Oracle
Primavera
Portfolio Management Installation and Configuration Guide

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Contents

Overview

Primavera Portfolio Management can be installed on a single server or a distributed setup. The Primavera Portfolio Management Installation and Configuration Guide describes how to install and configure the application in both scenarios.

> **Note**: A new installation of Primavera Portfolio Management on a single server refers to a server that has had no previously installed versions of the application.

Use the following sequence as a recommendation for a successful installation:

1) Determine the installation configuration that works best for your organization.
   For more details, see ***Types of Installation Configurations*** (on page 5).
2) Install the prerequisites.
   For more details, see ***Installation Prerequisites*** (on page 9).
   If you plan to install in a distributed setup, also see ***Additional Prerequisites for Distributed Setup*** (on page 19).
3) Sign in to the Primavera Portfolio Management server with administrative privileges.
4) Install Primavera Portfolio Management application on a single server or in a distributed setup.
   For more details, see ***Installing Primavera Portfolio Management*** (on page 17) or ***Installing Primavera Portfolio Management in a Distributed Setup*** (on page 19)
5) Install a new PPM database or configure an existing PPM database.
   For more details, see ***Installing the PPM Database*** (on page 29).
6) Configure the SMTP Server Smart Host.
   For more details, see ***Configuring the SMTP Mail Server for Primavera Portfolio Management*** (on page 33).
7) Verify the installation.
   For more details, see ***Verifying the Installation*** (on page 35).
8) If you choose to install Propose, you must also configure Propose.
   For more details, see ***Configuring Propose*** (on page 37).
9) If you choose to install Bridge, then you must also configure the Bridge for Project Management System.
   For more details, see ***Configuring the Bridge for Project Management Systems*** (on page 43).

Types of Installation Configurations

Depending on your requirements, Primavera Portfolio Management can be installed in varying configurations:

One Machine Configuration

A single server having the following components.

Machine	Installed Components
Server 1	▸ Primavera Portfolio Management Primary Back-End ▸ Primavera Portfolio Management Front-End ▸ Database server

Two Machine Configuration

Two servers having the following components.

Machine	Installed Components
Server 1	▸ Primavera Portfolio Management Primary Back-End ▸ Primavera Portfolio Management Front-End
▸ Server 2	Database server

Or

Machine	Installed Components
Server 1	Primavera Portfolio Management Front-End
▸ Server 2	▸ Primavera Portfolio Management Primary Back-End ▸ Database server

Three Machine Configuration

Three servers having the following components.

Machine	Installed Components
Server 1	Primavera Portfolio Management Front-End
Server 2	Primavera Portfolio Management Primary Back-End
Server 3	Database server

Distributed Setup Environment

A distributed setup environment allows for balancing the system load on several physical servers. Multiple servers are installed with the following components:

Machine	Installed Components
Only 1 Server	Primavera Portfolio Management Primary Back-End
Multiple Servers	Primavera Portfolio Management Secondary Back-End
Multiple Servers	Primavera Portfolio Management Front-End

1 Server	Database server

For more details, see ***Installing Primavera Portfolio Management in a Distributed Setup*** (on page 19).

At a minimum, each installation of Primavera Portfolio Management must contain only one instance of the Primavera Portfolio Management Primary Back-End, one or more instances of the Primavera Portfolio Management Front-End, and one database server.

For all configurations, ensure all servers comply with the ***Installation Prerequisites*** (on page 9)s.

Installation Prerequisites

Before installing Oracle Primavera Portfolio Management (OPPM) application, install and configure the following applications on a Primavera Portfolio Management server:

> **Note**: For supported software versions, refer to the *Primavera Portfolio Management Tested Configurations* document.

1) Microsoft Windows Server as the application server by using the Configure your Server wizard. Ensure the Windows server is also installed with:
   - The most recent critical updates
   - Microsoft Internet Information Services (IIS)
   - SMTP to use collaboration features of OPPM
   - Microsoft Transaction Server (MTS)
   - Microsoft Distributed Transaction Coordinator (MSDTC)
2) You must have full administrative privileges on the server to run Primavera Portfolio Management installer.

   For Windows, use any of the following methods for full administrative privileges:
   - Sign in using the local administrator account
   - Disable User Account Control (UAC)
   - Right-click the install executable and select "Run as administrator"

   If the install is not performed using the local administrator account, the "Change" option in the Control Panel's Software Explorer will not work. However, you can change the list of installed features by running using the Run as administrator method
3) After installing the .Net Framework 4.5 version when you add Server roles, you must also install .Net Framework 4.5.2.
4) Install Visual C++ redistributable 2013 (x64) and 2015 (x64).
5) If you choose to install Microsoft SharePoint Portal Server *before* installing Primavera Portfolio Management on the application server, ensure you complete its installation, including "Extending" any web sites.

   If you install SharePoint Portal Server *after* installing Primavera Portfolio Management you must enable the Primavera Portfolio Management application from Sharepoint settings.

   > **Note**: Primavera Portfolio Management must never be installed into a web site managed by SharePoint.

6) In Internet Information Server (IIS) Manager, create a web site to install Primavera Portfolio Management.
7) Install IIS Rewrite Module 2.1 or higher to enable HTTP Strict Transport Security (HSTS) by default.
8) Install Oracle Database and the corresponding client access software for the database server of your choice.

   If the database server resides on the same physical machine as the application server:

- For Microsoft SQL Server, the necessary software is installed when you installed the database server. No further action is needed.
- For Oracle database server, the necessary client software (Oracle InstantClient) is installed by the Primavera Portfolio Management installer. No further action is needed.

If the database server resides on another physical machine:

- For Microsoft SQL Server, install Microsoft SQL Server Client Access software on the application server.
- For Oracle database server, the necessary client software (Oracle InstantClient) is installed by the Primavera Portfolio Management installer. No further action is needed.

> **Note**: The Oracle InstantClient installed by the Primavera Portfolio Management installer is not capable of supporting TNS by itself. To use the TNS connection method, you will need to install a full Oracle database client on all Primavera Portfolio Management application servers.

In This Section

Setting Up Server Roles and Features

After installing the above prerequisites, run the Add Roles and Services wizard to se up Server Roles and Features as follows:

1) In the Windows **Start** Menu, select **Control Panel, Programs, Turn Windows features on or off**.

   The Add Roles and Services Wizard displays.
2) In the **Before you begin** step, select **Next**.
3) In the **Select Installation Type** step, select **Role-based or feature-based installation**.
4) In the **Select destination server** step, select **Select a server from the server pool**.

