Installation Guide

SAP® Sybase® PowerDesigner®

16.5 SP02

Windows

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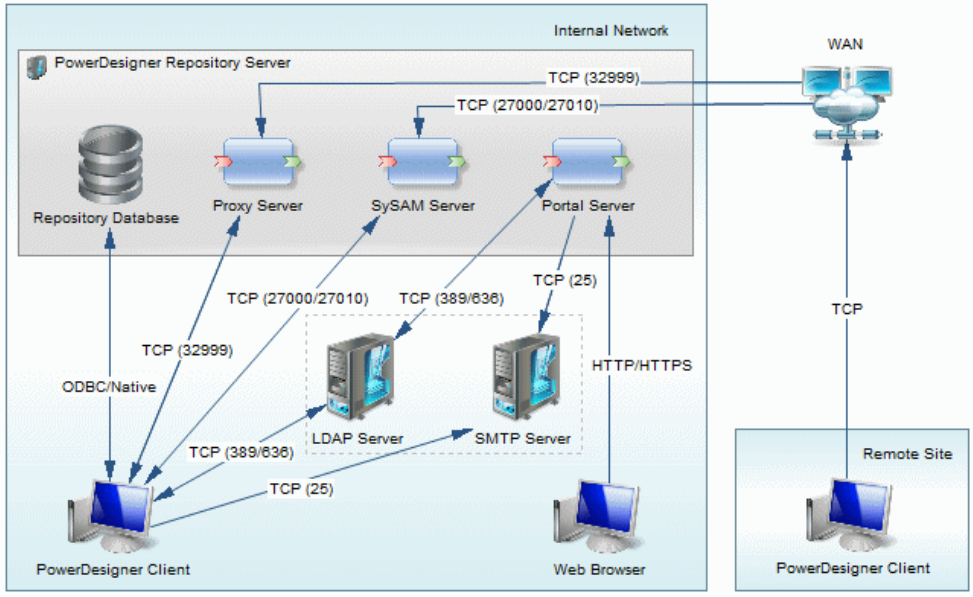
Contents

CHAPTER 1 Planning Your PowerDesigner Installation

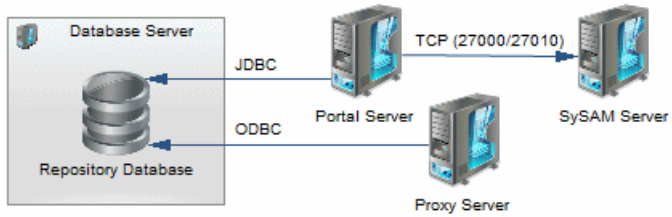
The deployment of SAP® Sybase® PowerDesigner® typically involves the installation of a license server, one or more repository components, and a number of client machines.

A PowerDesigner environment can contain the following servers, components, and client machines:



- The PowerDesigner repository server components are commonly installed on a single server:
  - Repository Database - Required if using the repository.
  - Proxy Server (Windows only) - Required if using the repository proxy.
  - SySAM Server - Required if using served or floating licenses.
  - Portal Server - Required if using the PowerDesigner Portal.

  These components can, alternately, be installed on separate servers, to make use of an existing database server, or to spread the processor load to maximize performance:



- Local servers - PowerDesigner can connect to these servers in your local environment:
  - LDAP Server - to delegate the authentication of repository users.
  - SMTP Server - to automate the sending of email notifications.
- Client machines - Allow users to access the repository using the following applications:
  - PowerDesigner Client - Can access the repository directly or through the proxy. PowerDesigner can be installed on standard Windows machines or accessed via a virtual machine or from a central server location. Clients at remote sites are recommended to use a proxy connection.
  - Web Browser - Can access the repository through the PowerDesigner Portal.

Note: For installation of PowerDesigner without a repository, perform steps one and two of this procedure and then go directly to *Chapter 2, Installing PowerDesigner* on page 13.

1. Obtain your license key file (see *Obtaining a License* on page 4).

   If you do not have a license key, you will only be able to install PowerDesigner for a 15-day trial period.
2. Install the Sysam license server (see *Installing a License Server* on page 5).

   The license server is required if you intend to share served licenses among users instead of assigning individual licenses per machine.
3. Install PowerDesigner on the administrator's workstation (see *Chapter 2, Installing PowerDesigner* on page 13).

   This initial installation is needed to install the PowerDesigner repository, which is used to store and share models.
4. [optional] Install the repository to the administrator's workstation for testing and experimentation (see *Installing a Local Test Repository* on page 28).
5. Choose a server capable of supporting large, long-running transactions to host your repository. We recommend as a minimum, a dual-core machine, with 2-4GB of RAM, but the exact system requirements depend on your DBMS, the number of concurrent users, and the size of your repository.

   Note: To calculate the size required for your repository database, estimate the number of models that will be stored and the period during which they will be developed. An average model containing 100 primary objects (tables, classes, etc.) will have an initial disk size of 5MB and the size of its initial check in will be around 10MB. Assuming an average number of edits, each subsequent check in will add 10% to the size of the file, so that after an average development period of two months (40 working days) with one check in per day,

the final model file size will be $10MB * 1.1^{40}$ or approximately 500MB. If your team will develop 20 such models during the course of the year, you should allow 10GB of space for your repository database.

If you want to use the repository proxy or PowerDesigner Portal, you should install them, by preference, on the same machine where the repository is located to optimize communication between the components. If the repository server is not a Windows server or is unable to support the additional workload, then we recommend installing these components on another machine on the same LAN segment.

6. Create a database (see *Creating a Database to Contain the Repository* on page 30 and a service to run the database (see *Running the Database as a Service* on page 31) using one of the supported DBMSs:
   - SAP® Sybase® SQL Anywhere® v10.x, 11.x, 12.x (bundled with PowerDesigner, see *Installing and Authenticating SQL Anywhere* on page 29), 16.x
   - SAP® Sybase® Adaptive Server® Enterprise v15.x
   - SAP HANA® v1.0 SP05
   - Oracle 9.x, 10g, 11
   - IBM DB2 UDB, DB2 os/390 9.x
   - Microsoft SQL Server 2005, 2008 - we recommend that you use a server that is not currently managing a high transaction load, since PowerDesigner performs long- running synchronous transactions during Check-In/Check-Out.

   Note: The most up-to-date list of supported DBMSs, is available at *http://certification.sybase.com*.
7. Install the repository to the new database (see *Installing the Repository to the Server* on page 31).
8. [optional] Install the repository proxy on the repository server (see *Chapter 4, Installing the Repository Proxy* on page 43).

   The proxy simplifies and offers more security for connection to your repository and may provide performance improvements in environments where clients will be connecting over a WAN or complicated LAN or when dealing regularly with large (15MB+) models.
9. [optional] Install the PowerDesigner Portal on the repository server (see *Chapter 5, Installing the PowerDesigner Portal Server* on page 45).

   The PowerDesigner Portal provides access to your repository models via a Web browser.
10. Define a password policy, optionally connect to an LDAP server to delegate the authentication of repository users and an SMTP server for notifications, and create groups and user accounts with appropriate rights and permissions to control access to the repository (see *Core Features Guide > Administering PowerDesigner > Controlling Repository Access*).
11. [optional] Customize the PowerDesigner interface to optimize it for various groups of users and define shared reference models and resources:

- Prepare profiles to customize the PowerDesigner interface (by hiding types of models, objects, and properties and customizing menus, toolbars, and settings) and associate them with appropriate users and groups (see *Core Features Guide > Administering PowerDesigner > Customizing the PowerDesigner Interface*).
- Prepare shared reference models and an enterprise glossary for deployment to users (see *Core Features Guide > Administering PowerDesigner > Deploying an Enterprise Glossary and Library*).
- Prepare custom resource files (such as DBMSs, languages, and extensions) for deployment to users (see *Core Features Guide > Administering PowerDesigner > Deploying an Enterprise Glossary and Library > Deploying an Enterprise Library > Sharing Resource Files via the Library*).

12. Install PowerDesigner on user machines (see *Chapter 2, Installing PowerDesigner* on page 13).

Note: If you are not using the repository proxy, you will also need to install the SQL Anywhere client (as part of the PowerDesigner installation) or an appropriate client or driver for your chosen DBMS on all client machines to allow them to connect to the repository.

Obtaining a License

When you purchase SySAM 2–enabled Sybase® products, you must generate, download, and deploy SySAM product licenses.

- If you purchased your product from Sybase or an authorized Sybase reseller, go to the secure Sybase Product Download Center (SPDC) at *https://sybase.subscribenet.com* and log in to generate license keys. The license generation process may vary slightly, depending on whether you ordered directly from Sybase or from a Sybase reseller.
- If you ordered your product under an SAP® contract and were directed to download from SAP Service Marketplace (SMP), you can use SMP at *http://service.sap.com/licensekeys* to generate license keys for Sybase products that use SySAM 2-based licenses.

Host ID

To obtain a license, you must know the *host ID* and name of the computer that will act as the license server. You can obtain these values during installation of SYSAM on the third page of the installation program where you are asked to load or copy a license file to proceed. Ethernet addresses are 12 character hex values consisting of digits 0 through 9 and characters A through F, which can be entered in any of the following formats:

- 12AB34CD56EF
- 12-AB-34-CD-56-EF
- 12:AB:34:CD:56:EF

Your host id is obtained by entering the first 8 characters of the ethernet address in one of the following formats:

- 12AB34CD
- 12AB-34CD

Note: For some platforms, host IDs can also be entered in decimal formats, with a # prefix. Example: #1039716963

For Windows platforms, if your machine does not have a network adapter, you can use the disk serial number as an alternate host ID. Use the `lmutil lmhostid -vsn` command or execute `DIR C:` to obtain the serial number, remove the hyphen and enter it with a `DISK_SERIAL_NUM=` prefix. For example: DISK_SERIAL_NUM=3e2e17fd

Installing a License Server

If you intend to use standalone served or floating served licenses, you must either install the SySAM license server provided as part of the PowerDesigner installation or locate an existing SySAM license server on your network, to which your PowerDesigner licenses can be assigned.

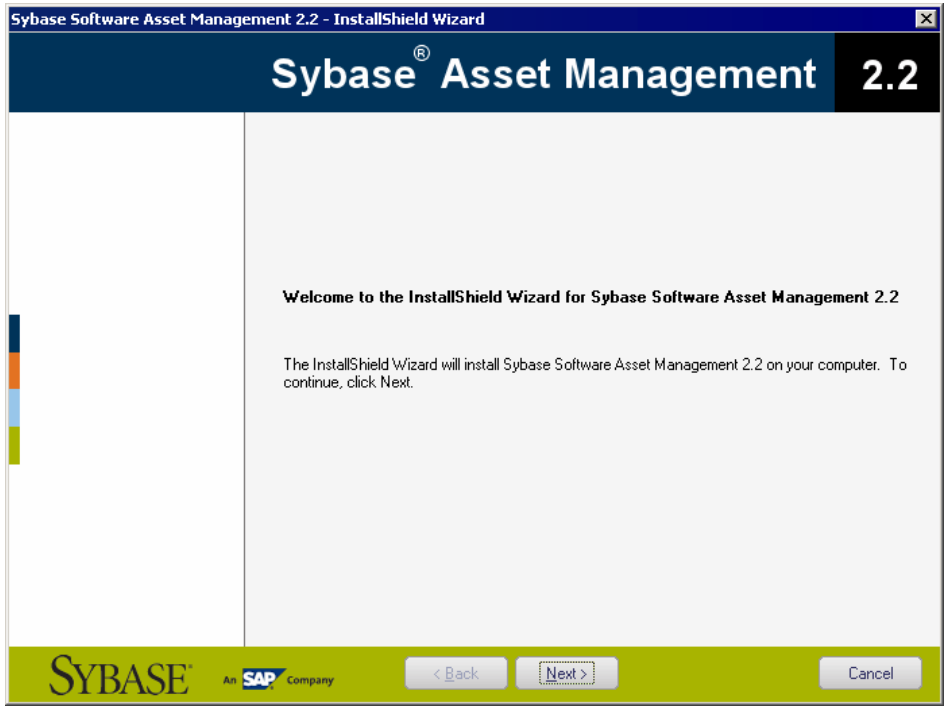
The license server serves a license to a user upon request and retrieves it when it is no longer being used. If all the licenses are already in use, the license server informs you that no license is available.

You must already have obtained a license file before you can install the license server (see *Obtaining a License* on page 4).

Note: Do not install a license server and PowerDesigner on the same workstation. License servers installed with PowerDesigner v11 are not compatible with v12.0 and higher. If you no longer use PowerDesigner v11, we recommend that you uninstall the old license server.

