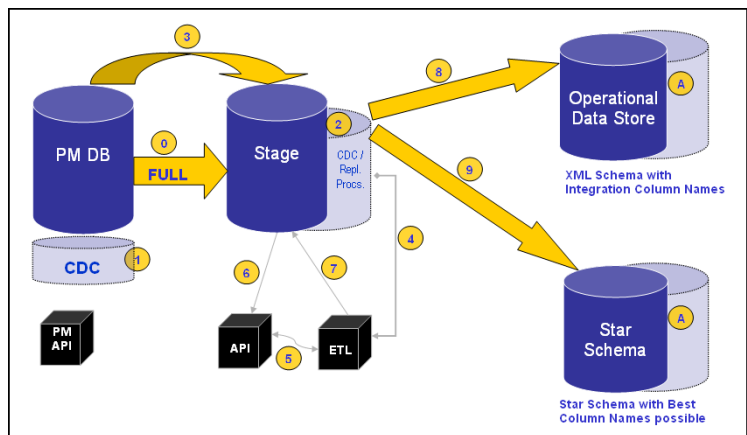
The Star Schema design enables the highest level of query efficiency and flexibility in data analysis. The Star database is designed to accumulate project data over time. These historical “snapshots” provide organizations with baselines for tracking trends and for advanced business intelligence.

Extract, Transform, Load (ETL) process An ETL process provides data movement between the Project Management database and the ODS and Star reporting databases. Project Management data is extracted, calculations applied in a staging area, and the data is loaded into the ODS and Star databases. ETL scheduling provides cyclical refresh capabilities down to the day, and an on-demand refresh capability for real-time data freshness. The ETL process requires an intermediate staging database to perform calculations before delivering the data to the ODS and Star databases.

The ETL process:

- Ensures that data is optimized for analytical reporting
- Fulfills the schedule refresh window
- Accommodates on-demand refreshes
- Implements application security

The following figure illustrates the ETL process:



In the preceding figure, PM DB stands for Project Management database. The following table describes the process associated with each number in the preceding process diagram.

Number	Description
0	Using the database utilities, an exact copy of the data is made (Full Refresh), and the Stage schema is populated. This is a one-time copy that is run during the initial installation. A full ETL process can also be run after the system has been installed and run.
1	The Project Management database uses CDC change tables for Oracle to keep track of changes made to Project Management database. This collects changes to the data without reading the application tables, and without causing locking or other database resource contention delays.
2	The Stage schema has additional columns to hold denormalized and persisted calculated Project Management database fields. During the full or incremental ETL process, a combination of direct SQL statements and the Integration API is used to populate the denormalized and persisted calculated Project Management database fields.
3	The incremental refresh path. It loads only the changes that have occurred since the last the ETL process ran. These processes will be the same as for the on-demand process.
4	Numbers 5 through 9 in this table outline the incremental refresh ETL process.
5	In this section of the incremental refresh, the ETL process sends requests to the API for only the virtual fields that must be initially stored or updated as a result of the Incremental ETL process.
6	The P6 Reporting Database Integration API is a modified version of the Project Management Integration API. This API interacts with the Stage schema to produce requested virtual data fields. These virtual fields must be refreshed when underlying record data has changed.
7	The ETL process connects via JDBC, and uses prepared statements and direct SQL statements to further expedite the process and update the virtual and denormalized fields in the Stage schema.

Number	Description
8	The Distribution process moves the processed data from the Stage schema to the ODS schema.
9	The Distribution process moves the processed data from the Stage schema to the Star schema.
A	<p>Both ODS and Star perform any aggregation or other data structuring to support the reporting and analytical queries.</p> <p>The ODS maintains similar security as the application. The security being maintained consists of Project/Cost security, Resource security, and Super User security. See the “ODS Security” chapter of the <i>P6 Reporting Database User's Guide</i> for more information.</p>

ETL Data Process Details

Scheduled Versus On-Demand The ETL process can be scheduled to run at certain times, or can be run on-demand by an administrator.

Stage to ODS Replication At the scheduled time, the ETL process launches the P6 Reporting Database Integration API, which calculates changes to underlying data in records since the ETL process was run previously. When the API's usage has completed, stored procedures are called that perform the transformation processing (for example, calendar calculation and hierarchical referencing). When transformation processing completes, replication to the ODS database and Star database occurs.

Scheduling Overview

For information on scheduling the database update, see [“Scheduling the Incremental Database Update”](#) on page 79.

For information on manually launching the database update, see [“Manually Launching the Incremental Database Update”](#) on page 80.

Once the ODS (and optionally Star) databases are fully installed, you decide when and how often to update the databases from the Project Management database. These updates will be performed in an incremental fashion. This means that only the data that has changed in the Project Management database since the last time the ETL process was run will be transferred. The process for updating the ODS and Star databases can be launched in the following ways:

- Manually when required
- Scheduled to occur exactly once sometime in the future
- Scheduled to recur during regular intervals

The script that launches the ETL process is:

- incremental.bat for Microsoft SQL Server or for Oracle on a Windows platform
- incremental.sh for Oracle on a non-Windows platform

Depending on your platform, the incremental.bat or incremental.sh script resides in the following subfolder of your P6 Reporting Database installation folder:

Platform	Location
Windows	<installation folder>\Reporting Database\scripts
Non-Windows	<installation folder>\erdb\scripts

To ensure that your system has the latest data from the Project Management database, perform data refresh once every 24 hours during off hours.



Any recurring schedule should be tested first to ensure that there is sufficient time for the process to finish before the next scheduled run of the process. Large data sets may take several hours to refresh. Trying to schedule another run of the process (or trying to run it from the Command Line) before the first refresh has completed may cause unexpected results and is not recommended.

Any mechanism can be used to launch or schedule the launch of the incremental.bat (or incremental.sh) script. The Windows AT command, Task Scheduler, and Unix CRON are all viable options.

Appending New Snapshots to the Star Database

For detailed information about appending new snapshots to the Star database see [“Appending New Snapshots to the Star”](#) on page 90.

When the incremental.bat (or incremental.sh) script is run, it updates both the ODS and the Star database with the latest data from Project Management database. However, the Star has the ability to retain the data from any previous run of the ETL process, so that multiple sets (snapshots) of data can be accumulated within the Star database. Appending new snapshots is accomplished by running a special script.

Date Ranges

See "ODS Calendar Table" in the *Oracle Primavera P6 Reporting Database User's Guide* for more information.

Full Calendar Date Range The ODS Full Calendar table date range can be selected by start date and end date. The default calendar range starts on January 1st of the previous year and goes until Dec 31st five years from now (for example: 1/1/2009 - 12/31/2014).

Date ranges the ODS Date (REPORT_DATE) and Star Date dimension (D_DATE) can be selected by start date and end date.

Dimensions

Dimensions are a functionality of the Star schema, and describe how a business views and analyzes its data. For example, actual project cost results might be analyzed (or grouped and sorted) by the time dimension (when they were planned or when they were actually incurred), and by the project dimension. The time dimension can also provide comparison (for example, the previous year results versus the current year results). The following dimensions are part of the Star:

- Date
- Time
- Cost Account
- Cost Account Hierarchy
- Enterprise Project Structure (EPS)
- EPS Hierarchy
- Financial Period
- Organizational Breakdown Structure (OBS)
- Project
- Project Code
- Project Code Assignment
- Project Code Hierarchy

Some dimensions are comprised of hierarchies. While dimensions appear only in Star, hierarchies can appear in ODS and Star. Some hierarchies appear in both ODS and in Star, while other hierarchies appear only in ODS.

Hierarchies that appear in both ODS and in Star The following hierarchies appear in both ODS and in Star:

- Project Code
- Cost Account
- EPS

Hierarchies that appear only in ODS The following hierarchies only appear in ODS:

- Activity Code
- Resource Code

Calculated Fields

Calculated fields apply to both ODS and Star. Calculated fields are not stored as physical fields in the Project Management database. These calculations are stored as physical fields in ODS and Star.

Calculated fields are elements that are calculated. For example, the **actual hours** measure shows how many hours each resource charged to a given project or WBS. The Project Management application contains units (for example: counts, hours, quantity), dates, durations, and cost measures.

Prerequisites

In this chapter

Project Management and ODS Requirements

Windows 2003 Password Requirements

Oracle tnsnames.ora File Requirements

Database Collation Requirements

Required Database Instances and Supported Databases

Operating System User Permissions

CPU and Disk Storage Space Requirements

Create the Tablespaces for Oracle

Oracle Change Data Capture

This chapter describes the prerequisites for installing and using the P6 Reporting Database application.