In the **Server Roles** step install the following roles as shown below:

Role Service	Windows 2016	Windows 2019
File and Storage Services	Installed	Installed
Web Server (IIS)	Installed	Installed
Expand **Windows Process Activation Service Support** and ensure the following roles are selected		
HTTP Activation	Not available	Not available
Message Queuing Activation		
Named Pipes Activation		

Role Service	Windows 2016	Windows 2019
TCP Activation		
Expand **File and Storage Services** and ensure the following roles are selected:		
File and iSCSI Services	Installed	Installed
Storage Services	Installed	Installed
Expand **File and iSCSI Services** and ensure the following roles are selected:		
File Server	Installed	Installed
Expand **Web Server (IIS)** and ensure the following roles are selected for the Web Server:		
Web Server	Installed	Installed
FTP Server	Installed	Installed
Management Tools	Installed	Installed
Expand **Web Server** and select the following roles:		
Common HTTP Features	Installed	Installed
Health and Diagnostics	Installed	Installed
Performance	Installed	Installed
Security	Installed	Installed
Application Development	Installed	Installed
Expand **Common HTPP Features** and select the following roles:		
Default Document	Installed	Installed
Directory Browsing	Installed	Installed
HTTP Errors	Installed	Installed
Static Content	Installed	Installed
HTTP Redirection	Installed	Installed
WebDav Publishing	Installed	Installed
Expand **Health and Diagnostics** and select the following roles:		
HTTP Logging	Installed	Installed
Custom Logging	Not Installed	Not Installed
Logging Tools	Installed	Installed
ODBC Logging	Not Installed	Not Installed
Request Monitor	Installed	Installed

Role Service	Windows 2016	Windows 2019
Tracing	Installed	Installed
Expand **Performance** and select the following roles:		
Static Content Compression	Installed	
Dynamic Content Compression	Installed	
Expand **Security** and select the following roles:		
Request Filtering	Installed	Installed
Basic Authentication	Installed	Installed
Centralized SSL Certificate Support	Installed	Installed
Client Certificate Mapping Authentication	Installed	Installed
Digest Authentication	Installed	Installed
IIS Client Certificate Mapping Authentication	Installed	Installed
IP and Domain Restrictions	Installed	Installed
URL Authentication	Installed	Installed
Windows Authentication	Installed	Installed
Expand **Application Development** and select the following roles:		
.NET Extendibility 3.5	Installed	Installed
.NET Extendibility 4.6	Installed	Install (.NET Extensibility 4.7)
Application Initialization	Installed	Installed
ASP	Installed	Installed
ASP.NET 3.5	Installed	Installed
ASP.NET 4.6	Installed	Install (ASP .NET 4.7)
CGI	Installed	Installed
ISAPI Extensions	Installed	Installed
ISAPI Filters	Installed	Installed
Server Side Includes	Installed	Installed
WebSocket Protocol	Installed	Installed
Expand **FTP Server** and select the following roles:		
FTP Service	Installed	Installed

Role Service	Windows 2016	Windows 2019
FTP Extensibility	Installed	Installed
Expand **Management Tools** and select the following roles:		
IIS Management Console	Installed	Installed
IIS 6 Management Compatibility	Installed	Installed
[]S Management Scripts and Tools	Installed	Installed
Management Service	Installed	Installed
Expand **IIS 6 Management Compatibility** and select the following roles:		
IIS 6 Metabase Compatibility	Installed	Installed
IIS 6 Management Console	Installed	Installed
IIS 6 Scripting Tools	Installed	Installed
IIS 6 WMI Compatibility	Installed	Installed

In the **Features** step, select the following features:

Features	Windows 2016	Windows 2019
.NET Framework 3.5 Features	Installed	Installed
.NET Framework 4.6 Features	Installed	Installed (.NET framework with 4.7 features)
IIS Hostable Web Core	Installed	Installed
Ink and Handwriting Services	Installed	Not available
Media Foundation	Installed	Installed
Message Queuing	Installed	Installed
Remote Server Administration Tools	Installed	Installed
SMB 1.0/CIFS File Sharing Support	Installed	Installed
SMTP Server	Installed	Installed
User Interfaces and Infrastructure	Not available	Not available
Windows PowerShell	Installed	Installed
Windows Process Activation Service	Installed	Installed
WoW64 Support	Installed	Installed

Features	Windows 2016	Windows 2019
Expand **.NET Framework 3.5 Features** and select the following features:		
.NET Framework 3.5 (includes .NET 2.0 and 3.0)	Installed	Installed
HTTP Activation	Installed	Installed
Non-HTTP Activation	Installed	Installed
Expand **.NET Framework 4.6 Features** and select the following features:		
.NET Framework 4.6	Installed	Installed (.NET framework with 4.7 features)
ASP NET 4.6	Installed	Installed (ASP NET 4.7)
WCF Services	Installed	Installed
Expand **WCF Services** and select the following features:		
HTTP Activation	Installed	Installed
Message Queuing (MSMQ) Activation	Installed	Installed
Name Pipe Activation	Installed	Installed
TCP Activation	Installed	Installed
TCP Port Sharing	Installed	Installed
Expand **Message Queuing** and select the following features:		
Message Queuing Services	Installed	Installed
Message Queuing Server	Installed	Installed
Expand **Remote Server Administration Tools** and select the following features:		
Feature Administration Tools	1 of 12 Installed	Installed
SMTP Server Tools	Installed	Installed
Expand **User Interfaces and Infrastructure** and select the following features:		
Graphical Management Tools and Infrastructure	Installed	Not available

Features	Windows 2016	Windows 2019
Desktop Experience	Installed	Not available
Server Graphical Shell	Installed	Not available
Expand **Windows PowerShell** and select the following features:		
Windows PowerShell 4.0	Installed (Windows PowerShell 5.1)	Installed (Windows PowerShell 5.1)
Windows Powershell 2.0 Engine	Installed	Installed
Windows PowerShell ISE	Installed	Installed
Expand **Windows Process Activation Service** and select the following features:		
Process Model	Installed	Installed
.NET Environment 3.5	Installed	Installed
Configuration APIs	Installed	Installed

Configuring Server Security Settings

On all servers (including the database server) set up the security settings as follows:

1) From the Windows **Start** Menu, select **Administrative Tools,** then **Component Services**. The Component Services dialog box displays.
2) In the left navigation pane, expand the **Component Services** node.
3) Expand **Computers, My Computer**, and the **Distributed Transaction Coordinator** nodes.
4) Right-click **Local DTC** and select **Properties**.
5) In the Local DTC Properties dialog box, select the **Security** tab.
6) In the **Security Settings** section, select the following options:
   - Network DTC Access
   - Enable XA Transactions
7) In the **Client and Administration** section, select the following options:
   - Allow Remote Clients
   - Allow Remote Administration
8) In the **Transaction Manager Communication** section, select the following options:
   - Allow Inbound
   - Allow Outbound
   - No Authentication Required

9) In the **DTC Logon Account** section, browse to the **Account Name**, enter the password, and select **OK**.
10) Select **OK** to accept all changes.
11) Select **Yes** to restart the MSDTC.
12) Select **OK** in the notification message box that states that MSDTC has been restarted.
13) Close Component Services.

- **Notes**:
- Previous versions of .NET Framework are automatically installed during the installation of Primavera Portfolio Management will remain fully functional.
- Primavera Portfolio Management does not require a Java Runtime Environment (JRE) or Java Virtual Machine (JVM) on client workstations or servers, and is indifferent to a JRE or JVM if installed.

Installing Primavera Portfolio Management

To install Primavera Portfolio Management, follow these steps:

1) Download and unzip Primavera Portfolio Management from the Oracle edelivery Website.
2) Double-click **setup.exe** to begin installation.
3) In the **Choose Setup Language** dialog box, select the language in which the installation screens are to be displayed, and select **OK**.

> **Note**: This does not influence the language in which the user interface of Primavera Portfolio Management will be displayed.

4) On the **Welcome** screen, select **Next**.