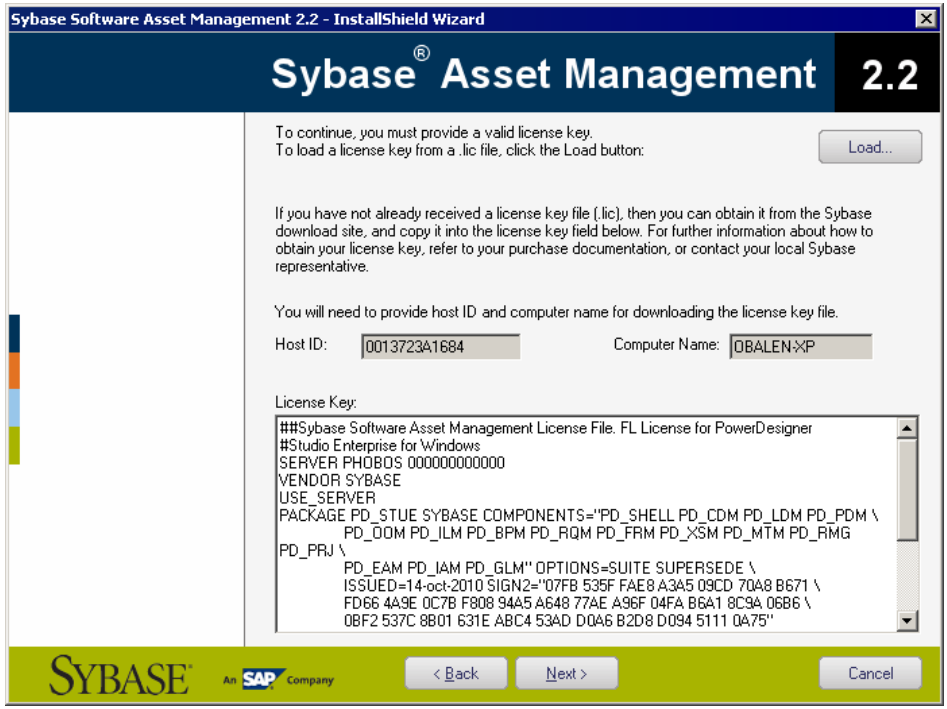
If you borrow a mobile license and your workstation has installed other products with Flexlm served licenses, you may encounter problems returning your license to the server.

1. Select the machine on which you want to install the SySAM license server (this should not be a workstation on which you will install any Sybase product), and insert the PowerDesigner CD.
2. Click the **Install Licenses Server** button to open the Sybase Software Asset Management Installshield wizard:



3. Click **Next** to display the license agreement page. Read the License Agreement and click the **I Agree** radio button to accept the terms of the agreement. If you click **I Do Not Agree**, the installation will be cancelled.
4. Click **Next** to display the license file definition page. Click the **Load** button and browse to the folder where your license file is located. The content of the license file is automatically displayed in the License key box.

   If you do not have a license file, see *Obtaining a License* on page 4.



5. Click **Next** to display the destination folder page. Select the suggested installation directory or browse to a new one and then click **Next** to go to the settings page.
6. Click **Next** to accept the current settings and start copying files.

   The copy starts. A progress box is displayed and Setup copies files to the destination directory. When installation is complete:
   - If SySAM had to be installed, you can choose to start the license server as a service.
   - If the PowerDesigner licenses were assigned to an existing license server, you can choose to reread the licenses to refresh the server license file.
7. Click **Finish** to exit the wizard.

Note: If a firewall is activated on the computer where the license server is installed, then the ports `27000` and `27010` must be opened in the firewall. For a Windows Firewall, you may need to add the port `27000` and the SySAM executable (for example `C:\Sybase\SYSAM-2_1\Bin\SYBASE.exe` to the list of exceptions.

Additionally, on Windows and UNIX platforms, edit the license server license files to add the port number `27000` to the line beginning `SERVER` and add a new line `VENDOR SYBASE PORT=27010` directly after it. When you have finished, these lines should read as follows:

```
SERVER server_name server_id 27000
VENDOR SYBASE PORT=27010
```

Serving SAP Named User Licenses

Named User licenses are floating licenses that are served by SySAM and allow a specific person to use PowerDesigner on any computer where it is installed. You must create a special SySAM option file to correctly assign Named User licenses.

1. Create a new text file with the name `SYBASE.opt` in the `SYSAM-2_0\licenses` directory and enter your Named User license information using the following format:

   ```
   GROUP GroupName Member [Member...]
   INCLUDE PackageCode GROUP GroupName [GroupName...]
   ```

   The following parameters are available:

Parameter	Description
GroupName	Specifies the name by which you will identify a group of users who should have access to the same PowerDesigner package.
Member	Specifies the login name (without any domain) of the user to whom the Named User license is assigned. To assign multiple users, separate their names with spaces.
PackageCode	Specifies the PowerDesigner package to which the group is assigned. The following codes are permitted: • PD_EAR - PowerDesigner EnterpriseArchitect with Repository • PD_IAR - PowerDesigner InformationArchitect with Repository • PD_DMR - PowerDesigner DataModeler with Repository • PD_DM - PowerDesigner DataModeler

   For example:

   ```
   GROUP EnterpriseUsers Jane Bill Harry
   GROUP DataUsersA Phil Jack Sally
   GROUP DataUsersB James Thomas Percy
   INCLUDE PD_EAR GROUP EnterpriseUsers
   INCLUDE PD_DMR GROUP DataUsersA DataUsersB
   ```

2. Save the file and then restart the SySAM license server to enable it.

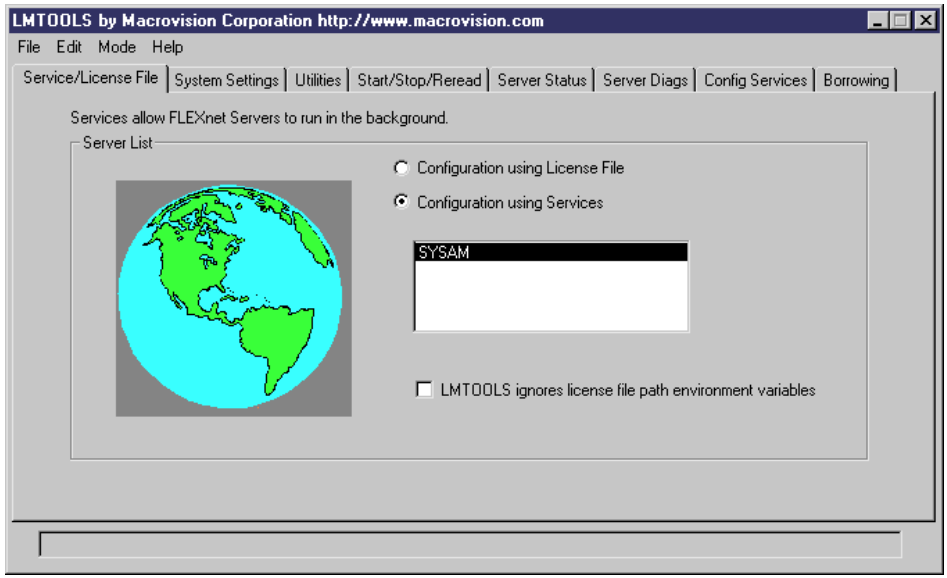
   The Named User licenses are now available for use.

Note: Users to whom a Named User license have been assigned should select the Floating License option when installing PowerDesigner or using the License Management Wizard. SySAM detects the user's login name and serves the license accordingly.

Adding Additional Licenses with lmtools

The license server should configure itself correctly at installation. If you need to subsequently add additional licenses or otherwise administer the server, you can do so using lmtools.exe

1. Double-click **SYSAM-*x_x*\Bin\lmtools.exe** to open the LMTOOLS dialog.
2. On the **Service/License File** tab, select **SYSAM** in the list of servers:



3. Click the **Start/Stop/Reread** tab and click the **Reread License File** button to force the server to read again the file sybpdes.lic and update license number.
4. Select **File > Exit** to close the LMTOOLS dialog.

For detailed information about lmtools, follow the SySAM Documentation Collection link available at *http://www.sybase.com/sysam*.

Troubleshooting with lmutil

lmutil.exe, which is available in the `SYSAM-x_x\Bin` folder provides various diagnostic possibilities.

For example, the following command can be used to find the user(s) who have currently borrowed the license(s):

```
lmutil lmstat -a -c <port>@<host> where <port> and <host> are license
server information.
```

For detailed information about lmutil, follow the SySAM Documentation Collection link available at *http://www.sybase.com/sysam*.

SySAM for IPv6 Environments

By default, the 32-bit Windows version of SySAM for IPv4 is provided in the PowerDesigner setup. You can add IPv6 support easily after installation by copying the appropriate executables in the installation directory.

1. Open `SYSAM-x_x\Bin\lmtools.exe` and click the **Start/Stop/Reread** tab.
2. Select the `SYSAM` server in the list and click **Stop Server** (you may need to select the **Force Server Shutdown** check box if licenses are currently being borrowed).
3. Open the folder `SYSAM-x_x\Bin\binIPv6`, and copy the files `lmgrd.exe` and `SYBASE.exe` to `SYSAM-x_x\Bin`, overwriting the existing versions.
4. Return to the **Start/Stop/Reread** tab in the LMTOOLS dialog, and click **Start Server**.

SySAM for 64-Bit and Non-Windows Environments

You can obtain a SySAM server for 64-bit Windows or for a non-Windows environment from the Sybase website.

Note: The 32-bit version of SySAM will run on a 64-bit Windows machine, but if you prefer to install a 64-bit version, you can download it from the Sybase website.

To download a 64-bit version of SySAM for Windows or a SySAM server for a non-Windows environment, go to *http://www.sybase.com/sysam*, select **SySAM Standalone License Servers**, and follow the download instructions.

Note: Any licenses that have been activated for a Windows server must be reactivated for any other platform.

Windows 64-Bit Support

PowerDesigner is available in both 32-bit and 64-bit Windows versions.

The following table lists the availability of 32-bit and 64-bit versions of the various PowerDesigner components:

PowerDesigner Component	32-Bit/64-Bit Versions
PowerDesigner Client	32-bit and 64-bit versions available through separate installers. If you are restricted from installing the 64-bit version of PowerDesigner on your 64-bit Windows machine, you may install the 32-bit version. In this situation, to ensure that PowerDesigner can communicate with your data sources, you should use the 32-bit version of the ODBC Administrator tool. 32-bit PowerDesigner cannot connect to 64-bit ODBC DSNs. For detailed information about working with 32-bit DSNs on a 64-bit version of Windows, see *http://support.microsoft.com/kb/942976*.
Repository	The repository is stored in a database on your DBMS server, which may be 32-bit or 64-bit. A single repository database accepts connections from 32-bit and 64-bit clients.
Repository Proxy	32-bit and 64-bit versions available through separate installers. Both versions accept connections from 32-bit and 64-bit clients.
PowerDesigner Portal Server	A single version is installed with a 32-bit or 64-bit Tomcat server selected automatically for your Windows environment.

CHAPTER 2 Installing PowerDesigner

You can install 32-bit or 64-bit PowerDesigner directly on individual client machines, including as a plugin for Eclipse. You can also perform a mass silent installation or an administrative installation to a network server.

Note: You should obtain a license key (see *Obtaining a License* on page 4) and, if appropriate, install and configure your license server (see *Installing a License Server* on page 5) before beginning.

PowerDesigner has the following minimum system requirements:

- Microsoft Windows Vista, 7, or 8 or Microsoft Windows Server 2003 or 2008 (32-bit or 64-bit)
- 2 GHz processor
- 3 GB RAM
- SVGA or higher-resolution graphics adapter and compatible color monitor (800x600)
- CD-ROM drive
- 1GB disk space for installation of all the core modules (and demonstration videos).

For information about the frameworks and libraries and frameworks required by PowerDesigner, see *PowerDesigner Dependencies* on page 22.

Note: Non-Administrator users may receive a warning message during installation as setup requires write access on certain directories and on the registry that they may not have. Setup can go on despite this message.

1. Insert the PowerDesigner CD-ROM in your drive.

   If setup does not automatically start, then double-click the SETUP.EXE file in the setup directory of the CD-ROM.
2. Click **Install PowerDesigner 16.5 SP02 (32-bit)** or **Install PowerDesigner 16.5 SP02 (64-bit)** to open the welcome page, and then click **Next** to go to the license selection page.

   Note: 32-bit PowerDesigner and 64-bit PowerDesigner cannot coexist on a single machine. When installing 64-bit PowerDesigner on a machine where a 32-bit PowerDesigner client is already installed (or vice versa), you are required to approve the uninstallation of the previous client before setup can continue.
3. Select one of the following license types:

   - *Trial version* – is a full-featured version, valid for an evaluation period of 15 days, that allows you to perform any design task. Contact Sybase if you require a limited extension.

