

# HP Performance Insight

for the Windows® operating system

Software Version: 5.40

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## Installation and Upgrade Guide for Sybase Databases

Manufacturing Part Number: J5223-99047

Document Release Date: May 2010

Software Release Date: January 2009



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# 1 Introduction

This guide describes how to install the Sybase database and HP Performance Insight (PI) 5.40 in an operating environment that best serves your users.

## The Guide Map

The guide is divided into 3 sections to help you access information easily:

### Installation

- [Chapter 2, The Installation Flowchart](#) contains a flowchart that provides an overview of the installation process.
- **Chapter 3 to Chapter 7** describe the pre-installation, installation, and post-installation steps for both PI and Sybase.

### Upgrade

- **Chapter 8, Chapter 9, and Chapter 10** describe the steps to upgrade Sybase and PI from your existing setup.
- PI 5.40 supports only Sybase Adaptive Server Enterprise version 15.0.2. You can find the upgrade instructions in [Chapter 8, Upgrading From PI 5.10 to 5.40](#).

### Uninstallation

**Chapter 11 and Chapter 12** describe how to uninstall PI and Sybase respectively.

# The PI Architecture

PI uses a modular client-server architecture that enables you to start with a single standalone system and add to it as needed.

You can install PI as either a standalone operating environment or as a distributed operating environment. This section contains information about both implementations and about how to choose between them.

## Installing PI in a Standalone Environment

In a standalone environment, all PI components are installed on one system. The system is capable of polling the managed objects, gathering and processing performance data, hosting the PI web site, producing performance reports, and running the PI clients.

The standalone setup is simpler and easier to manage than the distributed PI setup.

You can implement a standalone PI environment to monitor the network performance of the systems in a single building, for a single group of users, or if your network contains fewer than 20,000 managed objects.



## Installing PI in a Distributed Environment

In a large enterprise, a single system may not provide the processing power or space for PI to optimally monitor the network, which makes it necessary to distribute the load.

When PI components are installed across systems to create a network-wide configuration, it is called a distributed PI environment. Although the PI components are installed on physically discrete systems, they operate as a single system.

PI in a distributed setup can monitor networks that are often large and geographically dispersed. You can position the various PI components throughout the network to reduce network load and optimize system performance.

### Setting up the Distributed Environment

In a distributed PI environment, you must install the same version of PI, including patch levels, on all the systems in the environment.

The PI functions that can be located separately are:

- Data collection
- Data management (processing and summarization)
- Data reporting

All three functions are integrated and their physical location does not affect their integration.

For the most cost-effective use of resources, you can use different platforms to run the different functions. For example, you can use PCs running the Windows operating system as remote polling systems to collect data, and UNIX machines as database servers to store and process data.

#### Central Database Server

In a distributed PI setup, the main processing and reporting unit is the **central database server**, which can be accessed by users throughout the network. Usually, there is only one central database server, and it must have a large amount of disk space, memory, and processing power.

The central database server performs data management in a distributed setup.

## Satellite Servers

You can set up multiple **satellite database servers** in the distributed environment, each one responsible for data collection and initial data processing. The data from each satellite database server is uploaded to the central database server, where it is combined with other data.

The satellite servers perform data collection and data processing.

## Remote Pollers

Data collection places a significant load on the network and is a time-sensitive process. In a distributed environment, remote polling systems called remote pollers are located close to the target devices they poll to localize polling traffic and minimize delays. Each remote poller is linked to a satellite server. The remote poller polls multiple devices and communicates with its parent satellite database server.

The remote pollers perform data collection.

## Web Access Server

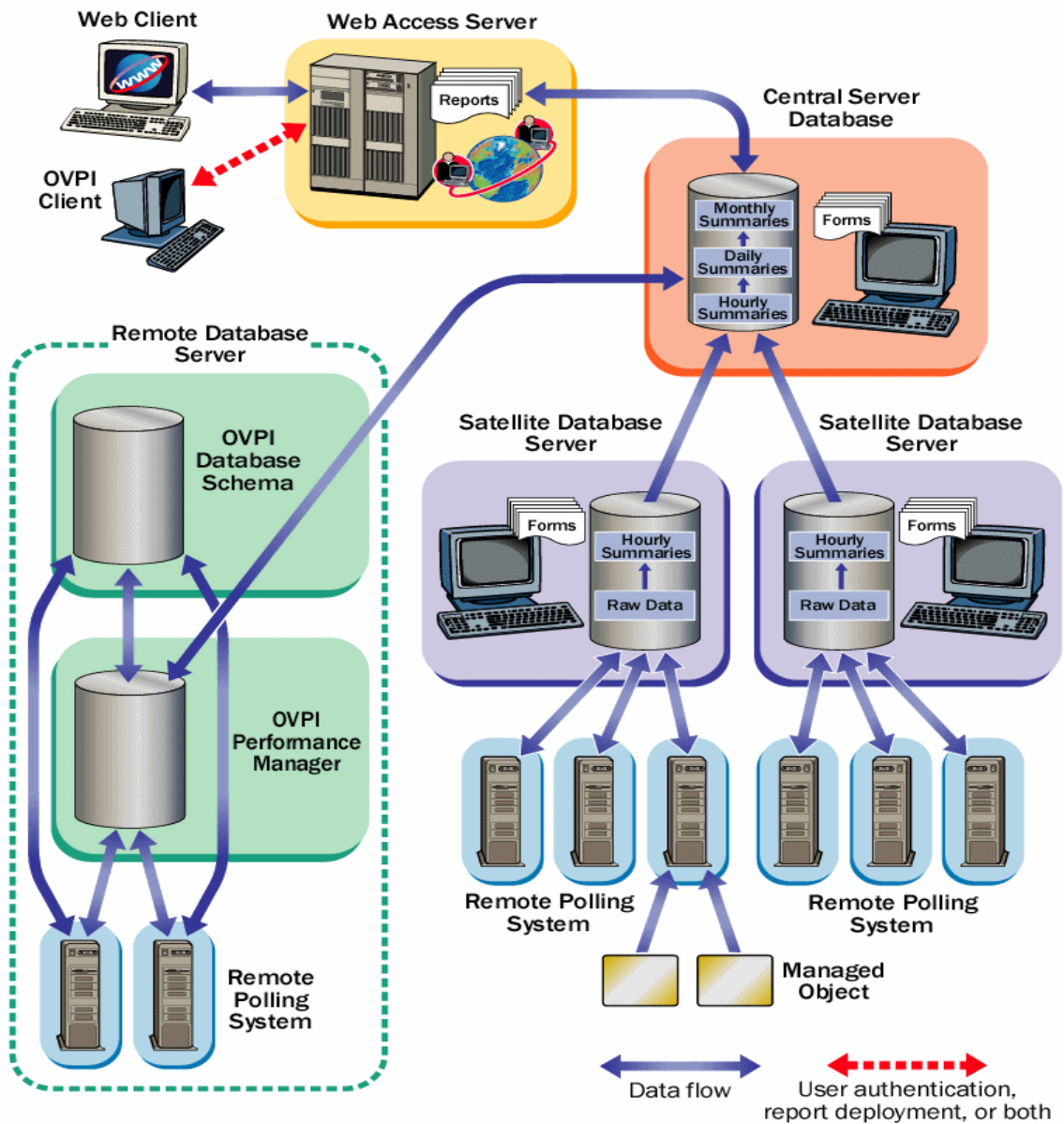
The Web Access Server is a system dedicated to servicing incoming report requests from connected web-based client workstations and PI client workstations. Typically there is only one Web Access Server in any distributed environment.

The following figure shows an example of a simple distributed PI environment, where the central database server is performing all functions except web hosting and remote polling.





The following figure shows a more complex distributed PI environment that improves performance in a large, geographically-dispersed network. In this example, multiple satellite database servers serve individual regions.



In the previous scenario, data is collected and compiled locally by the Satellite server and then uploaded to the central server database.

The satellite servers function as a complete standalone system and perform complete data aggregation and reporting. In addition, the satellite servers copy some of their data to the central database server. This enables you to view regional reports from the satellite servers. You can view reports on network-wide data reporting from the central database server.

## Use Cases for a Distributed PI Setup

You can consider the following use cases for implementing a distributed PI setup:

### Use case 1: Number of Managed Nodes

The number of objects on which PI needs to report has a direct effect on the number of PI systems required. You would, typically set up a distributed PI setup if your network has more than typically 20,000 managed objects for polling and summarization. The HP sales representative can help you determine your PI system requirements.

### Use case 2: Location of Managed Nodes

You have a large network that is geographically spread out and you want see region specific data, you may decide on setting up remote pollers. Installing remote pollers close to the managed objects devices can reduce the distance the SNMP data packets must travel. This increases polling response times and improves data collection reliability and performance.

### Use case 3: Viewing Reports

- **Regional reports:** If your network is spread across several regions, you can use one satellite database server per region. If the users located in a region want to view reports specific to that region, you can configure each satellite server to perform full data-processing. Also install a Web Access Server on the satellite server.

Though this places higher processing load on the satellite database servers, it considerably reduces the network traffic and the time taken to access a regional report.

- **Near real time reports:** The Satellite database server processes the collected data every hour and copies this processed data to the central database server. This reduces the processing load on the central database server and also the network congestion between satellite server and central database server. However, this reduces the granularity of the reports available at the central database server.

If reports on near real time data are required. It is best that the central server directly collects the raw data.

# PI Components

PI includes the following components:

- PI Database Schema
- PI Performance Manager
- Web Access Server
- PI Clients
- Management Server
- Remote Poller

## PI Database Schema

The PI database is the primary repository for the data that is collected, processed, and reported on by other PI applications. The PI database configures the database server for PI and creates the PI schema. For Oracle databases, this component enables you to create tablespaces or gets automatically installed in the existing tablespaces for PI. For Sybase databases, the database schema component creates the database segments for PI.

The management server component is installed with the database schema component.

## PI Performance Manager

The performance manager component of PI is different from the HP Performance Manager product.

The performance manager component provides an engine for storing, processing, and accessing data collected from applications and network devices throughout your network. Data is automatically aggregated, summarized, and aged out by the performance manager.

The performance manager consists of a relational database and the server software. The database is the storage area that contains the data collected and processed by the PI server. The size of the database depends on various

factors, including the amount of data you want to store and the number of elements you poll. The server contains the programs that collect, process, and report on the data.

Performance Manager can be installed on one or more physical servers. One of the physical servers is the central server, which is the main repository for the data and the PI system. The central server processes the data and generates reports. The central server must have a large amount of disk space, memory, and processing power. Typically, in a PI setup, there is only one central server.

The other physical servers are the satellite servers. The satellite servers machines contain the polled data and the PI systems. Typically, the satellite servers perform the first level of processing and then transfer of the data to the central server. However, you can configure the satellite servers to transfer the data to the central server without processing (the amount of data to transfer may be very large in this case and might affect network performance). Alternatively, you can also configure the satellite servers to transfer the data to the central server after complete processing.

A large deployment of PI can consist of multiple satellite servers.

## Web Access Server

The Web Access Server is both a service and an application. It is installed as a service and the following PI client applications are automatically installed with it:

- Report Builder
- Report Viewer
- Web Access Server (application server)
- Management Console

As a service, the Web Access Server provides authentication and configuration services to the PI client. It also provides web-based reporting and user administration utilities.

## PI Clients

The clients provide the interface to PI. You can install a client on any computer connected to the network. The PI client applications are:

- **Report Builder:** enables you to build and customize reports with multiple tables and graphs based on data from the PI database. See the *Performance Insight Guide to Building and Viewing Reports* for details.
- **Report Viewer:** enables you to interactively view, modify, save, and print reports. See the *Performance Insight Guide to Building and Viewing Reports* for details.
- **Web Access Server:** The web access server component contains a web-based application server, also called as the web access server. The web access server application enables you to view, schedule, generate, and deploy reports. It also enables you to perform the administration tasks that pertain to the PI client applications and services.
- **Management Console:** enables you to perform administrative tasks using the following applications:
  - Database Tuner: enables you to set many database configuration parameters to improve overall data throughput.
  - MIB Browser: enables you to analyze, query, and troubleshoot Structure of Management Information (SMI)-compliant SNMP MIBs.
  - SNMP Discovery: enables you to find the nodes in your network and determine whether a node is SNMP manageable.
  - Type Discovery: enables you to determine the device type of a node.
  - Package Manager: enables you to install and uninstall packages and deploy and undeploy them from the Web Access Server component.
  - Object Manager: enables you to view and change the managed objects on your system.
  - System Manager: enables you to add, modify, and delete the database and Web Access Server components.
  - Group Manager: enables you to create groups from the managed objects referenced by the polling policies for your enterprise.
  - Polling Policy Manager: enables you to manage polling policies, import and manage nodes, and manage polling groups.

- Table Manager: enables you to monitor your database, view data and property tables, and set defaults for both individual and global tables.

## Management Server

The management server component provides management services and forms that are deployed during report pack installation, to the management console.

In a client-only installation, you cannot use the applications in the management console. These applications are available through the Tools menu only after the complete PI installation (including performance manager component). These applications are:

- Database Tuner
- MIB Browser
- SNMP Discovery
- Type Discovery
- Package Manager

Also, in a client-only installation, you can not be able to register a new data table, property table, or automatically add a collection to the database.

## Remote Poller

You must install the remote poller component on a system close (in terms of network path) to the target/pollled managed objects.

A remote poller only collects data from the polled managed objects. No database is installed on the remote poller, therefore, it does not store any data or perform any data processing. Typically, the remote poller transfers its data to the satellite server.

# Role of Various PI Systems Based on Setup

After you determine the PI architecture (standalone or distributed) most suited to your operating environment, you can install PI components accordingly.

The role a particular system serves in the environment—central server, satellite database server, remote poller, web client—determines which PI components need to be installed on it.

