



PRIMAVERA

**P6 Analytics User's Guide  
Release 2.0**

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# Copyright

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Oracle Primavera P6 Analytics User's Guide

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# Preface

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P6 Analytics is a separately packaged project portfolio analysis solution that enables businesses to gain visibility and deep insight into their project execution performance and enterprise resource allocation. By incorporating industry and business intelligence best practices, P6 Analytics fosters better decision making and control by turning insight into action. Use P6 Analytics to identify potential problems and course correct early in the lifecycle, analyze trends over time to respond faster to opportunities and threats, and uncover and replicate best practices. P6 Analytics includes a large catalog of prebuilt dashboards and key performance measures enabling customers to quickly gain strategic alignment over their projects, programs, portfolios and resources.

- ▶ Drill-down into multiple layers of data (ultimately into P6 EPPM) using interactive dashboards
- ▶ Use pivot table functionality to slice, dice and aggregate data in multiple ways
- ▶ Utilize Project, WBS, and Activity histories to identify trends over time
- ▶ Easily modify and create dashboards and reports using a visual UI
- ▶ Embed analytics in MS Office documents
- ▶ Combine analytics from other Oracle enterprise solutions
- ▶ Maintain same P6 EPPM security model

P6 Analytics is deployed as an Oracle Business Intelligence (OBI) application, installed separately, and utilizes the P6 Reporting Database as its data source. OBI (Standard Edition One or Enterprise Edition Plus) must be licensed separately; a restricted use license of P6 Reporting Database is included with P6 Analytics. As the P6 Reporting Database requires use of an Oracle back end database, P6 Analytics also requires an Oracle back-end database.

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## Where to Get Documentation

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

**[http://download.oracle.com/docs/cd/E27225\\_01/index.htm](http://download.oracle.com/docs/cd/E27225_01/index.htm)**

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

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

The following table describes the core documents available for Primavera Analytics and lists the recommended readers by role.

Title	Description
<i>What's New in Primavera Analytics</i>	Highlights the new and enhanced features included in this release.  You can also use the <i>P6 EPPM Cumulative Feature Overview Tool</i> to identify the features that have been added since a specific release level.  All users should read this guide.
<i>P6 Analytics Installation and Configuration Guide</i>	This guide is a step-by-step guide to installing and configuring P6 Analytics. This guide provides information about P6 Analytics administrative tasks. It also includes information for Star security configuration, OBI installation and configuration, Financial Periods installation and configuration, and for configuring the Secure Sockets layer.
<i>P6 Reporting Database Installation and Configuration Guide</i>	This document explains how to install and configure the P6 Reporting Database application, and generate the ODS and Star database. It describes how to install and configure the Oracle Gateway if the P6 Reporting Database is installed on a Microsoft SQL Server. It also provides information about how to run the Configuration Utility.
<i>P6 Reporting Database User's Guide</i>	Provides information about using ODS and Star with the P6 EPPM database to extract data that you can use to create reports.
<i>P6 Analytics User's Guide</i>	This guide explains how to use Star Schema Database (Star) to extract data for use in creating reports through the Oracle Business Intelligence Suite.

### Distributing Information to the Team

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



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

## Where To Get Training

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

**<http://education.oracle.com>**

## Contacting Customer Support

If you have a question about using Oracle products that you or your network administrator cannot resolve with information in the documentation or help, click **<http://support.oracle.com/>**. This page provides the latest information on contacting Oracle Global Customer Support, knowledge articles, and the support renewals process.

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

- ▶ Use the **Primavera P6 Analytics** or **P6 Reporting Database** support line when you are having installation, configuration, connection, or application issues related to Primavera Analytics 2.0.

### Access to Oracle Support

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



# Before You Begin

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This section provides a general overview of P6 Reporting Database and P6 Analytics.

- ▶ P6 Analytics provides customers with an in-depth and comprehensive method for analyzing and evaluating their project performance, project history, and resource assignments and utilization.
- ▶ P6 Reporting Database works with the P6 EPPM database to provide a robust and powerful reporting solution.

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## About this Guide

This guide explains how to use P6 Analytics with the P6 EPPM database to extract data for use in creating reports through the Oracle Business Intelligence Suite. This guide:

- ▶ Provides an overview of P6 Analytics.
- ▶ Provides information about the Star schema, and the tables in the Star database.
- ▶ Provides information about Dynamic Codes.
- ▶ Provides information about Oracle Business Intelligence, and describes the OBI Analysis and Interactive Reporting tool.