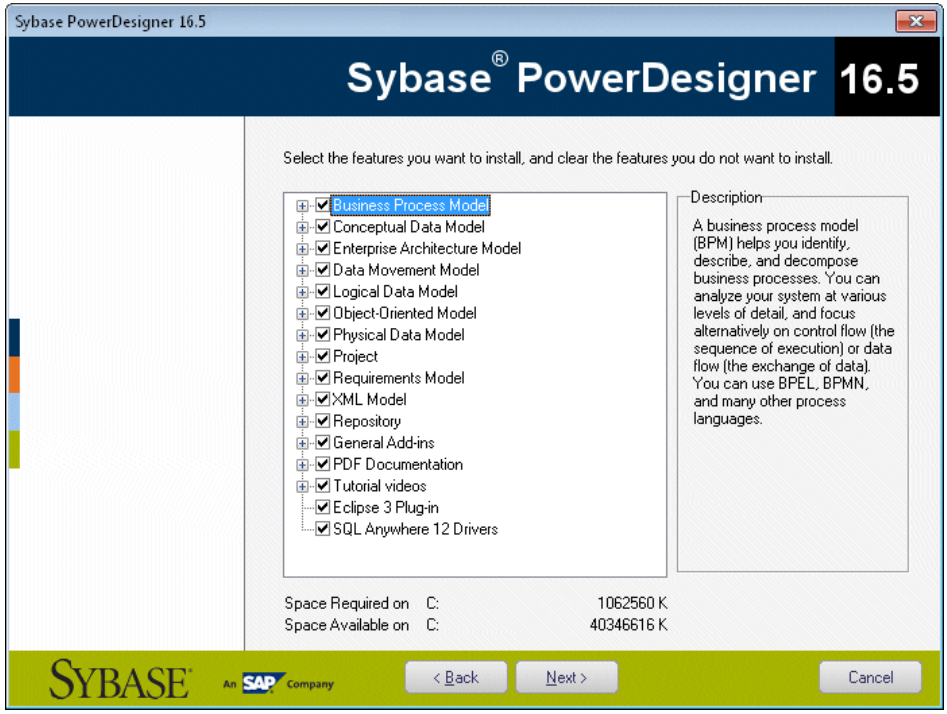
- *Local standalone license* – is installed on and locked to a particular machine. Click **Next** to go to the license key page, where you must load a valid license file (see *Obtaining a License* on page 4).
- *Served standalone license* – is provided by one or more SySAM license servers, and is locked to a particular machine. Click **Next** to go to the license server page, where you must enter the name of your license server.
- *Served floating license* – is provided by one or more SySAM license servers, which manage the allocation and recuperation of licenses among a pool of users. Click **Next** to go to the license server page, where you must enter the name of your license server.

For more information about PowerDesigner licensing, see *Core Features Guide > Modeling with PowerDesigner > Getting Started with PowerDesigner > License Management*.

4. [for served licenses] Click **Next** to go to the package selection page, where you can select which package to install. The list displays all the packages that are available on the server but it does not necessarily reflect the current availability of a license for a particular package.
5. Click **Next** to go to the license agreement page. Select the location where you are installing the software, read the License Agreement, and then click the **I Agree** radio button to accept its terms. If you click **I Do Not Agree**, you cannot proceed further.

   Note: You can print the License Agreement from the Setup\Licenses directory on the product CD.
6. Click **Next** to go to the directory selection page. Accept the default installation directory or choose another by clicking the **Browse** button.

   We recommend that you do not install a new major version of PowerDesigner in a directory that holds a previous version.
7. Click **Next** to go to the component selection page, which lists the products and features that are available to install. Each node can be expanded in order to let you select or deselect sub-features:



Note:

- The PowerDesigner plugin for Eclipse is available for Eclipse v3.2 to v3.6. For more information, see *Core Features Guide > Modeling with PowerDesigner > The PowerDesigner Plugin for Eclipse*.
- The SQL Anywhere drivers provide connectivity to a repository installed on SQL Anywhere, which is bundled with PowerDesigner (see *Installing and Authenticating SQL Anywhere* on page 29).

Select or clear check boxes as necessary, and then click **Next**.

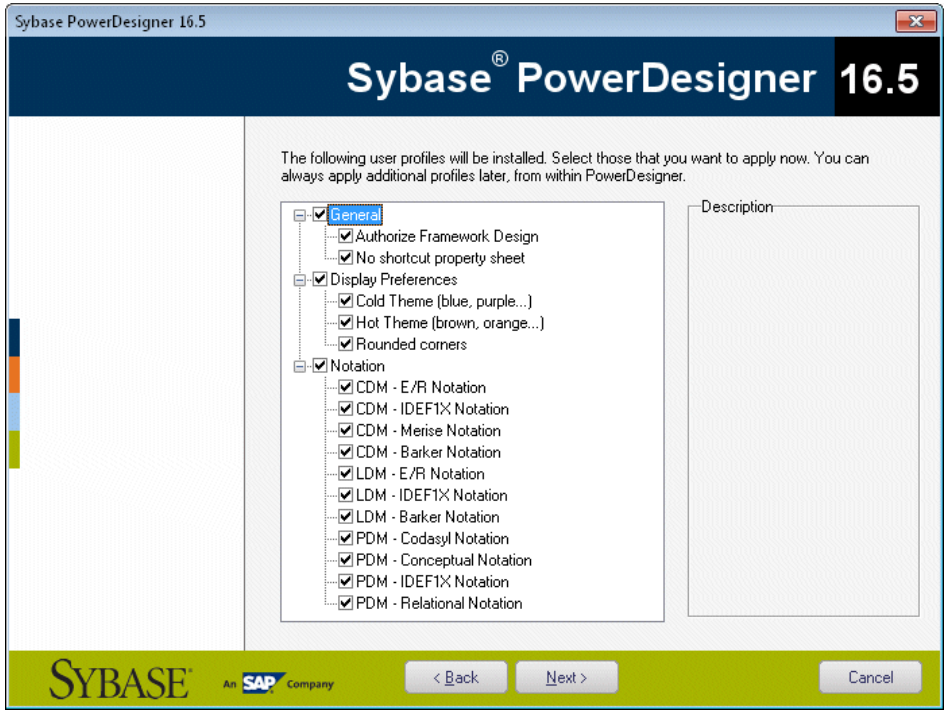
8. If you selected the Eclipse 3 plug-in in the list of components, the Eclipse directory selection page is displayed. Click the **Browse** button to specify a directory containing a valid Eclipse installation.

   Note: If you had manually installed the Eclipse plug-in in PowerDesigner version 10 or 11 and want to upgrade to version 16.x you have to remove the plug-in manually. To do so, open the Eclipse directory, and remove any PowerDesigner-related folder under the \configuration, \features, and \workspace\.metadata\.plugins folders.

9. Click **Next** to go to the user profiles page. Select the user profiles that you want to apply immediately to your installation.

   Note that whatever you select on this page, all the profiles will be installed and you can apply any profiles after installation. If you select two or more contradictory profiles (for

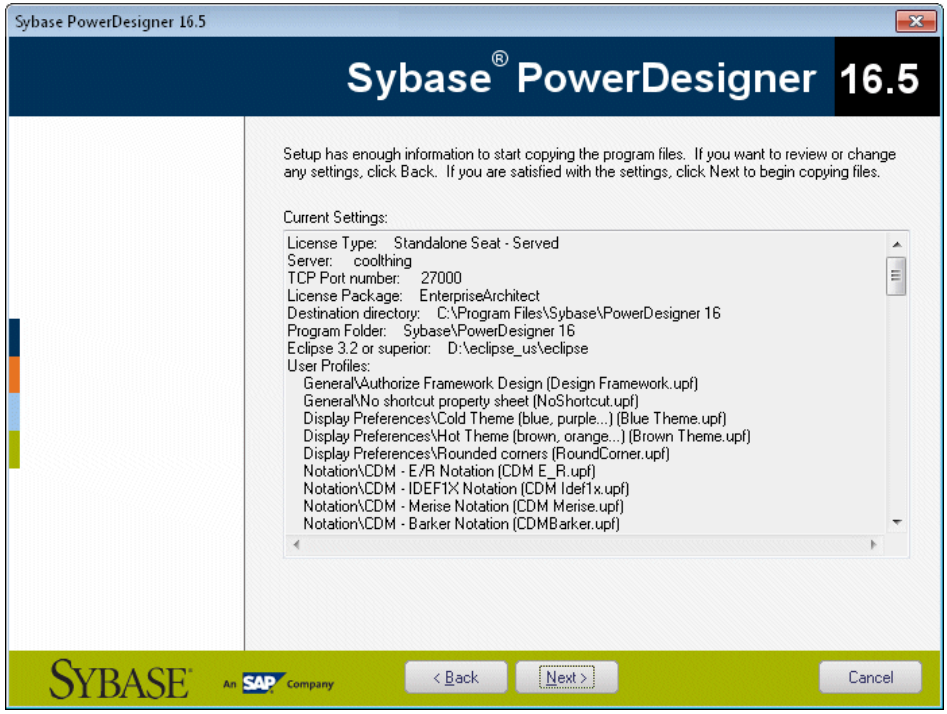
example, E/R Notation and Barker Notation, in the CDM category), the one that appears last in the list will be applied:



For more information about user profiles, including how to make your own profiles available to the installer, see *Core Features Guide > Modeling with PowerDesigner > Customizing Your Modeling Environment > User Profiles*.

10. Click **Next** to go to the program folders page. You can select to make PowerDesigner available from the default folder or select or create another.
11. Click **Next** to go to the current settings page, which lists all your selections. Select the **Keep PowerDesigner Settings** check box to retain any settings from a previous version of PowerDesigner.

Note: For new major versions, even if you select to retain settings from a previous version, resource file named paths (such as `_DBMS`) pointing inside the `Resource Files` directory inside the PowerDesigner installation will be updated to point to the new installation directory in order for you to benefit from bug fixes and other improvements. If you have defined additional paths for populating your resource file lists, these will not be affected.



12. Click **Next** to begin the install. Setup begins copying files to the destination directory.
13. Wait for the setup to complete, and then click **Finish** to exit the wizard. Depending on your working environment, you may be prompted to reboot your machine.

Note: The `Readme.html` file, which contains important release information, is available in the root of your installation directory.

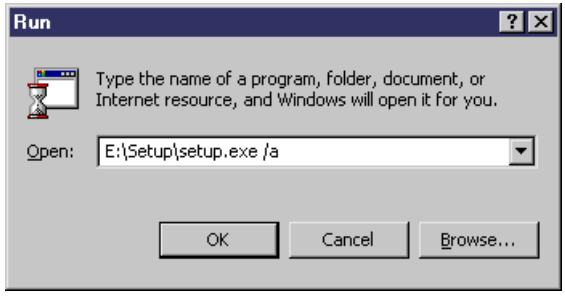
Installing PowerDesigner in Administrative Mode

System administrators can install PowerDesigner on a server and have client machines run the application from this central install. The client machines do not install any files but their registry is modified in order to be able to access PowerDesigner from the specified location. With this type of install, there is only one instance of PowerDesigner to deploy and upgrade, and you can choose any type of PowerDesigner license and combination of installation options on each client machine.

1. Insert the CD-ROM in the drive to automatically launch the setup program. The initial setup dialog box is displayed. Click the **Administrative Installation** button.

   or

   Select **Start > Run**, type the PowerDesigner setup.exe path followed by /a in the Run dialog box and click **OK**.



The welcome page is displayed.

2. Click **Next** to display the network location page.
3. Specify the network location where you want to copy the product files, which must be read-accessible to client machines, and then click **Install**.

   You are not required to enter any product key or select any feature to install. All PowerDesigner setup files are decompressed and copied to the server, but the server registry and system files will not be affected. When this process is complete, the complete page opens.
4. Click **Finish** to exit the InstallShield Wizard.

Installing Clients to Access the Administrative Installation

Once you have created the administrative install on the server, you can set up the client machines. The client install is the same as the standard PowerDesigner install except that it only modifies the client machine registry to reference the files located on the server and does not copy any files, so that no space is required on the client machine.

Note: When installing many client machines with identical options, you may want to consider silent installation (see *Installing PowerDesigner in Silent Mode* on page 19).

1. On the client machine, map a network drive to the server location containing the administrative installation.
2. Open Windows Explorer, connect to the administrative installation location and double-click the `setup.exe` file to display the Welcome page.
3. Click **Next** to open the license selection page, select a license type, and then click **Next** again.
4. Select the appropriate installation parameters on the following pages, and then click **Finish** to begin the install.

   Depending on your working environment, Setup may ask you to reboot your machine.

Upgrading an Administrative Install

You can upgrade an administrative install with an EBF or minor version release downloaded from the Web. You cannot upgrade between major versions. Each major version (12.x, 15.x, etc.) must be installed as a new administrative install in its own directory.