## Standalone PI System

A standalone system is a single system that performs all data processing tasks. The system serves all roles, therefore, you must install all the PI components on it. The data collection is also performed by the database server, therefore, the standalone system does not require a separate polling system.

## Distributed Environment System Roles

In a distributed environment, each PI system performs a specialized role:

- **Remote Pollers:** Perform data collection.
- **Satellite Servers:** Perform the following functions:
  - Process raw data to rate data
  - Summarize the rate data to hourly data

Typically, the satellite database servers run the processing routines on collected data once every hour and copy the partially aggregated data to the central database server where the aggregation is completed.

- **Central Server:** Receives partially processed data from one or more satellite servers and processes data from the hourly level to completion. It performs the daily, monthly, and forecasting summarization tasks.
- **Web Access Server:** Hosts the PI web site and handles reports requests and report viewing and building tasks from PI clients.
- **PI clients:** Contain multiple applications that let the user view reports, build reports, and perform numerous system management tasks.



The following table shows which PI components you would typically install based on the PI architecture and system role:

<b>System Role</b>	<b>RDBMS</b>	<b>PI Database Schema</b>	<b>PI Performance Manager</b>	<b>Web Access Server</b>	<b>PI Clients</b>	<b>Remote Poller</b>
<b>Standalone Environment</b>						
Central Database Server	X	X	X (includes polling function)	X (includes PI Clients)	N/A	N/A
<b>Distributed Environment</b>						
Central Server	X	X	X	X (optional)	X (if no WAS)	
Satellite Server	X	X	X	X (optional)	X (optional)	
Web Access Server				X (includes PI Clients)		
Remote Poller						X
<b>Client-Only</b>						
PI Clients					X	

# PI Integration

The following HP Software products can integrate with PI 5.40:

- NNM 7.5x and NNMi 8.0
- HP Performance Agent 3.80, 4.50, 4.60, 4.70, 4.80
- HP Operations agent 7.x and 8.x
- Service Desk 4.x, 5.x (For SLM Report Packs, Service Desk versions 5.10 and 5.20 are supported)
- HP OpenView Internet Services 5.20 (Windows version only), 6.00, 6.10, and 6.20

## Supported Configurations

<b>Operating System</b>	<b>RDBMS</b>	<b>PI Component</b>
<b>Windows 2003 Server (SP2) x86 Standard Edition</b> <b>Windows 2003 Server (SP2) x86 (Enterprise/Datacenter)</b>	Sybase Adaptive Server Enterprise 15	All
<b>Windows XP (SP2)</b>	Not Supported	Web Access Server only

# Installation Media

The current version of PI includes the following installation media:

- HP Performance Insight 5.40 Installation DVD (includes Sybase RDBMS installation and documentation)
- Report Pack CD



PI does not support installation from DEPOT paths that contain spaces. For example, if you have a folder by the name “my space” in the following path: `/my space/DVDR0M`, you cannot install or upgrade from this path.



# PI Documentation Set

The following is a list of manuals in the PI document set (apart from this manual). These documents are in the PDF format and you can access them by clicking the Help button in the PI user interface:

- Installation and Upgrade Guide for Oracle Databases on HP-UX, Solaris, and, Linux operating systems.
- Installation and Upgrade Guide for Oracle Databases on Windows operating system.
- Installation and Upgrade Guide for Sybase Databases on HP-UX, Solaris, and, Linux operating systems.
- Installation and Upgrade Guide for Sybase Databases on Windows operating system.
- Guide to Building and Viewing Reports
- Reference Guide
- Network Node Manager-Performance Insight Integration User Guide

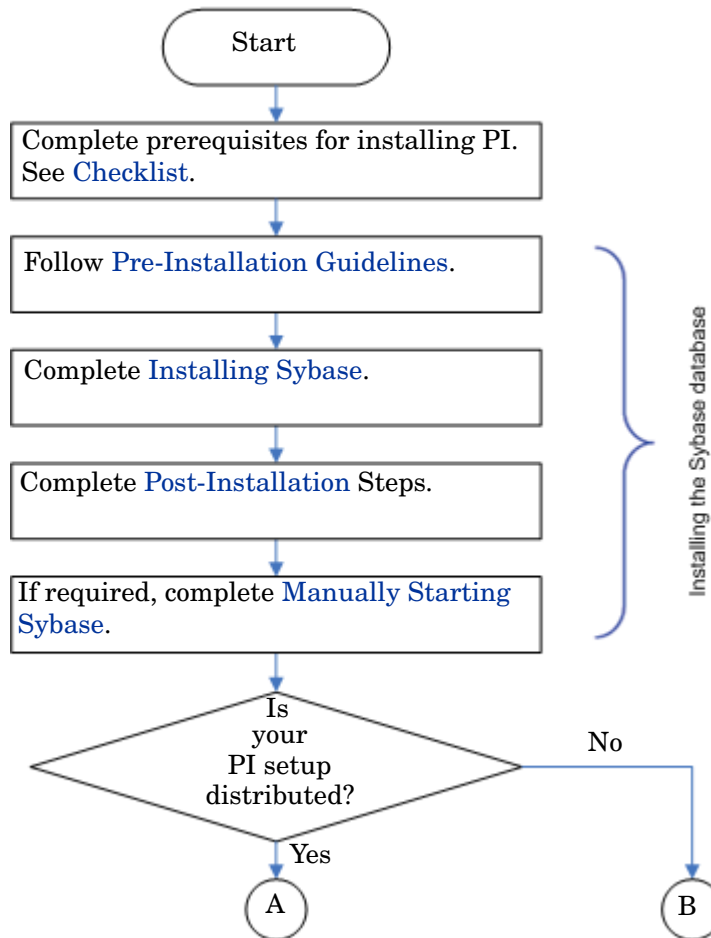
You need Adobe Acrobat Reader to read these guides. If you do not have Acrobat Reader, you can install it from the `docs` folder, located in the PI install directory.

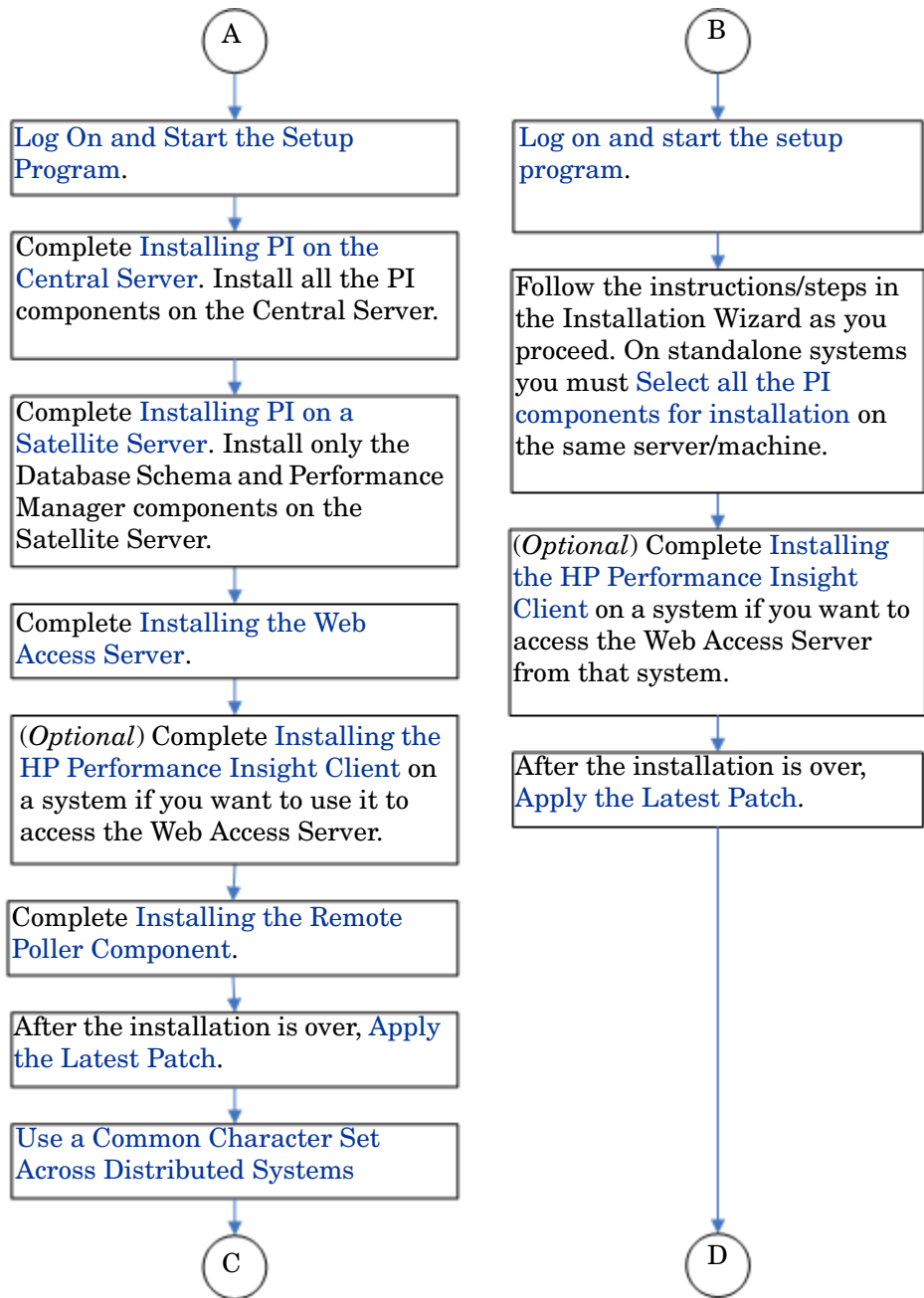
To view the online documentation:

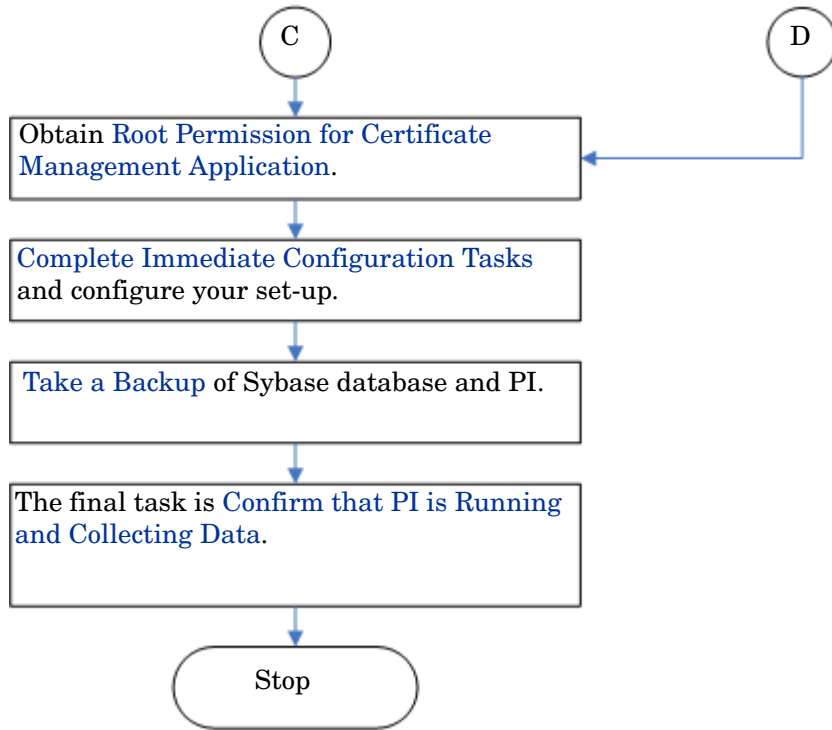
- 1 From the Help menu, click **Help Topics**.
  - If you have not selected a browser for the client application (for example, Management Console or Report Builder) you are using, the Options dialog box opens, displaying the Browser tab. Go to [step 2](#).
  - If you have selected a browser for the client application you are using, a browser window opens, displaying the list of online documents. Go to [step 4](#).
- 2 In the Browser tab, do one of the following:
  - Type the Web browser's complete directory path and application file name in the Browser Application box.  
  
For example, the full path and application file name for Microsoft Internet Explorer might be:  
  
`C:\Program Files\Plus!\Microsoft Internet\IEXPLORE.EXE`
  - Click . The Open dialog box opens. Locate and double-click the Web browser's application file name.
- 3 Click **OK**.  
  
A browser window opens, displaying a list of the available documents.
  -  If Acrobat Reader is not installed on your system, click the **Acrobat Reader** icon to install it.
- 4 Click the title of the document you want to open.  
  
The guide opens in Acrobat Reader.

## 2 The Installation Flowchart

The following flowchart provides you a broad overview of the installation and post-installation steps for Sybase database and PI. Click on the links provided in the flowchart to see the sections mentioned.











---

## 3 System Prerequisites

Read the *HP Performance Insight Release Notes* before installing Sybase RDBMS and PI.

### Convert Evaluation to Licensed Installation

If you have downloaded and installed the evaluation version of PI 5.40 and you want to convert that installation to a licensed installation, follow these steps:

- 1 Close all PI GUIs and Website browsers.
- 2 Insert the PI 5.40 Production DVD in the DVD-ROM drive.
- 3 Browse to the “setup” command file for the Production software.
- 4 From the command line, type (in lower case): `setup -noeval`
- 5 Close the PI Installation GUI if it appears.
- 6 Restart the OVPI HTTP server.



This procedure is not a reinstallation. The evaluation version is identical to the production version except that in the evaluation version “Unlicensed Software” watermarks appear on reports and on the Help About version information. The installer changes your installation to remove the watermark.

# Pre-Installation Tasks

PI supports internationalization. You can install PI on any language version of the supported operating systems. Database support is internationalized for Sybase.