> Note: Select **Next** on each screen to advance to the next step of the installation.

5) On the **Customer Information** screen confirm the pre-populated **User Name** and **Organization**. Otherwise enter correct values.
6) On the **Destination Folder** screen, select **Change** if you want to browse and select an installation folder for Primavera Portfolio Management.
7) On the **Select Default User Interface Language** screen, select the default language of the user interface.

> **Note**: Each user can later change this default language selection.

8) On the **Feature Selection** screen, for each instance of Primavera Portfolio Management, select only one installation of the **Portfolio Management Primary Back-End**, and at least one installation of the **Portfolio Management Front-End**. These can be installed on separate or same physical servers.

   For the *simplest* installation of all required features installed on one server, select

   - **Portfolio Management Primary Back-End**
   - **Portfolio Management Front-End**

   Additionally, select any of the following optional features:

   - **SOAP RPC interface**
   - **Web Services interface**
   - **Propose**

     For more details on how to configure Propose, see ***Configuring Propose*** (on page 37).
   - **Bridge for Primavera P6 and Microsoft Project Server**

     Configure the Front-End for Publish and Update, and configure the Back-End for Sync. For more details on how to configure the Bridge on both the servers, see ***Configuring the Bridge for Project Management Systems*** (on page 43).

     > - **Note**: To install Primavera Portfolio Management in a scaled-out

environment, see ***Installing Primavera Portfolio Management in a Distributed Setup*** (on page 19).

9) On the **Internet Information Server (IIS) Properties** screen, select any of the following options:
   - If you have been created a web site for Primavera Portfolio Management on the Internet Information Server Manager, select that web site from the **Install in** list.
   - Select **Redirect Web Site to Primavera Portfolio Management** if you want to redirect the website to a virtual directory created by Primavera Portfolio Management.
   - The **Use https on all screens** is selected by default to ensure information is secured by SSL.

   The Primavera Portfolio Management install automatically detects if a SSL certificate is already installed on your server. If no certificate is found, it will generate a self-signed SSL certificate for you, so that you will be able to use https (http protocol secured by SSL).
10) On the **Internet Information Server (IIS) Properties** screen, enter the corresponding URLs if they are different from the defaults for the following fields:
   - **How will Primavera Portfolio Management 19 (64-bit) be accessed on the intranet of your organization?**
   - **How will Primavera Portfolio Management 19 (64-bit) be accessed from outside your organization?**

   Note: If the URLs are different from the defaults, you will also need to synchronize the random number value for *all* non-default websites in which Primavera Portfolio Management is installed. For detailed instructions, see ***Synchronizing all Non-default Websites Installed with Primavera Portfolio Management*** (on page 25).
11) On the **Ready to Install** screen, select **Install**.
12) On the **InstallShield Wizard Completed** screen, select **Finish**.

    Primavera Portfolio Management is installed successfully.
13) For a new installation, proceed to create a new Primavera Portfolio Management database or connect to an existing database.

    For more details, see ***Creating and Configuring a New PPM Database*** (on page 29).

Installing Primavera Portfolio Management in a Distributed Setup

Primavera Portfolio Management can also be installed in a distributed setup (“scale-out”) to spread the load of the system over several physical servers.

In a distributed setup, install Primavera Portfolio Management components on multiple physical servers as follows:

Machine	Installed Components
Only 1 Server	Primavera Portfolio Management Primary Back-End
Multiple Servers	Primavera Portfolio Management Secondary Back-End
Multiple Servers	Primavera Portfolio Management Front-End
1 Server	Database server

When installing Primavera Portfolio Management Front-End on only one server, see ***Installing Primavera Portfolio Management Front End*** (on page 21).

Note: In a distributed setup, Bridge for Primavera Portfolio Management must be setup on the Front-End and the Primary Back-End.

In This Section

Additional Prerequisites for Distributed Setup

For a distributed installation setup, in addition to the ***Installation Prerequisites*** (on page 9), you must also:

- Install and configure a Microsoft Network Load Balancing (NLB) cluster on all servers hosting the Primavera Portfolio Management Front-End.

  If you plan to install the front-end on only one server, NLB configuration is not required.
- For the NLB cluster and all the front-end servers in the cluster, ensure the following:
  - Fixed IP addresses on all servers
  - One reserved fixed virtual IP address not used by any physical server

- A separate Network Interface Card (NIC) is recommended for each server to route the NLB cluster communications.

> **Note**: NLB clusters can be set up and configured in many different ways, depending on overall network infrastructure, hosts, protocols, etc. This chapter outlines a procedure for how to configure a NLB cluster. For more information, please refer to the documentation on the Microsoft website.

Installing and Configuring a NLB Cluster

To install and configure an NLB cluster:

1) Select a Windows server which will *not* be a member of the cluster.
   For supported versions, see the *Tested Configurations* document.
2) Select **Start, Administrative Tools**, and then **Network Load Balancing Manager**.
3) In the left navigation pane, right-click **Network Load Balancing Clusters** and then select **New Cluster**.
4) In the **Cluster Parameters** screen, enter the following information:
   - In the **IP address** field, enter a virtual (reserved but unused) *fixed* IP address of the cluster.
   - The **Subnet mask** field is auto-populated.
   - In the **Full internet name** field, enter the full name to access the cluster of ProSight servers. The DNS system of the domain must be configured such that it will resolve this name to the virtual fixed IP address.
   - Select **Next**.

> **Note**: Select **Next** to proceed to the next step of the installation sequence.

5) In the **Cluster IP Addresses** screen, select **Next**.
6) In the **Port Rules** screen, select **Edit...**.
7) In the **Add / Edit Port Rule** screen:
   - Set **Affinity** to *None*.

> **Note**: When using SSL with Primavera Portfolio Management, set **Affinity** to *Single*.

   - Select **OK**.
8) In the **Connect** screen, enter the following information to connect to the cluster:
   - In the **Host** field, enter the fixed IP address of a Windows server that is a member of the NLB cluster, and then select **Connect**.
   - In the **Interface name** column, select the interface that is to be used for NLB cluster communication.

If the server has a Network Interface Card (NIC) dedicated to NLB cluster communication, select that interface.

9) In the **Host Parameters** screen, select **Finish**.

   The NLB Manager main window displays the status of the requested operation.

10) (Optional) To add another Windows server to this NLB cluster:
    a. Right-click the cluster name, and then select **Add Host to Cluster**.
    b. Repeat the sequence from Step 8.

11) Close the Network Load Balancing Manager.

Installing Primavera Portfolio Management Front End

If Primavera Portfolio Management Front-End is installed on only one server, complete the following steps on that server only.

If an NLB cluster has been set up and configured, complete the following steps on *each* Windows server that is a member of the NLB cluster:

1) Double-click **setup.exe** to begin Primavera Portfolio Management installation.
2) Follow the installation sequence as outlined in ***Installing Primavera Portfolio Management*** (on page 17).
3) On the **Feature Selection** screen, for each instance of Primavera Portfolio Management:
   a. Deselect the **Portfolio Management Primary Back-End** feature.
   b. (Optional) Install any of the following features on all servers on which Primavera Portfolio Management Front-End is installed:
      - **SOAP RPC**
      - **Web Services**
      - **Propose**
      - **Bridge**

> **Note**: If installing on servers that are members of a NLB cluster, change the server name in the proposed URLs to the cluster name entered in the the **Full internet name** field when ***Installing and Configuring a NLB Cluster*** (on page 20). For example, if the full Internet name of the cluster was entered as *portfolios6.domain.com*, then the URL should look like *http://portfolios6.domain.com/prosight*.