The procedure is different for these two types of upgrade:

- EBFs - Unzip the zip file delivered with the msi over the existing administrative install.
- Minor releases - Run the upgrade executable with the following syntax:

```
powerdesignerver_upd.exe /a
```

Installing PowerDesigner in Silent Mode

When deploying PowerDesigner on a large number of machines and using the same setup options and destination folder for each machine, you can use the silent install mode, which does not require user input, and uses a *response file* (*setup.iss*) to specify the required installation options.

Note: You can perform a silent install from the product CD or from an administrative installation on a network server (see *Installing PowerDesigner in Administrative Mode* on page 17).

1. To create a setup.iss response file, select **Start > Run** to open the Windows Run dialog and enter the following command to open the PowerDesigner installer:

   ```
   PD-inst-dir\setup\setup.exe /r /f1"path\setup.iss"
   ```

   For example, the following command creates a response file in the Public folder of the `PDInstall` server, which contains the PowerDesigner installation:

   ```
   \\PDInstall\Public\setup\setup.exe /r /f1"\\PDInstall\Public
   \setup\setup.iss"
   ```

2. Complete the installation parameters as required and then click **Finish** to create the `setup.iss` file.
3. To launch a silent install on a client machine, run the following command either from the client or via an administration tool:

   ```
   PD-inst-dir\setup\setup.exe /s /f1"path\setup.iss" [/f2"path
   \setup.log"]
   ```

   If you do not specify a local path to the install log, then each silent install will overwrite the content of the `setup.log` file in the central installation directory. To obtain confirmation of a successful installation, open `setup.log` and search for the line `ResultCode=0`.

   For example, the following command installs PowerDesigner from the PDInstall server on the client machine and writes a local log file to `C:\temp`:

```
\\PDInstall\Public\setup\setup.exe /s /f1"\\PDInstall\Public
\setup\setup.iss" [/f2"C:\temp\setup.log"]
```

Uninstalling PowerDesigner in Silent mode

A silent uninstall works in a similar fashion to the silent install, but requires that you locate the InstallShield PowerDesigner maintenance file.

For PowerDesigner v16.x this file is located, by default, at:

```
C:\Program Files\InstallShield Installation Information\{D88DF8F0-
B749-4D26-AFBC-A6E588099793}\setup.exe
```

Note: It may be that your maintenance file is not found in the standard location. You can always retrieve its location file from the following registry key: HKEY_LOCAL_MACHINE \SOFTWARE\Microsoft \Windows\CurrentVersion\Uninstall\{D88DF8F0-B749-4D26-AFBC- A6E588099793}

1. To create an uninstall.iss response file, select **Start > Run** to open the Windows Run dialog box to invoke the installshield maintenance file with the following options:

   ```
   <path-to>\setup.exe /r /f1"<path>\uninstall.iss"
   ```

   Complete the installation parameters as required and then click Finish to create the uninstall.iss file at <path>. For example, the following:

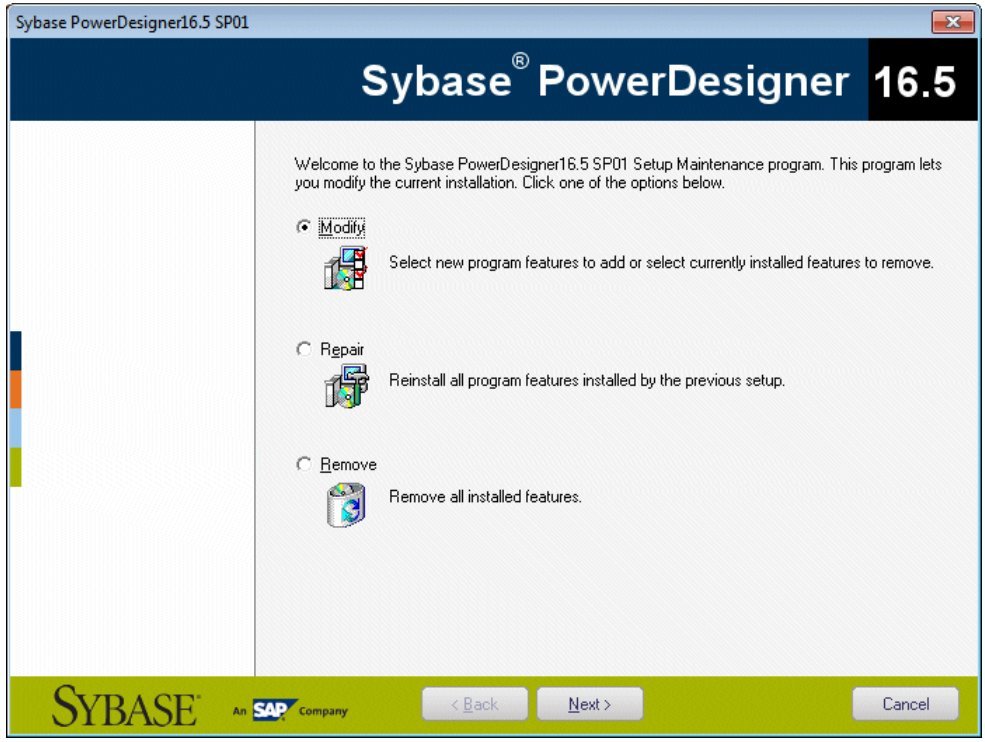
   ```
   C:\Program Files\InstallShield Installation Information
   \setup.exe /r /f1"C:\temp\uninstall.iss"
   ```

   Uses the standard maintenance file, and creates uninstall.iss in a temp directory.
2. Proceed to uninstall the client machine with the following command:

   ```
   <path-to>\setup.exe /s /f1"<path>\uninstall.iss"
   ```

Uninstalling PowerDesigner and Installation Maintenance

After installing PowerDesigner on your machine, you can modify the installation by selecting **Control Panel > Add/Remove Programs** or by restarting the installation.



You can:

- *Modify* - your PowerDesigner installation by adding or removing program features. Select or clear components in the components page.
- *Repair* - your PowerDesigner installation by reinstalling it. You must have the installation CD or access to the network drive where installation files are copied.
- *Remove* - your installation and clean up your registry.

Note: User files are not removed and you cannot modify your license configuration.

Manual Fonts Installation

If setup fails to define default fonts, you can do it manually.

1. Select the Fonts page in the General Options dialog box and define fonts for UI, Code and RTF Editor.
2. Create a new report, select **Report > Change Font** and define new fonts.
3. Verify that the following registry key does not exist: HKEY_CURRENT_USER\Software \Sybase\PowerDesigner 16\DisplayPreferences\Font Name.
4. Create a registry key named Font Name (with the following string values: Name, Size, Style) for all symbols in the following registry key: HKEY_LOCAL_MACHINE \Software\Sybase\PowerDesigner 16\DisplayPreferences\Font Name.

PowerDesigner Dependencies

PowerDesigner depends on a certain number of frameworks and libraries and will install them if they are not present in your environment.

- Microsoft .NET Framework 4.0
- Windows Installer 3.1 and Windows Imaging Component - for your Windows version.
- `o2003pia.msi`, `o2007pia.msi`, `o2010pia.msi` - Microsoft Office Primary Interop Assemblies for MS Office 2003, 2007, and 2010 to support PowerDesigner MS Office plugins.
- `extensibilityMSM.msi` - shared Addin Extensibility update for .Net to support PowerDesigner MS Office plugins.
- `msxml6-KB2758696-fra-x86.exe` or `msxml6-KB2758696-fra-amd64.exe` - to support the PowerDesigner XSM.
- `vjredist.exe` - Microsoft Visual J# 2.0 redistribuable to support the PowerDesigner Auto-Layout feature.
- `vcredist_x86.exe` or `vcredist_x64.exe` - Microsoft Visual C++ 2008 and 2010 Runtime Libraries
- `vstor_redist.exe` - Visual Studio Tools for Office

Upgrading PowerDesigner

This topic provides guidance on issues that may arise when upgrading PowerDesigner.

- Upgrading to 64-bit PowerDesigner - See *Upgrading from 32-Bit to 64-Bit PowerDesigner* on page 24.

- Repository branches - Prior to v16.1, the repository browser only supported displaying a single branch at a time. When you upgrade an existing repository to v16.1 or higher, all branches will become, by default, visible for all users. You may wish to simplify viewing the repository by deleting documents and branches that are no longer used, by using permissions to hide certain branches from users or groups who have no need of them, or by migrating active models to a new repository (see *Post-Upgrade Cleanup for a Repository Containing Branches* on page 38).
- Office add-ins - Though PowerDesigner v15.x and v16.x can be installed together on the same workstation, after the installation of v16.x, the add-ins supporting importing from MS Word and Visio will only function for v16.x.
- License Server - In general, you can serve licenses for clients using PowerDesigner v15.x and v16.x from the same SySAM license server. However, if you want to support heterogeneous versions of the Data Architect package (which is only available as an upgrade to v16.x and not as a new purchase), you will need to install a second license server on another machine and plan to serve the licenses associated with each version from a separate server.
- Resource Files - DBMS and language definition files and other resource files provided with PowerDesigner are constantly evolving. If you have not edited the resource files delivered with a previous version of PowerDesigner, then the upgrade to the latest version will happen silently.

  If you have previously edited a definition file or other resource file, then it will continue to work after the upgrade, but we advise you to use the **Compare** tool on the resource file list to review the differences between your file and the new file and, if appropriate, merge them to obtain bug fixes or new features.

  If you have stored standard resource files from a previous version in the repository then they will not automatically be updated. You should check in the newly-delivered versions manually to ensure that all users benefit from them (see *Core Features Guide > Administering PowerDesigner > Deploying an Enterprise Glossary and Library > Deploying an Enterprise Library > Sharing Resource Files via the Library*).

Note: To comply with recent Microsoft recommendations, from version 16.5 onwards, PowerDesigner no longer allows you to save modifications to resource files inside the `Program Files` folder, and will propose an alternative location if you try to do so, adding the selected directory to the list of paths for that type of resource file. If you have previously created or modified resource files inside `Program Files`, your files may no longer be available, as Windows Vista or Windows 7 actually store them in a virtual mirror at, for example, `C:\Users\`*`username`*`\AppData\Local\VirtualStore\Program Files\Sybase\PowerDesigner 16\Resource Files\DBMS`. To restore these files to your lists, optionally move them to a more convenient path, and add their location to your list using the **Path** tool.

Upgrading from 32-Bit to 64-Bit PowerDesigner

Upgrading PowerDesigner to 64-bit requires that you upgrade your ODBC and other connections to the repository and other databases from 32-bit to 64-bit as well. If you install the 64-bit PowerDesigner client on a machine where the 32-bit client is already installed, the setup will uninstall the 32-bit client. If the upgrade is performed by an administrator who is not the PowerDesigner user, the user may need to manually modify PowerDesigner resource file paths (to files such as DBMS and language definition files, user profiles and model extensions). Other defaults and preferences will be correctly copied to the new installation.

Note: A single repository can support connections from 32-bit and 64-bit clients. The repository proxy is available in 32-bit and 64-bit versions, and both proxy versions can support connections from 32-bit and 64-bit clients.

1. Open the 32-bit PowerDesigner client and select **Repository > Repository Definitions** to review your repository connections. If you connect to the repository using a:
   - Proxy connection - No action is needed and you will be able to connect immediately after upgrading to 64-bit.
   - Direct connection - You will need to modify the connection, after the upgrade, to use 64-bit ODBC or other connectivity.
2. If you use PowerDesigner to connect to other databases, you will need to modify their connections to 64-bit ODBC or other connectivity as well:
   a) Open a PDM and select **Database > Configure Connections**.
   b) Review the connections on the **ODBC Machine Data Sources**, **ODBC File Sources**, and **Connection Profiles** tabs and note those that you will want to recreate for 64-bit.
3. Close the 32-bit PowerDesigner client.
4. Launch the 64-bit PowerDesigner client setup and follow the setup instructions (see *Chapter 2, Installing PowerDesigner* on page 13). The installer will install the 64-bit client and remove the 32-bit client.
5. Open the 64-client and modify your repository definitions and other database connections to use 64-bit ODBC or other connectivity.
6. If an administrator has performed the upgrade on your behalf (and resource files are not stored in the repository), the installer will not have been able to modify the paths that PowerDesigner uses to find resource files. For example, if the 32-bit client was installed in its default location of `C:\Program Files (x86)\Sybase\PowerDesigner x` and the 64-bit client is installed in its default location of `C:\Program Files \Sybase\PowerDesigner x`, then the client will not be able to find the default resource files located in the 64-bit installation, and these will not appear in your resource file lists. To make the default resource files visible:

a) Open the resource file list. For example, to open the list of DBMSs, select **Tools > Resources > DBMS**.
b) Click the **Path** tool and then click the **Add a Directory** tool, navigate to the resource file location (for example, `C:\Program Files\Sybase\PowerDesigner x \Resource Files\DBMS`) and click **OK** to add it to the path list.
c) Click **OK** to return to the resource file list. The standard resource files will now be present.
d) Repeat these steps for each type of resource file.

