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PRIMAVERA

Connecting BI Publisher to P6

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Legal Notices

Oracle Primavera Connecting BI Publisher to P6

Contents

Preface

In This Section

Where to Get Documentation

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

http://download.oracle.com/docs/cd/E29618_01/index.htm

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

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

The following table describes the core documents available for P6 EPPM and lists the recommended readers by role. P6 EPPM roles are described in the *Planning Your P6 EPPM Implementation* guide*.*

Title	Description
What's New in P6 EPPM	Highlights the new and enhanced features included in this release.
	You can also use the *P6 EPPM Cumulative Feature Overview Tool* to identify the features that have been added since a specific release level.
	All users should read this guide.
Planning Your P6 EPPM Implementation	This book provides information on planning your implementation. It provides an installation process overview, frequently asked questions, client and server requirements, and security information.
	The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.
P6 EPPM Installation and Configuration Guide	This documentation set explains how to install and configure the P6 EPPM using the P6 EPPM Installation and Configuration wizards.

Title	Description
	The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.
P6 EPPM Installation and Manual Configuration Guide	This documentation set explains how to install and configure the P6 EPPM using the P6 EPPM Installation wizards, and how to manually configure individual components. The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.
P6 EPPM Post Installation Administrator's Guide	Once you have installed and configured your P6 EPPM applications, this guide will tell you how to get started using them. You will want to complete most of the tasks in this guide before you let your users work with these applications. These tasks include information about configuring your users and security settings and privileges, setting your P6 Administrator application and P6 Progress Reporter Administrator settings, and finalizing your P6 Integration API and P6 EPPM Web Services settings. The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.
Tested Configurations	Lists the configurations that have been tested and verified to work with P6 EPPM. The network administrator/database administrator and P6 EPPM administrator should read this document.
P6 User's Guide	This guide explains how to plan, set up, and manage projects in a multiuser environment. If you are new to *P6*, start with this guide to learn how to use the software effectively to plan and manage projects. When you need more detail, refer to the P6 Help. The program manager, project manager, resource/cost manager, and team leader should read this guide.
P6 Data Dictionary	This data dictionary defines fields used in P6. All P6 users should refer to this guide if you need a field definition.
P6 Team Member User's Guide	This guide explains how to status activities using P6 Team Member interfaces, which are the P6 Team Member for iPhone and P6 Team Member for Android mobile apps, P6 Team Member Web, and E-mail Statusing Service. All users of the P6 Team Member interfaces should read this guide.
P6 Team Member Web Help	Describes how to use P6 Team Member Web to provide status on activities. P6 Team Member Web users should read this Help.

Title	Description
P6 Professional Help	Explains how to use P6 Professional for EPPM to plan, set up, and manage projects in a multiuser environment. If you are new to P6 Professional, use this Help to learn how to use the software effectively to plan and manage projects.
	The P6 Professional administrator, program manager, project manager, resource/cost manager, and team leader should read this Help.
P6 Help	Describes how to create, manage, plan, and schedule projects, group projects into portfolios, administer all enterprise data, application settings, user accounts, and security profiles, maintain both the organizational breakdown structure (OBS) and enterprise project structure (EPS), manage resources and roles, track risks, issues, and notebooks, create and reuse templates, evaluate budgets, analyze performance and ROI for project portfolios, participate in workflows and document reviews, approve timesheets, and generate reports.
	The operations executive, P6 EPPM and P6 administrator, program manager, project manager, resource/cost manager, and team leader should read this Help.
P6 Progress Reporter Administrator Help	Describes how to enter database connection information for the P6 Progress Reporter server and modify P6 Progress Reporter server and application settings.
	The P6 EPPM network administrator/database administrator should read this Help.
P6 Progress Reporter Help	Describes how to use P6 Progress Reporter to enter and update time spent on assignments.
	Team members using P6 Progress Reporter should read this Help.
P6 Progress Reporter User's Guide	This guide explains how to report work time and provide status on assigned activities using P6 Progress Reporter.
	Team members using P6 Progress Reporter should read this guide.
Primavera P6 Visualizer Help	Describes how to create, modify, and manage Timescaled Logic Diagrams and Gantt charts. The Visualizer application can connect to a P6 Professional or EPPM database. Visualizer can only be installed via the P6 Professional setup. However, you can run Visualizer without P6 Professional installed.
	All users should read this Help.
P6 EPPM Web Services Programmer's Guide,	The *P6 EPPM Web Services Programmer's Guide*, available as an HTML help system, describes how to invoke, use, and

Title	Description
and *P6 EPPM Web Services Reference Manual*	troubleshoot the available services/operations within supported environments. The *P6 EPPM Web Services Reference Manual*, also available as an HTML help system, describes all services and operations available in P6 EPPM Web Services in a comprehensive manner.
	Anyone who wants to develop applications which interact with P6 should read this guide.
P3 to P6 EPPM Migration Guide	This guide provides best practices for migrating your P3 data to P6 EPPM, and details how P3 functionality maps to P6 EPPM functionality.
	All administrators should read this guide.

Distributing Information to the Team

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

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

Where to Get Training

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

http://education.oracle.com

Where to Get Support

If you have a question about using Oracle products that you or your network administrator cannot resolve with information in the documentation or help, 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 EPPM** support line when you are having installation, configuration, or connection issues related to P6 EPPM.
▸ Use one of the following support lines when you are having installation or configuration issues that do not relate to P6 EPPM.
    ▸ Oracle WebLogic Server
    ▸ Oracle Database Server
    ▸ BI Publisher

- BPM
- Oracle Webcenter Content Core Capabilities (formerly Universal Content Management)
- Oracle Enterprise Manager
- Oracle Access Manager
- Oracle AutoVue

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.

Using Primavera's Support Resource Centers

Primavera's Support Resource Center provides links to important support and product information. Primavera's Product Information Centers (PICs) organize documents found on My Oracle Support (MOS), providing quick access to product and version specific information such as important knowledge documents, Release Value Propositions, and Oracle University training. PICs also offer documentation on Lifetime Management, from planning to installs, upgrades, and maintenance.

Visit https://support.oracle.com/epmos/faces/DocumentDisplay?id=1486951.1 to access links to all of the current PICs.

PICs also provide access to:

- **Communities** are moderated by Oracle providing a place for collaboration among industry peers to share best practices.
- **News** from our development and strategy groups.
- **Education** contains a list of available Primavera product trainings through Oracle University. The Oracle Advisor Webcast program brings interactive expertise straight to the desktop using Oracle Web Conferencing technology. This capability brings you and Oracle experts together to access information about support services, products, technologies, best practices, and more.

For more information about working with Support, visit https://support.oracle.com/epmos/faces/DocumentDisplay?id=888813.2.

About Configuring BI Publisher

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

This guide will tell you how to:

▶ Set parameters for BI Publisher and P6
▶ Configure BI Publisher in the P6 Administrator application
▶ Set security settings in BI Publisher to work with P6

> **Note**: These instructions contain information only on configuring BI Publisher to work with P6. They do not include information on installing BI Publisher. For BI Publisher's installation instructions, see the documentation included with BI Publisher.

Getting Started with BI Publisher Reports

Before getting started, familiarize yourself with the way BI Publisher handles reports. P6 populates its list of reports from the Report Definitions that load from BI Publisher's web services. When you need to create or modify a report, you will use BI Publisher. The documentation on BI Publisher will help you understand how it works. Before continuing with the following sections, you need to learn about the following Report Definitions from the BI Publisher documentation:

▶ Data Model
  ▶ Writing SQL queries and data templates
▶ Parameters
  ▶ Include these types: Text, Menu, Date, Boolean
  ▶ Work with the "List of Values"
  ▶ Include different settings that you can set
▶ Templates

The graphic below will help you understand the basic flow between BI Publisher and P6.
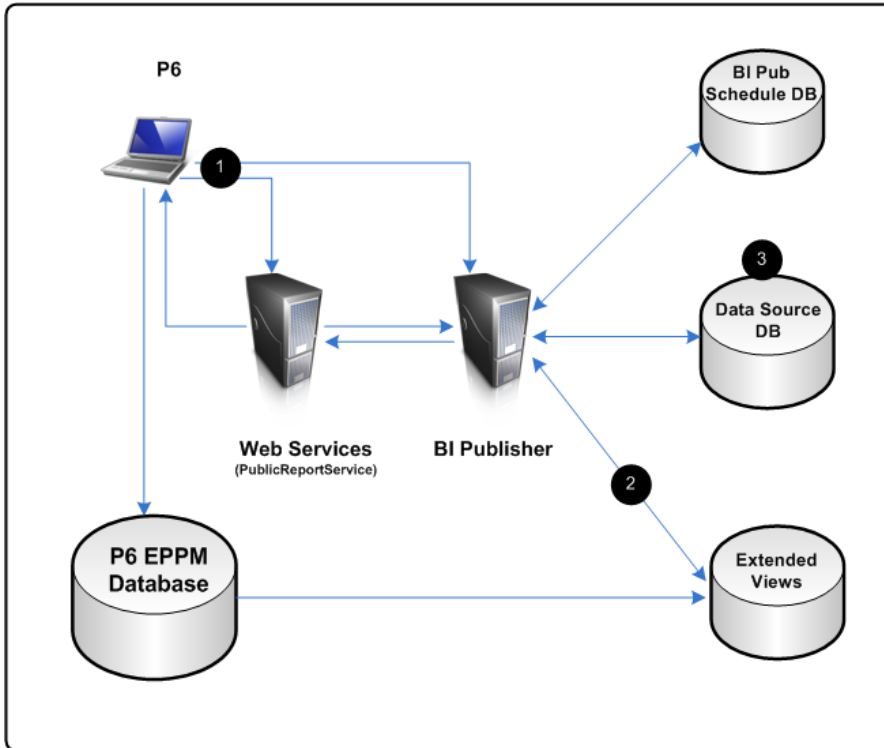
BI Publisher Diagram

Item	Description
❶	Login with BIP Security admin credentials and impersonate a P6 user.
❷	Connect to the P6 EPPM Extended Schema with the PXRptUser. The PXRptUser must be in the same instance as the admuser.
❸	You can add many other data sources for reports.

The data source you will work with to create reports will be the P6 EPPM Extended Schema database. Note that the Publication Services populate the tables and views used for reporting in the P6 EPPM Extended Schema. Configure and execute the Publication Services before you run any report that uses the P6 EPPM Extended Schema. For more information on configuring Publication Services, see **Working with Publication Services for Reporting** (on page 37), **Configuring Publication Settings in Services Settings** (on page 32), and **Configuring Publication Services in Services Settings** (on page 34).

> **Note:** Oracle recommends you use the P6 EPPM Extended Schema database for reporting, but you can work with the ODS database instead if you purchased P6 Reporting Database. The P6 Reporting Database is a truly optional add-on component to the P6 EPPM suite, supporting P6 Analytics, third-party reporting tools, off-line analysis, and consolidation of P6 data into larger corporate data warehouses.

Configuring P6 for Reporting

P6 relies on BI Publisher and the P6 EPPM Extended Schema to produce reports. To run reports in P6, you must complete these tasks:

1) If not already set up, create a BI Publisher environment to manage reports. See the documentation included with BI Publisher.

   > **Note**: If you install BI Publisher using simple mode, it will install a version of WebLogic that is not compatible with this release. You should install the correct version of WebLogic separately on the BI Publisher environment. See the Tested Configurations document for supported versions.

2) Configure sample reports, roles, security, and users in BI Publisher. See Configuring Enterprise Reporting with BI Publisher.

3) Populate BI Publisher settings in the P6 Administrator application. See **Configuring the P6 Administrator application for BI Publisher and Publication Services** (on page 30)

4) For Publication Services, you will also need to configure the P6 Administrator application settings. You can configure publication settings for General Data, Time Distributed Data, Blob Data, and Log retention. You can also configure publication services settings for Project Arbiter, Projects, Enterprise Data, Enterprise Summaries, Resource Management, and Security. For more information, see **Configuring Publication Settings in Services Settings** (on page 32), and **Configuring Publication Services in Services Settings** (on page 34).

5) Configure and deploy the Publication Services required to populate the reporting views in the P6 EPPM Extended Schema. See **Working with Publication Services for Reporting** (on page 37) and **Publishing P6 Data for Reports** (on page 41).

6) Configure BI Publisher to allow P6 to use parameter keys so users do not have to enter field values for reports. See **Why Do I Need Parameters?** (on page 49).

7) When you begin working in P6, you can configure your application settings and global scheduled services. See the *P6 EPPM Post Installation Administrator's Guide* for more information on application settings and scheduled services.

8) Provide users with the 'Edit EPS Costs/Financials' project privilege if they need to view project costs in a report generated from the P6 EPPM Extended Schema. See information about security profiles in the *P6 EPPM Post Installation Administrator's Guide*.

Configuring Enterprise Reporting with BI Publisher

The following topics describe how to configure reports in BI Publisher to work with P6.

Using the 'Oracle Fusion Middleware' Security Model

You can use the BI Publisher Fusion Middleware security model with P6 Reports.

> **Note**: In BI Publisher 11g, this is the default security model. This security model option is not available in BI Publisher 10g.

1) Log into BI Publisher with your administrative WebLogic user name and password.
2) In BI Publisher 11g, click the **Administration** link at the top of your screen.
3) In the **Security Center** section, select **Security Configuration** and scroll down to **Security Model**.
4) Verify the **Security Model** is **Oracle Fusion Middleware**.
   a. If the security model is not **Oracle Fusion Middleware**, select this option in the **Security Model** dropdown.
   b. Click **Apply**.
   c. Restart the BI Publisher server.