Completed the following tasks in the given sequence before installing the Sybase RDBMS or PI components.

## Task 1: Update the Operating System Software

Install all the required operating system patches. Contact your HP sales representative for the most recent list of patches required.

### Verify Patches for Release Levels.

Make sure that the operating system is at the correct release level. You must install operating system patches before installing the RDBMS.

- 1 From the Windows Explorer Help menu, select **About Windows**.
- 2 Find the Service Pack number on the Version line. In the following example, *xxxx* is the build number and *n* is the patch number:

Version 5.0 (Build *xxxx*: Service Pack *n*)

Windows 2003 requires Service Pack 2.

Install the required operating system patches.

## Task 2: Install All the Patches Required for Java

PI includes Java 1.5, which automatically gets installed on your system during PI installation. However, Java might not run properly if you do not install the OS specific patches.

Download the latest Java patches for your operating system from [\*\*http://windowsupdate.microsoft.com\*\*](http://windowsupdate.microsoft.com)

### Task 3: Identify ports for network connectivity

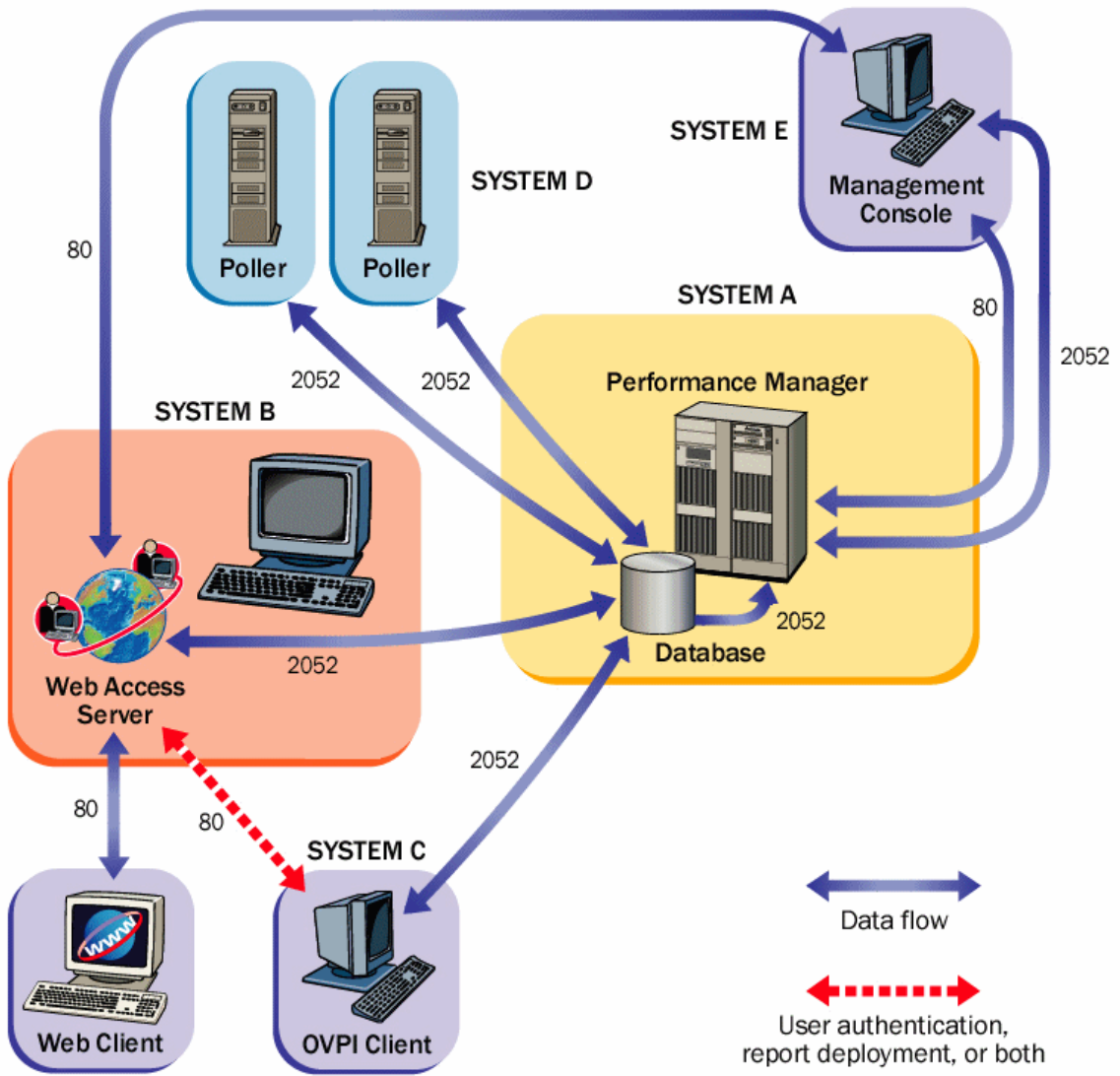
Ports establish connectivity between PI systems. PI uses the following default port numbers.

<b>PI Component</b>	<b>Default Port Number</b>
Sybase RDBMS	5000
Web Access Server (Includes the management server, which also uses port 80 by default. If any other web server is running on port 80, use a different port for PI; for example, port 8080.)	80 (SSL not enabled) 443 (SSL enabled)
Management Console	80
Remote Poller	80 (on the system hosting the management server)



If you are using a firewall software, you must open the PI ports in the firewall. For instructions, see your firewall documentation.

The following illustration shows PI configuration using the default port numbers.



## Polling and SNMP Connectivity

Any system that gathers data from the network requires connectivity through intermediate firewalls to reach the network devices. Ensure that the remote poller system and managed objects are outside the firewall, and that the remote poller connects to the database server through the firewall. This reduces the number of connections through the firewall.

In situations where a satellite database server is managing polling systems, you might need to create specialized polling policies to divide the managed objects to be polled between the polling systems. For information about creating polling policies, see the *HP Performance Insight Administration Guide*.

## Client Connectivity

To view reports using a web browser, you must have HTTP connectivity between your systems and the Web Access Server.

To use the Report Viewer or Report Builder applications, there must be connectivity between the client system, the Web Access Server system, and the database server through appropriate ports. When installing clients, specify the same Web Access Server and port number that was specified on the Web Access Server reference page. For more information about installing the Web Access Server, see [Installing the Web Access Server](#) on page 102.

## Task 4: Plan for Web Access

- 1 Verify that you are using a supported web browser.

Web users must be able to connect to one of the following web browsers:

- Microsoft Internet Explorer 5.5 or later
- Mozilla Firefox 1.5 or later

- 2 Verify that Java scripting is enabled.

Enable Java scripting on your web browser to view the Navigation frame for the Web Access Server application.

To enable Java scripting, follow these steps, depending on the web browser:

### **Internet Explorer**

- a From the browser's Tools menu, select **Internet Options**. The Internet Options dialog box opens.
- b Select the Security tab. Click **Internet** for the Web content zone, and then click **Custom Level**. The Security Settings dialog box opens.
- c Scroll down the list of settings and locate the Scripting settings. Select **Enable** under Active scripting.
- d Click **OK** in the Security Settings dialog box.
- e Click **OK** in the Internet Options dialog box.

### **Mozilla Firefox**

- a From the browser's Tools menu, select **Options**.  
The Options dialog box opens.
- b Select the **Content** tab and then select **Enable JavaScript** check box.
- c Click **OK** in the Options dialog box.

## **Task 5: Install the SNMP security pack for SNMPv3 nodes**

If you plan to collect data from SNMPv3 nodes, you must install the SNMP Security Pack product, available from SNMP Research International, Inc. Visit the SNMP web site for information:

**<http://www.snmp.com>**

Install version 16.1.0.35 of the SNMP Security Pack.

You must configure your SNMPv3 nodes after installation. For configuration details, see the *HP Performance Insight Administration Guide*.

## Task 6: Coexistence with Network Node Manager

In case NNM 7.50 or later is installed on your system, you can install PI on the system.



PI cannot coexist with version of HP Network Node Manager (NNM) earlier than 7.50.

PI and NNM share components that enable the PI MIB Browser and Collection Wizard tools to function. These tools do not function with earlier versions of NNM.

To avoid errors during installation, make sure that you stop all NNM processes before installing PI. Follow these steps:

- 1 From the **Start** button on the Windows task bar, click **Programs** → **HP Software** → **Network Node Manager Admin**, and select **NNM Services - Stop**.
- 2 Verify that the NNM processes are stopped. From the **Start** button on the Windows task bar, click **Programs** → **HP Software** → **Network Node Manager Admin**, and select **NNM Services - Status**.
- 3 Close the Services window. Otherwise, the PI Services fail to install.

## Task 7: Stop Compaq Insight Manager services (HP Compaq Systems Only)

If you plan to install PI on a Compaq system, you must stop the Compaq Insight Manager services.

## Task 8: Disable HP-Proprietary Memory Management Devices

If your environment includes Windows systems that are running HP-proprietary memory management services, disable those services. In the Services Manager windows, change the status of the following services to “disabled.”

- HpComponent
- HPEventLog
- HPFpcSvc
- HpLerSvc
- HPSdnSvc

# Checklist

Before you proceed with the installation of Sybase RDBMS and PI, go through the following checklist and ensure that all tasks are completed.

<input type="checkbox"/> You have read the Performance Insight Release Notes for this release.	
<input type="checkbox"/> You have decided whether to use a standalone or distributed environment.	See <a href="#">The PI Architecture</a> on page 12
<input type="checkbox"/> You have all required installation media.	See <a href="#">Installation Media</a> on page 27
<input type="checkbox"/> You are using a supported system configuration (operating system and RDBMS).	See <a href="#">Pre-Installation Tasks</a> on page 34
<input type="checkbox"/> You have identified which PI components to install on each system.	See <a href="#">Role of Various PI Systems Based on Setup</a> on page 24 and <a href="#">Pre-Installation Tasks</a> on page 34
<input type="checkbox"/> You have installed the required patches for your operating system.	See <a href="#">Task 1: Update the Operating System Software</a> on page 34
<input type="checkbox"/> You have identified port numbers for network and client connectivity.	See <a href="#">Task 3: Identify ports for network connectivity</a> on page 35
<input type="checkbox"/> You have confirmed that your web clients are using a supported browser, and you have enabled Java scripting for the browser.	See <a href="#">Task 4: Plan for Web Access</a> on page 37
<input type="checkbox"/> If required, you have installed the SNMP Security Pack.	See <a href="#">Task 5: Install the SNMP security pack for SNMPv3 nodes</a> on page 38



<p>□ If you are planning to install PI on a system that is running NNM, you have verified that you are using the correct version of NNM and you have stopped NNM processes.</p>	<p>See <a href="#">Task 6: Coexistence with Network Node Manager</a> on page 39</p>
<p>□ If you are installing on a Compaq system, you have stopped any Compaq Insight Manager services.</p>	<p>See <a href="#">Task 7: Stop Compaq Insight Manager services (HP Compaq Systems Only)</a> on page 39</p>
<p>□ If you are running Windows with HP proprietary memory management services, you have disabled those services.</p>	<p>See <a href="#">Task 8: Disable HP-Proprietary Memory Management Devices</a> on page 39</p>

# Storage and Memory Requirements

The following table shows the minimum storage requirements for PI components, based on the operating system.

<b>Component</b>	<b>Windows</b>
PI Database Schema	2500 MB
PI Performance Manager	340 MB
Web Access Server	340 MB
PI Clients	1700 MB
Remote Poller	130 MB
Full Standalone	2100 MB

The following table shows the minimum and recommended memory requirements for PI. The requirements are based on original system size recommendations, and may change based on polling requirements.

<b>Component</b>	<b>Minimum</b>	<b>Recommended</b>
PI Database Schema	512 MB	1 GB
PI Performance Manager (includes PI Database Schema)	2 GB	4 GB
Management Server	256 MB	512 MB
PI Clients	256 MB each <sup>a</sup>	512 MB
Command-Line Utilities	256 MB <sup>b</sup>	512 MB
Remote Poller	256 MB	512 MB
Full Standalone Install	4 GB	8 GB

- a. If you plan to have more than one component running at the same time, the memory requirements are additive. For example, if you run the Management Console, Report Builder, and the Web Access Server simultaneously on one system, 768 MB is the minimum memory requirement. In a standalone installation, the Web Access Server and Management Server use the same Java Virtual Memory (JVM). The minimum, therefore, is still 256 MB.
- b. Command line utilities use relatively lesser memory.

The PI Database Schema uses between 50 to 60 percent of total memory. The Management Server, PI clients, Command-Line Utilities, and Remote Poller use very less memory space (1 to 2 GB of memory). The remaining memory space is used by the PI Performance Manager. Make sure that this space is large enough to handle polling and data loading.

To change the amount of memory set for Report Builder, Report Viewer, or Web Access Server after installation, change the Java settings using the Web Access Server. See the *HP Performance Insight Administration Guide* for details.

## Installation Parameter Values

PI provides default values for many installation parameters. Identify the changes you want to make in the installation parameters values before starting the installation process. This saves time.



Do not add spaces in the directory paths when changing the default path settings.

The following table lists parameter defaults you might decide to change. Unless mentioned specifically, these parameters apply to both standalone and distributed installations.