The Project Management module must already be installed, and a Project Management database already created.

This chapter includes required database instances, supported databases, CPU requirements, and disk storage space requirements.

Project Management and ODS Requirements

Project Management must be installed, and a Project Management database must already be created.

P6 Reporting Database software version 6.2.1 is compatible with Oracle Primavera Project Management schema versions 6.1, 6.2, 6.2.1, and 7.0.

See “[Recommended locations for Stage, ODS, and Star](#)” on page 32.

JRE 1.6.0_07 must be installed on the same machine where the Stage database is installed.

Windows 2003 Password Requirements

If you enabled “Password must meet complexity requirements” in Windows Administrative Tools, Local Security Policy, you must use strong passwords in Microsoft SQL Server. If you do not use strong passwords, you will receive the following message:

“The password supplied does not meet the minimum complexity requirements.”

The requirement for strong passwords applies to passwords that are used in all P6 Reporting Database configuration dialog boxes, including those that display when configuring Stage, ODS, and Star.

Oracle tnsnames.ora File Requirements

If you will be using the P6 Reporting Database application on an Oracle system, ensure that the **tnsnames.ora** file contains references to the PMDB database, the Stage database, the ODS database, and the Star database (if Star is installed), before configuring these databases.

Database Collation Requirements

The database collation that you set when you create the Stage, ODS, and Star databases must match the database collation set for the Project Management database.

The Oracle AL32UTF8 character set with Enterprise Reporting Databases is not supported. Use either the UTF-8 or the WE8MSWIN1252 character set.

Required Database Instances and Supported Databases

Required database instances for Stage and ODS The following database instances are required for the ODS, and must be manually created:

- One database instance for the Staging database (Stage) used during the ETL process.
- One database instance for the ODS.



The database collation that you set when you create the Stage and ODS databases must be the same for each, and must match the database collation set for the Project Management database when it was created. If you created the databases with differing database collation, delete them and recreate them so that they match.

Required database instances for Star One database instance is required for the Star, and must be manually created.



The database collation that you set when you create the Star database must match the database collation set for the Project Management database when it was created. If you created the database with a different database collation, delete it and recreate it so that it matches the Project Management database collation.

Recommended locations for Stage, ODS, and Star It is recommended that the Stage, ODS, and Star databases reside on different physical machines than the one on which the main Project Management database resides. This minimizes the impact on the main applications that access the Project Management database. The ETL process is CPU intensive, and runs on the physical server hosting the Stage database.

The Stage, ODS, and Star databases may reside on the same server or on three different servers.

Operating System User Permissions

To install Enterprise Reporting and run the scripts, the user for Windows must be the administrator or be a member of the administrators group. The user for Solaris, Linux or AIX is typically the Oracle Account.

CPU and Disk Storage Space Requirements

CPU requirements The CPU requirements for the databases are generally the same as for the host being used for the main Project Management database.

Stage and ODS disk storage space required for Microsoft SQL Server The amount of disk storage space required for the Stage database is at least two times the size of the Project Management database.

The amount of disk storage space required for the ODS database is at most two times the size of the Project Management database.

Star disk storage space required for Microsoft SQL Server The amount of disk storage space required for the Star database varies greatly, based on the granularity of periodic snapshots being accumulated. On average, this is half the size of the Project Management Database.

Stage and ODS disk storage space required for Oracle The amount of disk storage space required for the Stage database is at least two times the size of the Project Management database.

The amount of disk storage space required for the ODS database is at most two times the size of the Project Management database.

Star disk storage space required for Oracle The amount of disk storage space required for the Star database varies greatly, based on the granularity of periodic snapshots being accumulated. On average, this is half the size of the Project Management Database.

Create the Tablespaces for Oracle

If you will run P6 Reporting Database on Oracle, you must log onto SQL Plus as System\<system password> to create the Oracle tablespaces before you install P6 Reporting Database.

See [“Recommended locations for Stage, ODS, and Star”](#) on page 32

Before creating the tablespace definitions, make sure that the Stage, ODS, and Star databases are in their proper locations.

When entering the tablespace definitions:

- The single quotation marks must be entered.
- You may change the path (c: in these tablespace definitions), depending on where Oracle tablespaces will be located.
- All other information in the tablespace definition must be entered exactly as shown.
- You must enter the semicolon at the end of the tablespace definition.

Create the change data capture (CDC) tablespace

- 1 Connect to the Project Management instance.
- 2 Enter the following to create the CDC tablespace (where <path> is the location of the Project Management instance):

```
Create tablespace cdc_dat1
  Datafile '<path>:\cdc_dat1.dbf'
  Size 32m
  Autoextend on
  Extent management local;
```

Create the Stage tablespace

- 1 Connect to the Stage instance.
- 2 Enter the following to create the Stage tablespaces (where <path> is the location of the Stage instance):

```
Create tablespace stage_dat1
  Datafile '<path>:\ stage_dat1.dbf'
  Size 32m
  Autoextend on
  Extent management local;
```

Create the ODS tablespaces

- 1 Connect to the ODS instance.
- 2 Enter the following to create the ODS tablespaces (where <path> is the location of the ODS instance):

```
Create tablespace ods_dat1  
  Datafile '<path>:\ods_dat1.dbf'  
  Size 32m  
  Autoextend on  
  Extent management local;
```

Create the Star Tablespaces

- 1 Connect to the Star instance.
- 2 Enter the following to create the Star tablespaces (where <path> is the location of the Star instance):

```
Create tablespace star_dat1  
  Datafile '<path>:\star_dat1.dbf'  
  Size 32m  
  Autoextend on  
  Extent management local;
```

Oracle Change Data Capture

See [“Setting Up Oracle Change Data Capture”](#) on page 41.

If you will run P6 Reporting Database on Oracle, you must set up Change Data Capture.

P6 Reporting Database Installation and Configuration

In this part

Installation Procedure

**Configure the Software for Microsoft
SQL Server Systems**

**Configure the Software for Oracle
Systems**

Read the chapters in this part to learn how to install, configure, and administer the P6 Reporting Database application.

Install the P6 Reporting Database Application describes how to install the P6 Reporting Database application for Microsoft SQL Server systems and for Oracle systems.

Configure the Software for Microsoft SQL Server Systems describes how to configure the P6 Reporting Database application for Microsoft SQL Server systems.

Configure the Software for Oracle Systems describes how to configure the P6 Reporting Database application for Oracle systems.

Setting Up Oracle Change Data Capture

In this Chapter

[Oracle Change Data Capture Overview](#)

[Prerequisites for Setting Up Change Data Capture](#)

[Setting Up the Change Data Capture \(CDC\) Environment](#)

This chapter describes the tasks involved in starting Change Data Capture (CDC) on an Oracle server. The purpose of CDC is to transfer change data from the transactional system (the Project Management database owned by the admuser) to the data warehouse system (the target tables owned by prmcde).

This chapter includes an overview of CDC and provides prerequisite information.

Oracle Change Data Capture Overview

Oracle replication is achieved through the Change Data Capture (CDC) process. In Oracle, when you change the Project Management database, only CDC internal tables are changed. In order to see the changes in Stage, ODS, and Star, you must run the incremental process.

The purpose of the CDC system is to transfer the change data from the transactional system (the Project Management database owned by admuser) to the data warehouse system (the target tables owned by prmdc).

Change data is inserted, updated, and deleted in the source tables since the last data extraction. With CDC, data extraction takes place at the same time that the INSERT, UPDATE, or DELETE operation occurs in the source tables. The change data is stored inside the database in change tables (prmdc).

The captured changed data is then made available to the Stage database in a controlled manner through database views (nightly or on demand). ODS and Star are refreshed from a complete snapshot.

Prerequisites for Setting Up Change Data Capture



Setting up Oracle Change Data Capture is only done for the Project Management database.

Before setting up the replication environment for Oracle, ensure that you have done the following:

- Have Oracle database software installed on the server. See the “Oracle Primavera P6 Reporting Tested Configurations” document for the supported level of Oracle.
- Met all the requirements listed in the Prerequisites chapter earlier in this Guide.
- As the sysdba user on Oracle, create the following empty databases: Stage database, ODS database, and Star database. The databases can be on the same server, or on three different servers.
- All databases must be running the same version of Oracle.
- You must be an Administrator, or a member of the sysadmin fixed server role.

See “[Prerequisites](#)” on page 27.