Note: To comply with recent Microsoft recommendations, from version 16.5 onwards, PowerDesigner no longer allows you to save modifications to resource files inside the `Program Files` folder, and will propose an alternative location if you try to do so, adding the selected directory to the list of paths for that type of resource file. If you have previously created or modified resource files inside `Program Files`, your files may no longer be available, as Windows Vista or Windows 7 actually store them in a virtual mirror at, for example, `C:\Users\`*`username`*`\AppData\Local\VirtualStore \Program Files\Sybase\PowerDesigner 16\Resource Files\DBMS`. To restore these files to your lists, optionally move them to a more convenient path, and add their location to your list using the **Path** tool.

CHAPTER 3 Installing the Repository

The PowerDesigner repository can be used to store your PowerDesigner models and other files relating to your design projects. An administrator must set up the repository, which is stored in a database on a server.

Note: Before installing the repository to a server, you may want to create a local install on the administrator's workstation for testing and experimentation (see *Installing a Local Test Repository* on page 28).

For information about using the repository, see *Core Features Guide > Storing, Sharing and Reporting on Models > The Repository*.

1. Choose a server capable of supporting large, long-running transactions to host your repository. We recommend as a minimum, a dual-core machine, with 2-4GB of RAM, but the exact system requirements depend on your DBMS, the number of concurrent users, and the size of your repository.

   Note: To calculate the size required for your repository database, estimate the number of models that will be stored and the period during which they will be developed. An average model containing 100 primary objects (tables, classes, etc.) will have an initial disk size of 5MB and the size of its initial check in will be around 10MB. Assuming an average number of edits, each subsequent check in will add 10% to the size of the file, so that after an average development period of two months (40 working days) with one check in per day, the final model file size will be $10MB * 1.1^{40}$ or approximately 500MB. If your team will develop 20 such models during the course of the year, you should allow 10GB of space for your repository database.

   If you want to use the repository proxy or PowerDesigner Portal, you should install them, by preference, on the same machine where the repository is located to optimize communication between the components. If the repository server is not a Windows server or is unable to support the additional workload, then we recommend installing these components on another machine on the same LAN segment.
2. Create a database (see *Creating a Database to Contain the Repository* on page 30 and a service to run the database (see *Running the Database as a Service* on page 31) using one of the supported DBMSs:
   - SAP® Sybase® SQL Anywhere® v10.x, 11.x, 12.x (bundled with PowerDesigner, see *Installing and Authenticating SQL Anywhere* on page 29), 16.x
   - SAP® Sybase® Adaptive Server® Enterprise v15.x
   - SAP HANA® v1.0 SP05
   - Oracle 9.x, 10g, 11
   - IBM DB2 UDB, DB2 os/390 9.x

- Microsoft SQL Server 2005, 2008 - we recommend that you use a server that is not currently managing a high transaction load, since PowerDesigner performs long- running synchronous transactions during Check-In/Check-Out.

Note: The most up-to-date list of supported DBMSs, is available at *http://certification.sybase.com*.

3. Install the repository to the new database (see *Installing the Repository to the Server* on page 31).
4. [optional] Install the repository proxy on the repository server (see *Chapter 4, Installing the Repository Proxy* on page 43).

   The proxy simplifies and offers more security for connection to your repository and may provide performance improvements in environments where clients will be connecting over a WAN or complicated LAN or when dealing regularly with large (15MB+) models.
5. [optional] Install the PowerDesigner Portal on the repository server (see *Chapter 5, Installing the PowerDesigner Portal Server* on page 45).

   The PowerDesigner Portal provides access to your repository models via a Web browser.
6. Define a password policy, optionally connect to an LDAP server to delegate the authentication of repository users and an SMTP server for notifications, and create groups and user accounts with appropriate rights and permissions to control access to the repository (see *Core Features Guide > Administering PowerDesigner > Controlling Repository Access*).

Installing a Local Test Repository

Before deploying the repository to a database server in your production environment, you may want to create a local install on the administrators workstation for testing and experimentation.

1. Install SQL Anywhere on your local machine (see *Installing and Authenticating SQL Anywhere* on page 29), and create a database (see *Creating a Database to Contain the Repository* on page 30).
2. Install PowerDesigner (see *Chapter 2, Installing PowerDesigner* on page 13).
3. Install the repository to the database (see *Installing the Repository to the Server* on page 31).
4. [optional] Install the PowerDesigner Portal (see *Chapter 5, Installing the PowerDesigner Portal Server* on page 45).
5. Review the following sections for information about repository features and administration:
   - *Core Features Guide > Storing, Sharing and Reporting on Models > The Repository*
   - *Core Features Guide > Storing, Sharing and Reporting on Models > The PowerDesigner Portal*

- *Core Features Guide > Modeling with PowerDesigner > The Browser > The Glossary*
- *Core Features Guide > Modeling with PowerDesigner > The Browser > The Library*
- *Core Features Guide > Administering PowerDesigner*

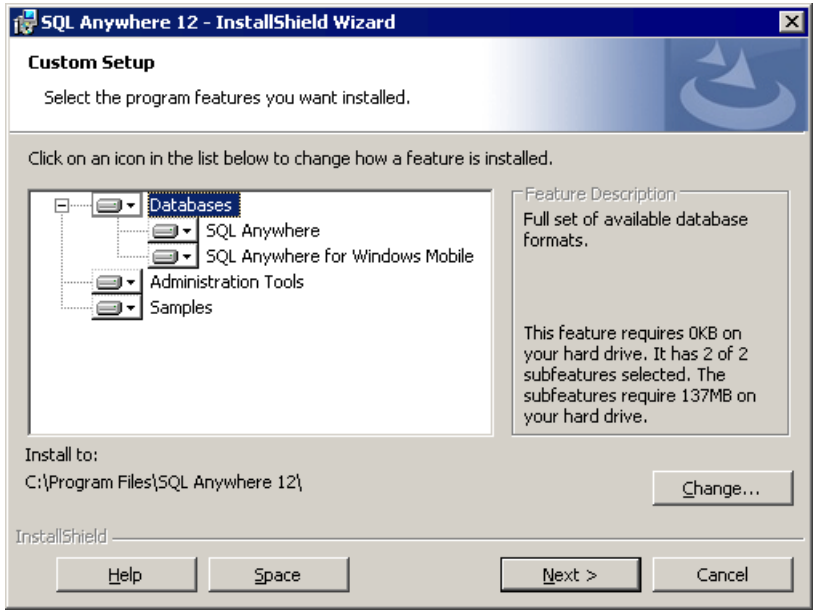
Installing and Authenticating SQL Anywhere

The PowerDesigner repository is delivered with an *authenticated* version of Sybase SQL Anywhere, which can only be used to store your PowerDesigner model repository. Note that the trial version of PowerDesigner is supplied with a lighter version of SQL Anywhere, for which the setup may be slightly different.

1. Insert the software CD-ROM in the drive, and click the **Install SQL Anywhere** button. Choose your setup language, and then click **Next** to open the SQL Anywhere InstallShield wizard.

   Note: If you have downloaded a trial version of PowerDesigner from the Sybase website, the *authenticated* version of SQL Anywhere is available for download from the same page.

2. Click **Next** to go to the license agreement page. Select your country or region, review and accept the license terms, and then click **Next** to go to the **Custom Setup**.
3. Leave all the defaults, click **Next**, and then click **Install** to start the installation.



4. When the installation is complete, you will be invited to view the ReadMe and online resources. Make your choices, and then click **Finish** to exit the wizard
5. Copy the `authenticate.sql` file delivered in the `Setup\support` directory of the installation media (and installed to the `Tools` directory of your PowerDesigner

installation) to the `\Scripts` directory in your SQL Anywhere installation on the repository server.

Copying these statements in this way ensure that when you create a database, it will automatically be authorized for use with the PowerDesigner repository.

Note: If you create a database before having copied the authentication instructions in this way, then you will need to authenticate it manually by opening the Interactive SQL tool, logging into your database, and running the contents of `authenticate.sql` against it.

Creating a Database to Contain the Repository

Once you have installed SQL Anywhere, you must create an authenticated database on the repository server to which you will deploy the repository.

1. Select **Start > Programs > SQL Anywhere 12 > Admin Tools > Sybase Central** to open Sybase Central.
2. Select **Tools > SQL Anywhere 12 > Create Database** to open the Create Database Wizard.
3. Click **Next** to go to the Select a Location page. The **Create a database on this computer** option is automatically selected. Click **Next** to go to the Specify a Database File page.
4. Enter an appropriate name and location for the database, and then click **Next** to go to the Specify the Transaction Log File page.

   Note: You will need to specify this file when you create a data source to allow PowerDesigner to connect to the database (see *Installing a Local Test Repository* on page 28).
5. Make sure the **Maintain the Following Transaction Log File** check box is selected, accept or specify an alternate log file name and location, and then click **Next**.
6. Continue clicking **Next** and accepting the default settings until you arrive at the Specify DBA User and Password page.
7. By default, the database is created with an administrator account called `DBA`, and with a password `sql`. Select these defaults or enter your own, and then click **Next** to go to the Connect to the Database page.

   Note: You will need to enter this username and password in the repository definition (see *Installing the Repository to the Server* on page 31) and data source (see *Installing a Local Test Repository* on page 28).
8. Deselect the **Connect to the new database** option, and then click **Finish** to create the database.

Running the Database as a Service

To make your repository database available to clients over the network, you should run it as a service.

1. On the database server, select **Start > Programs > SQL Anywhere 12 > Admin Tools > Sybase Central** to open Sybase Central.
2. If the **Services** tab is not visible, double-click the SQL Anywhere entry on the **Plug-ins** tab to show it.
3. Select the **Services** tab, and then click the **New Service** tool to open the Create Service Wizard, enter a name for the service and click **Next**.
4. Select **Network Database Server** and click **Next**.
5. Accept the default executable (`dbsrv12.exe`) and click **Next**.
6. Enter appropriate parameters separated by spaces or carriage returns and click **Next**. We recommend that you enter as a minimum the following parameters:

Parameter	Description
`-n servername dbfilepath`	[required] Specifies the server name and path to the `.db` file. For example: `-n repository c:\db\repository.db`
`-x tcpip(port=portno)`	[recommended] Specifies the port to use. For example: `-x tcpip(port=2638)`

7. Click **Next** three times, accepting the remaining defaults, select **Start the service now**, and then click **Finish**.

   The database is now running and available to be connected to over the network (see *Creating a Data Source to Access the Database* on page 33).

Installing the Repository to the Server

The repository administrator must set up the repository on a database server running one of the supported DBMSs.

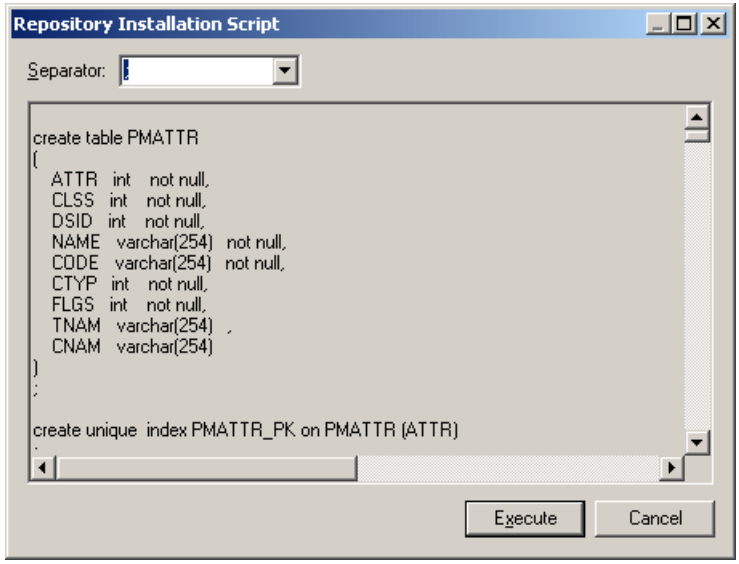
Note: Before installing the repository, you must have access to a database (see *Creating a Database to Contain the Repository* on page 30) and have installed PowerDesigner on the repository administrator's workstation (see *Chapter 2, Installing PowerDesigner* on page 13). The database user you use to install the repository must have the right to create tables and other objects. We recommend that you begin with an empty database.