<b>Parameter and Description</b>	<b>Default Value</b>
<b>Destination Folder</b> The directory where you install the PI software.	C:\OVPI
<b>Sybase TCP/IP Port Number</b> The TCP/IP port number that Sybase uses to communicate with clients and servers on other systems.	5000
<b>Sybase Server Name (DSQUERY)</b> Name of the Sybase SQL Server where the client applications searches for information by default.	<LOCAL_HOST> In this instance, LOCAL_HOST
<b>Sybase Directory</b> The directory in which you install the Sybase database.	C:\Sybase
<b>Database Devices</b> The directory in which the PI creates the database device files (if raw devices are used, device files are not created).	Sybase_directory\dbfiles 50%
<b>Database Size</b> The size of the database device file.	800 MB
<b>Transaction Log and Percent of Database</b>	Sybase_directory\dbfiles 50%
<b>Temporary Space and Percent of Database</b>	Sybase_directory\dbfiles 50%

<b>Parameter and Description</b>	<b>Default Value</b>
<p><b>Cache Folder</b> The cache directory in which the collected data is stored before storing in the database.</p>	\$COLLECT_HOME
<p><b>Username</b> The name for the Web Access Server administrator.</p>	trendadm
<p><b>HTTP Port</b> The port number set for HTTP communication with the Web Access Server.</p>	80
<p><b>Web Access Server Port</b> The HTTP port number used by the Web Access Server (used in distributed setups only).</p>	80
<p><b>Remote Management Server Port</b> The HTTP port number used by the database host system (used in distributed setups only).</p>	80



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# 4 Installing Sybase Adaptive Server Enterprise

Install Sybase RDBMS version 15.0.2 and make sure it is started before you install PI.

## Pre-Installation Guidelines

The following guidelines help you obtain the optimum performance from the Sybase - PI Installation:

- Before installing Sybase, read the Sybase documentation including the installation guides, release notes, and readme files. Sybase documents are available online at **<http://www.sybase.com/support/manuals/>**
- Consult a Sybase database administrator before installing Sybase. A database administrator can help you design and set up the Sybase database for optimal use by PI.
- Distribute the processing load: The following suggestions are not mandatory but following them improves the performance of the database:
  - Install Sybase and PI on separate systems.
  - Save the data datafiles and the index datafiles on separate systems.
  - Save the tempdb on a separate system.
  - Save the dpipe\_log on a separate system.

- Ensure that the system on which the Sybase database and PI are to be installed meets all the minimum hardware requirements. The following table shows minimum system recommendations based on database size.

<b>Database Size<sup>a</sup></b>	<b>CPU</b>	<b>Sybase Minimum<sup>b</sup> and Recommended Memory</b>	<b>Drives 10 KB RPM or Higher<sup>c</sup></b>	<b>Drive Usage</b>
2 GB	1	1 GB/2 GB	4	1 for OS and swap 1 for temporary database 1 for log file 1 for database
5 GB	1	1 GB/2 GB	4	1 for OS and swap 1 for temporary database 1 for log file 1 for database
10 GB	2	1 GB/4 GB	6	1 for OS and swap 1 for temporary database 1 for log file 3 for database with RAID 0




<b>Database Size<sup>a</sup></b>	<b>CPU</b>	<b>Sybase Minimum<sup>b</sup> and Recommended Memory</b>	<b>Drives 10 KB RPM or Higher<sup>c</sup></b>	<b>Drive Usage</b>
20 GB	2	1 GB/4 GB	6	1 for OS and swap 1 for temporary database 1 for log file 3 for database with RAID 0
40 GB	4	1 GB/4 GB	8	1 for OS and swap 1 for temporary database 1 for log file 5 for database with RAID 0
80 GB	4	1 GB/4 GB	8	1 for OS and swap 1 for temporary database 1 for log file 5 for database with RAID 0

- a. You must have sufficient database disk space for twice the amount of data that you expect to store. The listed number of drives is the minimum number for acceptable performance and is based on the assumption that each drive is 36 GB. Using higher capacity drives (for example, 72 MB) does not reduce the number of drives recommended. If you are running four or more report packs simultaneously, install the Web Access Server on a separate system.
- b. Minimum memory for the RDBMS means that you can install and run PI with a limited number of objects. The performance, however, may suffer under load.
- c. This does not include any mirror drives that you may have used.

The system load stated in the previous table is based on the number of managed objects PI is polling from and reporting on. A managed object is one instance of data (for example, one frame relay PVC or one router interface).

A medium-sized standalone system (database size of 10 or 20 GB, based on the recommendations in the table) can poll up to 20,000 managed objects every 15 minutes.

A distributed configuration typically includes a separate reporting server (Web Access Server), satellite servers, and a central server. The satellite server performs hourly roll-ups and transfers the hourly data to the central server. A large-sized satellite server can poll up to 30,000 managed objects at 15-minute intervals. A central server that is not polling can support four satellite servers without specific configuration.

 For large systems, a second disk controller is recommended.

- Ensure that the system on which Sybase is to be installed meets all the minimum storage and memory requirements, as listed in the following table:

<b>Component</b>	<b>Requirements</b>
Executables	99 MB
Master Database	30 MB
Stored Procedures Database	60 MB
<b>Installation Total</b>	<b>189 MB</b>

For instructions to increase the size of the Sybase database after PI is installed, see the *HP Performance Insight Administration Guide*.

To determine the memory Sybase requires to run, use a scaled algorithm based on the total memory available on the system.

The following table shows a scaled algorithm, based on the total memory available on the system, for running Sybase:

<b>System's Physical Memory</b>	<b>Percentage Required by Sybase</b>
1 GB or less	50% of physical memory
1 GB or greater	60% of physical memory

- Ensure that the device size limits and addressable memory Limits for Sybase Adaptive Server, when supporting devices greater than 2 GB in size, are met.

Using a seek utility, Sybase is able to locate and support the largest device size allowable by the host system. For the Windows operating system the size is 4 GB.

The addressable memory limit for your Windows system is 2 GB.

# Installing Sybase

You must install Sybase on the system that operates as the PI Server.

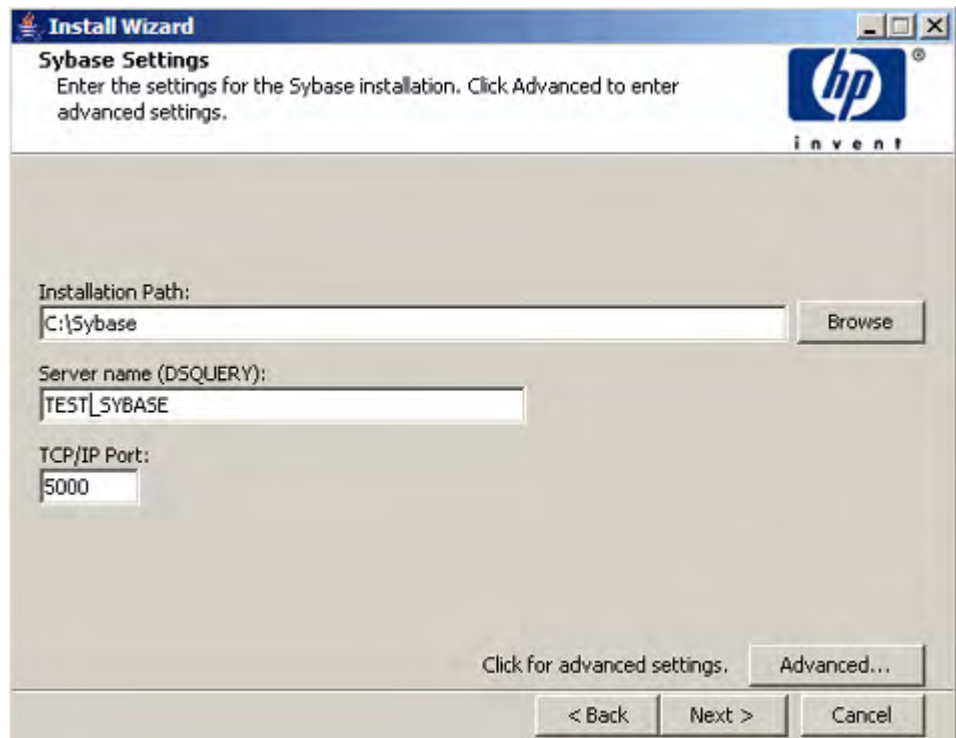
When you install the Windows operating system, if your hard disk has sufficient space, the installation process creates a paging file of the recommended size (approximately 1.5 to 2 times the amount of RAM on your system).

This is because the Sybase Adaptive Server requires the Windows virtual-memory paging file to be equal to or above its recommended size. Otherwise, the Adaptive Server fails to start without displaying any error messages about the cause of failure. For more information about the paging file and how to change its size, see your Windows operating system documentation.

## Task 1: Log on and start the Setup program

- 1 Log on to the local system as Administrator.
- 2 Insert the HP Performance Insight Installation DVD in the DVD-ROM drive. The setup program starts automatically. Otherwise from the top level folder on the DVD, double-click `setup.exe`. The Setup window opens.
- 3 Click **Sybase 15.0.2** to install Sybase Adaptive Server.
- 4 Read the contents displayed in the Welcome window and click **Next**. The Sybase Settings window opens.

Task 2: Specify the information needed to configure Sybase



In the Sybase Settings window:

- 1 Accept the default values or type new values for the following parameters:
  - **Installation path:** Accept the default directory (C:\Sybase) or specify the directory in which the Sybase software must be installed. The path of the destination directory cannot contain any spaces.
    - If the destination directory does not exist, the Installation Program creates it.
    - If the destination directory exists and contains data, a warning message saying the directory is not empty appears.
    - If the destination directory is located on a file system that the Installation Program cannot access, a warning message appears. You must provide a valid destination directory to continue installation.

- **Server Name (DSQUERY):** Type the name of the Sybase SQL server.

By default the client applications search the Sybase SQL server for information. The default server name—*<hostname\_sybase>*— is the host name of the system.



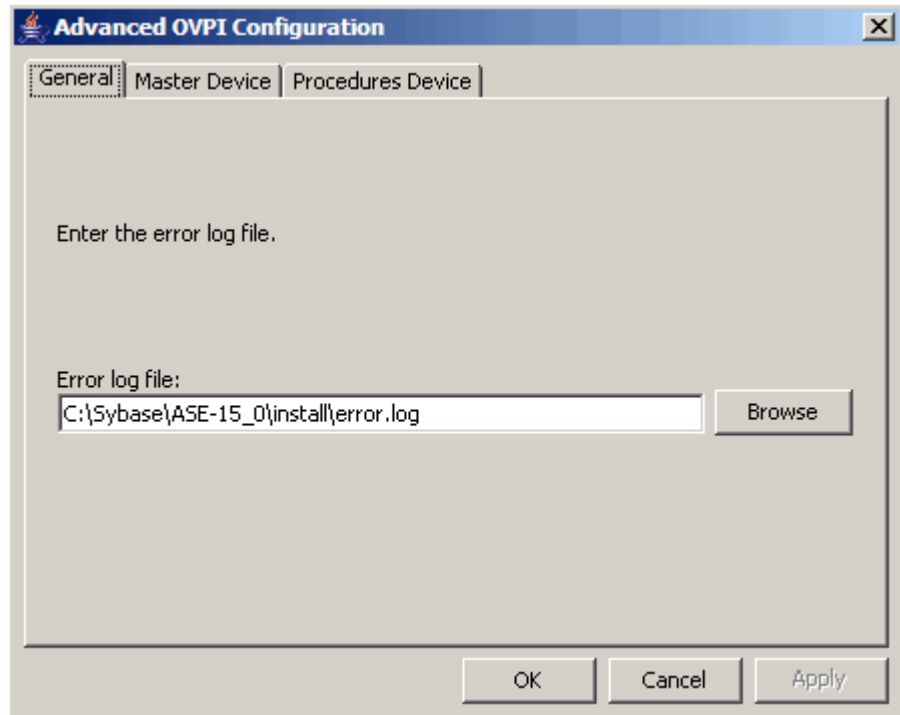
Make sure that you enter the Sybase SQL server's name in uppercase and that it is a valid server name identifier. Server names cannot be more than 31 characters. The first character must be alphabetic. Characters following the first character can include letters, numbers, or an underscore. Do not use embedded spaces or hyphens.

- **TCP/IP Port Number:** Type the port number for the Sybase server.

The default port number is 5000. Sybase uses assigned TCP ports to communicate with Sybase clients and servers on other systems. Sybase can locate Sybase clients and servers on other systems through the combined IP address of the remote system and the TCP Port of the application Sybase needs to access on the remote system. This information is stored in the interfaces file in the Sybase directory. Sybase uses only one TCP port. It can be any port numbered higher than 1024 that is not already used by another application. The installation wizard uses the port number you enter in this step for Sybase.

If you change the TCP Port, check the `install_dir\System32\Drivers\Etc\services.txt` file to make sure that no other application is using the assigned port number or the one after it.

- 2 If required, click **Advanced** to display the Advanced OVPI Configuration window. You can perform the following tasks through this window:



- Modify the general parameters (General tab).  
The General Tab contains a parameter for changing the location of the Sybase `error.log` file.
- Modify master device settings (Master Device tab).  
You can provide the following information about the devices:
  - **Device Name:** The name of the master device.
  - **Device File:** The location and name of the device file.
  - **Device Size (MB):** Specify the size in MB.
- Modify procedures device settings (Procedures Device tab).  
You can provide the following information about the procedure devices:
  - **Device Name:** The name of the procedures device.
  - **Device File:** The location and name of the device file.

- **Device Size (MB)**: Specify the size in MB.
- 3 Click **Apply** and then click **OK** to return to the Sybase Settings window.
  - 4 Click **Next**.


The installation program might display an error message if it detects an existing database or low disk space:

**An existing database:** If you continue, the installation overwrites your current database. Click **Yes** in the error message window to overwrite the existing database and proceed with the installation.

or

**Insufficient disk space:** If the system has insufficient disk space, the installation might fail. Click **OK** to dismiss the message, and then click **Cancel** in the Selection Summary window. Free up the necessary disk space and restart the installation.

### Task 3: Review the installation selections and install

- 1 In the Summary window, review the installation selections.
  -  In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.

- 2 Click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.