> **Note**: If you require LDAP authentication, Oracle supports the **Oracle Fusion Middleware** security model with the LDAP setup in the WebLogic domain hosting BI Publisher. See the BI Publisher documentation for more information.

Creating the JDBC Connection String for BI Publisher 11g

1) Login to BI Publisher as an administrative user.
2) In BI Publisher 11g, click the **Administration** link.
3) Under **Data Sources**, click the **JDBC Connection** link.
4) Click **Add Data Source** or choose the data source name you want to use.
5) In the **General** section:
   a. In the **Data Source Name** field, enter one of the following data source names:
      - For Oracle, P6RPT.
      - For Microsoft SQL Server, P6SSRPT.
   b. In the **Driver Type** field, select your version.
   c. In the **Database Driver Class** field, enter the JDBC driver class for your database.
   d. In BI Publisher 11g, select the **Use System User** option if you are connected to the Oracle BI Server and want to use this option.

> **Note**: See the BI Publisher documentation for information on the **Use System User** option.

e. In the **Connection String** field, enter your JDBC connection string for the P6 EPPM Database.

f. In the **Username** field, enter your Reporting database name (for example, pxrptuser).

g. In the **Password** field, enter your Reporting database user password.

h. (For an Oracle database only) In the **Pre Process Function** field, enter the following:
   ```
   Secpac.SET_BIP_USER(:xdo_user_name)
   ```

i. Clear the **Use Proxy Authentication** option for this data source definition.

j. Click **Test Connection**.

6) Click **Apply**.

Determining the Catalog Type in BI Publisher 11g

> **Note**: The BI Publisher sample reports were designed to be run against the small data set included in the EPPM sample database. These reports are provided as an example of the product's capability only. Oracle provides no guarantee, implied or explicit, that the BI Publisher sample reports will run against your database or will produce meaningful data when they are run against your database. You may modify the BI Publisher sample reports to suit your own data set, including adding filter criteria to limit data output or changing filter criteria to suit your data. You need a full BI license to modify sample reports.

Adding the P6 Sample Reports will vary based on the catalog type selected. You can configure BI Publisher to use 'Oracle BI EE Catalog' or 'Oracle BI Publisher' catalog types, and the default is based on how you installed BI Publisher. If you installed all OBIEE products to the WebLogic domain, the default catalog type is Oracle BI EE Catalog. If you installed only the BI Publisher component to the WebLogic domain, the default catalog is Oracle BI Publisher.

Oracle recommends you use the Oracle BI Publisher catalog.

To confirm the catalog:

1) Log into OBIEE as an administrator.
2) Click the **Administration** link at the top of your screen.
3) In the **Server Configuration** section, browse to **Catalog**.
4) Confirm which catalog you are using.
5) (Optional) To change the catalog from OBIEE to Oracle BI Publisher:
   a. Change the **File System** and **Path** to C:/Oracle/Middleware/user_projects/domains/bifoundation_domain/config/bipublisher/repository.
   b. Save and restart the OBIEE server.
6) Proceed to one of the following:
   ▸ *Adding P6 Sample Reports to the BI Publisher Catalog* (on page 16)
   ▸ *Adding P6 Sample Reports with the Oracle BI EE Catalog* (on page 16)

Adding P6 Sample Reports to the BI Publisher Catalog

To add sample reports when using the Oracle BI Publisher catalog.

1) Copy the **P6Reports.zip** from the P6 media pack to the BI Publisher server.
2) Extract the contents of **P6Reports.zip**.
3) Copy the **P6reportsOraBIPub11g** (for Oracle) or **P6reportsSQLBIPub11g** (for Microsoft SQL Server) folder to the BI Publisher repository.

   Example:
   C:\Oracle\Middleware\user_projects\domains\bifoundation_domain\config\bipublisher\reposit ory\Reports
4) Rename the folder to **P6Reports**.
5) To confirm that the **P6Reports** were added successfully to BI Publisher:
   a. Log into BI Publisher as an administrative user.
   b. Click **Home** (top right corner).
   c. Click **Catalog Folders** (under Browse/Manage).
   d. Under **Shared Folders**, verify **P6Reports** is there.

Adding P6 Sample Reports with the Oracle BI EE Catalog

To add sample reports when the catalog type is Oracle BI EE:

1) Copy the **P6Reports.zip** from the P6 media pack to the BI Publisher server.
2) Extract the contents of **P6Reports.zip**.
3) Copy the **P6reportsOraBIPub11g** (for Oracle) or **P6reportsSQLBIPub11g** (for Microsoft SQL Server) folder to the BI Publisher repository.

   Example:
   C:\Oracle\Middleware\user_projects\domains\bifoundation_domain\config\bipublisher\reposit ory\Reports
4) Rename the folder to **P6Reports**.
5) Log into OBIEE as an administrator.
6) Click the **Administration** link at the top of your screen.
7) In the **Server Configuration** section, browse to **Catalog**.
8) Select the **Upload to BI Presentation Catalog**.
9) To confirm that the P6Reports were added successfully to BI Publisher:
   a. Log into BI Publisher as an administrator.
   b. Click **Home** (top right corner).
   c. Under **Browse/Manage**, click **Catalog Folders**.
   d. Under **Shared Folders**, verify **P6Reports** is there.

Adding Additional P6 Sample Reports If You Upgraded from a Previous P6 EPPM R8.x Version and Use BI Publisher 11g

If you were using an R8.x version of P6 EPPM and upgraded to 8.3, and you are using BI Publisher 11g, you can add new reports to your P6Reports catalog.

To add the new reports:

1) Copy the **P6Reports.zip** from the P6 media pack to a temporary location.

2) Extract the contents of **P6Reports.zip** and open the extracted folder.

3) Depending on your database, open the **P6reportsOraBIPub11g** or **P6reportsSQLBIPub11g** folder.

4) Open the **Other** folder.

5) Copy the **P6reportsOraBIPub11g_Other.xdrz** or **P6reportsSQLBIPub11g_Other.xdrz**   to the BI Publisher repository (or preferred location).

   Example:
   C:\Oracle\Middleware\user_projects\domains\bifoundation_domain\config\bipublisher\repository\Reports

6) Login to BI Publisher as an administrative user.

7) Select **Catalog**.

8) In the **Folders** pane, highlight **P6Reports**.

9) In the **Tasks** pane, click **Upload**.

10) In the **Upload** dialog box:

   a. Click **Browse**.

   b. Go to the location where you copied the **P6reportsOraBIPub11g_Other.xdrz** or **P6reportsSQLBIPub11g_Other.xdrz** file and select it.

   c. Click **Open**.

   d. Click **Upload**.

11) Verify that **P6reportsOraBIPub11g_Other.xdrz** or **P6reportsSQLBIPub11g_Other** folder is now under the P6Reports folder.

12) Rename the folder if necessary.

13) Follow the steps in *Setting the Data Source for Each Sample Report for BI Publisher 11g* to finalize the upload.

Adding the JDBC Data Source to the BIConsumers Role

If using the 'Oracle Fusion Middleware' security model, three roles come with it:

▸ **BIAdministrator**: allows user to configure and manage the Oracle Business Intelligence installation. Any user assigned to this role also receives the BIAuthor and BIConsumer roles.

▸ **BIAuthor**: allows user to create and edit content for other users to see and use. Any user assigned to this role also receives the BIConsumer role.

▸ **BIConsumer**: allows user to see or use content created by other users.

Users need the BIConsumer role to use reports in BI Publisher. Before you grant the BIConsumers role, you need to add the JDBC data source to the BIConsumer role.

To assign the JDBC data source:

1) Login to BI Publisher as an administrative user.
2) Click the **Administration** link.
3) Under **Security Center**, select **Roles and Permissions**.
4) Select **Add Data Source** to the **BIConsumer** role.
5) Under **Database Connections**, move the JDBC data source created for P6 from the **Available Data Sources** to the **Allowed Data Sources**.
6) Select **Apply**.

Assigning Permissions to the P6Reports Catalog Folder

To read, run, schedule, and view reports, you must assign the BIConsumer role access to the objects in the P6Reports catalog.

To assign permissions to the P6Reports catalog:

1) Log into BI Publisher as an administrator.
2) Select **Catalog Folders**.
3) Under **Shared Folders**, highlight the **P6Reports** folder.
4) In the **Tasks** pane, click **Permissions**.
5) Select **+** to add a role.
6) Select **Search** to list all available roles.
7) Highlight the **BIConsumer** role and click **Move**.
8) Click **OK** to close the **Add Roles** window.
9) In the **Permissions** window, select **Read**, **Run Report Online**, **Schedule Report**, and **View Report Output**.
10) Click **OK** to save.

Tips

If BI Publisher is part of the OBIEE suite, and the catalog type is set to Oracle BI EE catalog, you must grant permissions to the P6Reports catalog from the Analytics application.

To confirm the catalog type:

1) Log into BI Publisher as an administrator.
2) Click the **Administration** link at the top of your screen.
3) In the **Server Configuration** section, select **Catalog**.
4) If the catalog type is **Oracle BI EE Catalog**:
   a. Log into OBIEE (default URL is http://server:port/analytics).
   b. Select **Catalog Folders**.
   c. Under **Shared Folders**, highlight the **P6Reports** folder.
   d. In the **Tasks** pane, click **Permissions**.
   e. If the BIConsumer Role is not listed, select **Add users/roles**.
   f. Click **Search** to list all available roles

    g. Highlight the **BIConsumer** role and click **Move**.

    h. Change the **Set Permission to** field to **Open**.

    i. Click **OK** to close the **Add Roles** window.

    j. Click OK to save.

Creating a Reporting Admin User in BI Publisher for P6 EPPM for Fusion Middleware Security

You need to create an Administrative User in BI Publisher to connect P6 to BI Publisher (part of the steps defined below in *Configuring BI Publisher in the P6 Administrator application* (on page 31)).

To create a reporting admin user in BI Publisher for P6 EPPM:

1) Login to the **WebLogic Administrative Console**.
2) Under the **Domain** structure, select **Security Realms**.
3) In the **Summary of Security Realms**, select **myrealm**.
4) Select the **Users and Groups** tab.
5) Select the **Users** sub-tab.
6) Select **New** to add a new user and follow the prompts to add the user.

> **Note**: If using LDAP, complete these steps by configuring an LDAP provider.

7) Assign the user to the BI Administrator role:
    a. Login to **Enterprise Manager**.
       Default URL: http://*server:port*/em
       where *server:port* is the AdminServer
    b. Expand **WebLogic Domains**.
    c. Right-click your domain and select **Security**, **Application Roles**.
    d. Under the search field, choose **Select Application Stripe to Search** and pick **obi** from the dropdown.
    e. Select **Search**.
    f. Select the link for **BIAdministrator**.
    g. Under **Members**, select **Add User**.
    h. Type the username created and select **Search**.
    i. Move the user from **Available Users** to **Selected Users** and click **OK**.

Creating Reporting Users in BI Publisher for P6 EPPM for Fusion Middleware Security

You need to create a reporting user in BI Publisher which matches an equivalent user in P6, for every user who will use the reporting feature, to ensure you have users who can run reports in both applications.

To create reporting users in BI Publisher for P6 EPPM:

1) Login to the **WebLogic Administrative Console**.
2) Under the **Domain** structure, select **Security Realms**.

3) In the **Summary of Security Realms**, select **myrealm**.

4) Select the **Users and Groups** tab.

5) Select the **Users** sub-tab.

6) Select **New** to add a new user and follow the prompts to add the user.

> **Note**: If using LDAP, complete these steps by configuring an LDAP provider.

7) Assign the user to the BIConsumer role:

   a. Login to **Enterprise Manager**.

   Default URL: http://*server:port*/em

   where *server:port* is the AdminServer

   b. Expand **WebLogic Domains**.

   c. Right-click your domain and select **Security**, **Application Roles**.

   d. Under the search field, choose **Select Application Stripe to Search** and pick **obi** from the dropdown.

   e. Select **Search**.

   f. Select the link for **BIConsumer**.

   g. Under **Members**, select **Add User**.

   h. Type the username created and select **Search**.

   i. Move the user from **Available Users** to **Selected Users** and click **OK**.

Setting the Data Source for Each Sample Report for BI Publisher 11g

To set the data source:

> **Note**: If you are using BI Publisher 10g, skip to the next topic.

1) Log into BI Publisher as Administrator.

2) Under **Browse/Manage...**, click **Catalog Folders**.

3) Expand **P6Reports**.

4) Open the **Activity** folder.

5) Under the **Activity Look Ahead** report, click **Edit** .

6) Click the Magnifying Glass icon (top left corner).

7) In the **"Choose Existing Data Model"**:

   a. Expand **P6Reports** and select **Activity**.

   b. Choose **Activity Look Ahead**.

   c. Click **Open**.

8) Close the report.

> **Note**: Repeat these steps for each sample report. Choose the matching data source for each report.

Testing P6 Sample Reports

To test P6 sample reports, you must:

▸ Assign Enterprise Reports module access to the P6 user.
▸ Have a BI Publisher user who matches your P6 user name and has the reporting user role.
▸ Run publication services first to ensure P6 extended schema receives the data and the report executes successfully.