1. On the repository administrator's workstation, start PowerDesigner and select **Repository > Repository Definitions** to open the List of Repository Definitions.
2. Click the **Add a Row** tool to create a new definition, and click the **Properties** tool to open its property sheet.
3. Enter the following properties:

Property	Value
Repository name	Enter an appropriate name to identify the repository.
Data source name	Click the **Select a Data Source** tool to the right of the field and select or create the data source that you want to use to connect to the repository database. To create an ODBC machine data source for a SQL Anywhere database, see *Creating a Data Source to Access the Database* on page 33. For detailed information about creating, configuring, and using connection profiles for other DBMSs, see *Core Features Guide > Modeling with PowerDesigner > Getting Started with PowerDesigner > Connecting to a Database*.
User name	Enter the administrator name you chose when creating the database.
Password	Enter the administrator password you chose when creating the database
Bytes per char	For non-Oracle unicode or multi-byte character set databases, specify the bytes per character used by the database: • 1-byte - [default] For SBCS (Single-Byte Character Set) • 2-byte - For DBCS (Double-Byte Character Set) • 3-byte - For Unicode or MBCS (Multi-Byte Character Set)

4. Click **Test** to test the connection and, in the event of an error, double-check your connection parameters. Then click **OK** to return to your repository definition, and click **OK** to complete its creation.
5. Select **Repository > Connect** to open the Connect dialog. Select the name of the repository definition you just created and click **OK** to connect.

   A message box is displayed inviting you to install the repository. This will involve running a SQL script to create the necessary tables.
6. Click **Yes** to continue. The read-only Repository Installation Script window opens.



Note: You cannot edit the script in this dialog, but you can, if necessary, modify the statements (for example, to add physical options) by copying the script to an external SQL editor, making the appropriate edits, and then connecting to the database to execute the script outside of PowerDesigner. The Separator list in the dialog lets you select the separator appropriate to your interpreter.

7. Click **Execute** to run the script and create the repository tables. This may take several minutes.

   Note: If the installation fails due to network problems, insufficient disk space, or permission problems, we recommend that you do not choose to ignore the errors, but rather abort the installation and start again.

8. When the repository has been installed, the Change Password dialog will open, prompting you to change the administrator password. Enter a password that complies with the default repository password policy as listed in the dialog, and then click **OK** to complete the creation of the repository.

   In the repository Browser, the root of the repository tree displays the repository name and the connected user and is ready for use.

Creating a Data Source to Access the Database

Client machines running PowerDesigner will require a data source to connect to your database over the network.

The instructions given here are for creating an ODBC machine data source for SQL Anywhere. For information about creating other data sources for other DBMSs, see *Core*

Features Guide > Modeling with PowerDesigner > Getting Started with PowerDesigner > Connecting to a Database.

Note: In order to create a data source on a Windows 7 machine, you may need to launch PowerDesigner or the ODBC Data Source Administrator by right-clicking its icon or menu item and selecting **Run as administrator**.

1. Click the **Select a Data Source** tool on the Repository Definition dialog, then select **ODBC machine data source** and click **Configure**. On the **ODBC Machine Data Sources** tab of the Configure Data Connections dialog, click the **Add Data Source** tool, then select **System Data Source** and click **Next**.

   Alternately, to create a data source using the ODBC Data Source Administrator, select **Start > Settings > Control Panel > Administrative Tools > Data Sources (ODBC)**, select the **System DSN** tab, and then click **Add**.

   Note: If you have installed 32-bit PowerDesigner in a 64-bit environment, you must use the 32-bit version of the ODBC Administrator tool, because 32-bit PowerDesigner cannot connect to 64-bit ODBC DSNs (see *Windows 64-Bit Support* on page 10).
2. Select **SQL Anywhere 12** and click **Next**, and then click **Finish** to create the data source.
3. On the **ODBC** tab of the ODBC Configuration for SQL Anywhere dialog, enter an appropriate name such as `PD Repository` in the **Data source name** field.
4. Click the **Login** tab and complete it as follows:

   To connect to the repository running as a service on a database server (see *Running the Database as a Service* on page 31), enter:

Parameter	Value
Authentication	Select `Database`.
User ID	Enter the administrator name you chose when creating the database (see *Creating a Database to Contain the Repository* on page 30).
Password	Enter the administrator password you chose when creating the database.
Action	Select `Connect to a running database on another computer`.
Host	Enter the name of the database server.
Port	Enter the port specified in the service definition. The default port is 2638.
Server name	Enter the name of the server specified in the service definition
Database name	Not required

   To connect to a repository running locally for testing (see *Installing a Local Test Repository* on page 28), enter:

Parameter	Value
Authentication	Select `Database`.
User ID	Enter the administrator name you chose when creating the database (see *Creating a Database to Contain the Repository* on page 30).
Password	Enter the administrator password you chose when creating the database.
Action	Select `Start and connect to a database on this computer`.
Database file	Browse to and select your database file.
Database name	Enter an appropriate name such as `PD Repository`.
Server name	Enter an appropriate name such as `PD Repository`.
Start line	Enter `"C:\Program Files\SQL Anywhere 12\Bin32\dbsrv12.exe"` (including the quotation marks).
Stop database after last disconnect	Deselect this option if you want the repository to continue to be available after you disconnect from it.

5. Click **OK** to complete the configuration of the data source.

Troubleshooting the Repository Installed on ASE

This section lists known issues encountered when installing the repository on Sybase Adaptive Server Enterprise.

General Considerations

The PowerDesigner repository database is required to process large transactions and we recommend that it is created and maintained by an experienced DBA. You should:

- Ensure that ASE has enough CPU and Memory. The following ASE parameters must frequently be configured higher than their default settings to optimize check in of models:
  - `number of open objects`
  - `number of open indexes`
  - `number of locks`
  - `max memory`
  - `procedure cache size`
  - `statement cache size`
- Ensure you have a reasonably large log and proper log management to handle long-running transactions .
- Use `update statistics` regularly to update information about the distribution of key values. Job Scheduler should be configured for this if the database is to be unattended.

- [15.0.2 and higher] Consider enabling literal autoparameterization `literal_autoparam`
- Consider using `directio` to bypass the operating system buffer cache and write directly to disk.
- Monitor and consider modifying `default network packet size` from its default value of 2048 bytes.

Must declare variable '@dr_t_a0'. SQLSTATE = ZZZZZ
If you see the above error and are connecting to an ASE server via ODBC, open the ODBC Data Source Administrator, select your data source, and select the **Enable Dynamic Prepare** option on the **Connection** tab.

Truncated data on extraction
If you are seeing data truncated on extraction from the repository and are connecting to an ASE server via ODBC, open the ODBC Data Source Administrator, select your data source, and enter the value `10000000` in the **Text size** field on the **Advanced** tab.

If characters such as the ellipsis are being truncated, you should verify that the character set of your driver matches the setting for your database.

Connection Profile: "Error converting characters into server's character set"
If you receive such a conversion error when working with a connection profile, click the ellipsis button to the right of the **Connection parameters** field on the Connection Profile Definition dialog, add the `CharSet` parameter, and enter the appropriate charset value to match your repository database.

Troubleshooting the Repository Installed on DB2

This section lists known issues encountered when installing the repository on IBM DB2.

Exception During Search
If you are seeing exceptions when performing a search through the PowerDesigner Portal, you should consider doubling the size of the `applheapsz` parameter, which controls the application heap size.

Connection Profile: "Error converting characters into server's character set"
If you receive such a conversion error when working with a connection profile, click the ellipsis button to the right of the **Connection parameters** field on the Connection Profile Definition dialog, add the `CharSet` parameter, and enter the appropriate charset value to match your repository database.

Troubleshooting the Repository Installed on SQL Server

This section lists known issues encountered when installing the repository on Microsoft SQL Server v2005 and higher.

Optimizing Repository Reads with Snapshots

To ensure that all users reading data will get access to a snapshot and not be blocked by concurrent transactions, we recommend that you enable the following SQL Server options:

- ALLOW_SNAPSHOT_ISOLATION
- READ_COMMITTED_SNAPSHOT

Note: No users should be connected to the repository when you enable these options.

Connection Profile: "Error converting characters into server's character set"

If you receive such a conversion error when working with a connection profile, click the ellipsis button to the right of the **Connection parameters** field on the Connection Profile Definition dialog, add the `CharSet` parameter, and enter the appropriate charset value to match your repository database.

Upgrading the Repository

When an administrator upgrades their PowerDesigner client and then connects to an existing repository for the first time, they will be prompted to upgrade the repository. Until an administrator upgrades the repository, other users who have upgraded their PowerDesigner client will not be able to connect to the repository.

Warning! Always back up your repository database before upgrading it. Upgrading the repository typically creates many log entries, and you should consider increasing the log size to accommodate them.

1. If you have installed the PowerDesigner Portal, you must stop the PowerDesigner Portal Service before upgrading the repository.
2. Open PowerDesigner and select **Repository** > **Connect** to open the Connect dialog.

   Only the PowerDesigner modules that are installed on your machine will be upgraded in the repository database. For example, if you do not have the Object Oriented Model installed on your machine, that part of the repository database will not be upgraded. For this reason, you should try to perform the upgrade from a machine that has all of the modules used by your organization installed.
3. Select a direct repository definition from the list, enter your password, and click **OK**.

   Note: Upgrading the repository via the proxy is not supported.
4. You are prompted to update the repository. Click **Yes** to continue and open the Repository Update Script dialog.

Depending on the size and complexity of your repository, this dialog may take several minutes to appear.

Note: If you created your repository database with Microsoft SQL Server or Sybase ASE before PowerDesigner version 15.0, we recommend that you select **Rebuild clustered indexes** in this dialog to improve performance, particularly for document check out. If you do not select this option at upgrade time, you can select **Repository > Administration > Rebuild Clustered Indexes** at any time to perform the rebuild.

5. Click **Execute** to begin the repository upgrade.

   The upgrade may take some time to complete. In the event of an upgrade failure due to network or permission problems, or insufficient disk space, you should restore the repository database from your backup version and retry an upgrade when problems are solved. If the upgrade fails because of the data in your database, then you should contact technical support for assistance.

6. [when upgrading from a repository before v16.1] If your repository contains branches, you are prompted to update your branches to the new implementation (see *Post-Upgrade Cleanup for a Repository Containing Branches* on page 38). Click **OK** to continue.

   Note: Depending on the complexity of your branch structure and the size of your repository, upgrading your branches may take a considerable time. If you click **Cancel** at this point you will leave the repository in a stable state, and can relaunch the upgrade at a later point by reconnecting to the repository.

7. [when upgrading from a repository before v16.1] If your current password does not comply with the default repository password policy, you will be prompted to change your password. Enter your new password (which must comply with all the rules listed in the dialog) and then click **OK**.

   Note: Administrators can control the restrictiveness of the password policy (see *Core Features Guide > Administering PowerDesigner > Controlling Repository Access > Defining a Password Policy*).

8. The Library Synchronization dialog opens to prompt you to synchronize the contents of your local library. Make any appropriate selections and click **OK** to perform the synchronization and complete the repository upgrade.

   For information about administering the library, see *Core Features Guide > Administering PowerDesigner > Deploying an Enterprise Glossary and Library*.

9. If you are using the repository proxy, then you must upgrade the proxy as well (see *Chapter 4, Installing the Repository Proxy* on page 43).

Post-Upgrade Cleanup for a Repository Containing Branches

The new implementation of repository branches provides many improvements over branches in v16.0 and earlier, but if your existing repository contained branches, you may want to

perform some post-upgrade cleanup of your updated branch structure or create a new repository and migrate all your active documents to it.

From version 16.1, branches in the repository have been completely re-architected to allow:

- The simultaneous display of all branches in the repository browser.
- Branching on a folder-by-folder basis.
- Simplified version numbering.
- Greater flexibility and control over branch contents.
- Simplified integration of changes from one branch to another.

During the repository upgrade, PowerDesigner will transform any existing branches in your repository to the new format, and your new repository will display all of your old branches as siblings directly under the root. As a result, you may experience the following issues:

- Too many branches at root making the repository difficult to view and navigate. To simplify your repository, you should consider:
  - Hiding branches when they are not needed for certain users.
  - Deleting old branches that are no longer needed for any users.

  Note: For information about working with the new repository branches, see *Core Features Guide > Storing, Sharing and Reporting on Models > The Repository > Branching Version Trees*.
- The presence of branches at the root prevents you from being able to branch sub-folders (because you cannot create a branch under another branch).

To simplify a repository and enable the creation of branches on a folder-by-folder basis, you should create a new repository and transfer all your appropriate models and other documents to it.

1. Review your existing repository and identify the models and other documents that are still current and that you want to transfer to your new repository.
2. Create a new repository and create all the necessary users and groups in preparation for allowing your users to connect to it.
3. Set up an appropriate folder structure to allow you to organize your documents by project, and in preparation for future branching.
4. Connect to your old repository and check out all the documents you want to transfer.