If the Sybase installation completes successfully, a pop-up window conveying the successful installation appears. Click **Done**.

If the Sybase installation is unsuccessful:

- 1 Click **Details** at the bottom of the Installation Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5)



# Post-Installation

After installing Sybase, follow these steps:

- 1 Verify that Sybase is running on the system. Type the following command:

```
ps -ef | grep -i sybase
```

- 2 Make Sybase the owner of the `/dev/async` directory. Type the following command:

```
chown sybase /dev/async
```

You must have the root/administrator permissions to make this change.

- 3 (Optional) Set a Sybase **sa** password by logging in to `isql` as the “**sa**” user with a null password. Specify a new password:

```
isql -Usa -P
```

```
1> sp_password NULL, <sa_password>
```

```
2> go
```

In this instance `<sa_password>` is the new password.

## Manually Starting Sybase

If Sybase does not start automatically after installation, follow these steps to start it manually.

- 1 From the Control Panel window, double-click the **Administrative Tools** icon. The Administrative Tools window opens.
- 2 Double-click the **Services** icon. The Services window opens.
- 3 Select Sybase SQLServer\_*server*, where *server* is the name of your Sybase SQL Server.
- 4 Right-click the service name, and then select **Start** from the shortcut menu.
- 5 Close the Services window.

## Manually Stopping Sybase

To manually shut down Sybase, type the following commands:

```
isql -Usa -P <sa_password> -S<DSQUERY>  
1>shutdown  
2>go
```

*<sa\_password>* is required only if you set a Sybase **sa** password.

# Troubleshooting Sybase Installation Failure

View the error log file in the Sybase installation directory to find out the cause of an installation failure. Sybase writes messages to this file each time the system is booted and each time a Sybase error occurs. The error log files are available in the following locations:

- `%SYBASE%/SYBASE_ASE%/install/servername_SYBASE.log`
- or
- `%SYBASE%/SYBASE_ASE%/install/error.log`

After identifying the cause of the problem, see the Sybase documentation to rectify it.



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# 5 Installing HP Performance Insight on a Standalone Server

A standalone server is a single system that has all of the PI components installed. The standalone system is capable of gathering and processing data, producing reports that can be accessed from the Web server, and running the Report Viewer and Report Builder applications.

- ▶ If you plan to install using a remote Sybase database, follow the instructions in [Chapter 6, Installing HP Performance Insight in a Distributed Environment](#)

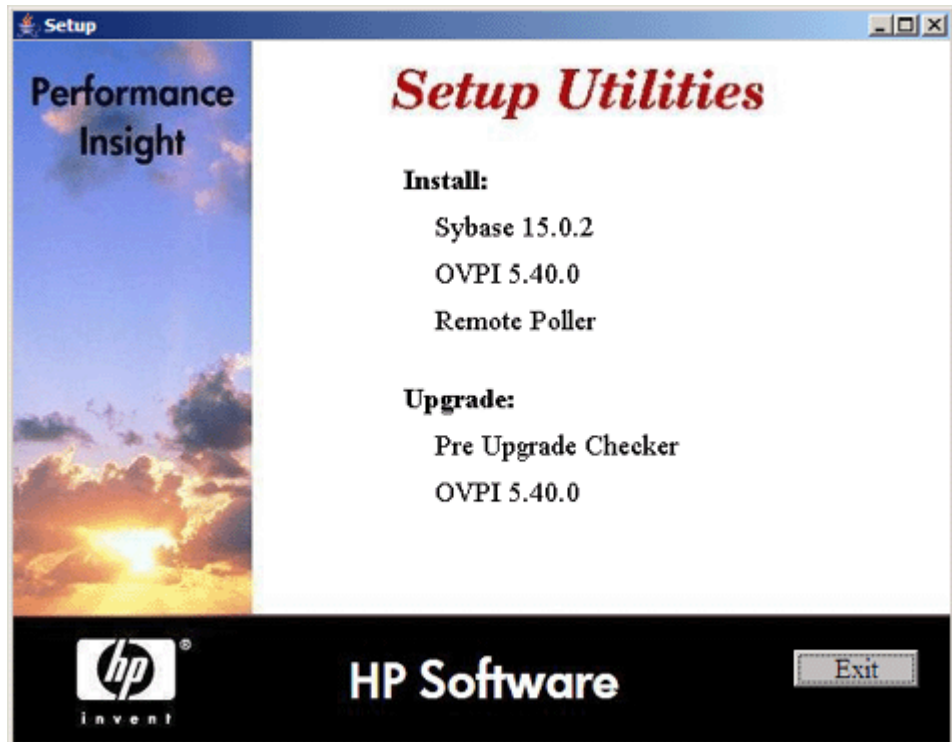
To install PI on a standalone server, complete the following tasks in the sequence given:

- ▶ Ensure that Sybase server is started before installing PI.

## Task 1: Log on and start the setup program

- 1 Log on to the system as Administrator.
- 2 Insert the HP Performance Insight Installation DVD in the DVD-ROM drive.

The setup program starts automatically. If it does not, from the top level folder on the DVD, double-click `setup.exe`. The Setup Utilities window opens.

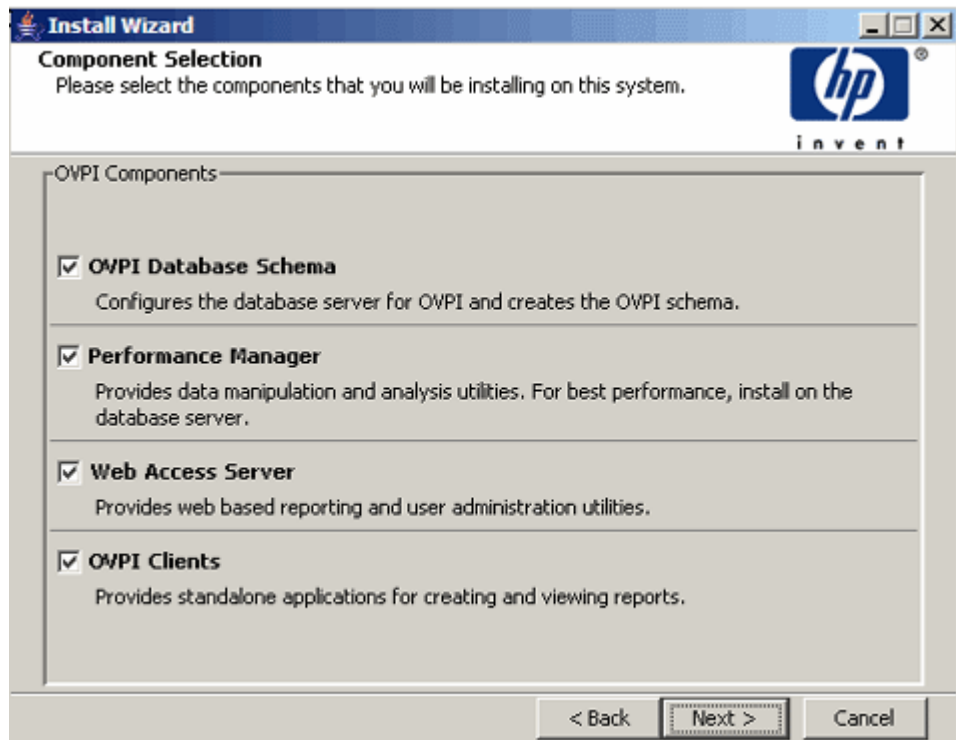


If the window does not appear correctly, change the text size of the Windows font:

- From the Control Panel window, double-click the **Display** icon.
  - Select the Settings tab, and then click **Advanced**.
  - Select the General tab, and then select **Small Fonts** from the Font Size list.
- 3 Select **PI 5.40** from the Install section of the window. The Welcome window opens.
  - 4 Read the contents displayed in the Welcome window and click **Next**. The License Agreement window opens.

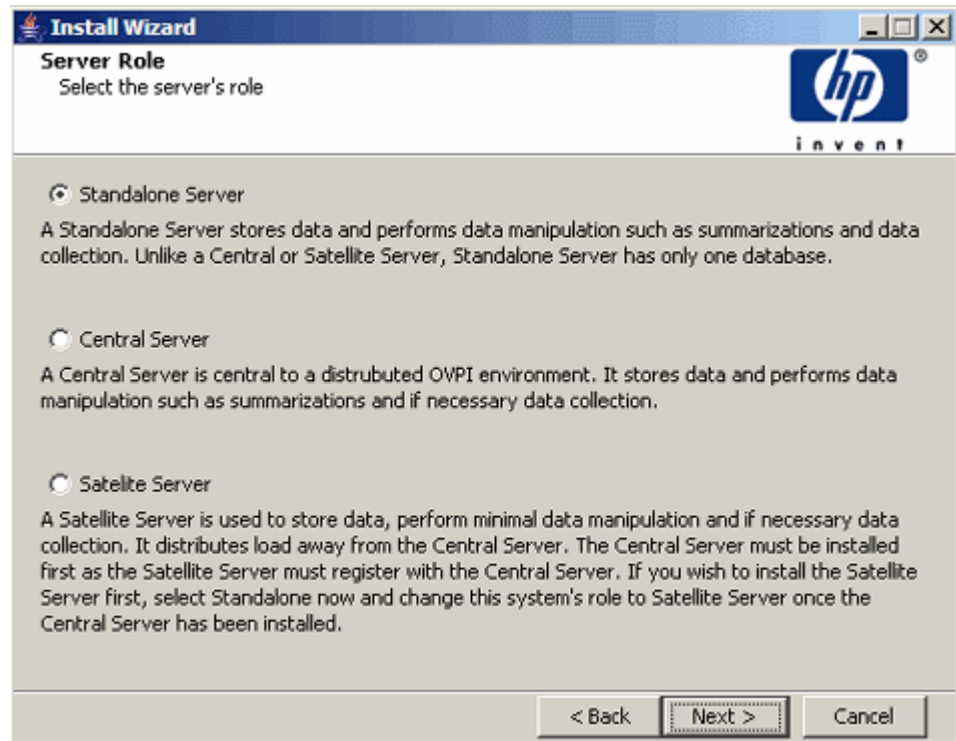
- 5 Accept the license agreement and click **Next**. The Component Selection window opens.
  - ▶ You must accept the license agreement to proceed. If you click **Cancel**, you are prompted to confirm your rejection of the license agreement and the installation ends.

Task 2: Select *all* the PI components for installation



- 1 Select *all* the PI components for installation. You must install all the components on the same system for a standalone setup.
- 2 Click **Next**. The Server Role window opens.

Task 3: Select a role for the database system



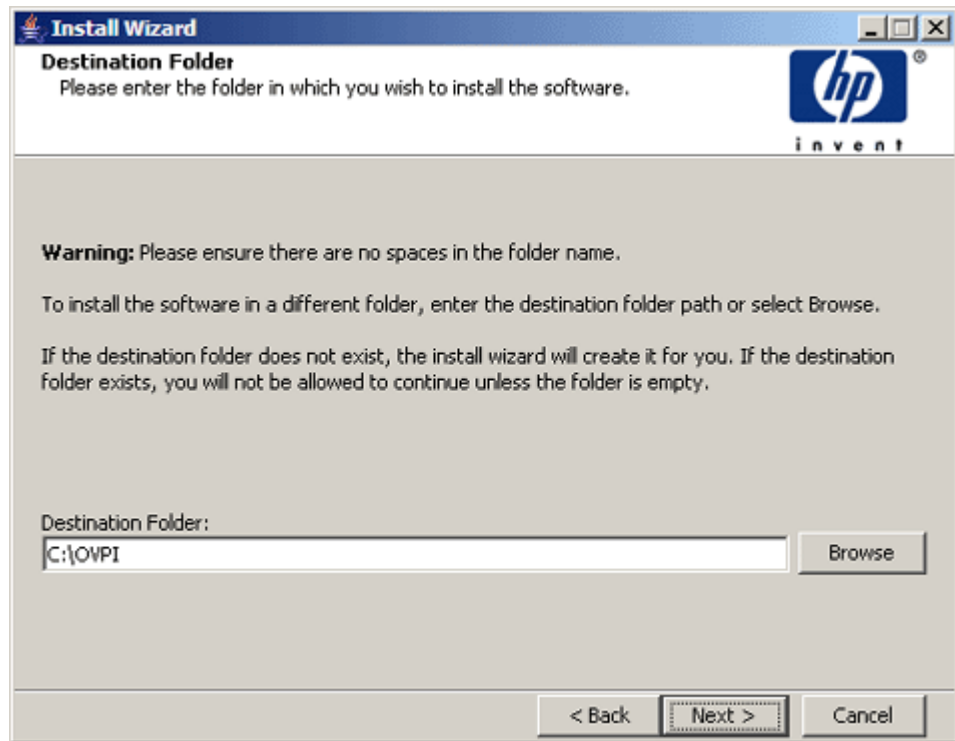
- 1 Select **Standalone Server**.

If you want to change the role at a later time, use the System and Network Administration application in the PI Management Console. For more information, see the *HP Performance Insight Administration Guide*.

- 2 Click **Next**. The Destination Folder window opens.



Task 4: Specify the directory in which you want to install the PI Software



1 Follow either of the two options:

- Accept the default destination directory.
- Click **Browse** to choose a different installation directory for PI software.

The destination directory can be an NFS mounted directory or a Windows mapped drive. The directory path, however, must not contain any spaces.