To test sample reports:

1) Log into P6.
2) Click **Reports**.
3) On the **Report** page:
   a. Click **View** and select **Reports**.
   b. Select a report.
   c. Click 🖫 **Run Report**.
4) In the **Report Settings** dialog box:
   a. In the **File Name** field, enter a file name for the report.
   b. In the **Template** list, choose a template to apply to the report.
   c. In the **Format** list, choose a file format for the delivery of the report.
   d. In the **Delivery Type** list, choose to have the report sent through e-mail or display the file immediately.

      ▪ If you chose **E-mail**, click 〔…〕 and enter or select e-mail addresses for the intended report recipients.
      ▪ If you chose **File**, the report will display after you click **Run**.

   e. If you chose **E-mail**, in the **Notification** section, choose to send yourself a status notification of the report run.
   f. In the **Report Parameters** section, specify values for the parameters in the **Field Name** column. You can enter values directly in the field or double-click in the field and click 〔…〕 to open a selection dialog box.

      > **Note**: When selecting Project parameters, if you choose to add an EPS to the Selected Projects list, only the projects directly under the EPS are added. If additional EPSs are under the parent EPS, these projects will not automatically be included in the report; however, you can select additional EPSs and add them to the Selected Projects list.

> **Caution**: To avoid system performance issues, be as specific as possible when entering values for reports. Narrow down your choices to include only what is absolutely necessary.

   g. Click **Run**.

Tips

Refer to the sample reports included with P6 R8.3 for examples on how to create BI Publisher reports to use with P6 on an Oracle database.

You can find sample reports in the **P6reports.zip** folder of the P6 EPPM physical media or download.

▸ For BI Publisher 10g, use the **P6reportsOraBIPub10g\Samples** folder.
▸ For BI Publisher 11g, use the **P6reportsOraBIPub11g\Samples** folder.

> **Note**: The BI Publisher sample reports were designed to be run against the small data set included in the EPPM sample database. These reports are provided as an example of the product's capability only. Oracle provides no guarantee, implied or explicit, that the BI Publisher sample reports will run against your database or will produce meaningful data when they are run against your database. You may modify the BI Publisher sample reports to suit your own data set, including adding filter criteria to limit data output or changing filter criteria to suit your data. You need a full BI license to modify sample reports.

Using the BI Publisher Security Model

If do not want to use the Fusion Middleware security model, you can change it. You can use the BI Publisher security model, BI Publisher Security, with P6 Reports.

To configure the BI Publisher security model:

> **Note**: In BI Publisher 10g, this is the default security model.

1) Log into BI Publisher with your administrative WebLogic user name and password.
2) In BI Publisher 10g, click the **Admin** tab.
   In BI Publisher 11g, click the **Administration** link at the top of your screen.
3) In the **Security Center** section, select **Security Configuration** and scroll down to **Security Model**.
4) Verify the Security Model is **BI Publisher Security**.
   a. If the security model is not **BI Publisher Security**, select this option in the **Security Model** dropdown.
   b. In the **Password** field, enter the administrator's password.
   c. In the **Local Superuser** section, select the **Enable Local Superuser** option.
   d. Enter the superuser name and password.
   e. Click **Apply**.

    f.   Restart BI Publisher server.

Creating the JDBC Connection String for BI Publisher 10g and 11g

To create the JDBC connection string:

1) Login to BI Publisher as an administrative user.

> **Note:** Some steps vary depending on whether you are using BI Publisher 10g or 11g. The steps distinguish between 10g and 11g if they differ.

2) In BI Publisher 10g, click the **Admin** tab.
   In BI Publisher 11g, click the **Administration** link.
3) Under **Data Sources**, click the **JDBC Connection** link.
4) Click **Add Data Source** or choose the data source name you want to use.
5) In the **General** section:
   a. In the **Data Source Name** field, enter one of the following data source names:
      - For Oracle, P6RPT.
      - For Microsoft SQL Server, P6SSRPT.
   b. In the **Driver Type** field, select your version.
   c. In the **Database Driver Class** field, enter the JDBC driver class for your database.
   d. If you are using BI Publisher 10g, skip this step.
      In BI Publisher 11g, select the **Use System User** option if you are connected to the Oracle BI Server and want to use this option.

   > **Note**: See the BI Publisher documentation for information on the **Use System User** option.

   e. In the **Connection String** field, enter your JDBC connection string for the P6 EPPM Database.
   f. In the **Username** field, enter your Reporting database name (for example, pxrptuser).
   g. In the **Password** field, enter your Reporting database user password.
   h. (For an Oracle database only) In the **Pre Process Function** field, enter the following:
      ```
      Secpac.SET_BIP_USER(:xdo_user_name)
      ```
   i. Clear the **Use Proxy Authentication** option for this data source definition.
   j. Click **Test Connection**.
6) Click **Apply**.

Adding P6 Sample Reports to the BI Publisher 10g

To add sample reports:

> **Note**: The BI Publisher sample reports were designed to be run against the small data set included in the EPPM sample database. These reports are provided as an example of the product's capability only. Oracle provides no guarantee, implied or explicit, that the BI Publisher sample reports will run against your database or will produce meaningful data when they are run against your database. You may modify the BI Publisher sample reports to suit your own data set, including adding filter criteria to limit data output or changing filter criteria to suit your data. You need a full BI license to modify sample reports.

1) Copy the **P6Reports.zip** from the P6 media pack to the BI Publisher server.
2) Extract the contents of **P6Reports.zip**.
3) Copy the **P6reportsOraBIPub10g** (for Oracle) or **P6reportsSQLBIPub10g** (for Microsoft SQL Server) folder to the BI Publisher repository.
   Example: /XMLP/Reports directory
4) Rename the folder to **P6Reports**.
5) To confirm you added the **P6Reports** successfully to BI Publisher:
   a. Log into BI Publisher as an administrative user.
   b. Click **Reports**.
   c. Under **Shared Folders**, click **more...**.
   d. Verify **P6Reports** is there.

Determining the Catalog Type in BI Publisher 11g

> **Note**: The BI Publisher sample reports were designed to be run against the small data set included in the EPPM sample database. These reports are provided as an example of the product's capability only. Oracle provides no guarantee, implied or explicit, that the BI Publisher sample reports will run against your database or will produce meaningful data when they are run against your database. You may modify the BI Publisher sample reports to suit your own data set, including adding filter criteria to limit data output or changing filter criteria to suit your data. You need a full BI license to modify sample reports.

Adding the P6 Sample Reports will vary based on the catalog type selected. You can configure BI Publisher to use 'Oracle BI EE Catalog' or 'Oracle BI Publisher' catalog types, and the default is based on how you installed BI Publisher. If you installed all OBIEE products to the WebLogic domain, the default catalog type is Oracle BI EE Catalog. If you installed only the BI Publisher component to the WebLogic domain, the default catalog is Oracle BI Publisher.

Oracle recommends you use the Oracle BI Publisher catalog.

To confirm the catalog:

1) Log into OBIEE as an administrator.
2) Click the **Administration** link at the top of your screen.
3) In the **Server Configuration** section, browse to **Catalog**.

4) Confirm which catalog you are using.

5) (Optional) To change the catalog from OBIEE to Oracle BI Publisher:

    a. Change the **File System** and **Path** to C:/Oracle/Middleware/user_projects/domains/bifoundation_domain/config/bipublisher/repository.

    b. Save and restart the OBIEE server.

6) Proceed to one of the following:

> ▸ ***Adding P6 Sample Reports to the BI Publisher Catalog*** (on page 16)
> ▸ ***Adding P6 Sample Reports with the Oracle BI EE Catalog*** (on page 16)

Adding P6 Sample Reports to the BI Publisher Catalog

To add sample reports when using the Oracle BI Publisher catalog.

1) Copy the **P6Reports.zip** from the P6 media pack to the BI Publisher server.

2) Extract the contents of **P6Reports.zip**.

3) Copy the **P6reportsOraBIPub11g** (for Oracle) or **P6reportsSQLBIPub11g** (for Microsoft SQL Server) folder to the BI Publisher repository.

    Example:
    C:\Oracle\Middleware\user_projects\domains\bifoundation_domain\config\bipublisher\repository\Reports

4) Rename the folder to **P6Reports**.

5) To confirm that the **P6Reports** were added successfully to BI Publisher:

    a. Log into BI Publisher as an administrative user.

    b. Click **Home** (top right corner).

    c. Click **Catalog Folders** (under Browse/Manage).

    d. Under **Shared Folders**, verify **P6Reports** is there.

Adding P6 Sample Reports with the Oracle BI EE Catalog

To add sample reports when the catalog type is Oracle BI EE:

1) Copy the **P6Reports.zip** from the P6 media pack to the BI Publisher server.

2) Extract the contents of **P6Reports.zip**.

3) Copy the **P6reportsOraBIPub11g** (for Oracle) or **P6reportsSQLBIPub11g** (for Microsoft SQL Server) folder to the BI Publisher repository.

    Example:
    C:\Oracle\Middleware\user_projects\domains\bifoundation_domain\config\bipublisher\repository\Reports

4) Rename the folder to **P6Reports**.

5) Log into OBIEE as an administrator.

6) Click the **Administration** link at the top of your screen.

7) In the **Server Configuration** section, browse to **Catalog**.

8) Select the **Upload to BI Presentation Catalog**.

9) To confirm that the P6Reports were added successfully to BI Publisher:
    a. Log into BI Publisher as an administrator.
    b. Click **Home** (top right corner).
    c. Under **Browse/Manage**, click **Catalog Folders**.
    d. Under **Shared Folders**, verify **P6Reports** is there.

Adding Additional P6 Sample Reports If You Upgraded from a Previous P6 EPPM R8.x Version and Use BI Publisher 11g

If you were using an R8.x version of P6 EPPM and upgraded to 8.3, and you are using BI Publisher 11g, you can add new reports to your P6Reports catalog.

To add the new reports:

1) Copy the **P6Reports.zip** from the P6 media pack to a temporary location.
2) Extract the contents of **P6Reports.zip** and open the extracted folder.
3) Depending on your database, open the **P6reportsOraBIPub11g** or **P6reportsSQLBIPub11g** folder.
4) Open the **Other** folder.
5) Copy the **P6reportsOraBIPub11g_Other.xdrz** or **P6reportsSQLBIPub11g_Other.xdrz** to the BI Publisher repository (or preferred location).
    Example:
    C:\Oracle\Middleware\user_projects\domains\bifoundation_domain\config\bipublisher\repository\Reports
6) Login to BI Publisher as an administrative user.
7) Select **Catalog**.
8) In the **Folders** pane, highlight **P6Reports**.
9) In the **Tasks** pane, click **Upload**.
10) In the **Upload** dialog box:
    a. Click **Browse**.
    b. Go to the location where you copied the **P6reportsOraBIPub11g_Other.xdrz** or **P6reportsSQLBIPub11g_Other.xdrz** file and select it.
    c. Click **Open**.
    d. Click **Upload**.
11) Verify that **P6reportsOraBIPub11g_Other.xdrz** or **P6reportsSQLBIPub11g_Other** folder is now under the P6Reports folder.
12) Rename the folder if necessary.
13) Follow the steps in *Setting the Data Source for Each Sample Report for BI Publisher 11g* to finalize the upload.

Creating a P6Reports Role

If using the BI Publisher security model, you need to create a new role that contains the P6 JDBC Datasource and BI Publisher Scheduler Role.

To create a P6Reports role:

> **Note**: Some steps vary depending on whether you are using BI Publisher 10g or 11g. The steps distinguish between 10g and 11g if they differ.

1) In BI Publisher 10g, click the **Admin** tab.
   In BI Publisher 11g, click the **Administration** link at the top of your screen.
2) In the **Security Center** section, select the **Roles and Permissions** link.
3) Select **Create Role**.
   a. Name the role **P6Reports**.
   b. Click **Apply**.
4) (for BI Publisher 10g only) Click **Add Folders**.
   a. Add **P6Reports** to **Allowed Folders**.
   b. Click **Apply**.
5) Click **Add Data Sources**.
   a. Add the **P6RPT** (for Oracle) or **P6SSRPT** (for Microsoft SQL Server) data source to Allowed Data Sources.
   b. Click **Apply**.
6) Click **Add Roles**.
   a. Highlight **BI Publisher Scheduler** and any other roles you need.
   b. Click **Move**.
   c. Click **Apply**.

Assigning Permissions to the P6Reports Folder

If using the BI Publisher security model, you need to add permissions to the P6Reports Folder.

To assign permissions to the P6Reports Folder:

1) Log into BI Publisher as an Administrator.
2) Click on **Catalog Folders**.
3) Under **Shared Folders**, highlight the **P6Reports** folder.
4) In the **Tasks** pane, click **Permissions**.
5) Click **+** to add a role.
6) Click **Search** to list all available roles.
7) Highlight the **P6Reports** role and click **Move**.
8) Click **OK** to close the **Add Roles** window.
9) In the **Permissions** window, check all boxes.
10) Click **OK** to save.

Creating a Reporting Admin User in BI Publisher for P6 EPPM

You need to create an Administrative User in BI Publisher to connect P6 to BI Publisher (part of the steps defined below in *Configuring BI Publisher in the P6 Administrator application* (on page 31)).

To create the administrative user:

1) Log into BI Publisher as an administrator.

> **Notes**:
>
> - Some steps vary depending on whether you are using BI Publisher 10g or 11g. The steps distinguish between 10g and 11g if they differ.
> - The instructions assume you are using the BI Publisher Security Model for 10g or 11g.
> - Non-admin users can run reports as well.