## About P6 Analytics

P6 Analytics provides an in-depth and comprehensive method for analyzing and evaluating project performance, project history, resource assignments and utilization.

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

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

Use P6 Analytics to:

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

### Performance Data

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

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

The RPD delivers an extensive amount of Earned Value, Costs, Units, Percent Completes, and other key performance indicators. It enables data to be sliced by items such as time, project, eps, portfolios, activities, and resources.

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

## The Star Database

The STAR schema allows organizations to store data for History Levels (Project, WBS or Activity) for a specific History Interval (Year, Quarter, Financial Period, Month or Week). This data allows for tracking trends and for advanced business intelligence.

## About the STARETL Process

The STARETL process provides data movement between the P6 EPPM extended schema and STAR schema.

Use one of the following to run the STARETL process:

- ▶ staretl.bat (in a Microsoft Windows environment)
- ▶ staretl.sh (in a unix or Linux based environment)

This can be run manually, or scheduled to run as you require. See "About Scheduling" in the *P6 Reporting Database Installation and Configuration Guide* for more information about scheduling the processes to run.

## Running User-defined ETL Scripts

Primavera Analytics R2 now supports the ability to add additional user defined steps to the ETL process, which can be used to extract, transform and load additional data into the Star schema. When using this option, user defined scripts will be automatically executed as part of the standard ETL process.

To run user-defined scripts during Star etl, do the following:

- 1) Create scripts and keep a copy in a safe place.

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**Note:** Each script should have an "EXIT" at the end.

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- 2) Make sure each script runs successfully with good performance in sqlplus.
- 3) Copy the scripts to the <install\_dir>/scripts/user\_scripts. Scripts will be picked up by the Star etl process.
- 4) If some of the scripts have to be run in certain order, add the script name to the file <install\_dir>/res/priority/user\_scripts.txt, one line for each script file name (no folder info needed), and they'll be scheduled to run in that order. For the scripts not in user\_scripts.txt, they'll be scheduled to run after those in the file list, and in no specific order.
- 5) Run staretl.bat or staretl.sh. The user-defined scripts are the last step of the Star etl process.

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**Note:** Running configStar.cmd/configStar.sh will not override these scripts.

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### User-defined ETL Script Samples

Oracle Primavera provides sample scripts to demonstrate how to extract, transform and load (ETL) additional User Defined Fields from P6 EPPM to the Project, WBS and Activity dimensions in the STAR schema.

The sample scripts are available in the P6Analytics2.0\<operating\_system>\sample\user\_scripts folder on your release media or download.

To execute the sample scripts:

- 1) Copy the 3 \*.sql files to <install\_dir>\scripts\user\_scripts directory.
- 2) Copy user\_scripts.txt to <install\_dir>\res\priority directory. Listing the scripts in this file specifies the order in which the scripts will run.
- 3) Run staretl.bat or staretl.sh. The scripts will run at the end of the ETL process.

The samples add UDF field values to Project, WBS and Activity dimensions.

### About the Star Database

The Star database enables an organization to perform advanced business analysis on project and portfolio data. It supplies a dimensional schema that organizes P6 EPPM hierarchical relationships.

P6 Analytics enables the highest level of query efficiency and flexibility in data analysis. The Star database is designed to accumulate Project, WBS, and Activity data over time. This provides organizations with historical data for tracking trends and for advanced business intelligence.

# Star Schema

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This section provides a list of the Dimension, Fact, and Staging tables that are available in the Star Schema portion of the P6 Analytics application. The Star Schema provides the most reporting functionality.

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### Tables in the Star Database

For more information on the Star schema use Oracle SQL Developer Data Modeler to view the Star schema diagrams in the STAR\_SCHEMA.zip file, contained in the documentation media or download.

This section lists the Star database tables that fall into the following groups:

- ▶ Dimension tables
- ▶ Fact tables

#### Dimension tables

Dimension tables include:

- ▶ W\_ACTIVITY\_D
- ▶ W\_ACTIVITY\_RISK\_D
- ▶ W\_COST\_ACCOUNT\_D
- ▶ W\_DAY\_D
- ▶ W\_EPS\_D
- ▶ W\_OBS\_D
- ▶ W\_PROJECT\_D
- ▶ W\_PROJECT\_PORTFOLIO\_D
- ▶ W\_RESOURCE\_D
- ▶ W\_RESOURCE\_ROLE\_D
- ▶ W\_RESOURCE\_TEAM\_D
- ▶ W\_ROLE\_D
- ▶ W\_WBS\_D

Dimension Hierarchy tables include:

- ▶ W\_EPS\_HIERARCHY\_D
- ▶ W\_WBS\_HIERARCHY\_D

### Fact tables

Fact tables include:

- ▶ W\_ACTIVITY\_SPREAD\_F
- ▶ W\_PROJECT\_HISTORY\_F
- ▶ W\_RESOURCE\_ASSIGNMENT\_SPRD\_F
- ▶ W\_RESOURCE\_LIMIT\_F
- ▶ W\_RESOURCE\_LIMIT\_SUM\_F
- ▶ W\_ACTIVITY\_HISTORY\_F
- ▶ W\_WBS\_HISTORY\_F
- ▶ W\_UDF\_ACTIVITY\_F
- ▶ W\_UDF\_PROJECT\_F
- ▶ W\_UDF\_WBS\_F



# Oracle Business Intelligence (OBI) Administration Application

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This section provides information about the Oracle Business Intelligence (OBI) Administration application.

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### OBI Administration Application Overview

The OBI Server stores metadata in repositories. The OBI Administrator uses the graphical user interface (GUI) of the Administration Application software to create and maintain repositories.

An OBI repository consists of three layers. Each layer appears in a separate pane in the Administration Tool user interface, and has a tree structure (similar to Microsoft Windows Explorer).

A repository (RPD file) is included in the P6 Analytics release. This RPD file contains information on the Star schema, the physical, business, and presentation layers, as well as translations capabilities for column names and 'hint help' for the fields displayed in Answers.

### BI Server Repository

You can view an OBI server repository file (.rpd) by launching the OBI Server Administration Application, or by simply double-clicking on the .rpd file. An OBI server repository file has three layers:

- ▶ **Physical** - Contains information about the physical data resources (Star).
- ▶ **Business** - Organizes information by business model. Each business model contains logical tables. Logical tables have relationships to each other expressed by logical joins. Logical tables map to the source data in the Physical layer.
- ▶ **Presentation** - This is the user view of a business model.



# OBI Dashboards Tool

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This section provides information about the Oracle Business Intelligence Dashboards tool.

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## P6 Analytics Dashboards Overview

Interactive Dashboards provide points of access for analytics information. When an end user accesses OBI, the user's default dashboard is typically the first page that appears. Dashboards are usually used to display reports that contain content specific to the needs of individual users or groups.

Users with the appropriate permissions can place results from OBI Analysis into Dashboards for use by end users.

Oracle assumes that you are already familiar with Oracle Business Intelligence Analysis and Interactive Reporting. For more information about using them, see the appropriate Oracle Business Intelligence documentation.

## Primavera - Activity User Defined Fields

This Subject Area contains the following columns from which you can choose categories for your reports:

- ▶ EPS
- ▶ WBS
- ▶ Portfolio
- ▶ Project
- ▶ Activity
- ▶ Activity User Defined Fields

### Primavera - Activity

This Subject Area contains the following columns from which you can choose categories for your reports:

- ▶ Time
- ▶ EPS
- ▶ WBS
- ▶ OBS
- ▶ Portfolio
- ▶ Project
- ▶ Risk
- ▶ Activity
- ▶ Resource
- ▶ Fact - Primavera - Activity

### Primavera - Project History

This Subject Area contains the following columns from which you can choose categories for your reports:

- ▶ Time
- ▶ EPS
- ▶ WBS
- ▶ Portfolio
- ▶ Project
- ▶ Activity
- ▶ Fact - Primavera - Project History

### Primavera - Project User Defined Fields

This Subject Area contains the following columns from which you can choose categories for your reports:

- ▶ EPS
- ▶ Portfolio
- ▶ Project
- ▶ Project User Defined Fields

### Primavera - Resource Assignment

This Subject Area contains the following columns from which you can choose categories for your reports:

- ▶ Time

- ▶ EPS
- ▶ WBS
- ▶ Portfolio
- ▶ Project
- ▶ Activity
- ▶ Resource
- ▶ Activity Resource Assignment
- ▶ Fact - Primavera - Resource Assignment

### **Primavera - Resource Utilization**

This Subject Area contains the following columns from which you can choose categories for your reports:

- ▶ Time
- ▶ Resource
- ▶ Activity Resource Assignment
- ▶ Fact - Primavera - Resource Utilization

### **Primavera - WBS User Defined Fields**

This Subject Area contains the following columns from which you can choose categories for your reports:

- ▶ EPS
- ▶ WBS
- ▶ Portfolio
- ▶ Project
- ▶ WBS User Defined Fields