Setting Up the Change Data Capture (CDC) Environment

The CDC feature is part of the Oracle10G and Oracle11G Database software. For Oracle, it is mandatory to set up the CDC environment. CDC keeps track of changes in the Project Management Database. When incremental is run, P6 Reporting Database software applies those changes to the Stage database.

Setting up CDC in a new installation To set up the CDC environment, do the following:

- 1 When installing Oracle, enable Java (the Java virtual machine – JVM) in the database. If you are creating a database by using the Database Configuration Assistant (DBCA), you can choose to install Oracle JVM during that process.
- 2 Before `initjvm` is called, you must set the init parameter java pool size (`java_pool_size`) to at least 64M.
- 3 Run the following command at the SQL> prompt:

```
@c:/oracle_home/javavm/install/initjvm.sql
```

- 4 Run the following command at the SQL> prompt:

```
@c:/oracle_home/rdbms/admin/initcdc.sql
```

For systems with an existing database If you have an existing database, as **sysdba** perform the following steps:

- 1 Before `initjvm` is called, you must set the init parameter shared pool size (`java_pool_size`) to at least 64M.
- 2 Run the following command at the SQL> prompt:

```
@c:/oracle_home/javavm/install/initjvm.sql
```

- 3 Run the following command at the SQL> prompt:

```
@c:/oracle_home/rdbms/admin/initcdc.sql
```

Install the P6 Reporting Database Application

In this chapter

Installation Procedure

**Installing STAR after ODS is
Already Installed**

This chapter describes the process for installing P6 Reporting Database software for Microsoft SQL Server and Oracle systems. It also describes how to install the STAR portion of the P6 Reporting Database application after the ODS is already installed.

Installation Procedure

See "[Prerequisites](#)" on page 27.

See "[Required Database Instances and Supported Databases](#)" on page 32.

Prerequisites

- Before installing P6 Reporting Database software, be sure you have met the installation prerequisites.
- It is required that the Stage and ODS databases be created before running the installation.
- The installation must be run on the machine where the Stage database is installed.
- For Oracle (whether on a Windows or non-Windows system), the Oracle utility **TNSPING** must be in the user's path who is running the installation in order for P6 Reporting Database to install successfully.



Due to the global nature of the Oracle Universal Installer (OUI), the OUI online help is not applicable for installing or uninstalling P6 Reporting Database or for references to the documentation. Instead, refer to the following for installation instructions.

Running the installation To install the P6 Reporting Database application, do the following:

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

- If you are installing on a Microsoft Windows system,

windows\Disk1\install\setup.exe

- If you are installing on a non-Microsoft Windows system,

<Operating System>\Disk1\install\runInstaller

Where <Operating System> is either aix, linux, or solaris.

- 2 Click **Next**

- 3** Enter an appropriate name for the P6 Reporting Database application in the **Name** field.
- 4** Use the browse button to specify the installation location for the P6 Reporting Database application.
- 5** Click **Next**.
- 6** The next window displays the installation type. Select the appropriate radio button (Oracle or SQL Server). Click **Next** to continue.
- 7** Use the browse button to specify the location of the Java Runtime, version 1.6.0_07. Click **Next** to continue.
- 8** Read the summary information that explains where P6 Reporting Database will be installed, what features will be installed, and the total size, and click **Next**.
- 9** Click **Next** to configure the connection settings.
 - For Microsoft SQL Server systems, see [“Configure the Software for Microsoft SQL Server Systems”](#) on page 49.
 - For Oracle systems, see [“Configure the Software for Oracle Systems”](#) on page 59.

Installing STAR after ODS is Already Installed

If you choose to only install ODS and later choose to install STAR, follow these steps to install STAR:

See “[Installation Procedure](#)” on page 46.

- 1 Complete all the steps in the “Install the P6 Reporting Database Software” section of this chapter, including configuring the software (step 6).
- 2 After install is finished, go to the `\scripts` folder, and run one of the following scripts:
 - `loadstar.bat` file (for Windows systems)
 - `loadstar.sh` file (for Linux, Solaris, or AIX systems)

Configure the Software for Microsoft SQL Server Systems

In this chapter

Configure the Microsoft SQL Server Connection

Configure the Microsoft SQL Server Stage Database Connection

Configure the Microsoft SQL Server ODS Database Connection

Configure the Microsoft SQL Server Star Database Connection

Configure the ETL Database and JRE Path Information

Change Full Calendar Date Range after Installing P6 Reporting Database

Execute the RUNETL Script to Complete the Installation

This section describes the process for configuring P6 Reporting Database software for Microsoft SQL Server systems.

First, you will configure the Project Management database connection information.

After you configure the Project Management database information, you will configure the Stage, ODS, and Star connection information.

Finally, you will run a script to complete the installation and configuration.

Configure the Microsoft SQL Server Connection

See [“Install the P6 Reporting Database Application”](#) on page 45.

Use this section if you chose **Install for Microsoft SQL Server** in step 4 of the installation process. You should now see the dialog box that will enable you to enter the Project Management database connection settings and Microsoft SQL Server connection settings.

Enter the Project Management Database connection settings To enter the Project Management database connection settings, do the following:

- 1 Enter the **Host Name**. This is the full SQL Server instance name of the Microsoft SQL Server where the Project Management database resides. For example, `SQLServerName\databaseInstanceName`.

Note: If there is a named database instance, both the server name and the instance name must be included.

- 2 Enter the **Port Number**. This is the port number of the Microsoft SQL Server where the Project Management database resides. The default is **1433**.
- 3 Enter the **Database Name**. This is the name of the Project Management database.
- 4 In the **Administrator Username** field, enter the Microsoft SQL Server admin name. For example: **sa**.
- 5 In the **Administrator Password** field, enter the Microsoft SQL Server admin password.
- 6 Click the **Next** button. The next dialog box will enable you to configure the Stage Database connection settings, and Microsoft SQL Server connection settings for the Stage database.

See [“Configure the Microsoft SQL Server Stage Database Connection”](#) on page 51.

Configure the Microsoft SQL Server Stage Database Connection

Use this section to help you configure the Stage database connection settings, and Microsoft SQL Server connection settings for the Stage database.

Enter the connection information for the Stage database

- 1 Enter the **Host Name**. This is the name of Microsoft SQL Server where the Stage database resides. Do not use the IP address. Enter the name of the server.
- 2 Enter the **Port Number**, this is the number of Microsoft SQL Server where the Stage database resides.
- 3 Enter the **Database Name**. This is the name of the Stage database.

Enter Microsoft SQL Server connection information for the Stage database



The only supported Authentication mode is SQL Server Authentication.



This product supports Microsoft SQL Server admin passwords that use English characters; passwords that contain non-English characters are not supported.

- 1 In the **Administrator Username** field, enter the Microsoft SQL Server admin name. For example: **sa**.
- 2 In the **Administrator Password** field, enter the Microsoft SQL Server admin password.

Enter the Stage database Username, Password, and database instance

- 1 Enter the **Username**. This is the name of the Stage database privileged user. You can choose your own Username.
- 2 Enter the **Password**. This is the password of the Stage database privileged user. You can choose your own Password.
- 3 In the **Confirm Password** field, enter the same password that you entered in step 2 to confirm the password.

Enter the temporary bulk file location

The temporary bulk load file location is the location where the hierarchy and spread bulk load files are generated. The hierarchy and spread bulk load files are temporary files used to populate the hierarchies and spreads in the ODS during an installation, and also during an incremental refresh. When selecting the location, ensure that several gigabytes of free space are available, since these files can become very large, depending on the number of hierarchies defined and the size of your database.

- 1 In the **temporary bulk load file location** field, use the browse button to the right of the field to select the location where the hierarchy and spread bulk load files will be generated.
- 2 Click the **Next** button. The next dialog box will enable you to configure the ODS Database connection settings, and Microsoft SQL Server connection settings for the ODS database.

See [“Configure the Microsoft SQL Server ODS Database Connection”](#) on page 53.

Configure the Microsoft SQL Server ODS Database Connection

You should now see the dialog box that will enable you to enter the ODS database connection settings, and Microsoft SQL Server connection settings for the ODS database.

Enter the connection information for the ODS database

- 1 Enter the **Host Name**. This is the name of Microsoft SQL Server where the ODS database resides. Do not use the IP address. Enter the name of the server.
- 2 Enter the **Port Number**, this is the number of the Microsoft SQL Server where the ODS database resides.
- 3 Enter the **Database Name**. This is the name of the ODS database.

Enter Microsoft SQL Server connection settings for the ODS database Enter the Microsoft SQL Server administrative username and password.



The only supported Authentication mode is SQL Server Authentication.