Installing Primavera Portfolio Management Primary Back-End in a Distributed Setup

In any type of installation configuration, including distributed setup, only one server can be installed with the Primary Back-End. To install the Primary Back-End:

1) Select a Windows Server which is *not* a member of the NLB cluster.
2) Double-click **setup.exe** to begin Primavera Portfolio Management installation.

3) Follow the installation sequence as outlined in ***Installing Primavera Portfolio Management*** (on page 17).
4) On the **Feature Selection** screen, deselect the **Portfolio Management Primary Front-End** feature.
5) Select **Install**.
6) Select **Finish** when the installation is complete.

Installing Primavera Portfolio Management Secondary Back-End in a Distributed Setup

The Portfolio Management Secondary Back-End component can be installed on as many servers as is necessary to achieve a given performance level of Primavera Portfolio Management.

To install the Primavera Portfolio Management Secondary Back-End:

1) Select a Windows Server which is *not* a member of the NLB cluster.
2) Double-click **setup.exe** to begin Primavera Portfolio Management installation.
3) Follow the installation sequence as outlined in ***Installing Primavera Portfolio Management*** (on page 17).
4) On the **Feature Selection** screen, for each instance of Primavera Portfolio Management:
   a. Deselect **Portfolio Management Front End**, and **Portfolio Management Primary Back-End**.
   b. Select **Portfolio Management Secondary Back-End**.
5) Select **Install**.
6) Select **Finish** when the installation is complete.

Setting Up Persisting Session Information in Load Balancing Clusters

Complete the following task to setup the Primavera Portfolio Management database for persisting session information.

For Microsoft SQL Server Database

See ***Setting up Persisting Session Information on Front-End Servers*** (on page 22).

For Oracle Database

See ***Setting up Persisting Session Information on Back-End Servers*** (on page 23).

Setting up Persisting Session Information on Front-End Servers

When multiple Primavera Portfolio Management Front-End servers have been installed and are operating in a load-balancing cluster, or when PPM database is hosted on *Microsoft SQL Server*, create an *ASPState* database for persisting session information as follows:

1) Select a Windows server on which the Primavera Portfolio Management Front-End has been installed.

2) Run Microsoft SQL Server Query Analyzer.
3) Login to Microsoft SQL Server hosting the PPM database, using the “sa” database login.
4) From the **File** menu, select **Open**.
5) On the local drive, browse to **\WINDOWS\Microsoft.NET\Framework\v2.0.50727**.
6) Select **installpersistsqlstate.sql**.
7) From the **Query** menu, select **Execute**.
   The *ASPState* database is created.
8) When finished, close Microsoft SQL Server Query Analyzer.
9) Open Microsoft SQL Server Enterprise Manager.
10) Create a new SQL Server login called *ASPState*.
11) Set the properties for *ASPState* login as follows:
    - Use SQL Server authentication and specify a password
    - Set the default database to *ASPState*
    - On the **Database Access** tab, allow access to the *ASPState* database only, as user *ASPState*, and grant *public* and *db_owner* roles.

Setting up Persisting Session Information on Back-End Servers

When the PPM database is hosted on an Oracle database server, enable the Microsoft ASP.NET State Service for persisting session information on the Primavera Portfolio Management Primary Back-End server as follows:

1) Open the Registry Editor (**regedit**) and locate the registry value:
   `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\aspnet_state\Parameters\AllowRemoteConnection`
2) If the value `AllowRemoteConnection` does not exist:
   a. Create a new **REG_DWORD** value named `AllowRemoteConnection`;
   b. Set its value to *1*.
3) (Optional) Change the port for ASP.NET State Service handles communications by modifying the registry value:
   `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\aspnet_state\Parameters\Port`
   Otherwise, the default port is *42424*.
4) Open the **Services** screen, and start the ASP.NET State Service.
5) Modify the settings for this service to start automatically when the server is restarted.

Sharing Session Information on All Application Servers

Share the session information on all Primavera Portfolio Management application servers as follows.

Prerequisites

The following task must be completed.

- ***Setting up Persisting Session Information on Front-End Servers*** (on page 22) or
- ***Setting up Persisting Session Information on Back-End Servers*** (on page 23)

Procedure

Complete the following steps on all of the Windows servers (including the single Primary Back-End server, all Front-End servers, and all Secondary Back-End servers):

1) Browse to **C:\Program Files\Oracle\Primavera Portfolio Management\Portfolios\IisRoot**
2) Open `web.config` using Notepad.
3) Locate the section which looks like the following:
   ```
   <sessionState mode="InProc" timeout="1440"/>
   ```
4) If an *ASPState* PPM database is created on the Microsoft SQL Server database server, modify this section:
   ```
   <sessionState mode="SQLServer" sqlConnectionString=
   "data source=sqlserver;user id=ASPState;password= ASPStatePassword"
   timeout="1440" />
   ```
   - Replace `sqlserver` with the actual name of the SQL Server hosting the *ASPState* database
   - Replace `ASPStatePassword` with the actual password for this account.
5) If the PPM database is hosted on an Oracle database server and the ASP.NET State Service service has been created, modify this section:
   ```
   <sessionState mode="StateServer"
     stateConnectionString="tcpip=ppmbackend:42424"
     timeout="1440" />
   ```
   - Replace `ppmbackend` with the actual name of the Primavera Portfolio Management Primary Back-End server.
   - If the default port was changed, replace `42424` with the actual port number.
6) Locate the `<system.web>` section.
7) Add the following new text in this section:
   ```
   <machineKey validationKey="<NLB1>" decryptionKey="<NLB2>"
   validation="SHA1" decryption="AES" />
   ```
   - Replace `<NLB1>` with the 128 hexadecimal characters, representing the 64-byte validation key used by the SHA1 hashing algorithm.
   - Replace `<NLB2>` with the 64 hexadecimal characters, representing the 32-bit decryption key used by the AES encryption algorithm.
8) For more details on how to generate stronger keys, see http://msdn.microsoft.com/en-us/library/ms998288.aspx#paght000007_webfarmdeploymentconsiderations
9) Save `web.config`.
10) Close Notepad.

Synchronizing all Non-default Websites Installed with Primavera Portfolio Management

When Primavera Portfolio Management is installed in a non-default web site, a random number is created by IIS on each server where the application is installed. Since the random number is different on each server, the servers do not identify each other's sessions. Each server is simply writing it's sessions to the *ASPState* database identified by its own random number.

In the ASPState database that contains the sessions, each session is identified by an identifier consisting of the full path to the application. For example, */lm/w3svc/1091467543/root/prosight*

Where, *1091467543* is the random number identifying the web site.

To resolve the above scenario, all non-default web sites into which Primavera Portfolio Management is installed must use the same random number. Complete the steps installed with Primavera Portfolio Management:

1) Open **regedit** on a Windows server installed with Primavera Portfolio Management in a non-default web site.
2) Look up the registry value of `HKEY_LOCAL_MACHINE\SOFTWARE\Oracle\Primavera Portfolio Management\Portfolios\Server\UI\WebSite`
3) Note down the registry value on on this Windows server. Call this the *target* value.
4) Change the value of the non-default web site on all other Windows servers.