   Note: To ensure that no changes are lost, you may want to perform the remaining steps outside of normal working hours or instruct your users to terminate their connections with the old repository and await permission to begin connecting to the new repository.
5. Connect to your new repository and check the documents to transfer into it.

   Note: When you check documents into the new repository, their revision histories will not be transferred with them. For this reason, you may want to retain, at least for a time, your old repository to give you continuing access to this information.

6. Continue transferring documents until everything that you need for ongoing development is in the new repository and organized in an appropriate folder structure.
7. Communicate the new repository connection information to your users and instruct them from now on to only check documents in and out of the new repository.

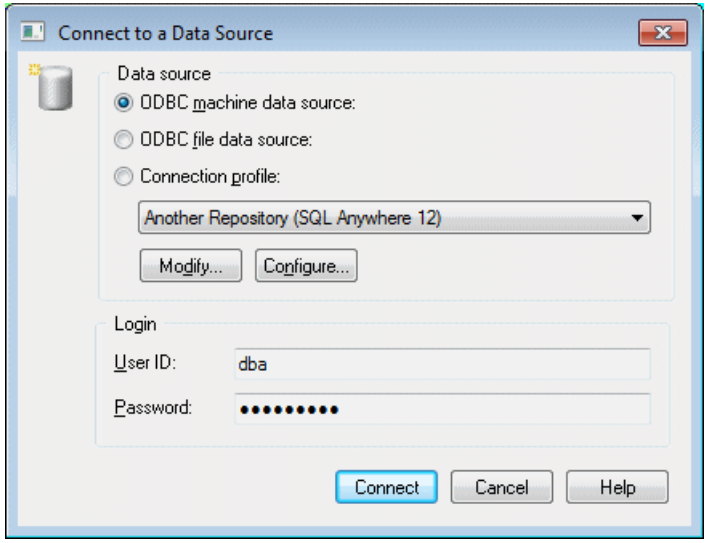
Porting a Repository from One DBMS to Another

You can port a repository from one DBMS to another retaining all your repository folder and branch structure and version histories by creating a new repository and using the **Import Repository** command to copy an existing repository into it. Importing a repository deletes any existing data in the database into which the repository is being imported.

Note: The repository to be imported must have been updated to the latest version before beginning the import. To update a repository, connect to it with an administrator account and follow the instructions (see *Upgrading the Repository* on page 37).

1. Create a database on the DBMS server to which you want to port the repository.

   Warning! If the target repository database does not use the same character encoding as the repository database to be imported, then the import may fail if it encounters long strings that would need to be truncated to fit into the reserved size in the new database.
2. Create a repository definition targeting your new database and then select **Repository > Connect** to connect to it and install the repository tables (see *Installing the Repository to the Server* on page 31).
3. Select **Repository > Administration > Import Repository**, and confirm that you want to proceed.
4. Select the data source for the repository you want to import and specify the database user and password to connect with:



5. Click **Connect** to begin the import.

   PowerDesigner begins to copy tables to the new repository. The process may take a considerable time. A progress bar gives an indication of the data copied, but the Browser **Repository** tab will not be updated during the import. When the import completes, PowerDesigner disconnects from the new repository.

6. Reconnect to the new repository and review its contents to confirm that the import has completed correctedly.

Deleting the Repository

You can delete the repository by using the **Drop Repository Tables** command, which removes all repository tables and their content from the database and cuts the connection with the database. You cannot drop the repository tables through a proxy connection. You must perform a direct ODBC connection instead.

Warning! Dropping the repository database cannot be undone. If you have not backed up your models and other contents, they will be lost.

1. Select **Repository > Administration > Drop Repository Tables**. You will be prompted to confirm that you want to continue. Click **Yes** to open the Repository Table Drop Script window.

   This window is read-only. You can only review the script, and not edit it. If you want to modify the script you should copy it to a script interpreter, after having selected the appropriate separator for your interpretor from the list.

2. Click **Execute** to begin the deletion.

CHAPTER 4 Installing the Repository Proxy

The PowerDesigner repository proxy is an optional program that runs as a service on or near the repository server and translates SQL requests from client workstations into a more efficient proprietary format. The proxy can considerably improve performance, particularly if clients will be connecting over a WAN or complicated LAN environment or when dealing regularly with larger (15MB+) models, due to its client request pooling and sophisticated caching. It also simplifies the client connection to the repository, as users do not need to know details of the database hosting the repository.

1. Choose whether to install the repository proxy on the repository server, or on another windows machine on the same LAN.

   You should install the proxy on the same server as the repository, if possible, to optimize communication between the components. If the repository server is not a Windows server or is unable to support the additional workload, then we recommend installing the proxy on another machine on the same LAN segment. We recommend as a minimum, a dual-core machine, with 2-4GB of RAM, but the exact system requirements depend on the number of concurrent users and the size of your repository.
2. Create a system data source on the chosen machine to define the connection between the proxy and the repository database (see *Creating a Data Source to Access the Database* on page 33).
3. Insert the PowerDesigner software CD-ROM in the drive, and then click **Install PowerDesigner Repository Proxy 16.5 SP02 (32-bit)** or **Install PowerDesigner Repository Proxy 16.5 SP02 (64-bit)**.

   Note: The repository proxy is available in 32-bit and 64-bit versions, and both versions can support connections from 32-bit and 64-bit clients. If you upgrade a 32-bit proxy installation to 64-bit, then you must upgrade its ODBC or other connections to the repository from 32-bit to 64-bit as well (see *Upgrading from 32-Bit to 64-Bit PowerDesigner* on page 24).
4. Click **Next** to go to the license agreement page. Select the location where you are installing the software, read the License Agreement, and then click the **I Agree** radio button to accept its terms. If you click **I Do Not Agree**, you cannot proceed further.

   Note: You can print the License Agreement from the Setup\Licenses directory on the product CD.
5. Click **Next** to go to the directory selection page. Accept the default installation directory or choose another by clicking the **Browse** button.
6. Click **Next** to go to the current settings page to review your choices, and then click **Next** to start copying files.

When setup is complete, a page is displayed with two checkboxes selected by default, to let you start the proxy service and launch the configuration tool.

7. Click **Finish** to exit the wizard and open the Proxy Configuration dialog.

Note: You must have write access on `HKEY_LOCAL_MACHINE` to change proxy parameters. On a Windows 7 machine, you must launch the Proxy Configuration dialog by right-clicking its icon and selecting **Run as administrator**. You can open the configuration dialog at any time by navigating to the proxy installation directory and launching `pdproxyconf16.exe`.

8. Click **New** to create a new proxy connection instance, and enter the following parameters.

Parameter	Value
Instance name	Enter an appropriate name to identify the instance.
Data source	Select the system data source you created for the repository from the list. Note that the proxy cannot access user data sources.
User name	Enter the user name used to connect to the repository database.
Password	Enter the password used to connect to the repository database.
Bytes per char	For non-Oracle unicode or multi-byte character set databases, specify the bytes per character used by the database: • 1-byte - [default] For SBCS (Single-Byte Character Set) • 2-byte - For DBCS (Double-Byte Character Set) • 3-byte - For Unicode or MBCS (Multi-Byte Character Set)
Port	Enter the connection port of the server on which the proxy is installed and which allows the client to communicate with the server using TCP/IP protocol. The default port number is 32999.
Log file	Select the level of logging that you want to perfom and enter or browse to the path to the log file in the Name field.
Cache	Enter or browse to the path to the cache, and specify its maximum size. The default is 300MB, which is generally sufficient for optimum proxy performance.

Note: A single proxy server can provide simultaneous connections to multiple PowerDesigner repositories of the same version. Click the **New** button to create an additional instance.

9. Click **OK** to complete your definition of proxy instances.

Users can now connect to the repository via the proxy by specifying the server name, port number and instance name in a proxy repository definition (see *Core Features Guide > Modeling with PowerDesigner > Getting Started with PowerDesigner > Accessing the Repository*).

CHAPTER 5 Installing the PowerDesigner Portal Server

The PowerDesigner Portal allows you to view the contents of your repository in your standard web browser. The PowerDesigner installation disc includes database access and web application layers that are required to browse your repository from the web, along with a standard Apache Tomcat web server. Before beginning the installation, you should already have created your repository database and have the DBMS user name and password to hand.

For maximum responsiveness, we recommend that you install the database access layer on the same machine as your repository database, while the web application layer can be installed on any appropriate machine. While each instance of the PowerDesigner Portal database access layer can only communicate with a single repository database, a single web application instance can communicate with multiple database access layers and provide a single point of access for users browsing multiple repositories.

If the repository server is not a Windows server or is unable to support the additional workload, then we recommend installing the PowerDesigner Portal on another machine on the same LAN segment. We recommend as a minimum, a dual-core machine, with 2-4GB of RAM, but the exact system requirements depend on the number of concurrent users and the size of your repository.

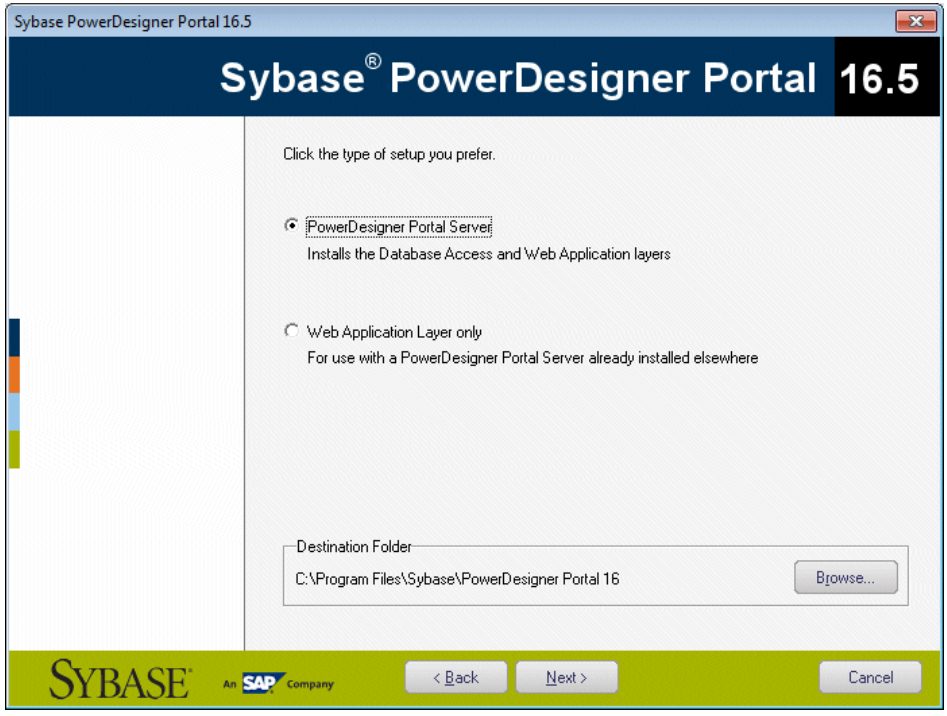
Note: For information about using the PowerDesigner Portal, see *Core Features Guide > Storing, Sharing and Reporting on Models > The PowerDesigner Portal*.

1. Insert the PowerDesigner software CD-ROM in the drive, and then click the **Install PowerDesigner Portal** button.

   The PowerDesigner Portal installation program opens to the welcome page.
2. Click **Next** to go to the license page, and select the type of license that you want to use:
   - **Trial** - For evaluating PowerDesigner and the PowerDesigner Portal.
   - **PowerDesigner Portal** - For a standard PowerDesigner Portal installation.
3. Click **Next** to go to the license agreement page, and select the location where you are installing the software. Read the License Agreement and click the **I Agree** radio button to accept the terms of the agreement. If you click **I Do Not Agree**, you cannot proceed with the Setup program and you will have to cancel the install.