- 1 In the **Username** field, enter the Microsoft SQL Server admin username. For example: **sa**.
- 2 In the **Password** field, enter the Microsoft SQL Server admin password.
- 3 Click the **Next** button. The next dialog box will enable you to configure the Star database connection.

See “[Configure the Microsoft SQL Server Star Database Connection](#)” on page 54.

Configure the Microsoft SQL Server Star Database Connection

You should now see the dialog box that will enable you to enter the ODS database connection settings, and Microsoft SQL Server connection settings for the Star database.

Enter the connection information for the Star database

- 1 Mark the Install Star Database checkbox.



Unless this checkbox is marked, you will be unable to configure the Star Database connection information. If you do not want to configure this information, leave this field blank to disable the configuration fields.

- 2 Enter the Host Name. This is the name of Microsoft SQL Server where the Star database resides. Do not use the IP address. Enter the name of the server.
- 3 Enter the Port Number. This is the number of Microsoft SQL Server where the Star database resides.
- 4 Enter the Database Name. This is the name of the Star database.

To configure the Microsoft SQL Server connection settings for Star database, do the following:

- 1 In the Username field, enter the Microsoft SQL Server Administrator username.
- 2 In the Password field, enter the Microsoft SQL Server Administrator password.
- 3 Click the **Next** button. The next dialog box will enable you to choose settings for the ET; database and JRE path. These fields are the same, whether you are using Microsoft SQL Server or Oracle.

See “Configure the ETL Database and JRE Path Information” on page 55.

Configure the ETL Database and JRE Path Information

Overview The last part of the configuration has to do with choosing settings for the ETL database for Star and ODS and choosing the JRE path. The following fields must be set:

- Spread Bucket Type
- Star Dimension Date Range Start
- Star dimension Date Range End
- Full Calendar Date Range Start
- Full Calendar Date Range End
- ODS Date Range Start
- ODS Date Range end
- JRE Path

Choosing the ETL settings

- 1 Choose the **Spread Bucket Type** from the drop-down list. This can be Weekly or Monthly.



Spread Bucket Type determines the granularity of the EPS, Project, and WBS spread information that will be stored in ODS. This can be Weekly or Monthly. Set this to be the same value as the value set for the Project Management Summarizer. Otherwise, the data will not display correctly when the ETL process is run, and some fields may contain zeros instead of appropriate data.

- 2 Click the calendar icon to the right of the Star Dimension Date Range Start field, and use it to choose the correct start date. Click Select when you have the field set.
- 3 Click the calendar icon to the right of the Star Dimension Date Range End field, and use it to choose the correct end date. Click Select when you have the field set.



The Star Dimension Date Range Start and Star Dimension Date Range End fields determine the start and end dates for the Star D_DATE dimension table. Set these to earliest and latest date dimension value to track. The F_PROJECTS.StartDateSKey and F_PROJECTS.EndDateSKey fields point to the D_DATE dimension table.

- 4 Click the calendar icon to the right of the Full Calendar Date Range Start field, and use it to choose the correct start date.
- 5 Click the calendar icon to the right of the Full Calendar Date Range End field, and use it to choose the correct end date.



The Full Calendar Date Range Start and Full Calendar Date Range End fields determine the range of date records to be generated into the ODS Calendar table. For each calendar defined in the Project Management database, the ODS Calendar table will contain a set of rows representing each distinct day within this range. The Project Management database calendar table determines the contents of each row (work time). Therefore, when reporting on calendar data (work time), choose a range that encompasses all the potential dates for which you plan to report.

- 6 Click the calendar icon to the right of the ODS Date Range Start field, and use it to choose the correct start date.
- 7 Click the calendar icon to the right of the ODS Date Range End field, and use it to choose the correct end date.



The ODS Date Range Start and ODS Date Range End fields determine the range of date records that will be generated into the ODS ReportDate table. The ReportDate table is a convenience table that reports can use to look up day-of-the-week names, as well as other useful information that can be used in tabular reports. Set this to a reasonable range that encompasses all project dates.

- 8 Either accept the default JRE Path, or use the icon to the right of the field and choose a new location.



The JRE Path is the path to the Sun JDK 1.6.0_07. The path must refer to a location on the local Stage machine.

- 9 Click **Next**.
- 10 On the Configuration Complete dialog box, read the information, and click **Next**.
- 11 The next dialog box tells you where the scripts were generated. Make a note of the location, and click **OK**.

Change Full Calendar Date Range after Installing P6 Reporting Database

To change the Full Calendar date range after you have installed P6 Reporting Database, do the following:

- 1 Go to Start, Programs, P6 Reporting, and choose **Configure P6 Reporting**.
- 2 Click **Next** until the following dialog box displays.

Oracle Enterprise Reporting Database Configuration

ETL Database Configuration

Spread Bucket Type: Weekly

Star Dimension Date Range Start: 10/01/2007

Star Dimension Date Range End: 10/12/2011

Full Calendar Date Range Start: 10/01/2007

Full Calendar Date Range End: 10/12/2011

ODS Date Range Start: 10/01/2007

ODS Date Range End: 10/12/2012

Java Path: C:\Program Files\Java\jre6

Buttons: < Back, Next >, Cancel

- 3 Use the calendar icons to change the Full Calendar Date Range Values.
- 4 Click **Next**.
- 5 On the Configuration Complete dialog box, read the information, and click **Next**.
- 6 The next dialog box tells you where the scripts were generated. Click **OK**.

Execute the RUNETL Script to Complete the Installation

After you complete all the installation and configuration tasks, execute the RUNETL.bat file to complete the installation. To do this:

- 1 Go to the <directory name> directory.
- 2 Click RUNETL.bat to execute the script.

Configure the Software for Oracle Systems

In this chapter

Configure the Oracle Connection

Configure the Oracle Stage Database Connection

Configure the Oracle ODS Database Connection

Configure the Oracle Star Database Connection

Configure the ETL Database and JRE Path Information

Change Full Calendar Date Range after Installing P6 Reporting Database

Execute the RUNETL Script to Complete the Installation

This section describes the process for configuring the P6 Reporting Database software for Oracle systems after you have installed it.

First, you will configure the Project Management database connection information.

After you configure the Project Management database information, you will configure the Stage, ODS, and Star connection information.

Finally, you will run a script to complete the installation and configuration.

Configure the Oracle Connection

See [“Installation Procedure”](#) on page 46.

Use this section if you chose **Oracle** step 4 of the installation process. You should now see the dialog box that will enable you to enter the Project Management database connection settings and Oracle connection settings.

- 1 Enter the **Host Name**. This is the machine name of the Oracle server where the Project Management database resides.
- 2 Enter the **Port Number**. This is the port number of the Oracle server where the Project Management database resides. The default is 1521.
- 3 In the **TNS Name** field, enter the Oracle TNS name of the Project Management database.
- 4 In the **SID** field, enter the Oracle TNS SID of the Project Management database.

Enter the administrative username and password

- 1 Enter the Oracle administrative username. This is the Oracle user who owns Project Management database tables, and who has DBA privileges for the Project Management database. The default username is **admuser**.
- 2 Enter the password for the Oracle administrative user. This is the password for the Oracle user who owns Project Management database tables, and who has DBA privileges for the Project Management database. The default is **admuser**.

Enter the PMDB CDC username and password

- 1 Enter the **CDC Username**. This is the username name of the user who owns the CDC tables. The default is **prmcde**.
- 2 Enter the **CDC Password**. This is the password for the user who owns the CDC tables.
- 3 In the **Confirm Password** field, enter the same password that you entered in step 2 to confirm the password.
- 4 Click **Next**. The next dialog box will enable you to configure the Stage Database connection settings, and the Oracle server connection settings for the Stage database.

See [“Configure the Oracle Stage Database Connection”](#) on page 61.

Configure the Oracle Stage Database Connection

Use this section to help you configure the Stage database connection settings, and Oracle connection settings for the Stage database.

Enter the connection information for the Stage database

- 1 Enter the **Host Name**. This is the name of the Oracle server where the Stage database resides.
- 2 Enter the **Port Number**. This is the port number of the Oracle server where the Stage database resides.
- 3 In the **TNS Name** field, enter the Oracle TNS name of the Stage database. The TNS name is used to connect to the database via SQLPLUS.
- 4 In the **SID** field, enter the Oracle TNS SID of the Stage database. The SID is used to connect to the database via JDBC.

Enter the Oracle system username and password

- 1 Enter the **DBA Username**. This is the username of the user who has DBA privileges for the Stage database. The default name is **SYSTEM**.
- 2 Enter the **DBA Password**. This is the password of the user who has DBA privileges for the Stage database.

