Oracle
Primavera P6 Professional
Integration API Configuration Guide for On-Premises

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Oracle Primavera P6 Professional Integration API Configuration Guide for On-Premises

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About This Guide

Scope

The P6 Professional API is an application programming interface that enables users to access P6 Professional functionality. This guide describes how to install and configure the P6 Professional API.

Audience

System administrators should use this guide.

Using This Guide

This guide assumes that you have installed compatible versions of a JDK and database. For more information, see *Tested Configurations*.

Installing P6 Professional API

This chapter describes how to install the P6 Professional API.

In This Section

What is the P6 Professional API?

The P6 Professional API is a Java-based API and server that enables developers to create client code that can seamlessly access P6 Professional functionality.

> **Caution:** Personal information (PI) may be at risk of exposure. Depending on local data protection laws organizations may be responsible for mitigating any risk of exposure.

System Requirements

The P6 Professional API has the following system requirements for installation:

Java Runtime Environment

Before installing P6 Professional API, you need to install the Java Development Kit (JDK), see *Tested Configurations* for the supported versions and updates. The Integrated Development Environment (IDE) you use to create code must work with this version.

Supported Operating Systems

P6 Professional API works on Windows, Linux, and the following Unix operating systems: Solaris, HP, AIX. See *Tested Configurations* for supported operating systems.

Database

Use a supported P6 Professional database. See *Tested Configurations* for supported databases.

Installing the P6 Professional API

To install the P6 Professional API:

1) Set the JAVA_HOME location:

   In your Windows system environment:

   a. Right-click on **My Computer** and select **Properties**.

b. In the **System Properties** dialog box, on the **Advanced** tab, click **Environment Variables**.

c. In the **Environment Variables** dialog box, under **System variables**, click **New**.

d. In the **New System Variable** dialog box:

1. In the **Variable name:** field, enter **JAVA_HOME**.

2. In the **Variable value:** field, enter the location where Java is located (for example, C:\Program Files\Java\<Java_Version>).

e. Click **OK** to exit out of the open dialog boxes.

For Linux, add the JAVA_HOME Environment variable to the dbsetup.sh (in the Database folder of the P6 Professional download) file before running it. For example: `export JAVA_HOME=/usr/java/jre<Java_Version>/`

2) From the Primavera P6 Professional Integration API 16 R1 folder of the physical media or download location, navigate to the **Disk1\install** directory and double-click on the **setup.exe** file (if using Windows) or run the **setup.sh** script (if using Linux).

3) On the **Welcome** screen, click **Next**.

4) In the **Specify Home Details** screen:

a. In the **Name** field, enter a name for the P6 Professional API.

b. In the **Path** field, specify the installation location for the P6 Professional API files.

c. Click **Next**.

5) In the **Available Product Components** screen, select the components to install and click **Next**.

6) In the **JDK Home Directory** screen, type or browse to the location where the JDK is installed and click **Next**.

7) In the **Summary** screen, click **Install**.

8) In the **Database Configuration** dialog box:

> **Note**: You can later change the database type through the P6 Professional API Database Configuration Setup wizard.

a. Choose the database type: Oracle or Microsoft SQL Server.

b. Click **Next**.

c. Specify the database connection parameters.

d. Click **Next**.

> **Note**: The P6 Professional API requires pubuser access (in the User Name field) to the database. The database name, host address, and host port are specific to your Oracle or Microsoft SQL Server installation. Database Host Port displays the default port for the database type you selected. You can edit this port.

e. If the installer detects an existing configuration screen, choose the appropriate action.

> **Notes**:
>
> ▪ If a configuration does not exist, the **The installer has detected an**

> **existing. . .** screen does not appear and the installation process automatically creates a default configuration named Primavera Configuration.
>
> - After installation, you can use the Database Configuration Setup wizard to choose or create a different configuration.

9) When the message displays to confirm the database configuration has completed successfully:

   a. Click **OK**.

   b. Click **Exit** to close the Setup wizard.

You will now have the following shortcuts added to the P6 Professional API entry in your Start menu:

- Demo applications
- Readme
- Database Configuration

Note: The Demo applications will only appear as a shortcut entry if you chose to install them during the installation process.

Changing Database Configuration Settings for P6 Professional API

The P6 Professional API Database Configuration wizard lets you create a new configuration or switch to a different configuration than the one specified during the P6 Professional API installation.

The database you connect to during the installation stores one or more P6 Professional API configurations. Each configuration specifies a set of configurable parameters that determine how the P6 Professional API operates. If no configuration exists in the database the first time you install the P6 Professional API, you must create a new configuration. For subsequent configurations, you can choose an existing configuration or create a new one. After configuration, you can use the Database Configuration wizard to select a different P6 Professional API configuration or create a new one.

Starting the Database Configuration wizard

Navigate to the <API_INSTALL_HOME> directory and run the **dbconfig.cmd** script. Depending on your installation, the home directory may be: **C:\P6IntegrationAPI_1**.

Authentication Modes

This chapter describes the authentication modes available and explains how to configure the P6 Professional to operate using a non-native authentication scheme.

Supported Authentication Modes

The P6 Professional API provides support for the following authentication modes to validate user logins:

▶ **Native** is the default mode for P6 EPPM. In Native mode, the P6 EPPM database acts as the authority and the application handles the authentication of the user who is logging into that application.

▶ **Lightweight Directory Access Protocol (LDAP)** authenticates users through a directory and is available for all applications. You can use LDAP referrals with Oracle Internet Directory and Microsoft Windows Active Directory. LDAP referrals allow authentication to extend to another domain. You can also configure multiple LDAP servers, which supports failover and enables you to search for users in multiple LDAP stores. An LDAP directory server database confirms the user's identity when they attempt to login to the application.