2) In BI Publisher 10g, click the **Admin** tab.

   In BI Publisher 11g, click **Administration** at the top of your screen.

3) On the **Administration** page, click **Users** under **Security Center**.

4) On the **Users** tab, click **Create User**.

5) On the **Create User** page, enter a **Username** and **Password**. For example, PxRptUser. Click **Apply**.

6) On the **Users** tab, click **Assign Roles** next to the new user.

7) On the **Assign Roles** page, assign the **P6Reports** and **BI Publisher Administrator** role and click **Apply**.

Creating Reporting Users in BI Publisher for P6 EPPM for BI Publisher Security

You need to create a reporting user in BI Publisher which matches an equivalent user in P6, for every user who will use the reporting feature, to ensure you have users who can run reports in both applications.

To create the administrative user:

1) Log into BI Publisher as an administrator.

> **Notes**:
>
> - Some steps vary depending on whether you are using BI Publisher 10g or 11g. The steps distinguish between 10g and 11g if they differ.
> - The instructions assume you are using the BI Publisher Security Model for 10g or 11g.
> - Non-admin users can run reports as well.

2) In BI Publisher 10g, click the **Admin** tab.

   In BI Publisher 11g, click **Administration** at the top of your screen.

3) On the **Administration** page, click **Users** under **Security Center**.

4) On the **Users** tab, click **Create User**.

5) On the **Create User** page, enter a **Username** and **Password**. Click **Apply**.

6) On the **Users** tab, click **Assign Roles** next to the new user.

7) On the **Assign Roles** page, assign the **P6Reports** role and click **Apply**.

Setting the Data Source for Each Sample Report for BI Publisher 11g

To set the data source:

> **Note**: If you are using BI Publisher 10g, skip to the next topic.

1) Log into BI Publisher as Administrator.
2) Under **Browse/Manage...**, click **Catalog Folders**.
3) Expand **P6Reports**.
4) Open the **Activity** folder.
5) Under the **Activity Look Ahead** report, click **Edit** .
6) Click the Magnifying Glass icon (top left corner).
7) In the **"Choose Existing Data Model"**:
   a. Expand **P6Reports** and select **Activity**.
   b. Choose **Activity Look Ahead**.
   c. Click **Open**.
8) Close the report.

> **Note**: Repeat these steps for each sample report. Choose the matching data source for each report.

Testing P6 Sample Reports

To test P6 sample reports, you must:

▶ Assign Enterprise Reports module access to the P6 user.
▶ Have a BI Publisher user who matches your P6 user name and has the reporting user role.
▶ Run publication services first to ensure P6 extended schema receives the data and the report executes successfully.

To test sample reports:

1) Log into P6.
2) Click **Reports**.
3) On the **Report** page:
   a. Click **View** and select **Reports**.
   b. Select a report.
   c. Click 🖼 **Run Report**.
4) In the **Report Settings** dialog box:
   a. In the **File Name** field, enter a file name for the report.
   b. In the **Template** list, choose a template to apply to the report.
   c. In the **Format** list, choose a file format for the delivery of the report.
   d. In the **Delivery Type** list, choose to have the report sent through e-mail or display the file immediately.

- If you chose **E-mail**, click [...] and enter or select e-mail addresses for the intended report recipients.
        - If you chose **File**, the report will display after you click **Run**.
    e. If you chose **E-mail**, in the **Notification** section, choose to send yourself a status notification of the report run.
    f. In the **Report Parameters** section, specify values for the parameters in the **Field Name** column. You can enter values directly in the field or double-click in the field and click [...] to open a selection dialog box.

> **Note**: When selecting Project parameters, if you choose to add an EPS to the Selected Projects list, only the projects directly under the EPS are added. If additional EPSs are under the parent EPS, these projects will not automatically be included in the report; however, you can select additional EPSs and add them to the Selected Projects list.

> **Caution**: To avoid system performance issues, be as specific as possible when entering values for reports. Narrow down your choices to include only what is absolutely necessary.

    g. Click **Run**.

Tips

Refer to the sample reports included with P6 R8.3 for examples on how to create BI Publisher reports to use with P6 on an Oracle database.

You can find sample reports in the **P6reports.zip** folder of the P6 EPPM physical media or download.

▶ For BI Publisher 10g, use the **P6reportsOraBIPub10g\Samples** folder.
▶ For BI Publisher 11g, use the **P6reportsOraBIPub11g\Samples** folder.

> **Note**: The BI Publisher sample reports were designed to be run against the small data set included in the EPPM sample database. These reports are provided as an example of the product's capability only. Oracle provides no guarantee, implied or explicit, that the BI Publisher sample reports will run against your database or will produce meaningful data when they are run against your database. You may modify the BI Publisher sample reports to suit your own data set, including adding filter criteria to limit data output or changing filter criteria to suit your data. You need a full BI license to modify sample reports.

Configuring the P6 Administrator application for BI Publisher and Publication Services

Use the P6 Administrator application to connect BI Publisher and P6 and to set your Publication services to populate reporting views.

For your publication services and settings, Oracle recommends having at least two configurations: one for application servers hosting P6 and another for the background service applications that run services but do not process web pages. You can create more configurations as needed.

For the P6 application server, you need to limit background services and how often they run. This will allow user's requests to process more quickly.

For the background services configuration, you can have more threads configured and run them at shorter intervals. For information on setting up a separate server for job services, see the *P6 EPPM Post Installation Administrator's Guide*.

If you are running background services and P6 on the same server, Oracle recommends keeping the settings' defaults for your configuration.

Configuring BI Publisher in the P6 Administrator application

To set your BI Publisher settings for BI Publisher to work with P6:

1) Open the P6 Administrator application.
2) In the **Configurations** tab, expand your configuration.
3) Expand **Database/Instance[n]/BI Publisher**.
4) In the **Server URL** field, enter the URL used to connect to the BI Publisher web service from P6.

   Example format when P6 is deployed into Weblogic:

   For 10g: http://*serverIP*:*port*/xmlpserver/services/PublicReportService_v11

   For 11g: http://*serverIP*:*port*/xmlpserver/services/PublicReportService

   Example format when P6 is deployed into WebSphere:

   For 10g: http://serverIP:port/xmlpserver/services/PublicReportService_v11?WSDL

   For 11g: http://*serverIP*:*port*/xmlpserver/services/PublicReportService?WSDL

5) In the **Version** field, enter the version of BI Publisher (10.1.3.4.1, 11.1.1.6.0) that you want to integrate with P6.
6) In the **Folder Paths** field, enter the relative path to the BI Publisher P6 reports folder where P6 will search for reports.

   Example format (the forward slash is required):

   /P6REPORTS

   Notes:

   The folder listing is case sensitive.

   You can find the relative path (for example,   /P6Reports) in one of the following folders:

   - For 10g, **%BI_HOME%\xmlp\XMLP\Reports**
   - For 11g, **%weblogic_home%\user_projects\domains\bifoundation_domain\config\bipublisher\repository\Reports**

   ---

7) In the **Admin Username** field, enter a BI Publisher web services user name with administrative privileges (for example, PxRptUser).

8) In the **Password** field, enter the password for the administrative user name.

9) In the **Personal Folders** field, select the option (true) to enable personal folders per user. If you do not want to use personal folders, leave the option clear. Users have their own personal folders where they can store their objects. The objects that are stored in personal folders can only be accessed by the user who created and saved the content into the folder.

10) In the **Scrub Username** field, select the option (true) to enable the setting or leave it clear (false) to ensure it's disabled.

   This setting controls whether special characters (non-alphanumeric) are removed from the user name when connecting to BI Publisher. The default is 'false,' meaning special characters will not be removed.

   If you are using the P6 EPPM Extended Schema for BI Publisher reporting, leave the setting as false.

   If you are using the P6 ODS Schema for BI Publisher reporting, change the setting to true. Setting the value to true will allow the user's security context (user name) to format properly before it goes to BI Publisher. This allows reporting queries to perform against the ODS tables.

11) In the **Cache Timeout** field, enter how long cached report definitions should appear.

   The default is 1d.

Configuring Publication Settings in Services Settings

To set your publication settings:

> **Note**: The default settings should be the optimal settings for most environments. Change them only if your environment requires different settings.

1) Open the P6 Administrator application.

2) In the **Configurations** tab, expand your configuration.

3) Expand **Services/Publication/Settings**.

4) Expand **General Data**.

   a. In the **Page Size** field, enter the maximum number of rows of general data a job can process. This applies to each business object that falls under the general category. When using this setting, each business object processes separately.

   The default is 32.

   Enter anything from 1-8192.

   b. In the **Max Job Count** field, enter the number of processes used for this service on your server.

   The default is 1.

   Enter anything from 1-20.

5) Expand **Time Distributed Data**.

a. In the **Page Size** field, enter the maximum number of rows of time-distributed (spread) data that a job can process. This applies to each business object that falls under the time-distributed category. When using this setting, each business object processes separately.

The default is 16.

Enter anything from 1-8192.

b. In the **Max Job Count** field, enter the number of processes used for this service on your server.

The default is 1.

Enter anything from 1-20.

6) Expand **Blob Data**.

a. In the **Page Size** field, enter the maximum number of rows of blob data that a job can process. This applies to each business object that falls under the blob category. When using this setting, each business object processes separately.

The default is 25.

Enter anything from 1-8192.

b. In the **Max Job Count** field, enter the number of processes used for this service on your server.

The default is 1.

Enter anything from 1-20.

7) Expand **Log**.

a. In the **Security Level** field, select the level of information contained in the log file for all publication services. The ranges are inclusive. For example, choose "debug" to log all messages; choose "info" to log details about what runs, exceptions, and warnings; choose "warning" to log both warning and error level messages.

The default is info.

Select info, debug, warning, or error.

b. In the **Global Service Log File Cap (Success)** field, enter the number of logs to retain for successful global publication services. This will retain a log for each global service. If set to 5, the last 5 successful service runs will be retained for each global service.

The default is 5.

Enter anything from 1-25.

c. In the **Global Service Log File Cap (Fail)** field, enter the number of logs to retain for failed global publication services. This will retain a log for each global service. If set to 5, the last 5 failed service runs will be retained for each global service.

The default is 5.

Enter anything from 1-25.

d. In the **Project Service Log File Cap (Success)** field, enter the number of logs to retain for successful Publish Project jobs. This will retain a log for each project service. If set to 5, the last 5 successful service runs will be retained.

The default is 5.

Enter anything from 1-25.

e. In the **Project Service Log File Cap (Fail)** field, enter the number of logs to retain for failed Publish Project jobs. This will retain a log for each project service. If set to 5, the last 5 failed service runs will be retained, per project.

The default is 5.

Enter anything from 1-25.

Configuring Publication Services in Services Settings

If you are running services and P6 on the same server, you should keep the defaults. If you have scheduling work that needs to be done immediately, you should set the Interval low (e.g., 10s) and the Concurrent Threads high. Remember that if the server is actively applying the service, all users will experience delays in the application.

To set your publication settings:

1) Open the P6 Administrator application.
2) In the **Configurations** tab, expand your configuration.
3) Expand **Services/Publication/Services**.
4) Expand **Project Arbiter**.

   a. In the **Interval** field, enter the amount of time the service will wait before running the next available job.

   The default is 10s.

   Enter anything from 1s-24d20h31m23s647.

   b. In the **Concurrent Threads** field, enter the number of processes used for this service on this server. A value of 0 indicates that this service will not run on this server.

   The default is 1.

   Enter 0 or 1.

   c. In the **Active Mode** field, choose **true** if you want jobs processed continuously until all jobs finish. Choose **false** if you want each job processed according to the Interval.

5) Expand **Publish Project**.

   a. In the **Interval** field, enter the amount of time the service will wait before running the next available job.

   The default is 10s.

   Enter anything from 1s-24d20h31m23s647.

   b. In the **Concurrent Threads** field, enter the number of processes used for this service on this server. A value of 0 indicates that this service will not be run on this server.

   The default is 2.

   Enter anything from 0-20.

   c. In the **Active Mode** field, choose **true** if you want jobs processed continuously until all jobs finish. Choose **false** if you want each job processed according to the Interval.

6) Expand **Publish Enterprise Data**.

   a. In the **Interval** field, enter the amount of time the service will wait before running the next available job.

   The default is 10s.

Enter anything from 1s-24d20h31m23s647.

b. In the **Concurrent Threads** field, enter the number of processes used for this service on this server. A value of 0 indicates that this service will not run on this server.

The default is 1.

Enter anything from 0-1.

c. In the **Active Mode** field, choose **true** if you want jobs processed continuously until all jobs finish. Choose **false** if you want each job processed according to the Interval.

7) Expand **Publish Enterprise Summaries**.

a. In the **Interval** field, enter the amount of time the service will wait before running the next available job.

The default is 10s.

Enter anything from 1s-24d20h31m23s647.

b. In the **Concurrent Threads** field, enter the number of processes used for this service on this server. A value of 0 indicates that this service will not be run on this server.

The default is 1.

Enter anything from 0-1.

c. In the **Active Mode** field, choose **true** if you want jobs processed continuously until all jobs finish. Choose **false** if you want each job processed according to the Interval.

8) Expand **Publish Resource Management**.

a. In the **Interval** field, enter the amount of time the service will wait before running the next available job.

The default is 10s.