   This includes members of the NLB cluster, a single server hosting Primavera Portfolio Management Primary Back-End, and multiple servers hosting Primavera Portfolio Management Secondary Back-End.

   a. Enable **Direct Metabase Edit** on the server where the random number needs to be changed as follows:
      1. Open **Internet Information Services (IIS) Manager**.
      2. Right-click the computer name and select **Properties**.
      3. Select the **Enable Direct Metabase Edit** option.
      4. Select **OK**.
   b. Make a backup of the **Metabase.xml** file. This file is located in **system32\inetsrv** of the Windows directory.
   c. Open **Metabase.xml** in a text editor.
      1. Search and replace the non-default web site random number found in the above registry location on this server with the *target value*.
      2. Change all instances of the random number in the XML file.
      3. Save the **Metabase.xml** file.
   d. Also replace the value at the above registry entry to ensure it refers to the same *target value*.
   e. Restart Primavera Portfolio Management.
   f. Disable **Direct Metabase Edit** as follows:
      1. Open **Internet Information Services (IIS) Manager**.
      2. Right-click the computer name and select **Properties**.
      3. Deselect the **Enable Direct Metabase Edit** option.
      4. Select **OK**.

5) Repeat the above sequence on all servers to change the random number.

Using SSL in Load Balancing Clusters

The certificates used on all Primavera Portfolio Management Front-End servers, the single Primavera Portfolio Management Primary Back-End Server and multiple Primavera Portfolio Management Secondary Back-End servers must be in sync.

Complete the following steps:

1) Install a certificate on one server as outlined in the *Enabling SSL* section of the *Primavera Portfolio Management System Administration Guide*.
2) Use IIS Manager on this server to *export* the certificate into a **pfx** file.
3) Use IIS Manager on all other servers to *import* the **pfx** file as a certificate.

Connecting to the PPM Database and Completing the Installation

After installing Primavera Portfolio Management:

1) Connect all the servers in the distributed setup to the installed PPM database in the following order:
   a. Multiple Primavera Portfolio Management Front-End servers
   b. The single Primavera Primary Back-End server
   c. Multiple Primavera Portfolio Management Secondary Back-End servers

   For detailed instructions on how to connect to the database, refer to ***Installing the PPM Database*** (on page 29).

   - **Notes:**
   - To change databases, you will need to run and configure the Primavera Portfolio Management Console on all servers individually.
   - If a new PPM database is created, the actual database creation will be performed from the first Primavera Portfolio Management Front-End server on which the Console is run. All other servers will then need to be connected to the new PPM database using the Console.

2) Configure the SMTP Server Smart Host on each server.

   For more details, see ***Configuring the SMTP Mail Server for Primavera Portfolio Management*** (on page 33).
3) To verify the installation, see ***Verifying the Installation*** (on page 35).

   For the Primavera Portfolio Management URL, enter the **Full Internet Name** of the NLB cluster that was specified while ***Installing and Configuring a NLB Cluster*** (on page 20). This ensures connecting to the cluster instead of a particular server in the cluster. When connected to the cluster, it will forward requests to the server that is least busy.

   If the DNS system of the domain was not configured to resolve the NLB cluster name, you must use the IP address of the cluster instead.
4) Configure Propose.

5) Configure the Bridge for Project Management System.

Installing the PPM Database

After installing the Primavera Portfolio Management application, you can install the PPM database using the following options:

- ***Creating and Configuring a New PPM Database*** (on page 29)
- ***Configuring an Existing PPM Database*** (on page 30)

This chapter describes how to use the database configuration utility to install and configure the Primavera Portfolio Management database.

In This Section

Creating and Configuring a New PPM Database

Complete the following steps to install and configure a new PPM database:

1) Invoke the Primavera Portfolio Management Console using any of the following methods:
   - From the **Start** menu, select the **down-arrow.** In the **Apps by name** menu, scroll and select **Primavera Portfolio Management Console**, then select **Add.**
   - From the downloaded Primavera Portfolio Management file, double-click **startup.hta** and select **Configure a PPM Database**.
2) In the **Add Database** screen:
   a. Select **Make this database the current Primavera Portfolio Management database.**
   b. From the **Type** list, select **SQL Server** or **Oracle** as the database server.
   For supported versions, refer to the *Tested Configurations* document.
3) For a SQL Server database, enter the following information:
   a. In the **Name** field, enter the name of the new SQL Server database. For example, *PPMDB*.
   b. In the **Server** field, enter the name of the new SQL Server database server.
   c. In the **User** field, enter the name of the database user.
   d. In the **Password** field, enter the password of the database user.
   e. Select **OK**.
4) For an **Oracle** database, enter the following information:
   a. From the **Method** list, select a connection method. Choices include, **TNS** or **EZ Connect**.

> **Note**: The Oracle InstantClient installed by the Primavera Portfolio Management installer is not capable of supporting TNS by itself. The **TNS** connection method requires a full Oracle database client to be installed on all Primavera Portfolio Management application servers.

> Oracle 11g full client is supported for the TNS connection method. For Oracle 12c, refer to Doc ID 2064612.1

b. If you chose the **TNS** connection method, enter the name of the Oracle service in the **Service** field.
c. If you chose the **EZ Connect** connection method, enter the name of the Oracle instance in the **Instance** field.
d. In the **Server** field, enter the name of the new Oracle database server. For example, *ORCL_PPM*.
e. In the **User** field, enter the name of the database schema user.

   Alternatively, select **Create User** to create a new Oracle schema user using the Oracle Database Configuration Utility. For more information on using the Oracle Database Configuration Utility to configure Primavera Portfolio Management with an Oracle database, see the *Primavera Portfolio Management Oracle 11g and 12c Configuration Supplement*.
f. In the **Password** field, enter the password of the database schema user.
g. Select **OK**.

5) In the **Creating a New Database** message, select **OK**.
6) In the **Administrator Password** field, enter a password for the Primavera Portfolio Management admin account.
7) In the **Confirm Password** field, reenter the password.
8) In the **First quarter start date** field, select the start date for the first quarter of the year of your organization.

> **Note**: The first quarter start date can only be set once when the database is created using the Primavera Portfolio Management Console. Once set, the first quarter start date cannot be changed.

9) Select **OK**.
10) The Primavera Portfolio Management Console main screen displays with the new database listed in the **Current Database** section.
11) Select **Close** to close the Primavera Portfolio Management Console.

Configuring an Existing PPM Database

Complete the following steps to configure an existing PPM database:

1) Invoke the Primavera Portfolio Management Console using any of the following methods:
   - From the **Start** menu, select the **down-arrow.** In the **Apps by name** menu, scroll and select **Primavera Portfolio Management Console.**
   - From the downloaded Primavera Portfolio Management file, double-click **startup.hta**.
2) Select **Configure a PPM Database**.
3) In the **Add Database** screen:
   a. Select **Make this database the current Primavera Portfolio Management database.**
   b. From the **Type** list, select **SQL Server** or **Oracle** as the database server.