Enter the Oracle table owner username and password

- 1 Enter the **Stage Username**. This is the username name of the user who owns the Stage tables. This username does not currently exist. You must enter it to create it.
- 2 Enter the **Stage Password**. This is the password of the user who owns the Stage tables. The default is **stageuser**.
- 3 In the **Confirm Password** field, enter the same password that you entered in step 2 to confirm the password.



The Stage Username and Stage Password entered as the Stage table owner must be a case-sensitive match with the privileged user's username and password as defined in the Oracle Primavera Database configuration.

Enter the temporary bulk file location

The temporary bulk load file location is the location where the hierarchy and spread bulk load files are generated. The hierarchy and spread bulk load files are temporary files used to populate the hierarchies and spreads in the ODS during an installation, and also during an incremental refresh. When selecting the location, ensure that several gigabytes of free space are available, since these files can become very large, depending on the number of hierarchies defined and the size of your database.

- 1 In the **temporary bulk load file location** field, use the browse button to the right of the field to select the location where the hierarchy and spread bulk load files will be generated.
- 2 Click **Next**. The next dialog box enables you to configure the ODS Database connection settings, and the Oracle connection settings for the ODS database.

See ["Configure the Oracle ODS Database Connection"](#) on page 63.

Configure the Oracle ODS Database Connection

You should now see the dialog box that will enable you to enter the ODS database connection settings, and the Oracle connection settings for the ODS database.

Enter the connection information for the ODS database

- 1 Enter the **Host Name**. This is the name of the Oracle server where the ODS database resides. Do not use the IP address. Enter the name of the server.
- 2 Enter the **Port Number**. This is the number of the Oracle server where the ODS database resides. The default is **1521**.
- 3 In the **TNS Name** field, enter the Oracle TNS name of the ODS database.
- 4 In the **SID** field, enter the Oracle TNS SID of the ODS database.

Enter the Oracle system username and password

- 1 Enter the **DBA Username**. This is the username of the user who has DBA privileges for the ODS database. The default is **SYSTEM**.
- 2 Enter the **DBA Password**. This is the password of the user who has DBA privileges for the ODS database.

Enter the connection information for the table owner

- 1 Enter the **ODS Username**. This is the username of the user who owns the ODS tables. The default is **ODSUSER**. This username does not currently exist. You must enter it to create it.
- 2 Enter the **ODS Password**. This is the password of the user who owns the ODS tables.
- 3 Click **Next**. The next dialog box will enable you to configure the Star database connection.

See [“Configure the Oracle Star Database Connection”](#) on page 64.

Configure the Oracle Star Database Connection

This section describes the steps for configuring the Star database for Oracle.



During the configuration phase, some of the dialog boxes may be pre-filled with data. Check the data, and change it as necessary.

Configure the Star database connection settings To configure the connection information for the Star database, do the following:

- 1 Enter the Host Name. This is the name of the Oracle server where the Star database resides. Do not use the IP address. Enter the name of the server.
- 2 Enter the Port Number. This is the port number of the Oracle server where the Star database resides.
- 3 In the TNS Name field, enter the Oracle TNS name of the Star database.
- 4 Enter the SID. This is the name of the Star instance. The default is **Star**.

Configure the Star database connection settings To configure the Oracle connection settings for the Star database, do the following:

- 1 Enter the DBA Username. This is the Oracle system username. The default is **system**.
- 2 Enter the DBA Password. This is the Oracle system password.
- 3 Enter the Star Username. This is the name of the table owner for the Oracle Star table. This username does not currently exist. You must enter it to create it.
- 4 Enter the Star Password. This is the password of the table owner for the Oracle Star table.
- 5 In the **Confirm Password** field, enter the same password that you entered in step 4 to confirm the password.
- 6 Click **Next**. The next dialog box enables you to configure the ETL database information and JRE path.

See “[Configure the ETL Database and JRE Path Information](#)” on page 65

Configure the ETL Database and JRE Path Information

Overview The last part of the configuration has to do with choosing settings for the ETL database for Star and ODS and choosing the JRE path. The following fields must be set:

- Spread Bucket Type
- Star Dimension Date Range Start
- Star dimension Date Range End
- Full Calendar Date Range Start
- Full Calendar Date Range End
- ODS Date Range Start
- ODS Date Range End
- JRE Path

Choosing the ETL settings

- 1 Choose the **Spread Bucket Type** from the drop-down list. This can be Weekly or Monthly.



Spread Bucket Type determines the granularity of the EPS, Project, and WBS spread information that will be stored in ODS. This can be Weekly or Monthly. Set this to be the same value as the value set for the Project Management Summarizer. Otherwise, the data will not display correctly when the ETL process is run, and some fields may contain zeros instead of appropriate data.

- 2 Click the calendar icon to the right of the Star Dimension Date Range Start field, and use it to choose the correct start date. Click Select when you have the field set.
- 3 Click the calendar icon to the right of the Star Dimension Date Range End field, and use it to choose the correct end date. Click Select when you have the field set.



The Star Dimension Date Range Start and Star Dimension Date Range End fields determine the start and end dates for the Star D_DATE dimension table. Set these to earliest and latest date dimension value to track. The F_PROJECTS.StartDateSKey and F_PROJECTS.EndDateSKey fields point to the D_DATE dimension table.

- 4 Click the calendar icon to the right of the Full Calendar Date Range Start field, and use it to choose the correct start date.
- 5 Click the calendar icon to the right of the Full Calendar Date Range End field, and use it to choose the correct end date.



The Full Calendar Date Range Start and Full Calendar Date Range End fields determine the range of date records to be generated into the ODS Calendar table. For each calendar defined in the Project Management database, the ODS Calendar table will contain a set of rows representing each distinct day within this range. The Project Management database calendar table determines the contents of each row (work time). Therefore, when reporting on calendar data (work time), choose a range that encompasses all the potential dates for which you plan to report.

- 6 Click the calendar icon to the right of the ODS Date Range Start field, and use it to choose the correct start date.
- 7 Click the calendar icon to the right of the ODS Date Range End field, and use it to choose the correct end date.



The ODS Date Range Start and ODS Date Range End fields determine the range of date records that will be generated into the ODS ReportDate table. The ReportDate table is a convenience table that reports can use to look up day-of-the-week names, as well as other useful information that can be used in tabular reports. Set this to a reasonable range that encompasses all project dates.

- 8 Either accept the default JRE Path, or use the icon to the right of the field and choose a new location.



The JRE Path is the path to the Sun JDK 1.6.0_07. The path must refer to a location on the local Stage machine.

- 9 Click **Next**.
- 10 On the Configuration Complete dialog box, read the information, and click **Next**.
- 11 The next dialog box tells you where the scripts were generated. Make a note of the location, and click **OK**.

Change Full Calendar Date Range after Installing P6 Reporting Database

To change the Full Calendar date range after installing P6 Reporting Database, do the following:

- 1 Go to Start, Programs, P6 Reporting, and choose **Configure P6 Reporting**.
- 2 Click **Next** until the following dialog box displays.

Oracle Enterprise Reporting Database Configuration

ETL Database Configuration

Spread Bucket Type: Weekly

Star Dimension Date Range Start: 10/01/2007

Star Dimension Date Range End: 10/12/2011

Full Calendar Date Range Start: 10/01/2007

Full Calendar Date Range End: 10/12/2011

ODS Date Range Start: 10/01/2007

ODS Date Range End: 10/12/2012

Java Path: C:\Program Files\Java\jre6

< Back Next > Cancel

- 3 Use the calendar icons to change the Full Calendar Date Range Values.
- 4 Click **Next**.
- 5 On the Configuration Complete dialog box, read the information, and click **Next**.
- 6 The next dialog box tells you where the scripts were generated. Click **OK**.

Execute the RUNETL Script to Complete the Installation

After you complete all the installation and configuration tasks, execute the RUNETL.bat (or RUNETL.sh) file to complete the installation. To do this:

- 1 Go to the <installation directory name> directory.
- 2 Click RUNETL.bat (or RUNETL.sh) to execute the script.

Upgrade to P6 Reporting Database 6.2.1

In this chapter

Upgrade Installation Procedure

This chapter describes the process for upgrading to P6 Reporting Database 6.2.1 from Enterprise Reporting Database 6.0, 6.1, or 6.2 for the following systems:

- Oracle 10g and 11g
- Microsoft SQL Server 2005

Upgrade Installation Procedure

See “[Install the P6 Reporting Database Application](#)” on page 45.