Enter anything from 1s-24d20h31m23s647.

b. In the **Concurrent Threads** field, enter the number of processes used for this service on this server. A value of 0 indicates that this service will not be run on this server.

The default is 1.

Enter anything from 0-1.

c. In the **Active Mode** field, choose **true** if you want jobs processed continuously until all jobs finish. Choose **false** if you want each job processed according to the Interval.

9) Expand **Publish Security**.

a. In the **Interval** field, enter the amount of time the service will wait before running the next available job.

The default is 10s.

Enter anything from 1s-24d20h31m23s647.

b. In the **Concurrent Threads** field, enter the number of processes used for this service on this server. A value of 0 indicates that this service will not run on this server.

The default is 1.

Enter anything from 0-1.

c. In the **Active Mode** field, choose **true** if you want jobs processed continuously until all jobs finish. Choose **false** if you want each job processed according to the Interval.

About Publication Services and Reporting

Before you can generate reports, data must be refreshed and calculations must be made in precisely arranged tables and fields. *Publication Services* address these reporting needs gathering and calculating data as close as possible to real-time. To make this happen, you can configure P6 to automatically publish data to reporting tables. Depending on the type of data published, P6 tables may still generate reports, or a combination of P6 and reporting tables may generate them. An administrator must configure settings for Publication Services before publishing reporting data.

Your organization's P6 EPPM data has two categories: *project* data and *global* data. Published project data includes all information about your projects, including summaries and calculations. Published global data includes enterprise data, resource and role data, portfolio data, and security data.

To summarize the reporting process:

1) Users create new data or make changes to existing data in P6.
2) P6 global and project data publishes, automatically or manually, to tables for reporting.
3) Reports generate directly from the collective P6 EPPM database with the P6 Extended Schema reporting tables.

> **Note**:
>
> The BI Publisher sample reports were designed to be run against the small data set included in the EPPM sample database. These reports are provided as an example of the product's capability only. Oracle provides no guarantee, implied or explicit, that the BI Publisher sample reports will run against your database or will produce meaningful data when they are run against your database. You may modify the BI Publisher sample reports to suit your own data set, including adding filter criteria to limit data output or changing filter criteria to suit your data. You need a full BI license to modify sample reports.

Working with Publication Services for Reporting

To achieve near real-time reporting, you can configure P6 to automatically publish to tables that store updated data, including calculations and summary data. These tables also create views for generating reports. The P6 data is split into two general categories: *project* data and *global* data. Project data includes all information about your projects, including summaries and calculations. Global data includes enterprise data, as well as resource and role, portfolio, and security data. The image below summarizes the key concepts in the publication and reporting process.
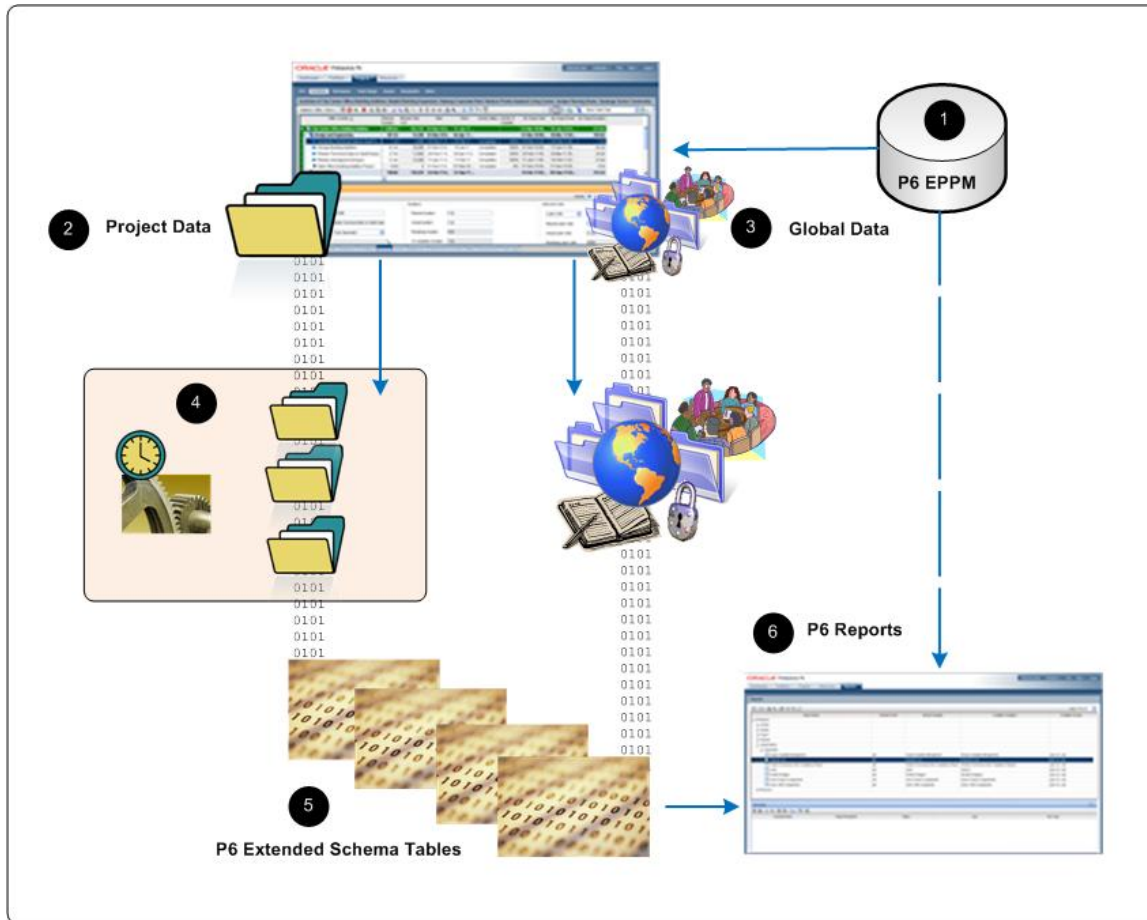
Table of Key Publication Services Concepts

Item	Description
❶	**EPPM Database**: The EPPM database captures all the data your organization generates every second of every day. However, the raw data in the EPPM database is not structured for immediate reporting.
❷	**Project Data**: You can configure P6 to automatically publish a project based on publication thresholds. Based on the options you select, you can prioritize projects for publication in a queue. If necessary, you can manually add a project to the queue.

Item	Description
③	**Global Data**: You can configure services in P6 to schedule the publication of global data based on recurring intervals that you specify. If necessary, you can also immediately publish this data manually.
④	**Project Queue**: Projects publish in sequential order based on priority. Your administrator can control which projects are added to the publishing queue, when, and in what order. These options ensure the project data you need most is available for P6 reporting in near real-time.
⑤	**P6 Extended Schema Tables**: The project and global services recalculate certain logical fields in the P6 EPPM database and store them as physical fields in the P6 Extended Schema tables so they are available for reporting and other purposes. Some fields in P6, such as durations, are calculated in real time as related field data is changed and are not stored in the database. Publication services recalculate these fields and store their values in the extended schema tables. Other fields, such as note fields, are not stored in the database in a format suitable for reporting. For these fields, publication services will convert them to a format more suitable for reporting.
⑥	**P6 Reports**: You can run reports directly against P6 Extended Schema table views.

P6 administrators control project and global publication processes, which are summarized below.
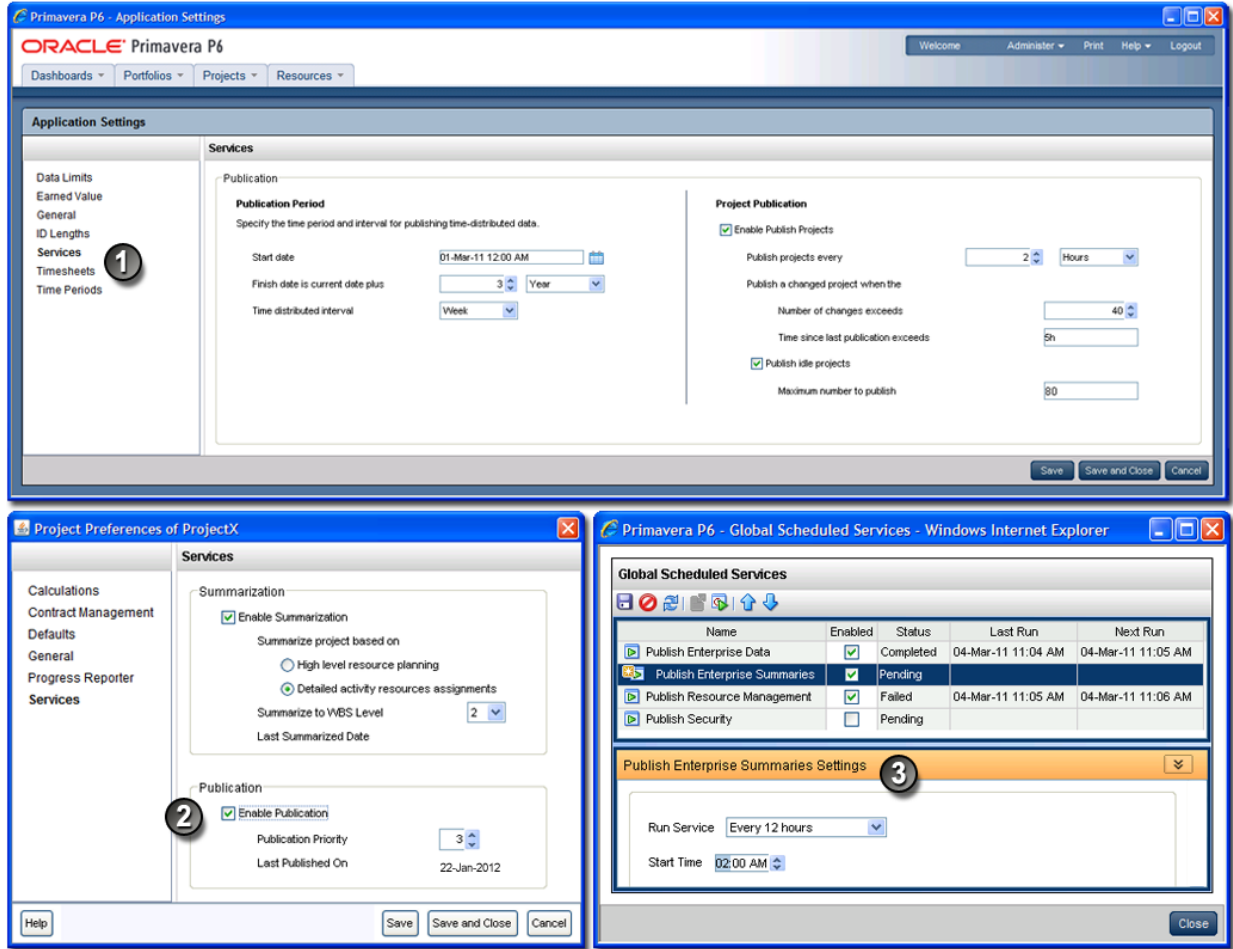
Table of Key Publication Services Elements

Item	Description
❶	**Application Settings for Publication Services**: Located under the **Administer** menu, begin by clicking **Application Settings**, and then choose **Services**. On the **Services** page, specify the start date, period of time to add to the current publication date to determine a finish date, and time-distributed interval for publication. In the **Project Publication** section, you can enable the *Publish Projects* services to refresh project data according to a time interval you set. You can further determine a change threshold, time threshold, and even decide if idle projects should be added to the queue, and if so, set a maximum limit to the concurrent number of idle projects being published.

Item	Description
❷	**Project Preferences for Publication Services**: Then, navigate to the **EPS** page in the Projects section. Click a project and select **Set Project Preferences** from the **Actions** menu. On the **Services** page, select the **Enable Publication** option to indicate you want to include this project in the *Publish Projects* services. All new projects are enabled for publication by default. Clear the option if you do not want to publish the project's data. On this page, you can also set the project's priority relative to other projects entering the publication queue.
❸	**Global Scheduled Publication Services**: Return to the **Administer** menu and navigate to the **Global Scheduled Services** dialog box to enable the types of global data services you want to schedule. Below each service you enable, specify the recurring interval and start time in the detail window.

Defining Publication Periods

Before publishing global or project data for reporting, define the publication period. The publication period you define should be large enough to capture all the project data you need to include in reports.

> **Caution**: You can perform these steps again at any time to modify your settings. However, if an *Admin Superuser* modifies the **Start date**, **Time distributed interval**, or **Finish date is current date plus** fields, all data will be fully recalculated. Oracle recommends that you only reconfigure publication options on weekends or during off-peak hours to prevent the disruption of other P6 features.

To define the publication period:

1) Click the **Administer** ▼ menu and select **Application Settings**.
2) On the **Application Settings** pane, click **Services**.
3) On the **Services** page, in the **Publication Periods** section:
    a. In the **Start date** field, click 🗓 to select the exact month, day, year, and time to mark the initial start of the data publication period. Select any date in the past that represents a reasonable amount of historical spread data for your organization. For example, in order for users to be able to produce time-distributed reports for any date range, enter the earliest project start date at your organization.
    b. In the **Finish date is current date plus** field, select a numeric quantity and unit of time to construct a dynamic period of time. Whenever a publication service runs, this period of time is added to the current date to determine the finish date for the publication of data. For example, if the value is 5 years, time-distributed data will always be published covering the period of time that begins with the value in the **Start Date** field and extends five years into the future each time a service runs.

c. In the **Time distributed interval** field, select the unit of time in which time distributed data will be recalculated and published. Set this to Week if performance is of primary importance and you do not need to see daily data.

d. Click **Save**.