The Installation Program does the following:

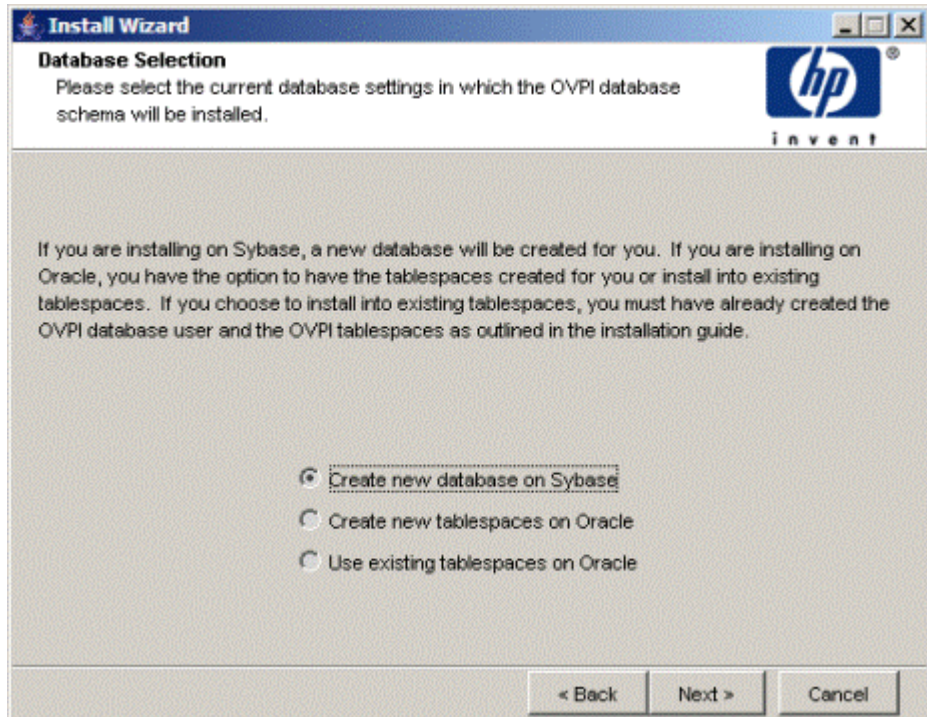
- Creates the destination directory if it does not exist.
- Sends a warning message if the destination directory exists but contains data.

- Sends a warning message if the destination directory is located on a file system that the Installation Program cannot access.

You must provide a valid destination folder to continue the installation.

- 2 Click **Next**. The Database Selection window opens.

Task 5: Select the RDBMS on which the OVPi database instance must be created

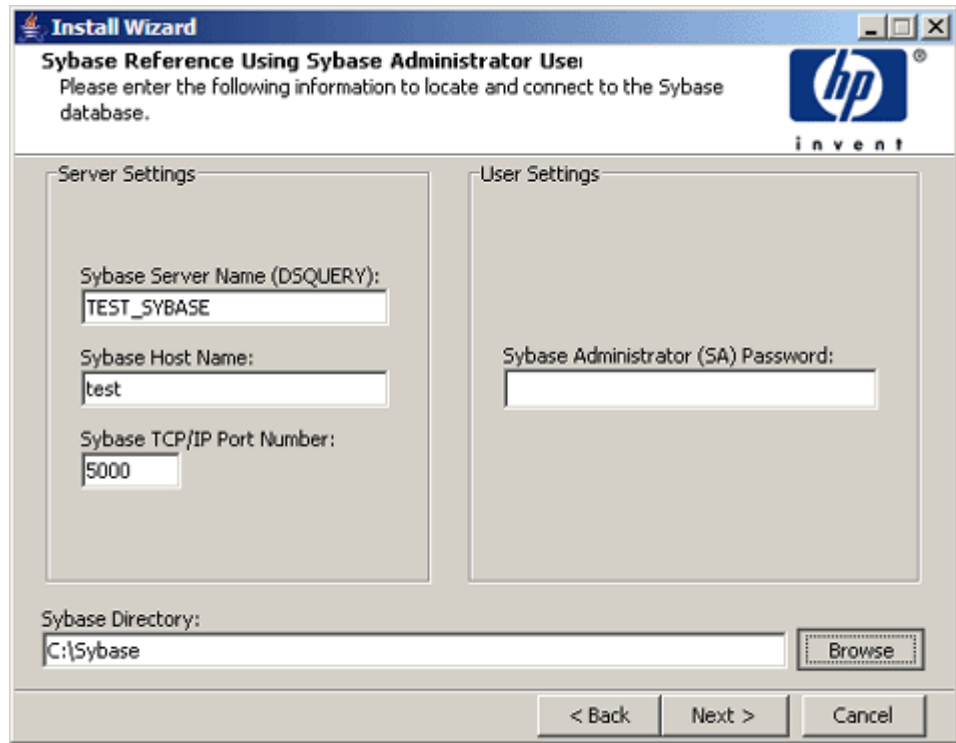


- 1 Read the content displayed in the window and select one of the three options given.

If you select the **Create new database on Sybase** option ensure that there is no existing database user account (dsi\_dpipeline) or dsi\_dpipeline user. Otherwise, the installation fails.

- 2 Click **Next**. The Sybase Reference Using Sybase Administrator User window opens.

Task 6: Locate and connect to the database



In the Sybase Reference Using Sybase Administrator User window, locate and connect to the Sybase database.

1 Accept the default values or type new values for the following parameters:

- **Sybase Server Name (DSQUERY):** The name of the Sybase SQL Server (this name is case sensitive.) By default, the client applications searches for information in this server. You can find the name of this server in the Sybase interfaces file. The Sybase interfaces file is located on the system where you installed the Sybase SQL Server.

For more information about the Sybase interfaces file, see [Appendix A, The Sybase Interfaces File](#).

- **Sybase Host Name:** This is the name of the system on which you installed Sybase.

- **Sybase TCP/IP Port Number.** The TCP/IP port number that Sybase uses to communicate with clients and servers on other systems. In addition to <DSQUERY>, there are several other Sybase SQL Servers that are assigned port numbers during the installation. These servers are the following:

<b>Sybase Server</b>	<b>Port Number</b>
<DSQUERY>_BS	5001
<DSQUERY>_MS	5002
<DSQUERY>_HS	5003
<DSQUERY>_XP	5004

You must manually start each of these servers.

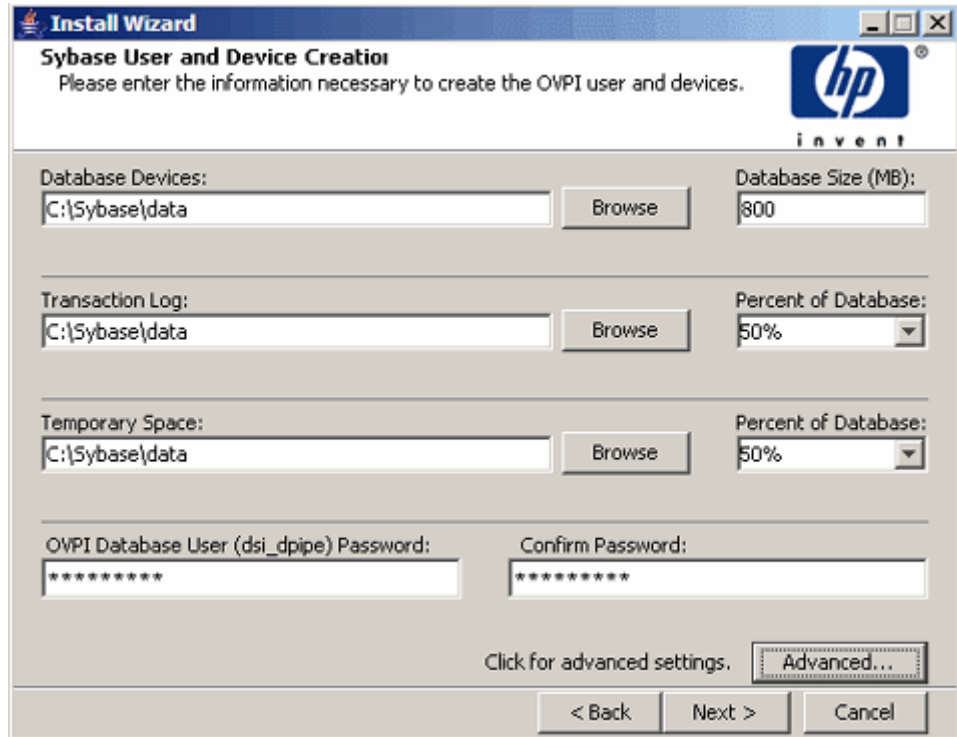
- **Sybase Administrator (SA) Password:** If you changed the Sybase Administrator password, during the Sybase installation, from a NULL value to an actual password, type that password in the Sybase Administrator (SA) Password box.

If you did not change the Sybase Administrator password, you can leave this box blank.

- **Sybase Directory:** The directory in which you installed Sybase. Click **Browse** to select a different directory. After selecting a directory, click **Open** to return to the Sybase Reference Using Sybase Administrator User window.

- 2 Click **Next**. The Sybase User and Device Creation window opens.

Task 7: Create the Sybase user account and the new database devices



In the Sybase User and Device Creation window, create the PI database user account and database devices.

The installation wizard creates the device files for the PI database using Sybase Adaptive Server. Files are created within Sybase for PI database, transaction log, and temporary space. The PI database uses the device files to store its data (if raw devices are used, no device files are created.)

By default, the installation wizard creates the device files in a subfolder called `dbfiles` under the Sybase installation directory. You can change the name of this folder at this point in the installation. The folder name must not contain any spaces.



All Sybase devices are created using the `vstart=512` option. This enables you to use labeled file systems with PI. For example, if the size of your database is 800 MB, only 799 MB of it is available, and 1MB is allocated for the label.

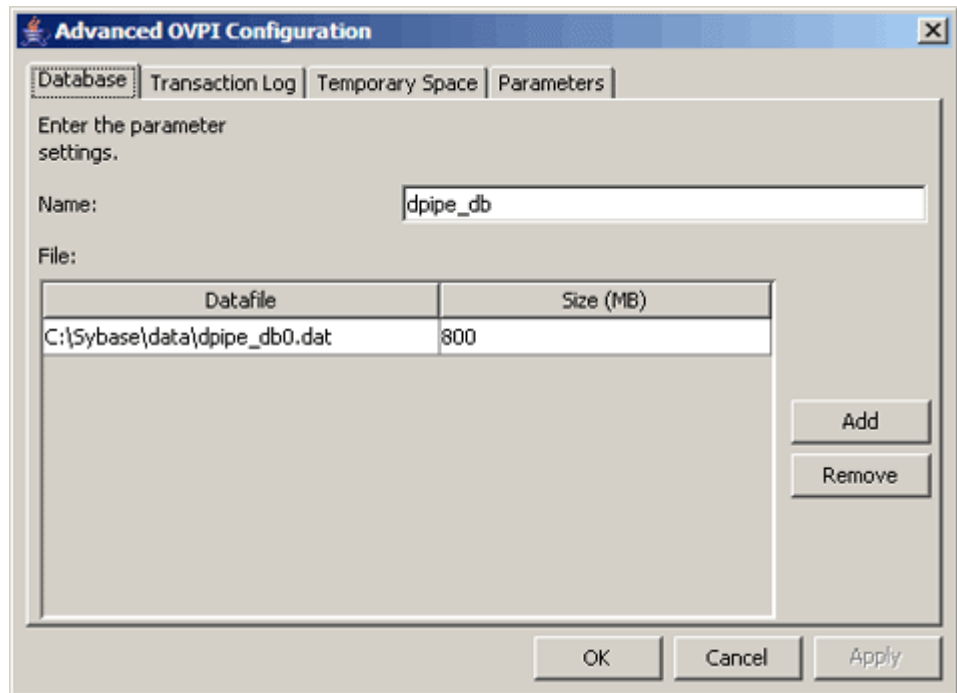
- 1 Accept the default values or type new values for the following parameters:
  - **Database Devices and Database Size (MB):** Type the file location of the database device and its size.
  - **Transaction Log and Percent of Database:** Type the file location of the transaction log and the amount of space allocated to it in the database.
  - **Temporary Space and Percent of Database:** Type the file location of the temporary space and the amount of space allocated to it in the database.
    - ▶ The temporary space (dpipe\_temp) and the transaction log (dpipe\_log) be approximately 50% the size of the database device (dpipe\_db). For example, if the database (dpipe\_db) is 800 MB, then the temporary space (dpipe\_temp) and temporary log (dpipe\_log) should be 400 MB each.
  - **PI Database User (dsi\_dpipe) Password:** Type a password for the PI database user account (dsi\_dpipe).

The password must start with an alphabetic character and be between one and 30 characters in length. The minimum length is six. Valid characters are all alphanumeric characters, the pound (#), and the underscore (\_). The password is case sensitive.
  - **Confirm Password:** Retype the password.
- 2 (Optional) If required, click **Advanced** to display the Advanced OVPI Configuration window.

You can use the window to:

  - Add files to or remove them from the PI database devices (dpipe\_db, dpipe\_temp, and dpipe\_log).
  - Modify the Sybase configuration parameters (Parameters tab). See [Task 9](#) on page 72.
- 3 Click **Next**. The Performance Manager Settings window opens. See [Task 10](#) on page 74.