Implementing Non-Native Authentication

By default, all P6 Professional applications are installed using native authentication. Native authentication is handled directly through the module application with the P6 Professional database acting as the authority.

To implement non-native authentication for P6 Professional applications:

▶ Use the Authentication tab in the Primavera P6 Administrator to choose an authentication scheme for the P6 Professional database (PMDB).

▶ Configure administrative settings for the P6 Professional API.

This guide describes the procedures for choosing an authentication scheme and configuring new administrative settings for the P6 Professional API.

Choosing an Authentication Scheme

To specify the authentication scheme you want to use for P6 Professional applications, use the Authentication tab of the Primavera P6 Administrator.

As the Authentication mode is database-driven, the configuration tool enables you to first specify a database connection setting and then choose the authentication modes for the applications that access that database.

For LDAP authentication, the configuration utility also enables you to specify LDAP servers and map LDAP attributes to P6 Professional database fields.

Using the Authentication Tab in the Primavera P6 Administrator

Use the Authentication tab in the Primavera P6 Administrator to select an authentication mode and configure LDAP servers.

> **Caution**: Ensure that all users are logged out of P6 Professional to avoid a reset of the Primavera P6 Administrator settings.

> **Note**: Verify which global profile is set as the default since this will be

assigned to all provisioned users.

To configure the Authentication mode as Native:

1) Log in to the Primavera P6 Administrator.
    a. Navigate to the folder where you installed P6 Professional API.
    b. Run the admin.cmd file.
2) From the **Authentication** tab:
    a. Fill in the appropriate settings under the **Authentication** folder, and make sure that **Login Mode** is set to **NATIVE**.
    b. Fill in the appropriate settings under the **Database instance**, and make sure that **Authentication Mode** is set to **NATIVE**.
    c. Click **Save Changes**.

To configure the Authentication mode as LDAP:

1) Log in to the Primavera P6 Administrator.
    a. Navigate to the folder where you installed P6 Professional API
    b. Run the admin.cmd file.
2) From the **Authentication** tab:
    a. Expand your configuration.
    b. Change **Login Mode** to **LDAP**.
    c. Expand **Database instance** and set **Authentication Mode** to **LDAP**.
    d. Expand **LDAP Connection Settings[n]**.
        1. In the **Host** field, enter the host name of your LDAP server.
        2. In the **Port** field, enter the port number of your LDAP server.
        3. In the **Username** field, enter the LDAP user name that has privileges to log into the LDAP server and perform LDAP searches.
        4. In the **Password** field, enter the password for the user name you entered above.
        5. In the **Enable SSL** field, choose **true** if you are using SSL or **false** if you are not using SSL.
        6. In the **Chase Referrals** field, choose **true** to enable chase referrals or **false** to disable them.
        7. In the **Base Directory Node** field, enter the base dn string that represents where LDAP tree should search during login or provisioning.
            Example:
            ```
            dc=ad, dc=Marketing, dc=CompanyABC, dc=com
            ```
        8. In the **Preferred Pool Size** field, enter the preferred pool size. The default is 10.
        9. In the **Maximum Pool Size** field, enter the maximum pool size. The default is 20.
        10. In the **Connection Timeout (in seconds)** field, enter how long (in seconds) the system should try to connect to the LDAP before timing out. The default is 300.
        11. Expand **Field Map**.

        Note: Except where noted, these settings represent what you will enter

for an Oracle Internet Directory (OID) LDAP server and a Microsoft Active Directory.

12. In the **USER_NAME** field, enter the LDAP field name that holds the user's login ID.

    Example:

    `uid`

    or

    `samaccountname` (for Microsoft Active Directory)

13. In the **EMAIL_ADDR** field, enter the LDAP field name that holds the user's email address.

    Example:

    `mail`

14. In the **ACTUAL_NAME** field, enter the LDAP field name that holds the user's full name.

    Example:

    `cn`

    or

    `displayname` (for Microsoft Active Directory)

15. In the **OFFICE_PHONE** field, enter the LDAP field name that holds the user's phone number.

    Example:

    `telephoneNumber`

e. Right-click the **LDAP Connection Settings** folder and select **Test Connection**.

f. Click **Save Changes**.

Configuring P6 Professional API Authentication

Because one P6 Professional API server instance can control more than one database, in addition to specifying an authentication mode for a database through the Authentication tab of the Primavera P6 Administrator, you can use an administrative configuration setting to specify the overall mode you want to use for the P6 Professional API server. The P6 Professional API uses a single P6 Professional configuration setting, Authentication.Mode, to support authentication selection. For LDAP authentication with secure communication (SSL) between the P6 Professional API server and the LDAP server, two additional configuration settings are required.

Use the Primavera P6 Administrator to specify these configuration settings.

> **Note**: A P6 Professional API configuration might include database instances that are not set to the same authentication mode as the P6 Professional API server. If a user connects and requests a database that is set to a different authentication mode than the P6 Professional API server, an error message displays. The user must select a database that

matches the authentication mode set for the P6 Professional API server.

Login Procedures and Authentication in P6 Professional

The authentication modes have different login procedures:

In Native mode

P6 Professional presents a login dialog that prompts for a user name and password. Depending on whether you enabled the password policy option in Application Settings, the user may have to create a strong password.

In LDAP mode

▸ All P6 Professional applications require a login password.
▸ Since the LDAP directory stores and authenticates passwords, users cannot change their passwords in P6 Professional.