4) For a SQL Server database, enter the following information:
   a. In the **Name** field, enter the name of the existing SQL Server database. For example, *PPMDB*.
   b. In the **Server** field, enter the name of the existing SQL Server database server.
   c. In the **User** field, enter the name of the database user.
   d. In the **Password** field, enter the password of the database user.
   e. Select **OK**.
5) For an **Oracle** database, enter the following information:
   a. From the **Method** list, select a connection method. Choices include, **TNS** or **EZ Connect**.

> **Note**: The Oracle InstantClient installed by the Primavera Portfolio Management installer is not capable of supporting TNS by itself. The **TNS** connection method requires a full Oracle database client to be installed on all Primavera Portfolio Management application servers. Oracle 11g full client is supported for the TNS connection method. For Oracle 12c, refer to Doc ID 2064612.1

   b. If you chose the **TNS** connection method, enter the name of the Oracle service in the **Service** field.
   c. If you chose the **EZ Connect** connection method, enter the name of the Oracle instance in the **Instance** field.
   d. In the **Server** field, enter the name of the existing Oracle database server. For example, *ORCL_PPM*.
   e. In the **User** field, enter the name of the database schema user.

      Alternatively, select **Create User** to create a new Oracle schema user using the Oracle Database Configuration Utility. For more information on using the Oracle Database Configuration Utility to configure Primavera Portfolio Management with an Oracle database, see the *Primavera Portfolio Management Oracle 11g and 12c Configuration Supplement*.
   f. In the **Password** field, enter the password of the database schema user.
   g. Select **OK**.
6) A message indicating the existing database will be upgraded to the most current version is displayed. Select **OK**.
7) If the database recovery model is not set to *Simple*, the **Upgrade database** screen displays.
   a. Contact your database administrator and ensure the *Simple* database recovery model is set up before continuing with the upgrade.
   b. Select **OK** to proceed with the database upgrade.
8) If the System Administrator's password was created using one of Non-FIPS Hashing Algorithms, the following message is displayed:

   System Administrator's password was created using one of the Non FIPS Compliant Hashing Algorithms.. Please follow the Install and Config guide to reset the System Administrator's password before proceeding for Database Upgrade.
   a. Click **OK** to stop the upgrade.
9) Use any of the following methods to reset the System Administrator's password:

- Reset the password before the upgrade
- Reset the password after the upgrade

a. Ensure your database administrator sets the System Administrator's password to null in the database.

b. To reset the password before the upgrade:

1. Attach the database to the same version of PPM before upgrade.
2. Create a DWORD registry key if not already present with the name, "`Hash Version`" and value, `4` at '`HKEY_LOCAL_MACHINE\SOFTWARE\Oracle\Primavera Portfolio Management\Portfolios\Server\UI`'
3. Restart PPM services.
4. Sign in to the application as a System Administrator.
5. Reset the System Administrator's password.
6. Proceed to upgrade.

c. To reset the password after the upgrade:

1. After the password is set to null, proceed with the upgrade.
2. Once the upgrade is successful, login into the application as System Administrator.
3. Reset the System Administrator's password.

10) In the **Changing Databases** screen, select **OK**.

The main screen of the Primavera Portfolio Management console displays the upgraded version in the **Current Database** section.

11) Select **Close** to close the Primavera Portfolio Management console environment.

> **Note**: Display messages related to FIPS do not apply for SSO.

Configuring the SMTP Mail Server for Primavera Portfolio Management

To use the Send Mail feature of Primavera Portfolio Management, the SMTP service must be configured properly. This requires that the SMTP mail server is specified as your smart host. This will ensure the IIS SMTP Service automatically routes any SMTP e-mail sent to your local server onto your SMTP mail server for delivery.

A *smart host* allows you to route all outgoing messages for remote domains instead of sending them directly to the domain. This allows you to route messages over a connection that may be more direct or less costly than other routes. A smart host is similar to the route domain option for remote domains. The difference being, with a smart host, all outgoing messages are routed to that server, whereas with a route domain, only messages for the remote domain are routed to a specific server.

In a *distributed setup*, the SMTP Mail Server must be setup on the Primary Back-End, and the Front-End servers.

To set up the SMTP mail server on the Primavera Portfolio Management server:

1) From the **Start** menu, select **Administrative Tools**, **Internet Information Services (IIS) 10.X Manager**.
2) In the left navigation pane, select **SMTP Virtual Server**, right-click, and then select **Properties**.
3) In the **SMTP Virtual Server Properties** dialog box, select the **Delivery** tab.
4) Select **Advanced...**.
5) In the **Smart host** field, enter the name or IP Address of the SMTP mail server.

   If you do not know the name or IP Address of the SMTP mail server, contact your mail administrator.
6) Select **OK** to close the **Advanced Delivery** dialog box.
7) Select **OK** to close the **SMTP Virtual Server Properties** dialog box.
8) Close the IIS 10.X Manager screen.

- **Notes**:
- Since the SMTP service is a part of the IIS Admin Service, ensure that the Simple Mail Transfer Protocol (SMTP) service, as well as the IIS Admin service are running.
- If you set up a smart host, you can still designate a different route for a remote domain. Then the route domain setting overrides the smart host setting.
- Enter a Fully Qualified Domain Name (FQDN) or an IP address to identify the smart host. If you use an IP address, enclose it in square brackets [ ] (for example: [123.123.123.123]) to increase system performance. Microsoft SMTP Service checks first for a name, then an IP address. The brackets identify the value as an IP address, so the DNS lookup is bypassed.

For more details, see the *Configuring SMTP* topic in the *Primavera Portfolio Management System Administration Guide.*

Verifying the Installation

Verify that Primavera Portfolio Management has been installed correctly as follows:

1) On the Primavera Portfolio Management server, or a client workstation with network access to that server, open a compatible browser.
2) Enter the URL in the format specified during the installation of Primavera Portfolio Management. For example, *https://<server>/prosight*.
3) In the **User Name** field, enter the name of the Primavera Portfolio Management user.
4) In the **Password** field, enter the password of the user.

   The main page of Primavera Portfolio Management displays.

Configuring Propose

Propose for Forms is an optional component that you can select during the installation process. After installation, complete the following tasks in this chapter to configure the Propose module in Primavera Portfolio Management.

In This Section

Enabling the PPM Guest User

To enable a PPM Guest user:

1) Sign in to Primavera Portfolio Management as an administrator.
2) From the **Setup** menu, select **Setup...**.
   The **Setup** page displays.
3) From the **Setup** list, select **Users**.
4) In the right pane, select the row representing the *ProSight Guest user* who is currently grayed out.
5) In the top-right area of the **Setup** page, select **Enable**.
6) Select **OK** to respond to the query, *Enable user 'PPM Guest'?*.
   The *PPM Guest* user is now enabled.

> **Note**: The *PPM Guest* user must have a **License Type** set to *Full-use*.

Granting the PPM Guest User with Access to Propose

To grant a PPM Guest user access to Propose the module :

1) Sign in to Primavera Portfolio Management as an administrator.
2) From the **Setup** menu, select **Setup...**.
   The **Setup** page displays.
3) From the **Setup** list, select **Modules**.
4) In the left pane, select **Add-Ons**.

5) In the right pane, select **Propose**.
6) In the top-right area of the **Setup** page, select **Edit**.
7) In the **Module** dialog box, select **Add**.
8) In the **Add User** dialog box,
   a. In the **Name** column, select *PPM Guest user*.
   b. From the **Permission** list, select *Read*.