Publishing P6 Data for Reports

Reports based on P6 data require timely access to the most current data in order to be accurate. For example, report recipients expect to see updated enterprise data and project data including any calculations. In order to provide this data, P6 generates and stores data in reporting tables (the *P6 Extended Schema*). You can configure P6 to automatically publish essential data to the tables or manually generate it so that the most current data is available for reporting.

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

Enabling Automatic Publishing of P6 Project Data for Reports

Perform the following procedure to enable projects for publication, and to set options for automatic project publication. Then, as you work, P6 automatically detects the changes to your projects that trigger the publication of their data.

To enable Publication Services for project data:

1) Click the **Administer** ▼ menu and select **Application Settings**.

2) On the **Application Settings** pane, select **Services**.

3) On the **Services** page, in the **Project Publication** section:

a. Select **Enable Publish Projects** to enable automatic project publication based on defined thresholds. Selecting this option also allows users to manually publish projects.

b. In the **Publish projects every** field, select an interval by which projects are polled to be published.

c. Enter a number in the **Number of changes exceeds** field. This threshold setting determines the number of edits users can make to the project data before P6 publishes its data. Assuming a constant rate of change among projects, a lower value will result in more frequent publication of project data. If you enter a value of 0, projects with tracked changes will be automatically published.

d. Enter a time period for the **Time since last publication exceeds** field. This threshold setting determines how often the publication of project data should occur. For example, if you enter 12 hours, the project data will be published every 12 hours unless the threshold for the number of changes has already been reached.

e. Select **Publish idle projects** to add projects to the service queue that are enabled for publication but have not been changed during the time threshold. This setting is only valid for the initial run of the service.

f. In the **Maximum number to publish** field, enter the maximum number of pending idle *Publish Project* services that can be present at once in the service queue. This prevents performance problems during peak demand when enabling the publication of a large number of projects. For example, if the service runs and queues 40 projects that have exceeded specified thresholds and must be published, or that have been manually published, and you have set the maximum to 100, P6 will schedule up to 60 idle projects for publication.

g. Select **Enable Baseline Publication** if you want to be able to publish baseline data.

h. Click **Save**.

Tips

▸ If your organization is upgrading to P6, select **Publish idle projects** to add your migrated projects to the service queue after your database is upgraded. This will publish all your projects in the queue and refresh the available data for reporting. After an upgrade, this setting is no longer applicable, and projects will be submitted to the service queue based on threshold values specified on the **Application Settings** page.

▸ Clear the **Publish idle projects** option if your organization does not report against completed projects.

▸ The **Maximum number to publish** field is only applicable immediately following an upgrade, when all projects are considered idle. When all projects have been published, the service queue will no longer be constrained based on this setting.

▸ A project will be automatically submitted to the service queue if you change the project baseline, calendar, or data date. Projects are also automatically submitted to the queue if you select or clear **Calculate Activity % Complete from activity steps** option, or modify the default price/unit value for assignments without activities, from the **Set Project Preferences** dialog box available from the **Actions** menu on the **EPS** page.

▸ For threshold settings, projects are added to the service queue based on tracked changes to data. Only changes to activities, resource/role assignments, relationships, and the WBS are tracked.

Configuring Publication Service Settings for Projects

After enabling automatic publishing, perform the following procedure to configure settings for each individual project in *Publication Services*. Then, as you work, P6 automatically detects the changes to your project that trigger the publication of its data in the service queue.

To configure Publication Service settings for a project:

1) Click **Projects**.
2) On the **Projects** navigation bar, click **EPS**.
3) On the **EPS** page:
   a. Select a project.
   b. Click the **Actions** ▾ menu and select 🔲 **Set Project Preferences...**.
4) On the **Project Preferences** pane, select **Services**.
5) On the **Services** page, in the **Publication** section:
   a. Select the **Enable Publication** option.

> **Note**: By default, all projects are enabled for publication. The **Enable Publication** setting only needs to be modified if you wish to disable publication for a project or re-enable publication of a previously disabled project.

    b. Adjust the relative **Publication Priority** up or down between 1 and 100 with 50 being the default priority value, 1 being the highest priority, and 100 being the lowest.

    c. Click **Save and Close**.

Tips

▸ If you wish to modify publication settings for many projects at one time, you can display the **Enable Publication**, **Last Published On**, and **Publication Priority** fields as columns in your EPS view.

▸ If you want to publish Baseline data, the project must be published.

Enabling Automatic Publishing of P6 Global Data for Reports

Perform the steps below to configure P6 to automatically publish any of the following types of global data to reporting tables.

▸ Enterprise Data

▸ Enterprise Summary Data including portfolio data

▸ Resource Management Data

▸ Security Data

To automatically publish P6 global data:

1) Click the **Administer** ▾ menu and select **Global Scheduled Services**.

2) In the **Global Scheduled Services** dialog box:

    a. Select a service, then configure its settings in the **Service Settings** detail window. For example, you might specify that the service runs daily on Wednesdays with a start time of 10:15 PM.

> **Note**: Oracle recommends running the **Publish Security** service first if the **Run After Previous** option is selected in the **Run Service** list for other publication services. Running the **Publish Security** service first will ensure that security data updates in the extended schema as soon as possible and ensures that the security restrictions are in place before you run the report.

    b. Select the **Enabled** option for any of the four global services listed.

    c. If you choose to run one or more services with the relative frequency value of *After previous service*, click ⬆ **Move Up** (Ctrl+Alt+Up) or ⬇ **Move Down** (Ctrl+Alt+Down) to arrange the services in your preferred sequence.

    d. Click **Close**.

Manually Publishing P6 Project Data for Reports

Perform the steps below to publish the data from one or more projects to the reporting tables so it is ready for reporting. Any of the projects' baselines which is enabled for publishing will also be published when you perform these steps. P6 will automatically publish project data; however, you may want to publish the data manually in special cases such as when generating an important report at a specific time.

To manually publish P6 project data:

1) Click **Projects**.
2) On the **Projects** navigation bar, click **EPS**.
3) On the **EPS** page, select one or more projects, or select an EPS node to publish all of its subordinate projects.
4) On the **Actions** menu, click ⬜ **Publish Projects**.

Tips

‣ In order to manually publish project data from the EPS page, *Publication Services* must be enabled and configured.

‣ You can publish all open projects by clicking ⬜ **Publish Projects** on the **Run** submenu on the **Actions** menu of the **Activities** page. You can also publish projects by selecting one or more projects on the **EPS** page, and then using the right-click menu.

‣ Projects are not immediately published. Instead, they will be added to the queue of projects being processed for publication the next time the Publish Projects service runs. View settings for the Publish Projects service, including how often the service runs, on the **Services** page, which is located on the **Application Settings** pane. Depending on your security privileges, the **Application Settings** pane may not be accessible. You can check the status of the Publish Projects service after it has been added to the service queue by selecting **View Service Status** from the **Actions** menu on the **Activities** page.

‣ If some of the selected projects are not enabled for publication, only those projects enabled for publication will be submitted to the service queue. If none of the selected projects are enabled for publication, you will not be able to click ⬜ **Publish Projects**.

‣ A project will be automatically submitted to the service queue if you change the project baseline, calendar, or data date. Projects are also automatically submitted to the queue if you select or clear the **Calculate Activity % Complete from activity steps** option, or modify the default price/unit value for assignments without activities from the **Set Project Preferences** dialog box available from the **Actions** menu the **EPS** page.

Manually Publishing P6 Global Data for Reports

Perform the steps below to manually publish any of the following types of global data to the reporting tables.

‣ Enterprise Data
‣ Enterprise Summary Data including portfolio data
‣ Resource Management Data
‣ Security Data

P6 will automatically publish global data; however, you may want to publish the data manually in special cases such as when generating an important report at a specific time.

To manually publish P6 global data:

1) Click the **Administer** ▾ menu and select **Global Scheduled Services**.
2) In the **Global Scheduled Services** dialog box:
   a. Select any of the four global services listed.
   b. Click 🖳 **Run Service** on the **Global Scheduled Services** toolbar.
   c. In the resulting message box, click **OK**.
   d. Click **Close**.

Tips

▸ If the service listed under the manually selected service is configured to run **After previous service**, it will run automatically when the selected service finishes.

▸ You must have the global security privilege, 'Administer Global Scheduled Services,' to run a service from the **Global Scheduled Services** dialog box.

Back Filling the REPORTDATE Table

If you change the start date in the Publication settings, you will need to delete the contents in the REPORTDATE table. When you delete the content from the REPORTDATE table, the publication services will refill the table the next time you run the Publish Enterprise Data service.

To delete content from the REPORTDATE table, the database administrator will need to:

1) Login to the database.
2) Run one of the following commands:
   ▸ `DELETE FROM REPORTDATE;`
   Or
   ▸ `TRUNCATE TABLE REPORTDATE;`

Creating the Security Context ID and WHERE Clause for BI Publisher 11g on a Microsoft SQL Server Database

Note: You only need to perform these steps if your applications are on a Microsoft SQL Server Database. Otherwise, you can skip this section.

Reports must utilize WHERE clauses to set the security context for the report (WHERE rpt_user_id = :p_security_context_id). The security context ID contains the user ID of the P6 user executing a report from P6. Use the security context ID to ensure that a specific user sees data only when they have the security access to do so. This variable is only available for tables that have security enforced on them. If you do not provide the security context ID, the report will execute, but it will return an empty data set.

This is only necessary for new reports you create. Sample reports already contain the context ID and WHERE clause.

To create the security context ID and WHERE clause:

1) Click the **Home** link towards the top.
2) Under **Create...**, select **Data Model**.

> **Note:**
>
> - You must create a new data model to use the following parameter with your reports. Reports that need this parameter must use the data model with this parameter.
> - For information on creating a new data model, see the documentation included with BI Publisher.

3) In the **Data Model** pane, select **Parameters**.
4) In the **Parameter** pane:

> **Note:** 🛡 You must set this parameter for every report.

   a. Click **Create new Parameter** in the **Parameters** toolbar.
   b. In the **Name** field, enter **p_security_context_id**.

> **Note:** You will use this parameter in a WHERE clause. You will add the parameter everywhere you use SELECT in the report definition where you need security.

   c. In the **Data Type** field, select **Integer**.
   d. In the **Default Value** field, enter **0**.
   e. In the **Parameter Type** field, select **Text**.
   f. In the **New_Parameter** section below, enter your preferences for **Display Label** and **Text Field Size** and select your preferred options.
   g. Click **Save** at the top.
5) In the **Data Model** pane, select **List of Values**.
6) In the **List of Values** pane:
   a. Click **Create new List of Values** in the **List of Values** toolbar.
   b. In the **Name** field, enter a name for your value.
   c. In the **Type** field, select **SQL Query**.
   d. In the **Data Source** field, choose the JDBC data source you created in *Creating the JDBC Connection String for BI Publisher 11g*.
   e. In the **SQL Query** field, apply the security context ID parameter from above to the following:

```
SELECT field from table WHERE table.rpt_user_id = :p_security_context_id
ORDER by field
```

   where *field* is the ID and *table* is the table from where you pull data.

For example, you could use the security context ID in a query for a project table with an id field.

```
SELECT id from project WHERE project.rpt_user_id =
:p_security_context_id ORDER by id
```

> **Note:** The List of Values pane may not be the only location where you need to set the WHERE clause. You may also need to set it in the report's Data Model in the Data Sets.

f. Test the report by running:

```
p_security_context_id = 0
```

To test the report with limited security access, specify the default value for the `p_security_context_id` to a P6 user with the appropriate security access.

g. Click **Save** at the top.

Tips

▶ Refer to the sample reports included with P6 R8.3 for examples on how to create BI Publisher reports to use with P6 on a Microsoft SQL Server database.

You can find sample reports in the **P6reports.zip** folder of the P6 EPPM physical media or download.

   ▸ For BI Publisher 10g, use the **P6reportsSQLBIPub10g\Samples** folder.
   ▸ For BI Publisher 11g, use the **P6reportsSQLBIPub11g\Samples** folder.

▶ If the WHERE clause is not included or incorrect in the report definition, P6 will return an empty dataset when the report runs.

▶ The WHERE clause is only useful when running the report in BI Publisher when the p_security_context parameter is populated with a default value.

For example: `WHERE rpt_user_id = 0`

▶ You need to add the WHERE clause to all views that will contain a security control (such as all project related data, codes, etc.) when testing P6 reports in BI Publisher as an Admin Superuser.

▶ ActivityCode and ActivityCodeType do not have security around global codes, so the WHERE clause must also include the following:

```
where rpt_user_id is null
```

Creating the Security Context ID and WHERE Clause for BI Publisher 10g on a Microsoft SQL Server Database

> **Note**: You only need to perform these steps if your applications are on a Microsoft SQL Server Database. Otherwise, you can skip this section.

Reports must utilize WHERE clauses to set the security context for the report (WHERE rpt_user_id = :p_security_context_id). The security context ID contains the user ID of the P6 user executing a report from P6. Use the security context ID to ensure that a specific user sees data only when they have the security access to do so. This variable is only available for tables that have security enforced on them. If you do not provide the security context ID, the report will execute, but it will return an empty data set.

This is only necessary for new reports you create. Sample reports already contain the context ID and WHERE clause.