Performing the upgrade To perform the upgrade, do the following:

- 1 Follow the installation procedures in the “Install P6 Reporting Database Software” chapter, and install P6 Reporting Database 6.2.1 version to the same location where your previous version is installed.

Note: Step 2 only applies if you are upgrading an Oracle system on a existing 6.0 or 6.1 P6 Reporting Database installation. If you are upgrading a Microsoft SQLServer system or upgrading from a 6.2 P6 Reporting Database installation, proceed to step 3.

- 2 When the installation is complete, go to the `\scripts` folder, and run **upgrade60.bat** or **upgrade61.bat** (or **upgrade60.sh** or **upgrade61.sh** when upgrading from a non-windows system) to upgrade your Oracle schema for P6 Reporting Database to the latest version.
- 3 Run the `Incremental.bat` (or `Incremental.sh`).

Administrative Tasks

In this part

[ODS Administration Tasks](#)

[Star Administration Tasks](#)

[Utility Tables, Log Files, and
Troubleshooting](#)

[Uninstalling the P6 Reporting Database](#)

Read the chapters in this part to learn how to perform the administrative tasks for the P6 Reporting Database application.

ODS Administration Tasks describes the ODS administration tasks. These include running the full process to add the Project Management database data to the ODS database, scheduling an incremental database update, manually updating the databases, adding a new user, deleting an existing user, and changing the Spread Bucket Type or Date Ranges. *Star Administration Tasks* describes the administrative tasks for Star, including changing Star Dimension Date Range Start and End dates, and appending new snapshots to the Star. *Utility Tables, Log Files, and Troubleshooting* describes how to use Stage database utility tables to track the ETL process, and provides information about the log files created during installation and daily operations. *Uninstalling the P6 Reporting Database* describes how to uninstall P6 Reporting Database when running on Windows, Linux, Solaris. or AIX systems.

Reinstalling the P6 Reporting Database Application

In this chapter

[Re-Running the Initial Setup for Microsoft SQL Server](#)

[Re-Running the Initial Setup for Oracle](#)

This chapter describes how to reinstall the P6 Reporting Database application after it was initially installed and run.

Re-Running the Initial Setup for Microsoft SQL Server

After you install and configure P6 Reporting Database, do the following if it is necessary to install it again if you are using Microsoft SQL Server:

- 1 Delete and re-create the databases (Stage, ODS, and Star).
- 2 Execute the RUNETL.bat file.

Re-Running the Initial Setup for Oracle

After you install and configure the P6 Reporting Database application, do the following if it is necessary to install it again if you are using Oracle:

- 1** On the Project Management database, log into SQL Plus as the DBA account user.
- 2** Use the drop command as follows:

Drop public database link prmdc;

Drop user prmdc cascade;
- 3** On the Stage database, log into SQL Plus as the DBA account user.
- 4** Use the drop command as follows:

Drop user stageuser cascade;
- 5** On the ODS database, log into SQL Plus as the DBA account user.
- 6** Use the drop command as follows:

Drop user odsuser cascade;
- 7** If Star was installed, then log into SQL Plus as the DBA account user on the Star database. Use the drop command as follows:

Drop user staruser cascade;
- 8** Execute the RUNETL.bat file.

ODS Administration Tasks

In this chapter

Clear and Refresh the Data
Adding a New User
Deleting a User
**Changing the Spread Bucket Type
or Date Ranges**

This section describes the ODS administration tasks. These include scheduling an incremental database update, manually updating the databases, adding a new user, deleting an existing user, and changing the Spread Bucket Type or Date Ranges.

Clear and Refresh the Data

There are times when it may be necessary to clear and refresh all the data in Stage, ODS, and Star (if Star is installed). It would be good to do this, for example, if data has become corrupted. When this happens, it is not necessary to uninstall and reinstall the Reporting Database application.

For Microsoft SQL Server: Delete the STAGE, ODS, and STAR databases then recreate these databases with the same names. Rerun the runetl.bat file, this will populate the STAGE, ODS, and STAR databases with the PMDB information.



Caution: Deleting the STAR database will also delete the snapshots that were created.

For Oracle: As System user for the instance you will need to run the following commands to drop the users:

```
drop user prmcdd cascade;  
  
drop public database link prmcdd;  
  
drop user stageuser cascade;  
  
drop user odsuser cascade;  
  
drop user staruser cascade;
```

The preceding assumes that the default names are the ones you choose during the install. If you choose different names, substitute those names for the defaults.

Dropping these users will remove this information from the Oracle instance. You can then rerun one of the following filesto populate the STAGE, ODS, and STAR databases with the PMDB information:

- runetl.bat (for Oracle on a Windows system)
- runnetl.sh (for Oracle on a Linux, Solaris, or AIX system)



Caution: Deleting the STAR database will also delete the snapshots that were created.

Scheduling the Incremental Database Update

Using a system task scheduler to schedule recurring ETL jobs To keep the ODS and Star databases current, the ETL process must be run periodically. Typically, this is done nightly during off hours.

Schedulers exist for both Windows and non-windows operating systems. For Windows operating systems, the Windows Task Scheduler can be used. For non-Windows operating systems, this is done through a cron job using the Crontab command. Please refer to your operating system documentation for specifics on how to configure incremental to run as a recurring job.

The ETL process is launched by running either the incremental.bat script for Windows, or the incremental.sh script for non-windows. After the AppendStarSnapshot.bat script (for Windows) or the AppendStarSnapshot.sh script (for non-Windows) is run, the Star snapshot process is run by the next run of incremental.

A typical, and recommended, process is to configure the ETL process to run nightly, and configure AppendStarSnapshot.bat or AppendStarSnapshot.sh to run weekly. This can be done by configuring two scheduled jobs:

- The first job to run the AppendStarSnapshot.bat or AppendStarSnapshot.sh script each Sunday at 11:30 PM.
- The second job to run the incremental.bat or incremental.sh script each night at 12:01 AM.

This will create a new dimension in your Star database weekly, and update your ODS and Star databases with current data nightly.

For more information on creating snapshots in the Star database, see ["Appending New Snapshots to the Star"](#) on page 90.



Caution: When configuring the scheduler, it is recommended that you select the option to not start the next job until the previous job has completed.

Manually Launching the Incremental Database Update

To launch the incremental database update for ODS (and Star if installed), execute one of the following scripts on the machine where Stage is installed:

- incremental.bat (for Microsoft SQL Server or Oracle on a Windows platform)
- incremental.sh (for Oracle on a non-Windows platform)

The account used to launch the script must have administrative privileges on the machine.

Adding a New User

User-level security and username restrictions In order for the ODS to properly implement application-level security, a username must conform to the following restrictions:

- It must be 30 or less characters in length.
- It must only consist of alphabetic or numeric characters.
- It must not contain any special characters (such as @ # \$ % , ^ & * . () - + \ / : _ ; | < > , etc.).
- It must not contain any embedded spaces.
- It must start with a letter, not a number.
- It must have at least one character.

These restrictions are required because of the way security must be implemented in the ODS, and they apply both to Microsoft SQL Server and to Oracle.

Database views are created that filter the users' access to only those tables, rows, and fields to which they should have access. Because these views must be owned by the actual database login name, the full view name includes the database login name.

Microsoft SQL Server and Oracle do not allow a view to have an embedded space in the login name. Therefore, it is not possible to create a view for a user that has an embedded space in the name. If a user does have an embedded space in his or her login name, an ODS database level login will not be created. In that case, the user will not have access to the ODS database.

User names created in Project Management for users who will also use P6 Reporting Database cannot start with a numeric character. They must start with an alphabetic character. Usernames that start with numbers cannot be used as database-level login names.

See [“User-level security and username restrictions”](#) on page 81.

Adding the user When adding a new user, the username must conform to the format restrictions listed earlier in this section, under “User-level security and username restrictions.” These restrictions apply both to Microsoft SQL Server and to Oracle.

For information on adding a new Project Management user, see the *Project Management Administrator's Guide*, or the *Project Management Online Help*.

For detailed information on ODS security, see the *P6 Reporting Database User's Guide*.

To add a new user for ODS, do the following:

- 1 On the machine where the Project Management database resides, add a new user.



This username must start with an alphabetic character. It must also conform to the username format restrictions described in “[User-level security and username restrictions](#)” on page 81.

- 2 Verify that the new user was created in the Project Management database.
- 3 Run a query to use the Project Management database.
- 4 Execute the following query:

Update Users set report_user_flag = 'Y' where user_name = 'username'



For Oracle, when setting report_user_flag = 'Y', the letter Y must be a capital (upper case) Y. If the letter Y is not an upper case Y, the user will not be created.