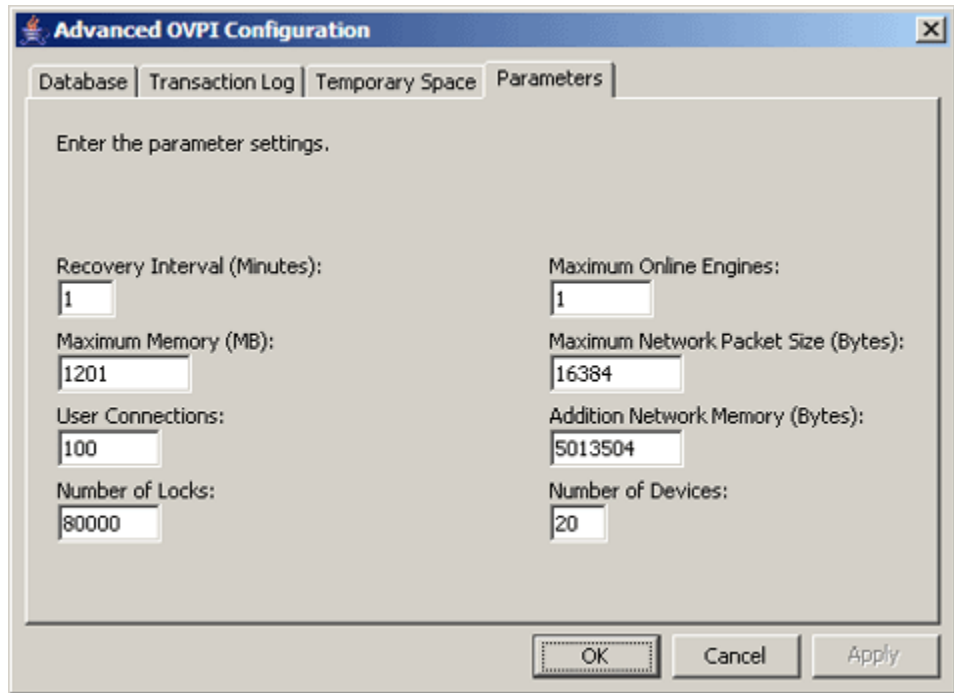
Task 8: (Optional) Modify the default database devices



- 1 Select the tab associated with the device (Database, Transaction Log, or Temporary Space) you want to modify.
- 2 To add a file to a database device, click **Add**.
  - ▶ You must create at least one file for each device.
- 3 To edit a **File-system database** file, double-click the file, path, or size cell.
- 4 To remove a file:
  - a Click on the file, and press the **Tab** key.
  - b Press the up or down arrow key to select a file and then use the up or down arrow keys to navigate to the file you want to remove.
  - c Click **Remove**.

- 5 Click **Apply** after you finish making all of the changes.
- 6 Click **OK** to return to the Sybase User and Device Creation window.  
In the Sybase User and Device Creation window, you might notice the following changes:
  - If you added a file to or removed a file from one of the devices, the recalculated percentages and database size is listed on the window.
  - If a database device has several files that are located in different directories, the fields for the database device appears dimmed in the window.
- 7 Click **Next** to continue the installation. See [Task 10](#) on page 74.

Task 9: (Optional) Changing Sybase Configuration Parameters







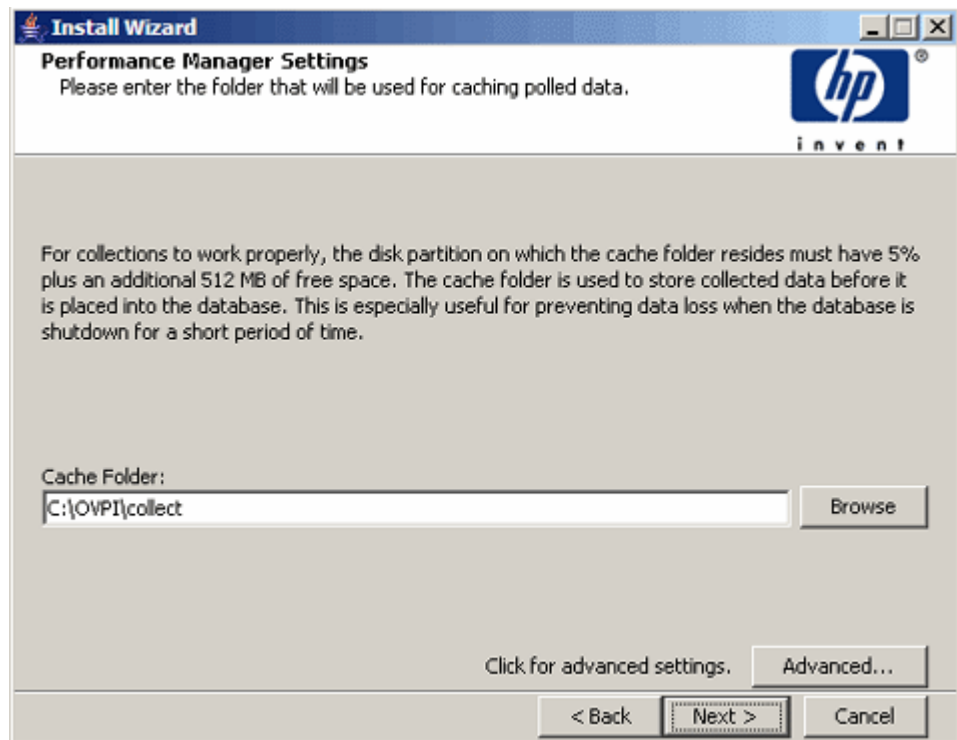
Only a Sybase database administrator must change the values of the following parameters.

To change your Sybase configuration parameters:

- 1 Select the Parameters tab. The Parameters tab contains the following options that you can use:
  - **Recovery Interval (Minutes):** To set the maximum number of minutes the SQL Server must use to recover a database in case of system failure.
  - **Maximum Memory (MB):** To set the size of memory that the SQL Server allocates from the operating system.
  - **User Connections:** To set the maximum number of user connections that can be connected to a SQL Server at the same time. The global variable @@max\_connections stores the maximum values for your system. It varies according to operating system.
  - **Number of Locks:** To set the number of available locks.
  - **Maximum Online Engines:** To control the number of engines in a symmetric multiprocessor environment.

If your system uses a single CPU, the recommended value is 1. If you increase the value, there is a possibility that Sybase slows down due to internal contention. However, if your system uses multiple CPUs, the value may be increased to benefit from the multiple CPU architecture.
  - **Maximum Network Packet Size (Bytes):** To set the maximum network packet size that a client program can request.
  - **Additional Network Memory (Bytes):** To allocate additional memory for clients that request packet sizes larger than the default packet size for the server.
  - **Number of Devices:** To limit the number of database devices that the SQL Server can use.
- 2 Click **Apply** after you finish making all the changes.
- 3 Click **OK** to return to the Sybase User and Device Creation window.
- 4 Click **Next** to continue the installation.

## Task 10: Configure polling collections

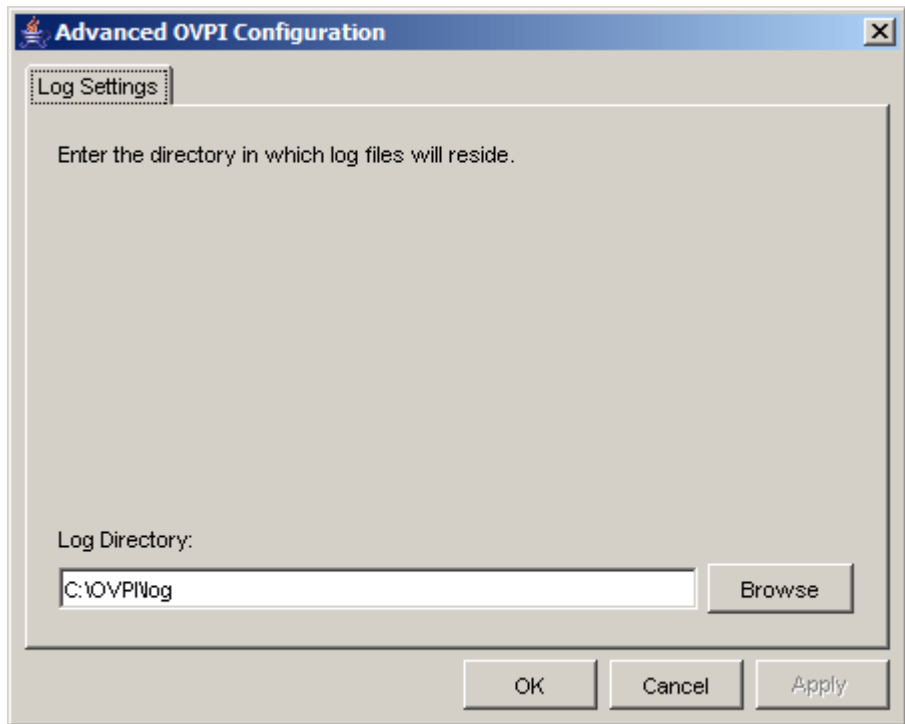


In the Performance Manager Settings window, set the cache directory in which the collected data is stored before it is placed into the database. Caching prevents data loss when the database is shut down for a short period.

- 1 Accept the default directory or click **Browse** to select the directory that can be used for caching polled data.

For collections to work properly, the disk partition containing the cache directory must have 5% of the total disk partition size plus an additional 512 MB of free space. For example, if the disk partition is 10 GB, it must have 1 GB of free space.

- 2 If required, click **Advanced** to open the Advanced OVPI Configuration window. In this window, you can specify the directory in which the log files must be saved.

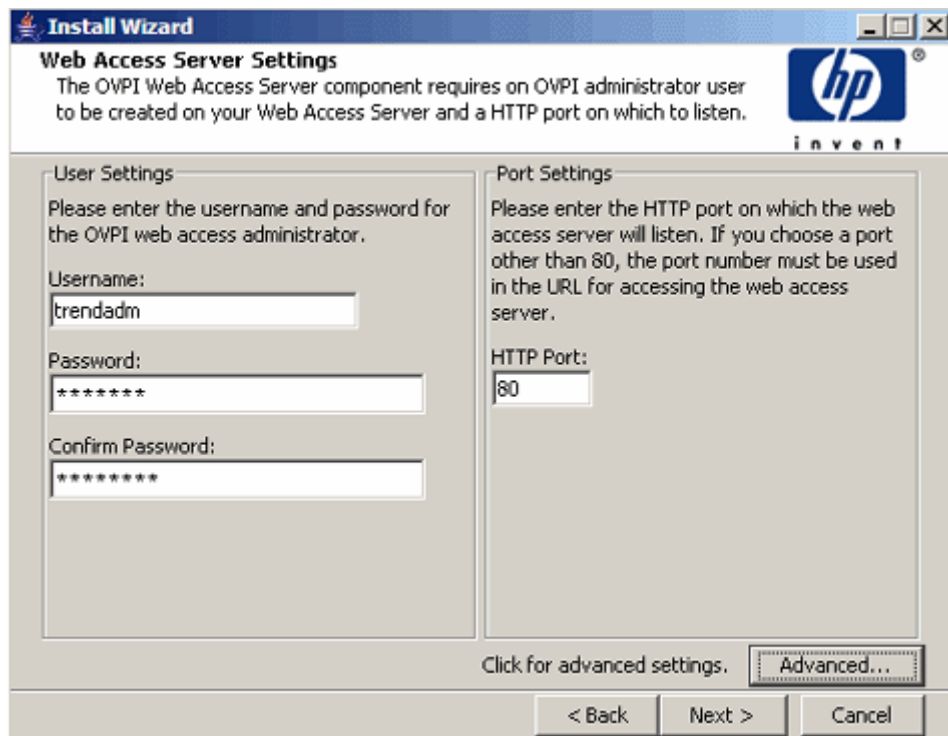


Accept the default path, which creates a log directory under the directory in which you installed PI (log files are maintained there, regardless of the directory you specify), or click **Browse** to select the directory in which the log files are located.

- 3 Click **OK** to apply changes and return to the Performance Manager Settings window.
- 4 Click **Next**.

#### Task 11: Specify an administrator and port for the Web Access Server

In the Web Access Server Settings window, create a PI administrator account for the Web Access Server, as well as an HTTP port through which it communicates.



1 Type values for the following parameters:

- **Username:** Accept the default username for the Web Access Server administrator, or type a new name. This account is used to log on to the Web Access Server.

There are no restrictions on the minimum and maximum length or on the characters that can be used in the username and password. Adhere to your company's policy for username and password creation.

- **Password:** Type a password for the Web Access Server administrator account.

You can change password rules after you install PI using the Web Access Server application. See the *HP Performance Insight Administration Guide* for details.

- **Confirm Password:** Retype the password.

- **HTTP Port:** Accept the default port (80) or type a new port number for the Web Access Server. Any open port can be used.
- 2 If required, click **Advanced** to open the Advanced Configuration window, in which you can select the following tabs:

**Directories:** To change the location of report directories in which all the deployed reports are stored.

- a Accept the default directory or identify a new directory.
- b Click **Apply**.
- c Click **OK** to return to the Web Access Server Settings window.

**OVPI Users:** To create and modify user accounts that are used to log on to PI clients. You can create regular user accounts or administrator accounts. Regular user accounts can access the PI clients. Administrator accounts can access the administrative features (Administration link) of the Web Access Server. See the *HP Performance Insight Administration Guide* for details.

To add or modify a user account:

- a Click **Add User**. A default username (new-user), password (new-user), and role (user) appears, along with the created user accounts.
- b Double-click the name or password, delete the value, and type a new value. Select either **user** or **admin** for Role.
- c Click **Apply**.

To remove a user account:

- a Select the user name and click **Remove User**.
- b Click **Apply** and then click **OK** to return to the Web Access Server Settings window.

You can also create, modify, and delete user accounts after you install PI using the Web Access Server. See the *HP Performance Insight Administration Guide* for details.

**SSL Setup:** To enable SSL communications. You can use SSL communication to enable secure communication between the Web Access Server and a supported web browser, Report Viewer, Report Builder, and the Management Console.

Select the **Enable SSL** check box to enable SSL communications and create a self-signed certificate. The self-signed certificate is required to enable SSL. This certificate has a validity of 90 days.

The standard HTTP port is not disabled by selecting this option. Thus, the secured SSL port and the unsecured HTTP port are both enabled.

- **SSL Port:** Accept the default value or type a new value.
- **Keystore Password:** Type a password of six characters or more.

Record the password and keep it safely. You need it to generate a signed certificate.