To create the security context ID and WHERE clause:

1) Click the **Reports** tab.
2) Navigate to your existing report or create a new report.

> **Note:** For information on creating a new report, see the documentation included with BI Publisher.

3) Click **Edit** to modify your new report or an existing report.
4) In the **Report** pane:
   a. Select **Parameters**.
   b. Click **New** in the **Report** toolbar to add a parameter.
5) In the **Parameter** pane:

> **Note:** 🛡 You must set this parameter for every report.

   a. In the **Identifier** field, enter **p_security_context_id**.

> **Note:** You will use this parameter in a WHERE clause. You will add the parameter everywhere you use SELECT in the report definition where you need security.

   b. In the **Data Type** field, select **Integer**.
   c. In the **Default Value** field, enter **0**.
   d. In the **Parameter Type** field, select **Text**.
   e. In the **Text Setting** section, enter your preferences for **Display Label** and **Text Field Size** and select your preferred options.
   f. Click **Save** at the top.
6) In the **Report** pane:
   a. Select **List of Values**.
   b. Click **New** in the **Report** toolbar to add a list of values.
7) In the **List of Values** pane:
   a. In the **Name** field, enter a name for your value.
   b. In the **Type** field, select **SQL Query**.
   c. In the **Connection** field, choose **Default Data Source**.
   d. In the **SQL Query** field, apply the security context ID parameter from above to the following:

```
SELECT field from table WHERE table.rpt_user_id = :p_security_context_id
ORDER by field
```

where *field* is the ID and *table* is the table from where you pull data.

For example, you could use the security context ID in a query for a project table with an id field.

```
SELECT id from project WHERE project.rpt_user_id =
:p_security_context_id ORDER by id
```

> **Note:** The List of Values pane may not be the only location where you need to set the WHERE clause. You may also need to set it in the report's Data Model in the Data Sets.

    e. Test the report by running:

```
p_security_context_id = 0
```

To test the report with limited security access, specify the default value for the `p_security_context_id` to a P6 user with the appropriate security access.

    f. Click **Save** at the top.

Tips

▶ Refer to the sample reports included with P6 R8.3 for examples on how to create BI Publisher reports to use with P6 on a Microsoft SQL Server database.

You can find sample reports in the **P6reports.zip** folder of the P6 EPPM physical media or download.

    ▶ For BI Publisher 10g, use the **P6reportsSQLBIPub10g\Samples** folder.

    ▶ For BI Publisher 11g, use the **P6reportsSQLBIPub11g\Samples** folder.

▶ If the WHERE clause is not included or is incorrect in the report definition, P6 will return an empty dataset when the report runs.

▶ The WHERE clause is only useful when running the report in BI Publisher when the p_security_context parameter is populated with a default value.

For example: `WHERE rpt_user_id = 0`

▶ You need to add the WHERE clause to all views that will contain a security control (such as all project related data, codes, etc.) when testing P6 reports in BI Publisher as an Admin Superuser.

▶ ActivityCode and ActivityCodeType do not have security around global codes, so the WHERE clause must also include the following:

```
where rpt_user_id is null
```

Why Do I Need Parameters?

P6 supports parameter keys in BI Publisher. You will use these parameters in the P6 Reports section when running and scheduling reports. For most of the parameters you add, lists will be available for users when they are entering the value. The default behavior for an unrecognized parameter will be to provide a plain text box. The user will then need to type in the correct value. If the value is not in the format the report expected, the report will fail to run.

Adding parameters to your reports allows users that run or schedule a report. They can select or filter what data to include without having to first create additional reports or data templates for reports. For example, consider this scenario:

▶ You have a report on activities and each activity has an activity code value assigned to it to determine the location of the team working on it.
▶ You want each team to be able to run the report, but they want to see only the activities for their location.

Without parameters, you would need to create a different report and data template for each team. All of these reports would be almost the same, except each statement pulling the activity data would have a different connection to the activity code table to match the correct location. With parameters, you can do this with just one report and data template.

Defining Parameters in BI Publisher

When adding a new parameter in BI Publisher you will see the following fields:

▶ **Identifier** – The key for the parameter. Determines whether a list supports the parameter.
▶ **Data Type** – **String** should be the default type. When using a supported parameter, select String for the type. See *Primitive Parameters* (on page 61) for more on Date, Boolean, and Integer parameters.
▶ **Default Value** – The value entered in this field will be the default for the parameter whenever the report runs. Users will be able to see this value in P6.
▶ **Parameter Type** – Text, Menu, and Date are the common types. Unless otherwise specified, you should use Text as the default for the supported parameters. If you need to select multiple values, use Menu.
▶ **Display Label** – The text that displays in P6 for the parameter. If you do not set a display label, the identifier displays instead.

Supported Parameters in P6

You can use any parameter for BI Publisher, but users will have to ensure they enter the value correctly, or the SQL statements in the data template will fail. Using supported parameters will allow you to provide a user interface to enter the values for parameters. Supported parameters for P6 fall into one of three categories:

▶ **Enumeration** parameters allow users to pick parameters from static lists.
▶ **Dynamic** parameters will generate the list at run time. For example, when focusing on Project ID, users will see a Project list that pulls the current projects from the P6 EPPM database.
▶ **Primitive** parameters support basic selections. For example, if a parameter is a boolean, an option will appear for users to select or clear a text box instead of typing true or false.

The following are the supported parameters for P6, grouped by category:

Enumeration Parameters

▶ Activity Priority
▶ Assignment Proficiency
▶ Activity Status

- Activity Type
- Constraint Type
- Duration Type
- Percent Complete Type
- Project Status
- Rate Source
- Rate Type
- Resource Type
- Risk Status
- Risk Type

Dynamic Parameters

- Activity Code Value
- User Defined Activity Code (type and value)
- Cost Account
- EPS
- Expense Category
- Funding Source
- Portfolio
- Project
- Project Code Value
- User Defined Project Code (type and value)
- User Defined Resource Code
- Resource Code Value
- Resource Team
- Resource ID
- Responsible Manager
- Risk Category
- Role
- Role Team
- Timesheet Period
- User

Primitive Parameters

- Date
- Boolean
- Integer
- Float

Custom Parameters

- List of Values

Enumeration Parameters

Enumeration parameters map to fields that have a set list of possible values. When running a report with a enumeration parameter, P6 will offer a list to select one of the values. Users will see the localized text for the enumeration value's description; however, the return value will be the English description of the enumeration, which is the value the PX Views database stores.

Descriptions of enumeration parameters are in the following format:

Parameter: *Name of the parameter.*

▸ **Identifier**: *The value you must enter in the identifier field in BI Publisher when creating the parameter for the report.*

▸ **Details**: *A description and technical details of the parameter.*

▸ **Values**: *The values that will be available in P6.*

▸ **Maps to field:** *The database field the return value maps to in the PX Views database. It could match multiple fields in the database, so only the primary table is listed.*

▸ **Use case**: *An example of how you might use the parameter in a report.*

Supported Enumeration Parameters

Parameter: Activity Priority

▸ **Identifier**: p_activity_priority

▸ **Details**: Allows users to select the leveling priority of an activity.

▸ **Values**: Top, High, Normal, Low, Lowest

▸ **Maps to field**: ACTIVITY.LEVELINGPRIORITY

▸ **Use case**: Filter activity data by leveling priority.

Parameter: Assignment Proficiency

▸ **Identifier**: p_assignment_proficiency

▸ **Details**: Allows users to select a value for assignment proficiency.

▸ **Values**: Master, Expert, Skilled, Proficient, Inexperienced

▸ **Maps to field**: RESOURCEASSIGNMENT.PROFICIENCY

▸ **Use case**: Filter resource assignment data by the proficiency of the assignment.

Parameter: Activity Status

▸ **Identifier**: p_activity_status

▸ **Details**: Allows users to select activity status.

▸ **Values**: Not Started, In Progress, Completed

▸ **Maps to field**: ACTIVITY.STATUS

▸ **Use case**: Filter activity reports based on a certain status.

Parameter: Activity Type

▸ **Identifier**: p_activity_type

▸ **Details**: Allows users to select the activity type.

▸ **Values**: Task Dependent, Resource Dependent, Level of Effort, Start Milestone, Finish Milestone, WBS Summary

▸ **Maps to field**: ACTIVITY.TYPE

▸ **Use case**: Filter activity reports based on the type of the activity.

Parameter: Constraint Type

▸ **Identifier**: p_contstraint_type

▸ **Details**: Allows users to select an activity constraint type.

▸ **Values**: Start On, Start On or Before, Start On or After, Finish On, Finish On or Before, Finish On or After, As Late As Possible, Mandatory Start, Mandatory Finish

▸ **Maps to field**: ACTIVITY.PRIMARYCONSTRAINTTYPE and ACTIVITY.SECONDARYCONSTRAINTTYPE

▸ **Use case**: Filter activities in a report by the activity primary or secondary constraint type.

Parameter: Duration Type

▸ **Identifier**: p_duration_type

▸ **Details**: Allows users to select the duration types of an activity.

▸ **Values**: Fixed Units/Time, Fixed Duration & Units/Time, Fixed Units, Fixed Duration & Units

▸ **Maps to field**: ACTIVITY.DURATIONTYPE

▸ **Use case**: Filter activities in a report based on their duration type.

Parameter: Percent Complete Type

▸ **Identifier**: p_percent_complete_type

▸ **Details**: Allows users to select the percent complete type of an activity.

▸ **Values**: Physical, Duration, Units

▸ **Maps to field**: ACTIVITY.PERCENTCOMPLETETYPE

▸ **Use case**: Filter activities in a report based on the percent complete type of the activity.

Parameter: Project Status

▸ **Identifier**: p_project_status

▸ **Details**: Allows users to select the status of a project.

▸ **Values**: Planned, Active, Inactive, What If, Requested, Template

▸ **Maps to field**: PROJECT.STATUS

▸ **Use case**: Filter the projects in a report based on the desired type. For example, you might want to use this for a report that needs to display information only on planned projects.

Parameter: Rate Source

▸ **Identifier**: p_rate_source

▸ **Details**: Allows users to select the rate source of an assignment.

▸ **Values**: Resource, Role, Override

▸ **Maps to field**: RESOURCEASSIGNMENT.RATESOURCE

▸ **Use case**: Filter resource assignments included in a report based on the rate source of the assignment.

Parameter: Rate Type

▸ **Identifier**: p_rate_type

▸ **Details**: Allows users to select the rate type of an assignment.

▸ **Values**: Price/Unit, Price/Unit 2, Price/Unit 3, Price/Unit 4, Price/Unit 5

▸ **Maps to field**: RESOURCEASSIGNMENT.RATETYPE

▸ **Use case**: Filter resource assignments included in a report based on the rate type of the assignment.

Parameter: Resource Type

▸ **Identifier**: p_resource_type

▸ **Details**: Allows users to select the resource type of an assignment.

▸ **Values**: Labor, Nonlabor, Material

▸ **Maps to field**: RESOURCEASSIGNMENT.RESOURCETYPE

▸ **Use case**: Filter resource assignments included in a report based on the resource type of the assignment.

Parameter: Risk Status

▸ **Identifier**: p_risk_status

▸ **Details**: Allows users to select the status of a risk.

▸ **Values**: Proposed, Open, Active, Rejected (Closed), Managed (Closed), Impacted (Closed)

▸ **Maps to field**: RISK.RISKSTATUS

▸ **Use case**: Filter risks in a report based on the status of the risk.

Parameter: Risk Type

▸ **Identifier**: p_risk_type

▸ **Details**: Allows users to select the type of a risk.

▸ **Values**: Threat, Opportunity

▸ **Maps to field**: RISK.RISKTYPE

▸ **Use case**: Filter risks in a report based on the type of risk.

Dynamic Parameters

Dynamic parameters map to fields that have a varying list of possible values. When running a report with a dynamic parameter, P6 will offer a list to select one of the available values.

Descriptions of dynamic parameters are in the following format:

Parameter: *Name of the parameter.*

▸ **Identifier**: *The value you must enter in the identifier field in BI Publisher when creating the parameter for the report. In some cases, identifiers can pass in context by appending short names to the end of the identifier. The character in quotations is the separator that the code splits and <name> represents the context you are trying to pass in.*

▸ **Details**: *A description and technical details of the parameter.*

▸ **P6**: *What the editor for the parameter will be in the Reports section of P6.*

- ▸ **Return Value**: *The values that will be available in P6.*
- ▸ **Maps to field**: *The database field the return value maps to in the PX Views database. It could match multiple fields in the database, so only the primary table is listed.*
- ▸ **Use case**: *An example of how you might use the parameter in a report.*

Supported Dynamic Parameters

Parameter: Activity Code Value

- ▸ **Identifier**: p_activity_code_value_only ":" <short name>
- ▸ **Details**: Enables users to select an activity code value via a list. Context passes into the parameter by appending a colon":" followed by the short name of the activity code type you want to set.
- ▸ **P6**: Provides a list that displays the Activity Code Values for the Activity Code type passed in the context.
- ▸ **Return value**: Short name of the Activity Code (unique per code type).
- ▸ **Maps to field**: ACTIVITYCODE.CODEVALUE
- ▸ **Use case**: Create a report that displays some basic information about activities. Users at five locations need to run the report, but they only want to see the data for activities with codes matching their location. Instead of creating five reports hard coding the location (for example, location=L1) on each report, you can create one report and add this parameter to it (for example, p_activity_code_value_only:Location).