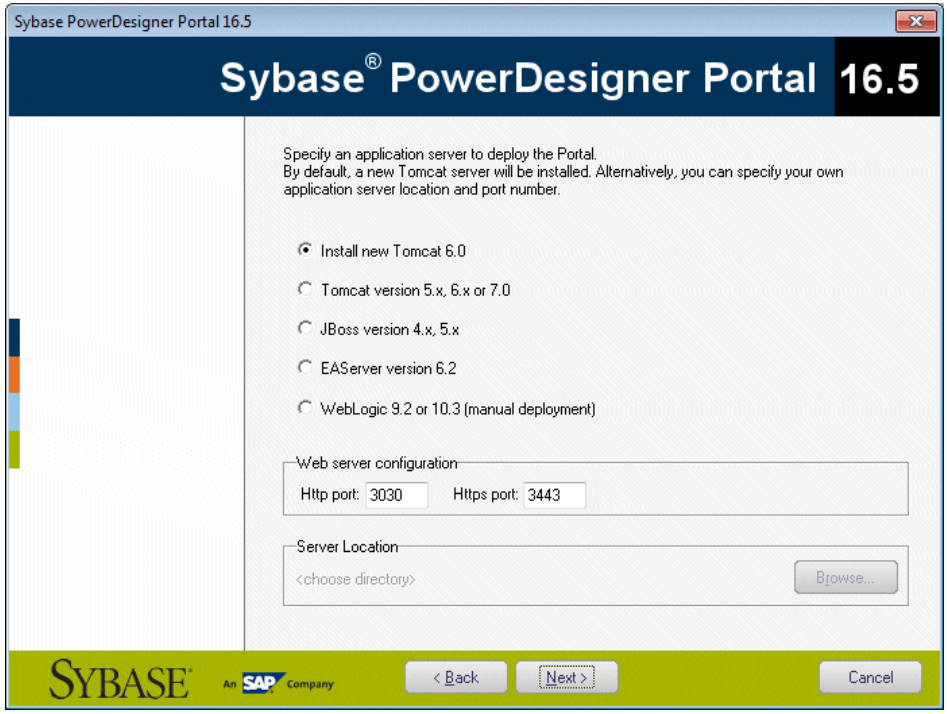
   Note: You can print the License Agreement from the Setup\Licenses directory on the product CD.
4. Click **Next** to go to the web server page. If you have already installed one or more PowerDesigner Portal servers, you can select the second option to install the web application layer only. You will then be prompted to specify connection information for a

PowerDesigner Portal server to which it will connect. Setup suggests a location in which to install the PowerDesigner Portal, which you can change by clicking the **Browse** button.

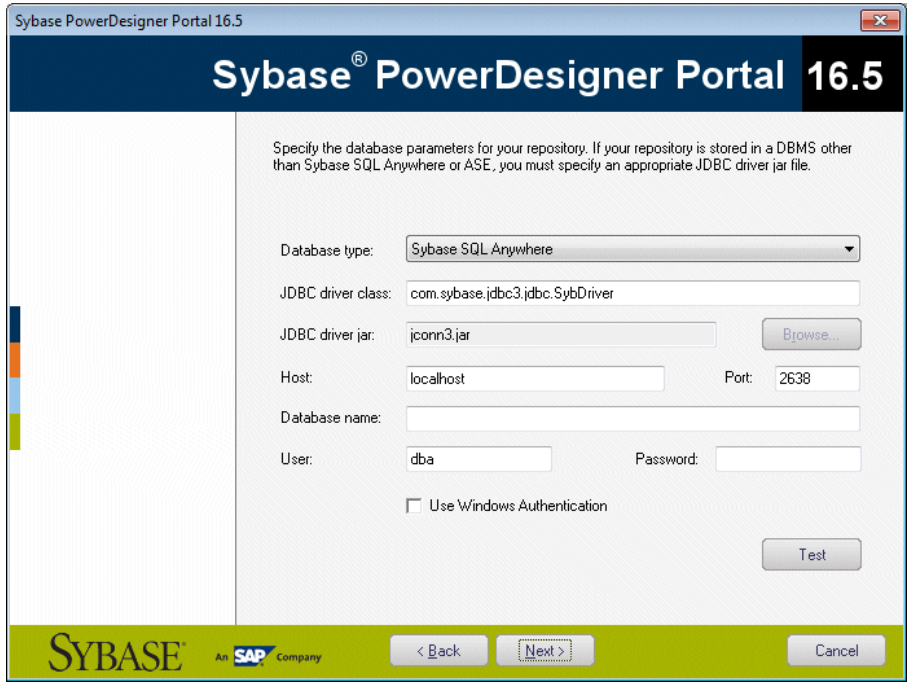


5. Click **Next** to go to the application server page. By default, the installer will install a new 32-bit Tomcat server if on a 32-bit Windows machine or a new 64-bit Tomcat server if on a 64-bit Windows machine. If you want to use one of the other supported servers, select it and specify its location. Default sever ports may be provided that you must verify. At least one port is required in order to create a connection profile and connect to the repository database.

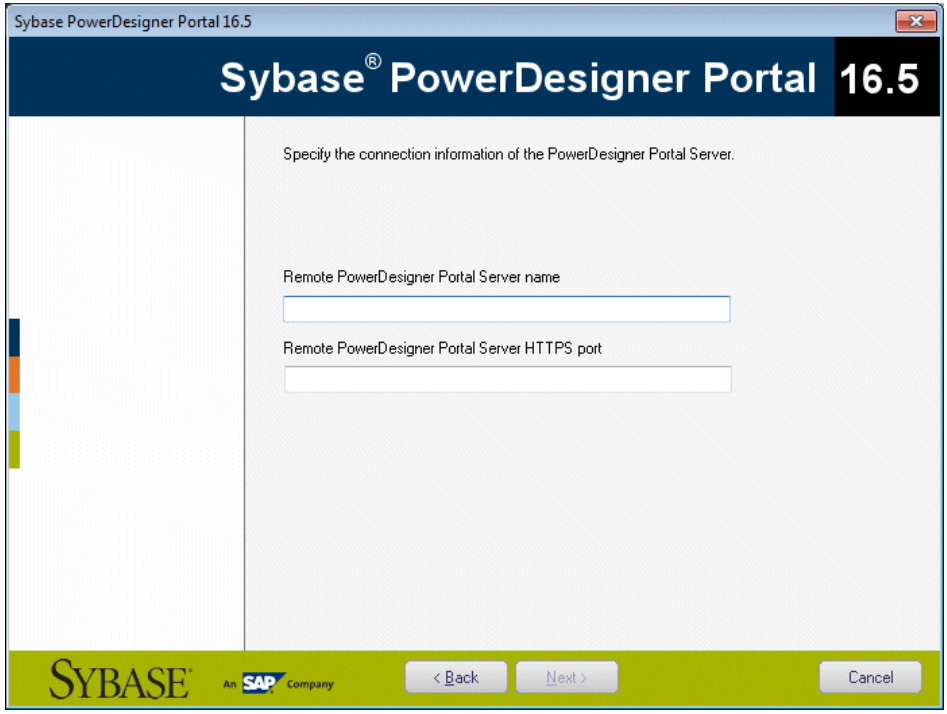
Note: If you choose the WebLogic application server, you must deploy the archive directory (by default, the `weblogic_openfolder` directory inside your PowerDesigner Portal installation directory) from your WebLogic Administrative Console once the setup has completed.



6. Click **Next** to go to the JDK page. By default, a new JDK is installed. If you want to use an existing JDK, deselect the check box and specify its location.
7. Click **Next** to go to:
   - [for a full PowerDesigner Portal server install] The database parameters page lets you enter the appropriate parameters for your database. If you select the **Use Windows Authentication** checkbox, you will need to select the **This account** option on the **Log On** tab of the web server service property sheet before starting the service.



- [for an application layer only install] The connection information page of the PowerDesigner Portal server lets you enter the appropriate parameters for connecting to the existing repository web server instance. You must enter at least one port:



8. Click **Next** to go to the information page which summarizes your choices.
9. Click **Next** to accept the current settings and start copying files.

   The install begins. A progress box is displayed and Setup copies files to the destination directory. When the setup is complete, one of the following pages appears depending on your selection on the web server page:

   - [PowerDesigner Portal server] The completion page opens with two check boxes selected by default to let you:
     - Start the PowerDesigner Portal Server service
     - Open the PowerDesigner Portal Web page
   - [web application layer] The completion page opens with a check box selected by default to let you open the service configuration page and enter its account name and password. Then you will have to start the service.
10. Click **Finish** to exit the wizard.

Accessing the PowerDesigner Portal Web Site

You can start and stop the PowerDesigner Portal server and the associated service by navigating to the server from your Start menu.

By default, these commands appear as sub-items of **Programs > Sybase > PowerDesigner Portal** , and selecting the appropriate sub-item:

- Start the PowerDesigner Portal Server
- Start the PowerDesigner Portal Server Service
- Stop the PowerDesigner Portal Server
- Stop the PowerDesigner Portal Server Service

When the server is running (whether as a service or not), navigate to the following address:

http://*server-name*:*port-number*/cmr

Where *server-name* is the name of the machine on which you have installed the PowerDesigner Portal server, and *port-number* is the port specified during installation. Note that `cmr` is the name of the PowerDesigner Portal program and is a required part of the address.

The following screen will appear:

For information about using the PowerDesigner Portal, see *Core Features Guide > Storing, Sharing and Reporting on Models > The PowerDesigner Portal*.

Installing the PowerDesigner Portal Server on UNIX

We do not provide support for installing any component of PowerDesigner on UNIX. However, it is possible to manually deploy the PowerDesigner Portal to a UNIX environment using this procedure.

This procedure requires that you install and configure the PowerDesigner Portal on a Windows server in order to copy certain of the installation directories to your UNIX installation.

Note: The PowerDesigner Portal is developed and tested with Tomcat on a Windows server, using standard Java programing techniques, and does not take advantage of anything proprietary to Tomcat or the Windows platform. As a result, the Portal application can be manually installed onto other application servers and on other operating systems. For support purposes, in the case of any reported concern, engineering will reproduce the issues under the certified development and test environment to determine root cause, and if appropriate, correct defects detected under that environment only.

1. On your UNIX server, install JDK 6.0 or higher, and set the `JAVA_HOME` environment variable to its path. For example:

   ```
   export JAVA_HOME=/usr/lib/jvm/java-6
   ```

2. Install Tomcat 5.5 or 6.0 and set the `CATALINA_HOME` environment variable to its path. For example:

   ```
   export CATALINA_HOME=…/apache-tomcat-6.0.28
   ```

3. Create a new folder called `CMR`, and set the `CMR_HOME` environment variable to its path. For example:

   ```
   export CMR_HOME=…/CMR
   ```

4. Copy the contents of the `CMR_HOME` directory on your Windows environment to the `CMR_HOME` directory on the UNIX server.
5. Extract the appropriate license library for your flavor of UNIX from `CMR_HOME/license/lib/sylapi 2.2.0.7.zip` to `CMR_HOME/license/lib`.
6. Copy the `cmr.war` file from the `CATALINA_HOME/webapps` directory on your Windows environment to the `CATALINA_HOME/webapps` directory on the UNIX server.
7. Unzip `cmr.war` and edit the file `cmr.war/WEB-INF/cmrhome.xml` to remove the content of the `Path` element, so that it reads `<entry key="Path"></entry>`. Rezip `cmrhome.xml` into a new `cmr.war` and deploy the new `cmr.war`.
8. Ensure you have installed the necessary JDBC drivers to connect to your PowerDesigner Repository, and that they can be found via the proper path statement.
9. Run `CATALINA_HOME/bin/startup.sh`.

Multiple PowerDesigner Portal Instances on One Server

We do not provide support for running multiple instances of the PowerDesigner Portal on a single physical server. However, it is possible to manually configure your installation to do so using this procedure.

1. Install the initial PowerDesigner Portal normally.

   In this example, we will install the Portal to `C:\Portal`:
2. Create a second installation directory for the second instance of the Portal, and add a sub-directory to hold the second instance of Tomcat.

   In this example, we will create a second installation directory at `C:\Portal2`
3. Install the second Tomcat or other server to `C:\Portal2\Tomcat` and specify a different listening port.

   In this example, we will use port number 3030 for the first Tomcat and 9090 for the second instance
4. Copy `C:\Portal\Tomcat\webapps\cmr.war` to `C:\Portal2\Tomcat\webapps\cmr.war`. For the remainder of this procedure, the file must be unzipped, as it will be if Tomcat is running.
5. Copy the folders `config`, `log`, `keystore`, and `license` from `C:\Portal` to `C:\Portal2`.
6. Edit `C:\Portal2\Tomcat\webapps\cmr\WEB-INF\cmrhome.xml` to specify your new folder:

   ```
   <entry key="Path">C:\Portal2</entry>
   ```
7. Clear `C:\Portal2\Tomcat\work` and restart Tomcat.

   The URL for accessing the first PowerDesigner Portal is `http://myserver:3030/cmr/` and the URL for the second is `http://myserver:9090/cmr/`.

   The new instance will initially point to the original database. You can change the database:
   - By clicking the **Advanced options** link on the login page.
   - By editing `C:\Portal2\config\repository.xml`

Changing the Repository DBMS

If you decide to change the DBMS on which the repository database is stored, then you must copy an appropriate JDBC driver to the `PowerDesigner Portal 16\Tomcat`

`\webapps\cmr\WEB-INF\lib` directory to allow the PowerDesigner Portal to connect to the new database.

We recommend that you keep your original database running initially and that you change the parameters on the PowerDesigner Portal Server Settings page, and use the **Test Connection** button to confirm that you can connect to the new database.

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