   This grants *Read* permission to the *PPM Guest user*, allowing this user to use Propose.

   If the permission is not set to *Read* , select **Edit** to update the permission for the user. For more information, see the PPM Users Guide.
9) Select **OK** to close the **Module** dialog box.
10) Close the **Setup** page.

Requirements for Forms Used in Propose

To allow use of a form by Primavera Portfolio Management Propose, it must comply with the following special requirements:

1) A form must be usable in the "New" mode. It must be able to create a new Item or Portfolio.

   To comply with this requirement, a form must include the **Item Name** component on its first tab.
2) A form must have a **Default Home Portfolio** assigned.

   The *ProSight Guest* user must have at least a **Create** permission in this home portfolio.

   > **Note**: By assigning a **Default Home Portfolio** to a form, the **Item Parent** component need not be included on any one of its tabs.

3) A form must be accessible to the *ProSight Guest* user.

   So, the *ProSight Guest* user must have at least a Read permission on the folder in which the form resides.

Defining a Form to be Used in Propose

To create a form for the Propose module, complete the following steps:

1) Sign in to Primavera Portfolio Management as an administrator.
2) From the **Setup** menu, select **Setup...**.

   The **Setup** screen displays.
3) From the **Setup** list, select **Forms**.
4) Set up a new folder for forms that will be used in the Propose module as follows:
   a. In the right-pane of the **Setup** screen, select the **New...** menu, and then select **Folder**.

      The **New Folder** dialog box displays.
   b. In the **Name** field, enter the folder name that will be used to store the forms used with Propose. For example, *Propose Forms*.
   c. Select **OK.**

A new folder, *Propose Forms*, is created.

5) Set up security permissions for the *Propose Forms* folder as follows:
   a. Select the *Propose Forms* folder, and then select **Edit...**.
      The **Folder** wizard displays.
   b. Select the **Security** tab.
   c. Select **Add** to add a new security setting.
      The **Add User** dialog box displays.
   d. From the **Permission** list, select *Read.*
   e. In the **Name** column, select *PPM Guest* user.
   f. Select **OK**.
      In the **Folder** wizard, the *Read* permission setting for the *PPM Guest* user displays.
   g. Select **Finish**.
      This configuration now grants the *PPM Guest* user *Read* permission on all forms contained in the *Propose Forms* folder and its sub-folders as well. All sub-folders will inherit the security settings of the parent folder.

> **Note**: Do not to grant *Read* permission to the *PPM Guest* user on any folders which do not contain forms that need to be accessible via Primavera Portfolio Management Propose.

6) Create a new Propose form as follows:
   a. In the left-pane of the **Setup** screen, select the new folder, *Propose Forms.*
   b. In the right-pane of the **Setup** screen, select the **New** menu, and then select **Forms**.
      The **New Form** wizard displays. The new form will inherit the security settings from the *Propose Forms* folder by default .
   c. In the **General** step, enter the following information:
      1. In the **Name** field, enter the name for the new form.
      2. In the **Description** field, enter a description for the new form.
      3. Select the owner of the form from the **Owner** list.
      4. Select the domain area the form from the **Domain** list.
      5. Select **Next**.

> **Note**: Select **Next** to advance to the next step of the wizard.

      6. In the **Tabs** step, select any of the following actions:
         - Select **New...** to add a new tab.
         - Select **Add...** to add an existing tab.

Note: The first tab of any form must have the **Item Name** component. However, if you choose to assign a **Default Home Portfolio** in Step 5 below, then do not include the **Item Parent** component in this step. For more information on how to design and configure **Tabs**, see the *Primavera Portfolio Management Users Guide*.

1. In the **Defaults** step:
   - Select **Allow Creation of New Items** and select items that can be created by the Propose form.
   - From the **Default Home Portfolio** list, select a default home portfolio for the form.

     It is highly recommended to use a non-calculating portfolio as the **Default Home Portfolio** for the form.

Note: If you included an **Item Parent** component in the **Tabs** step, then do *not* select a **Default Home Portfolio**.

   - In the **When a Tab has been Modified, Required Fields...** field, select the behavior of the form with regard to required fields from the following options:

     Must be completed on all Tabs

     Must be completed on modified Tabs only

     Are not enforced (a will be issued if not completed)

1. In the **In Folders** step, select **Next.**

   The **Home Folder** field displays *Propose Forms.*
2. In the **Security** step, select **Next.**

   The security permission of the *Propose Forms* folder will apply by default.
3. Select **Finish** to exit the wizard.

Configuring Security on the Default Home Portfolio

Configure the security on the **Default Home Portfolio** for the *PPM Guest* user to only have *Create* permission. The **Default Home Portfolio** then functions as a mailbox that the *PPM Guest* user can drop the Items to be created using Propose.

1) Sign in to Primavera Portfolio Management as an administrator.
2) From the **Setup** menu, select **Setup...**.

   The **Setup** screen displays.
3) From the **Setup** list, select **Items and Portfolios**.
4) Browse to the **Default Home Portfolio** defined for the form and select **Edit**.

   The **Portfolios** wizard displays.
5) In the **Security** step, select **Add** to add a new security setting.

   The **Add User** dialog box displays.
6) Select *Edit and Create* from the **Permission** list.
7) In the **Name** column, select *PPM Guest* user, and then select **Edit**.

   The **Security Settings** dialog box plays.

8) In the **portfolio** tab, give the *PPM Guest* user the permission to create portfolios and items in this portfolio only as follows:
   - In the **Allow** column, select only the first **Create** permission.
   - Deselect all other options in the **Allow** column.
9) In the **Items** tab, deselect all options in the **Allow** column to ensure the *PPM Guest* user has no permissions to create items in Propose.
10) Select **OK**.
11) In the **Add User** dialog box, the **Permission** list will now display a *Custom* option.
12) Select **OK**.

    In the **Portfolio** wizard, the **Permissions Set** for the *PPM Guest* user now displays *Custom*.
13) Select **Finish**.

Configuring Security for Creating Sub-Items and Submitting Documents

To submit documents through Propose, set up additional security settings on the **Default Home Portfolio** for the *PPM Guest* user as follows:

1) Sign in to Primavera Portfolio Management as an administrator.
2) From the **Setup** menu, select **Setup...**.

   The **Setup** screen displays.
3) From the **Setup** list, select **Items and Portfolios**.
4) Browse to the **Default Home Portfolio** defined for the form and select **Edit**.

   The **Portfolios** wizard displays.
5) In the **Security** step, select *PPM Guest* user, and then select **Edit.**

   The **Edit User** dialog box displays.
6) In the **Name** column, select *PPM Guest* user, and then select **Edit**.

   The **Security Settings** dialog box plays.
7) Modify the security settings for *PPM Guest* user as follows:
   a. In the **Allow** column of the **portfolio** tab, select *Create* option for **Sub-items, Deliverables, Action Items, Links, Contacts, and Documents**.
   b. In the **Allow** column of the **Items** tab, select *Create* option for **Sub-items, Deliverables, Action Items, Links, Contacts, and Documents**.
   c. Select **OK**.