  In the data template for the report, filter the activities based on this parameter. Hard code the left side of the activity filter to match the activity code you selected, which in this case is location.

  Example query: CODETYPENAME='Location' & CODEVALUE=:p_activity_code_value_only:Location

  If you did not have a parameter for this, you would need different templates for each location.

Parameter: User Defined Activity Code

- ▸ **Identifier**: p_activity_code_value "." <number> p_activity_code_type "." <number>
- ▸ **Details**: Enables users to select a user defined Activity Code. The user defined Activity Code is two parameters on the report in BI Publisher, but will display only as one row in the report settings parameter table.
- ▸ **P6**: Provides a list that displays all global Activity Code types. When users expand a type, the list shows the values for that type. By selecting a value, both the type and value will return to the report.
- ▸ **Return value**: Short name for the Activity Code Value, primary key for the Activity Code type.
- ▸ **Maps to field**:
  - ▪ p_activity_code_value maps to ACTIVITYCODE.CODEVALUE
  - ▪ p_activity_code_type maps to ACTIVITYCODE.CODETYPEOBJECTID

‣ **Use case**: Create a report that can have a variable Activity Code. The report pulls activities and displays some basic statistics of the activities. The data template for the report must accommodate setting both sides of the query. While a typical parameter just sets the IN clause for a user defined field, this parameter must set both sides. The "Activity Code Value" parameter **Use case** example shows where it hard codes the CODETYPENAME to be **Location**. This parameter enables multiple user defined activity codes to be used on the same report. For each parameter you use, you must add p_activity_code_value.1 and p_activity_code_type.1. There must be a pair of numbers to ensure that the editor works properly.

Parameter: Cost Account

‣ **Identifier**: p_cost_account
‣ **Details**: Enables users to select Cost Accounts. The P6 user must have access to view Cost Accounts for the list to populate.
‣ **P6**: Provides a list that displays all Cost Accounts in a hierarchical tree.
‣ **Return value**: Short name of the cost account (unique).
‣ **Maps to field**: COSTACCOUNT_FULL.NAME
‣ **Use case**: Filter items using certain Cost Accounts or generate information on the Cost Accounts.

Parameter: EPS

‣ **Identifier**: p_eps_id
‣ **Details**: Enables a user to select an EPS.
‣ **P6**: Provides a list that displays all of the EPS nodes where the user has access.
‣ **Return value**: The short name of the EPS.
‣ **Maps to field**:
  ▪ EPS_FULL.NAME
  ▪ EPS_U.NAME
‣ **Use case**: Use a parameter for EPS to filter a query to load all projects under an EPS for a report.

Parameter: Expense Category

‣ **Identifier**: p_expense_category
‣ **Details**: Enables a user to select Expense Category where the user has access.
‣ **P6**: Will provide a list that displays all of the Expense Categories.
‣ **Return value**: The short name of the Expense Category (unique).
‣ **Maps to field**:
  ▪ EXPENSECATEGORY_FULL.NAME
  ▪ EXPENSECATEGORY_U.NAME
‣ **Use case**: Run a report filtered by assignments that use a certain Expense Category associated with them.

Parameter: Funding Source

- ‣ **Identifier**: p_funding_source
- ‣ **Details**: Enables a user to select a Funding Source.
- ‣ **P6**: Provides a hierarchical list filled with Funding Sources where a user has access.
- ‣ **Return value**: The short name of the Funding Source (unique).
- ‣ **Maps to field**:
    - ▪ FUNDINGSOURCE_FULL.NAME
    - ▪ FUNDINGSOURCE_U.NAME
- ‣ **Use case**: Filter the report data to include only projects that have the selected Funding Source assigned.

Parameter: Portfolio ID

- ‣ **Identifier**: p_portfolio_id
- ‣ **Details**: Enables a user to select a Portfolio where the user has access.
- ‣ **P6**: Provides a list of Portfolios where the user has access.
- ‣ **Return value**: The portfolio short name (unique).
- ‣ **Maps to field**: PROJECTPORTFOLIO_FULL.NAME
- ‣ **Use case**: Filter the report data to include only the projects in a Portfolio.

Parameter: Project ID

- ‣ **Identifier**: p_project_id
- ‣ **Details**: Enables a user to select one or more projects where the user has access.
- ‣ **P6**: Click the **Projects** ▼ menu, and select **Open Project** to display the Project list. Enables switching between Template and Regular projects.
- ‣ **Return value**: The project short name (unique).
- ‣ **Maps to field**: PROJECT_FULL.ID
- ‣ **Use case**: Run a report where the data comes from selected projects.

Parameter: Project Code Value

- ‣ **Identifier**: p_project_code_value_only"-"<short name>
- ‣ **Details**: Select a Project Code value.
- ‣ **P6**: Provides a list containing the project code values for the Project Code whose short name matches the second part of the parameter. For example: If the short name was Scope, and there were four values – Local, Regional, Country, and Global – the list would display Local, Regional, Country, and Global in the list.
- ‣ **Return value**: Activity code value short name (unique per code type).
- ‣ **Maps to field**: PROJECTCODE_FULL.CODEVALUE
- ‣ **Use case**: Filter the set of projects loaded to those projects that have the user-selected Project Code Value assigned to them.

Parameter: User Defined Project Code

- ‣ **Identifier**: p_project_code_value"."<number> p_project_code_type"."<number>

▸ **Details**: Similar to the User Defined Activity Code, this parameter consists of two parameters in BI Publisher: One parameter returns the selected Project Code Value, and the other parameter returns the Project Code type ID. For each parameter you use, you must add both **p_project_code_value.#** and **p_project_code_type.#**. There must be a pair of numbers for the editor to work properly. You can have multiple sets to allow for more than one User Defined Code Value.

▸ **P6**: Provides a list populated with all the global Project Codes as the first level. Expanding a Project Code type will list all the values for the type. In the parameter table, only one row will represent both parameters. After you select a Project Code Value, both parameters will be set.

▸ **Return value**: The short name for p_project_code_value and the object id for p_project_code_type.

▸ **Maps to field**:
  ▪ p_project_code_value maps to PROJECTCODE_FULL.CODEVALUE
  ▪ p_project_code_type maps to PROJECTCODE_FULL.CODETYPEOBJECTID

▸ **Use case**: Create a report that enables the projects to filter based on a Project Code that the user defines. Unlike the Project Code Value parameter, the report creator should not hard code the Project Code type. Instead, they should write the query to enable the p_project_code_type.1 parameter to determine the Project Code type. This lets a report be more flexible in the filter criteria.

Parameter: User Defined Resource Code

▸ Identifier: p_resource_code_value "." <number> p_resource_code_type "." <number>

▸ **Details**: Similar to the other user-defined codes this parameter consists of two parameters on the report in BI Publisher: One parameter returns the selected Resource Code Value, and the other parameter returns the Resource Code type ID. For each parameter you use, you must add both **p_resource_code_value.#** and **p_resource_code_type .#** There must be a pair of numbers in order for the editor to work properly. You can have multiple sets to allow for more than one user-defined code value.

▸ **P6**: Provides a list populated with the Resource Codes as the first level. Expanding a Resource Code type will list all the values for the type. In the parameter table, only one row will represent both parameters. After you select a Resource Code Value, both parameters will be set.

▸ **Return value**:
  ▪ p_resource_code_value: short name for the code value
  ▪ p_resource_code_type: object id for the code type

▸ **Maps to field**:
  ▪ p_resource_code_value maps to RESOURCECODE_FULL.CODEVALUE
  ▪ p_resource_code_type maps to RESOURCE_CODE_FULL.CODETYPEOBJECTID

▸ **Use case**: Create a report that allows for the resources to be filtered based on a Resource Code Value and type that the user defines. Unlike the Resource Code Value parameter, the report creator should not hard code the resource code type. Instead, they should write the query to enable the p_resource_code_type.1 parameter to determine the resource code type. This allows a report to be more flexible in the filter criteria.

Parameter: Resource Code Value

▸ **Identifier**: p_resource_code_value_only ":" <short name>

▸ **Details**: Select a Resource Code value to use for filtering loaded resources for a report.

▸ **P6**: Provides a list populated with the resource code values for the resource code type indicated by the <short name> at the end of the parameter. For example: If the short name was Department, the list would display Engineering, Marketing, Research, and Development as the values in the list.

▸ **Return value**: The short name of the Resource Code Value (unique per code type).

▸ **Maps to field**: RESOURCECODE_FULL.CODEVALUE

▸ **Use case**: Create a report where the resources filter based on the resources that match the user-selected Resource Code Value for a particular Resource Code type. The report data query must hard code the Resource Code type for matching resources to the returned code value.

Parameter: Resource Team

▸ **Identifier**: p_resource_team

▸ **Details**: Enables resource team selection.

▸ **P6**: Provides a list populated with resource teams that the user has access to view.

▸ **Return value**: The short name of the resource team (unique).

▸ **Maps to field**: RESOURCETEAM_FULL.NAME

▸ **Use case**: Filter a report to load resources that are on the selected resource team.

Parameter: Resource ID

▸ **Identifier**: p_resource_id

▸ **Details**: Select a resource to filter a report.

▸ **P6**: Provides a list populated with resources that the user has access to view.

▸ **Return value**: The short name of the resource (unique).

▸ **Maps to field**: RESOURCES_FULL.NAME

▸ **Use case**: Filter the activities in a report based on the user-selected resource assigned to the activity.

Parameter: Responsible Manager

▸ **Identifier**: p_responsible_manager

▸ **Details**: Select a responsible manager (OBS).

▸ **P6 GUI**: Provides a list populated with the OBS structure that the user has access to view.

▸ **Return value**: The short name of the OBS (unique).

▸ **Maps to field**: PROJECT_FULL.OBSNAME and OBS_FULL.NAME

▸ **Use case**: Filter a report to load only the projects that have the user-selected responsible manager.

Parameter: Risk Category

▸ **Identifier**: p_risk_category

▸ **Details**: Select a Risk Category.

▸ **P6**: Provides a list populated with all the Risk Categories that the user has access to view.

▸ **Return value**: The name of the Risk Category (unique).

▸ **Maps to field**: RISK_FULL.RISKTYPE

▸ **Use case**: Filter a report to load only the Risks of the user-selected category.

Parameter: Role Team

▸ **Identifier**: p_role_team

▸ **Details**: Select a Role Team.

▸ **P6**: Provides a list populated with all the Role Teams the user has access to view.

▸ **Return value**: The name of the Role Team (unique).

▸ **Maps to field**: ROLLTEAM_FULL.NAME

▸ **Use case**: Filter a report of Resources to include only the Resources that are assigned to the user-selected Role Team.

Parameter: Role

▸ **Identifier**: p_p6_role_id

▸ **Details**: Select a Role.

▸ **P6**: Provides a list populated with all the Roles the user has access to view.

▸ **Return value**: The short name of the Role (unique).

▸ **Maps to field**: ROLL_FULL.ID

▸ **Use case**: Filter a report of Resources to include only the Resources that have the user-selected Role.

Parameter: Timesheet Period

▸ **Identifier**: p_timesheet_period_start and p_timesheet_period_end

▸ **Details**: This parameter consists of two parameters on the report in BI Publisher, but is represented by a single row in parameter list for P6. The user will select a timesheet period, and it will set the Start Date to p_timesheet_period_start and the End Date to p_timesheet_period_end.

▸ **P6**: Drop down menu of the Timesheet Periods in the database. Selecting a Timesheet Period will return the Start Date and End Date in the parameters.

▸ **Return value**: The Start Date and End Date of the Timesheet Period selected by the user.

▸ **Maps to field**: N/A

▸ **Use case**: Filter a report to look for a date between two dates of a Timesheet Period. Instead of adding two date parameters and making the user manually enter the Start and End of the period, the user can use a drop down with the Timesheet Periods in the database.

Parameter: User

▸ **Identifier**: p_p6_user_id

▸ **Details**: Select a P6 EPPM user name.

▸ **P6**: Provides a list populated with the P6 users that the logged-in user has access to view.

▸ **Return value**: The user name (unique).

‣ **Maps to field**: USERS_FULL.NAME

Primitive Parameters

In BI Publisher, when you create a parameter, a field Data Type allows the following options: String, Integer, Boolean, Float. The default type is String, and you should use it for all the supported enumeration and dynamic parameters. For primitive parameters, select the appropriate option for the parameter that you are configuring.

Type: Date

▸ **Editor**: P6 will use the date picker to select the date.
▸ **Return**: The date string in the format entered in BI Publisher.

Type: Boolean

▸ **Editor**: Will use a check box editor.
▸ **Return**: Either true (selected) or false (cleared).

Type: Integer

▸ **Editor**: Will use a default text box without validation.
▸ **Return**: The text entered in the box.

Type: Float

▸ **Editor**: Will use a default text box without validation.
▸ **Return**: The text entered in the box.

Allowing for Multiple Values Returned via a List

If you need a supported parameter to return a comma separated list of values for an IN clause in the data template, do the following:

1) In BI Publisher, set the parameter type to **Menu**. This will allow you to link it to a list.
2) Create a hard coded list or a query to get the possible values for the parameter.
   See examples of this in BI Publisher's pre-packaged reports.
3) Select the list of values you just created for the parameter.
4) Check the **Multiple Selection** option for the parameter.

If a parameter allows for multiple selection, P6 will allow selecting multiple values from the list or allow users to continue to assign values without closing the list. Values will have commas to separate parameters when the return value appears.