*In the preceding query, replace the text **username** with the name of the user you are adding. Do not delete the single quotation marks around username.*

Database Administrator's access to the Project Management database is required to run the query.

- 5 On the machine where the Stage database resides, run one of the following scripts:
 - incremental.bat (for Microsoft SQL Server or Oracle on a Windows platform)
 - incremental.sh (for Oracle on a non-Windows platform)

This script is in the <Enterprise Reporting home>\scripts directory. This adds the user to the ODS database, creates Views for the user, and adds the user to Server Logins.

Deleting a User

To delete a user from ODS, do the following:

For information on deleting a Project Management user, see the *Project Management Administrator's Guide*, or the *Project Management Online Help*.

For detailed information on ODS security see the *P6 Reporting Database User's Guide*.

- 1 On the machine where the Project Management database resides, delete the user, or use an SQL command to set the user's report_user_flag='N'.
- 2 On the machine where the Stage database resides, run one of the following scripts:

- incremental.bat (for Microsoft SQL Server or Oracle on a Windows platform)
- incremental.sh (for Oracle on a non-Windows platform)

This script is in the <Enterprise Reporting home>\scripts directory. This will remove the user's Views from ODS.

- 3 If desired, manually delete the user from Server Logins on the machine where ODS resides.
- 4 For Oracle, drop the user.

Changing the Spread Bucket Type or Date Ranges

This section describes how to change the Spread Bucket Type, the Full Calendar Date Range Start and End dates, or the ODS Date Range Start and End dates.

For Microsoft SQL Server:

- 1 Go to the folder where you installed P6 Reporting Database the default is \<installation_folder> , where <installation_folder> is the folder in which you choose to install the databases.
- 2 Run **generate_ini.cmd**.
- 3 Follow the steps in [“Configure the Microsoft SQL Server Connection”](#) on page 50.
- 4 Follow the steps in [“Configure the Microsoft SQL Server Stage Database Connection”](#) on page 51.
- 5 Follow the steps in [“Configure the Microsoft SQL Server ODS Database Connection”](#) on page 53.
- 6 If you installed the Stat database, follow the steps in [“Configure the Microsoft SQL Server Star Database Connection”](#) on page 54.
- 7 Follow the steps in [“Configure the ETL Database and JRE Path Information”](#) on page 55.
- 8 Go to the folder where you installed P6 Reporting Database, and go to the \<installation_folder>\scripts folder, where <installation_folder> is the folder in which you choose to install the scripts.
- 9 Run the **ETLParameterODSupdate.bat** script.
- 10 Run **Incremental.bat**

For Oracle on a Windows Platform:

- 1 Go to the folder where you installed P6 Reporting Database.
- 2 Run **generate_ini.cmd**.
- 3 Follow the steps in [“Configure the Oracle Connection”](#) on page 60.
- 4 Follow the steps in [“Configure the Oracle Stage Database Connection”](#) on page 61.
- 5 Follow the steps in [“Configure the Oracle ODS Database Connection”](#) on page 63.

- 6 If you installed the Stat database, follow the steps in [“Configure the Oracle Star Database Connection”](#) on page 64.
- 7 Follow the steps in [“Configure the ETL Database and JRE Path Information”](#) on page 65.
- 8 In the folder where you installed P6 Reporting Database, run the **ETLParameterODSupdate.bat** script, then run Incremental.bat.

For Oracle on a Non-Windows Platform:

- 1 Go to the folder where you installed P6 Reporting Database.
- 2 Run **generate_ini.sh**.
- 3 Follow the steps in [“Configure the Oracle Connection”](#) on page 60.
- 4 Follow the steps in [“Configure the Oracle Stage Database Connection”](#) on page 61.
- 5 Follow the steps in [“Configure the Oracle ODS Database Connection”](#) on page 63.
- 6 If you installed the Stat database, follow the steps in [“Configure the Oracle Star Database Connection”](#) on page 64.
- 7 Follow the steps in [“Configure the ETL Database and JRE Path Information”](#) on page 65.
- 8 Go to the `\<installation_folder>\scripts` folder, where `<installation_folder>` is path to the folder in which you choose to install the P6 Reporting Database scripts.
- 9 Run the **ETLParameterODSupdate.sh** script.
- 10 Run the **Incremental.sh** script.

Star Administration Tasks

In this chapter

**Changing the Star Dimension
Date Range Start and End Dates**

**Appending New Snapshots to the
Star**

This section describes the Star administration tasks. These include changing the Star Dimension Date Range Start and End dates, and appending new snapshots to the Star.

Changing the Star Dimension Date Range Start and End Dates

This section describes how to change the Star Dimension Date Range Start and End dates.

For Microsoft SQL Server:

- 1 Go to the *<installation_folder>\Reporting Database* folder where *<installation_folder>* is the folder in which you installed P6 Reporting Database.
- 2 Run **generate_star.cmd**.
- 3 Follow the steps in “[Configure the Microsoft SQL Server Star Database Connection](#)” on page 54.
- 4 Go to the folder where you installed P6 Reporting Database, and go to the *<installation_folder>\Reporting Database\scripts* folder.
- 5 Run the **ETLParameterStarupdate.bat** script.
- 6 Run **Incremental.bat**.

For Oracle on a Windows Platform:

- 1 Go to the *<installation_folder>\Reporting Database* folder, where *<installation_folder>* is the folder in which you installed P6 Reporting Database.
- 2 Run **generate_star.cmd**.
- 3 Follow the steps in “[Configure the Oracle Star Database Connection](#)” on page 64.
- 4 Go to to the *<installation_folder>\Reporting Database\scripts* folder.
- 5 Run the **ETLParametersStarupdate.bat** script.
- 6 Run **Incremental.bat**.

For Oracle on a Non-Windows Platform:

- 1 Go to the *<installation_folder>\erdb* folder, where *<installation_folder>* is the folder in which you installed P6 Reporting Database.
- 2 Run **generate_star.sh**.
- 3 Follow the steps in [“Configure the Oracle Star Database Connection”](#) on page 64.
- 4 Go to the *<installation_folder>\erdb\scripts* folder.
- 5 Run the **ETLParametersStarupdate.sh** script.
- 6 Run Incremental.sh.

Appending New Snapshots to the Star

When the incremental script is run, both the ODS and the Star database are updated with the latest data from the Project Management database. However, the Star has the ability to retain the data from any previous run of the ETL process, so that multiple sets (snapshots) of data can be accumulated within the Star database over time.

Each Fact and Dimension table in the Star database (except D_DATE and D_TIME) has a field that groups the data together as belonging to a particular snapshot. For Microsoft SQL Server installations, this field is called **CurrentProcessCycleDate**. For Oracle installations, this field is called **SnapshotID**.

If you want to accumulate a new snapshot (that is, when you want to retain the data from the last snapshot, and create a new snapshot) you must run the following special script before the ETL process is launched. Depending on your server, this script would be one of the following:

- AppendStarSnapshot.bat (for Microsoft SQL Server or for Oracle on a Windows platform)
- AppendStarSnapshot.sh (for Oracle on a non-Windows platform)

This script resides in the scripts folder where you installed P6 Reporting Database. Running this script ensures that a new snapshot is appended the next time that the ETL process is run.

An administrator can run this script manually on the Stage machine whenever a new snapshot is needed. However, most likely you will want your snapshots to start at even intervals (for example, weekly or monthly) to ensure consistency.

In order to schedule a recurring rollover to a new snapshot date, simply create a separate scheduled job that calls one of the following:

- AppendStarSnapshot.bat (for Microsoft SQL Server or for Oracle on a Windows platform) or
- AppendStarSnapshot.sh (for Oracle on a non-Windows platform).

Ideally, schedule this to occur immediately before a regularly scheduled ETL run:

- incremental.bat for Microsoft SQL Server or Oracle on a Windows platform
- incremental.sh for Oracle on a non-Windows platform

The next ETL update to the Star will then save to the new snapshot. All subsequent ETL updates to the Star will continue updating this new snapshot, until the next time the AppendStarSnapshot script is run again.