   The **Security** step of the Portfolio wizard displays the **Permissions Set** for the *PPM Guest* user as *Custom,* and the **Description** displays the ability to create sub-items, deliverables, action items, links and documents.
8) Select **Finish**.
9) Close the **Setup** screen.

Obtaining the URL to Access the Form Using Propose

To access a specific form using Primavera Portfolio Management Propose, you are essentially creating the URL of that Form when selected in the *New* mode. The, word, *prosight* is replaced with the word, *propose* within the URL.

Complete the following steps to create a URL to access Forms using Propose:

1) Sign in to Primavera Portfolio Management as an administrator.
2) In the left navigation pane, select the **Forms** module.
3) From the **Form** list, select the form to be used with Propose.
4) Select the **New** link in the top, right area.
5) From the **Collaborate** menu, select **Obtain Page Address…**.
6) In the **Page Address** dialog box:
   a. Ensure **Include Item** and **Include Forms** options are both selected.
   b. Select **Copy** to copy the URL.
      For example,
      http://ppmsrv/prosight/Portfolios/View.htm?window=form&formName=Propose%20Form&tabName=Propose%20Tab
   c. Select **Close**.
7) Paste the copied URL from the clipboard into the desired location. For example, in the HTML code of a page which should open the Propose Form.
8) In the URL, replace *prosight* with *propose*.
   For example,
   http://ppmsrv/propose/Portfolios/View.htm?window=form&formName=Propose%20Form&tabName=Propose%20Tab
   The resulting URL will access the form using Propose.

> **Note**: For testing purposes, paste the URL directly into the address bar of the browser to display the form in Primavera Portfolio Management Propose.

Configuring the Bridge for Project Management Systems

Bridge for Project Management Systems is an optional component that you can select during the installation process. After installation, complete the following tasks to configure Bridge in Primavera Portfolio Management.

> **Note**: In a distributed setup, Bridge for Primavera Portfolio Management must be setup and configured in the Front-End and the Primary Back-End.

1) Sign in to Primavera Portfolio Management as an administrator.
2) From the **Setup** menu, select **Setup...**.
   The **Setup** screen displays.
3) From the **Setup** list, select **Modules**.
   The **Setup-Modules** page displays.
4) In the left pane, select the **Add-Ons** folder.
5) In the right pane, select the **PM Bridge**, and then select **Edit...**.
   The **Module** dialog box displays.
6) Set *Read* permissions for user groups as follows:
   a. In the **Name** field, select a user or a user group, then select **Add**.
      The **User** dialog box displays.
   b. From the **Permission** list, select *Read* permissions for the user group, or user.
   c. Select **OK**.
      This grants *Read* permission to the appropriate users of Primavera Portfolio Management, allowing them to add a connection to a MS Project Server in the Bridge.
      If the **Permission** is not *Read*, select **Edit** to set it to *Read*. For more information refer to the *Primavera Portfolio Management, Users Guide*.
7) If you have multiple versions of P6 within your organization, connect to *each* P6 Bridge version:
   a. In the right pane of the **Setup-Modules** page, select the P6 Bridge version you want to connect to, and then select **Edit...**.
      The **Module** dialog box displays.
   b. Give *Read* permission to a user group or user allowing them to add a connection to a Primavera P6 server in the Bridge as follows:
      1. In the **Module** dialog box, select **Add**.
      2. In the **Name** field, select a user or a user group, then select **Add**.
      3. The **User** dialog box displays.
      4. From the **Permission** list, select *Read* permissions for the user group, or user.

If the **Permission** is not *Read*, select **Edit** to set it to *Read*. For more information refer to the *Primavera Portfolio Management, Users Guide*.

5. Select **OK**.

8) Close the **Setup** screen.

In This Section

Connecting to MS Project Servers

To connect the Bridge to an MS Project Server, complete the following steps:

1) Sign in to Primavera Portfolio Management as an administrator.
2) From the **Tools** menu, select **Bridge Console…**.
   The **Bridge Console** screen displays.
3) In the **Add** menu, select **Microsoft Project…**.
   The **Bridge Server Settings** wizard displays.
4) In the **General** step, enter the following information to add an MS Project Server:
   - **Server Name**: Enter the name of the MS Project Server.
   - **MS Project Server URL**: Enter the URL of the MS Project Server.
   - **Reporting Database Server Name**: Enter the name of the database server hosting the Microsoft Project Server Reporting database.
   - **Reporting Database Name**: Enter the name of the Microsoft Project Server Reporting database.
   - **Description**: Enter a description of the MS Project Server.
   - **Authentication**: Select the authentication method for the Microsoft Project Server. Choices include, **Forms Authentication** or **Windows Authentication**.
   - **User Name**: Enter the MS Project Server user name for a a user with full access to the MS Project Server.
   - **Password**: Enter the password of the user with full access to the MS Project Server.
5) Select **Finish**.
6) Repeat the above sequence to add multiple MS Project Servers as needed.

Connecting to P6 EPPM Servers

To connect the Bridge to an MS Project Server, complete the following steps:

1) Sign in to Primavera Portfolio Management as an administrator.
2) From the **Tools** menu, select **Bridge Console…**.
   The **Bridge Console** screen displays.
3) In the **Add** menu, select **Primavera P6…**.

The **Bridge Server Settings** wizard displays.

4) In the **General** step, enter the following information to add a P6 Server:
   - **Server Name**: Enter the name of the P6 Server.
   - **P6 Web Services URL**: Enter the URL of the P6 Web Services for the P6 Server.
   - **P6 Web Access URL**: Enter the URL of the P6 Web user interface.
   - **Description**: Enter a description of the P6 Server.
   - **User Name**: Enter the P6 user name for a user with full access to the P6 Server.
   - **Password**: Enter the password of the user with full access to the P6 Server.
   - **Authentication**: Select the same authentication method that was used when P6 Web Services was installed.
   - Select **HTTP** or **HTTPS** protocol to communicate between P6 and PPM.
   - If you chose **HTTPS** and *Username Token* Authentication, then select **Settings**.

     The **Authentication Settings** dialog box displays.
     - **Message security**: Select the method for method security. Choices include:
     - **Server certificate thumbprint**: Enter the thumbprint of the SSL certificate that should be used for the signing and encrypting of the messages.
     - Select **OK**.
5) Select **Finish**.
6) Repeat the above sequence to add multiple P6 Servers as needed.

> **Note**: If P6 Cloud is on different domain than Primavera Portfolio Management then make changes to the Web Configuration settings documented in the Knowledge Base article, ***Doc ID 2289259.1*** (***https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=475997838514540&id=2289259.1&_adf.ctrl-state=177djxyh2w_67***).

For more information on these details and the available configuration choices, see the *Primavera Portfolio Management Bridge for Primavera P6 User Guide*.

Verifying Bridge Installation

To verify that the installation was successful and that a particular Project Management server and Primavera Portfolio Management "see" each other, perform the following steps on any computer equipped with a browser and able to access the newly installed server(s) over the network:

1) Sign in to Primavera Portfolio Management as an administrator.
2) From the **Tools** menu, select **Bridge Console…**.

   The **Bridge Console** screen displays.
3) Look for the following visual clues:
   - A green checkmark is displayed in the first column if the server is installed and configured properly.

- A more detailed status is displayed for the selected server at the bottom of the Bridge Console screen.
- If all configured Project Management servers have a green checkmark, the installation is fully operational.

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