Example of monthly snapshots

F_PROJECTS table

<u>KEY</u>	<u>CurrentProcessCycleDate</u>	<u>Snapshot ID</u>
693	2007-08-13 08:02:00.000	1
694	2007-08-13 08:02:00.000	1
695	2007-08-13 08:02:00.000	1
1146	2007-09-13 08:02:00.000	2
1147	2007-09-13 08:02:00.000	2
1148	2007-09-13 08:02:00.000	2
1150	2007-09-18 08:02:00.000	3
1151	2007-09-18 08:02:00.000	3
1152	2007-09-18 08:02:00.000	3
1153	2007-09-18 08:02:00.000	3

In the preceeding example:

- The first snapshot period ends on 8-13-2007. This is SnapshotID 1.
- The Next snapshot period ends on 9-13-2007. This is SnapshotID 2.
- The Current (latest) snapshot will always show date of last ETL run (9-18-2007). This is SnapshotID 3.

Utility Tables, Log Files, and Troubleshooting

In this chapter

Utility Tables in the Stage Database

Log Files of P6 Reporting Database

Troubleshooting

This chapter describes how to use Stage database utility tables to track the ETL process. It describes Enterprise Reporting Database log files that can provide information about the installation and daily operation of P6 Reporting Database. In case a problem occurs, it tells where to get help if the log files do not provide sufficient information.

Utility Tables in the Stage Database

During the ETL process, there are several tables that are generated in the Stage database that can be useful in tracking the progress of the current ETL. Because these tables always accumulate rows, they can also be useful in providing historical information about previous ETL runs. These tables reside in the Stage database only.

ETL_ProcessMaster Table This table (shown in the following example) provides the history of ETL process runs. The start date and end date are shown, as well as the type of process.

- ProcessType=FULL indicates the full ETL process
- ProcessType=INCR indicates the incremental ETL process.

Process ID	ProcessStartDate	ProcessEndDate	ProcessType
12345	2007-09-15 14:45:39.683	2007-09-15 16:11:10	FULL
12346	2007-09-17 09:46:37.183	2007-09-17 10:05:34	INCR

ETL_ProcessInfo Table This table (shown in the following example) provides the details of a particular ETL process run. For each step in the ETL process, an entry is logged to this table with an informational message. The ProcessId field in this table can be joined to the ProcessId in the ETL_ProcessMaster table.

The Rows column shows the number of rows that were processed.

ProcessID	InfoDate	ProcessName	InfoMsg	InfoType	TableName	Rows
4539	2007-09-15 15:51	ETLCalc	Full, API) DAO Completed without errors in 0.125 seconds	PROGRESS	PROJECT RISK	21
4540	2007-09-15 15:51	ETLCalc	Full, API) DAO Completed without errors in 0.406 seconds	PROGRESS	EPS	10
4541	2007-09-15 15:51	ETLCalc	(Full, API) DAO Completed without errors in 5.5 seconds	PROGRESS	WBS	96

ProcessID	InfoDate	ProcessName	InfoMsg	InfoType	TableName	Rows
4542	2007-09-15 15:51	ETLCalc	Full, API) DAO Completed without errors in 0.109 seconds	PROGRESS	RESOURCES	41
4543	2007-09-15 15:51	ETLCalc	Full, API) DAO Completed without errors in 0.094 seconds	PROGRESS	RESOURCE CURVE	12

Changes made between Incremental runs The logs capture changes that have made between Incremental runs. For changes made between Incremental runs, the logging system populates the InfoMsg column with the details on the update, example:

actv_code_id=>3500, Operation=>Insert,SKEY=>895

Disabling CDC logging The CDC logging is on by default. To disable CDC logging, perform the following steps to update the ETL_Parameter table.

- 1 Add a record where P_FEATURE = LogCDC
- 2 Run an update statement to set p_1 = 0 where P_FEATURE = 'LogCDC'

Keeping all CDC Logs By default, the CDC log is cleared during each incremental. To keep all of CDC logs set the value parameter as follows:

value = 2.

ETL_ProcessException Table This table shows exceptions (error) conditions that occurred during the ETL process. For each ETL run, any exceptions that occur will be logged into this table. The ProcessId field can be joined with the ProcessId of the ETL_ProcessMaster.

The fields available in the ETL_ProcessException are:

Field	Description
ProcessId	The id identifying the process,
ExceptionDate	The timestamp of when the exception occurred.
ProcessName	The name of the process that failed.

Field	Description
ExceptionCondition	The text description of exactly what failed within the process.
PMDBTableName	The name of the PMDB table (if applicable) that was being processed.
ODSTableName	The name of the ODS table (if applicable), that was being processed
ProjectId	If the error occurred in the context of processing project rows, this will be Project Object Id of the project.

Log Files of P6 Reporting Database

P6 Reporting Database creates extensive log files for each script that is run during the installation process and for each run of the incremental update. The log files are stored in a 'log' folder in the root of the P6 Reporting Database installation location.

The log files contain detailed information that you should inspect after running each script in the installation process, and after running the incremental process.

Log files The following lists the log files, identifies when they are created, and gives a brief description of their contents:

File	Description
AppendStarSnapShot.log	Created when a new Star snapshot is added by running AppendStarSnapshot.bat or AppendStarSnapshot.sh.
ETLInit.log	Created when Runetl.bat (or Runetl.sh) or Incremental.bat (or Incremental.sh) are run. Contains results of the DAO initialization at the beginning of the ETL Process.
ETLparameter.log	Created when Runetl.bat (or Runetl.sh) or Incremental.bat (or Incremental.sh) are run. Contains results of the DAO initialization at the beginning of the ETL Process.
ETLParameterUpdateODS.log	Created when ETLparameterUpdateODS.bat (or ETLparameterUpdateODS.sh) is run to change the ODS date range.
ETLParameterUpdateSTAR.log	Created when ETLparameterUpdateSTAR.bat (or ETLparameterUpdateSTAR.sh) is run to change the ODS date range.
ETLprocess.html	Created when Runetl.bat (or Runetl.sh) is run. Contains results of the processes run to create the users, tables, and transfer of data. Derived from the ETL_Master, ETL_ProcessInfo, and ETL_Exception tables.
ETLprocess.log	Created when Runetl.bat (or Runetl.sh) is run. Contains results of the processes run to create the users, tables, and transfer of data. There can be additional etlprocess.log-1 if runetl has been run multiple times without deleting original logs. New logs will be created, and old logs will be renamed.

File	Description
ETLprocess.log	Created when Runetl.bat (or Runetl.sh) is run. Contains results of the processes run to create the users, tables, and transfer of data. There can be an additional ETLprocess.log-1 if runetl has been run multiple times without deleting original logs. New logs will be created, and old logs renamed.
Incremental.html	Created when Incremental.bat (or Incremental.sh) is run. Contains the details of the SQL commands run to perform the incremental updates. Derived from the ETL_Master, ETL_ProcessInfo, and ETL_Exception tables.
Incremental.log	Created when Incremental.bat (or Incremental.sh) is run. Contains the details of the SQL commands run to perform the incremental updates.

Troubleshooting

Enterprise Reporting logs all progress information in **.log** files in the “log” directory under the Enterprise Reporting root. These log files contain information about the installation, and also about the daily operation of Enterprise Reporting. If an error occurs, diagnostic information may be included with the log, which may help lead you to the resolution or to the script or process which caused the error.

For detailed information about contacting Customer Support, see [“Contacting Customer Support”](#) on page 10.

If you have a question about using the P6 Reporting Database that you or your network administrator cannot resolve with information in the documentation or Help, please contact Customer Support.

Uninstalling the P6 Reporting Database

In this chapter

Uninstalling P6 Reporting Database

This chapter describes how to uninstall the P6 Reporting Database for Windows, Linux, Solaris, and AIX systems.

Uninstalling P6 Reporting Database

Do the following if it is necessary to uninstall the P6 Reporting Database.



Due to the global nature of the Oracle Universal Installer (OUI), the OUI online help is not applicable for installing or uninstalling P6 Reporting Database or for references to the documentation. Instead, refer to the following for uninstalling instructions.

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

- If you are uninstalling on a Microsoft Windows system,

windows\Disk1\install\setup.exe

- If you are uninstalling on a non-Microsoft Windows system,

<Operating System>\Disk1\install\runInstaller

Where <Operating System> is either aix, linux, or solaris.

- 2 Click **Deinstall Products**.
- 3 Select the name that represents the P6 Reporting Database installation and click **Remove**.



You determined the name that represents the P6 Reporting Database installation when you installed the product.

- 4 If the name of the item to remove is correct, click **Yes** to confirm.
- 5 Click **Close**.
- 6 Click **Cancel** and then **Yes** to confirm.
- 7 If you are uninstalling on a Microsoft Windows system, delete the *<installation folder>Reporting Database* folder, where *<installation folder>* is the folder in which you installed P6 Reporting Database.

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