After you generate your self-signed certificate, it is stored in the certificate repository. This password lets the Web Access Server access the certificate repository.

Send this certificate to a certificate authority to receive a signed digital certificate or generate another self-signed certificate before the 90-day validity expires. After signing the digital certificate, import it using the Web Access Server application. You can also use the Web Access Server to change SSL settings after you install PI. See the *HP Performance Insight Administration Guide* for details.

The remaining fields require information that must be provided if you are generating an SSL key that must be verified and signed by a certificate-signing authority. This information is used by the person who checks the certificate to ensure that the certificate is valid.

- **Organization** (Optional): Type the name of your organization, for example, “ABC Systems, Inc.”
- **Org. Unit** (Optional): Type the name of your department or division, for example, “Northeast Sales”.
- **City** (Optional): Type the name of your city or locality, for example, “Los Angeles”.
- **State** (Optional): Type the name of your state or province, for example, “California”.
- **Country** (Required): Type your two-letter country code in the Country box, for example, “US”.

- 3 Click **Apply**.
- 4 Click **OK** to return to the Web Access Server Settings window.

- 5 Click **Next**. The Summary window opens.

Task 12: Review the installation information and Install

- 1 In the Summary window, review the installation selections and click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.
  - ▶ In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.
- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears.
- 3 Click **Done** and restart the system to complete installation.

If the PI installation is unsuccessful:

- 1 Click **Details** at the bottom of the Installation Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5).

To install report packs and datapipes, see the instructions in the *HP Performance Insight Administration Guide*.





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## 6 Installing HP Performance Insight in a Distributed Environment

There are numerous ways to install PI in a distributed environment. This chapter describe how to individually install the PI components in a representative complex distributed configuration discussed in [Chapter 1, Introduction](#).

The order of installation in a distributed environment is:

- 1 Install the PI Database Schema and PI Performance Manager on the central database server.
- 2 Install the Web Access Server. If you have more than one Web Access Server, repeat the installation procedure for each.
- 3 Install report packs on the central database server. Do not install datapipes on the central database server unless the central server is polling.
- 4 Deploy reports to each Web Access Server. You can defer this task till the installation is complete.
- 5 Install the PI Database Schema and PI Performance Manager on each satellite database server.

At this point, you can discover the network on the satellite database servers.

- 6 Install report packs and datapipes on each satellite database server.
- 7 Install the Remote Poller component on each remote polling system. If you have more than one remote polling system, you must repeat the installation procedure for each.

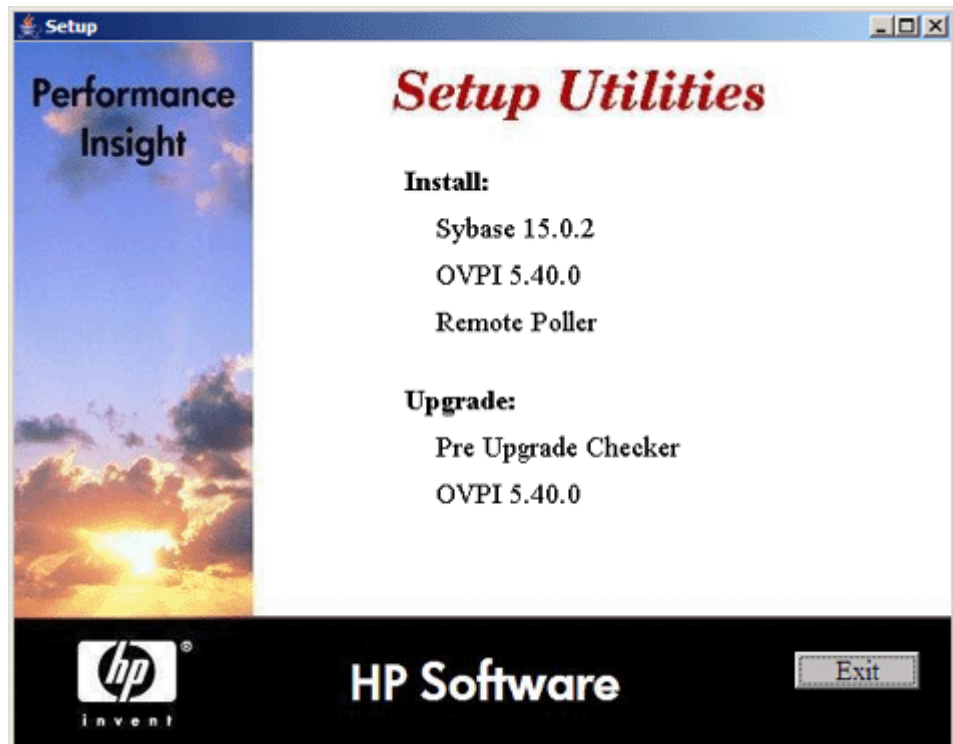
At this point, you can perform a type discovery of each satellite database server, configure report packs for operation in the distributed environment, and configure polling policies for remote polling systems. You can also defer this task till the installation is complete.

- 8 Install the PI client applications on individual workstations whose users might be accessing the Web Access Server.

▶ Ensure that Sybase server is started before installing PI.

## Log On and Start the Setup Program

- 1 Log on to the local system as Administrator.
- 2 Insert the HP Performance Insight Installation DVD in the DVD-ROM.  
The setup program starts automatically. If it does not, from the top level folder on the DVD, double-click `setup.exe`. The Setup Utilities window opens.



If the window does not appear correctly, change the text size of the Windows font:

- a From the Control Panel window, double-click the **Display** icon.
- b Select the Settings tab and then click **Advanced**.
- c Select the General tab and then select **Small Fonts** from the Font Size list.

## Installing PI on the Central Server

In a distributed environment, you must first install PI on the Central Server. You can then install the Satellite Servers and register them with the Central Server.

To install PI on a Central Server, follow the instructions in [Chapter 5, Installing HP Performance Insight on a Standalone Server](#). Instead of Standalone Server, select **Central Server** option in [Task 3](#) on page 64.

# Installing PI on a Satellite Server

Install the PI Database Schema and PI Performance Manager on the database server of a satellite server. Unless you are using a remote database, you must install both components on the same system.

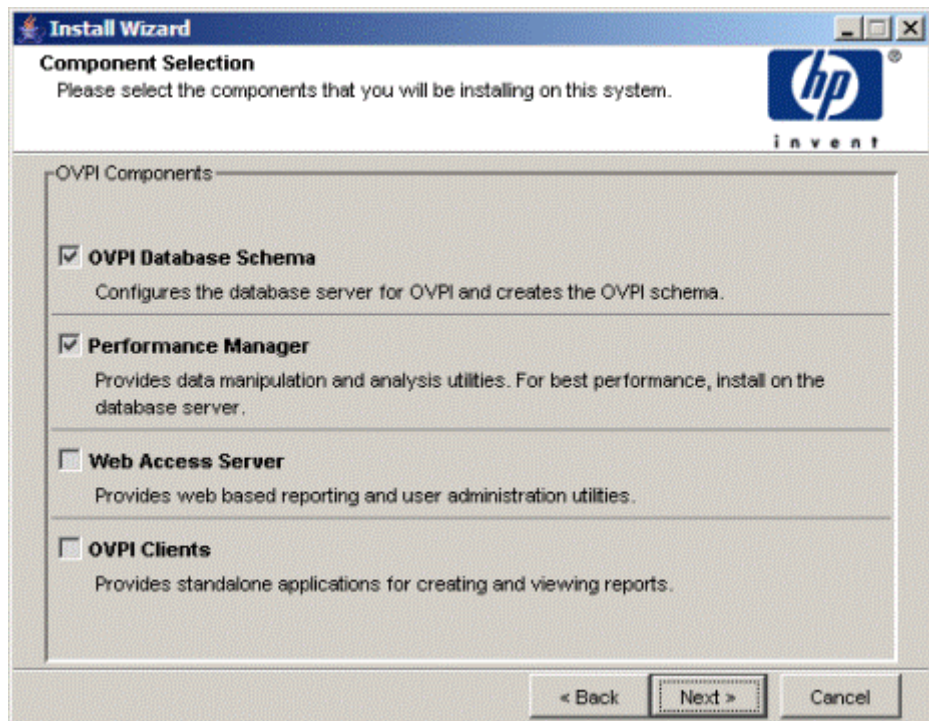
This procedure is almost similar to installing the PI Database Schema and PI Performance Manager on a standalone system.

## Task 1: Start the PI installation program

- 1 If you have not already started the PI installation program, start it now. The Setup Utilities window opens.
- 2 Select **OVPI 5.40.0** from the Install section of the window. The Welcome window opens.
- 3 Read the contents in the Welcome window and click **Next**. The License Agreement window opens.
- 4 Accept the license agreement and click **Next**. In the Component Selection window opens.

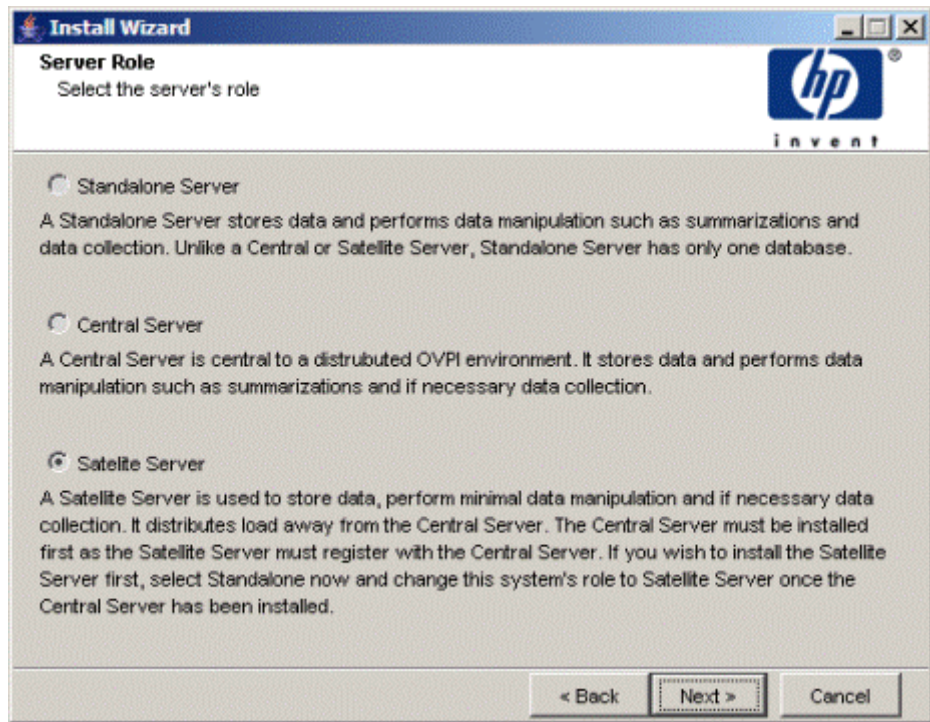
You must accept the license agreement to proceed. If you click **Cancel**, you are prompted to confirm your rejection of the license agreement and installation ends.

Task 2: Select the PI components you want to install



- 1 Select **OVPI Database Schema** and **Performance Manager**.  
(**OPTIONAL**) If you want to install all the four components on the Satellite Server, select Web Access Server and OVPI Clients as well.
- 2 Click **Next**. The Server Role window opens.

### Task 3: Select a role for the database system

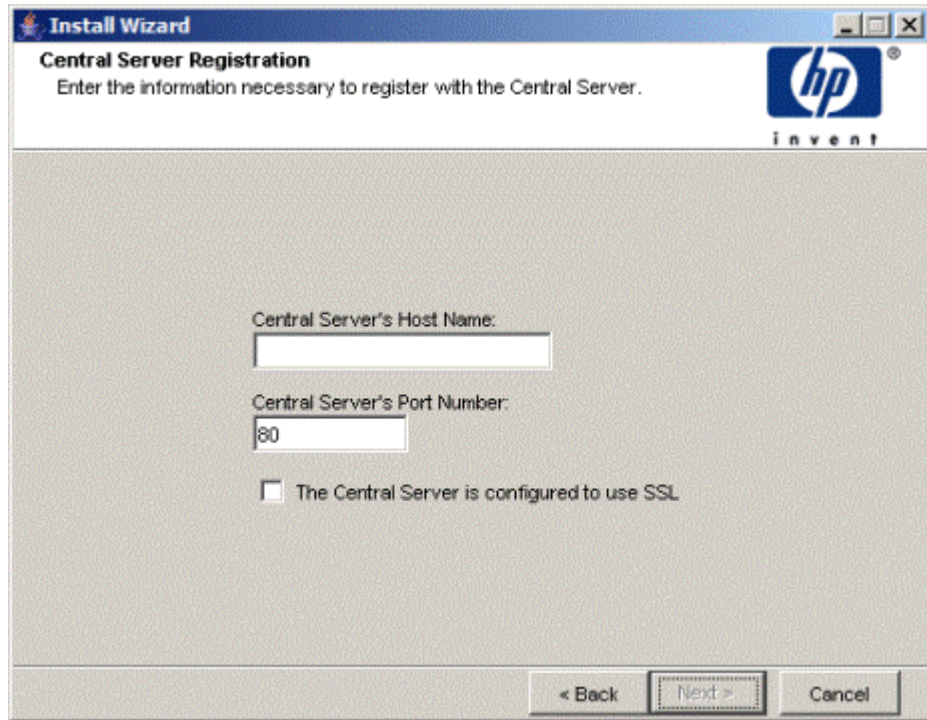


- 1 Select **Satellite Server**.

If you want to change the role at a later time, use the System and Network Administration application in the PI Management Console. For more information, see the *HP Performance Insight Administration Guide*.

- 2 Click **Next**. The Central Server Registration window opens.

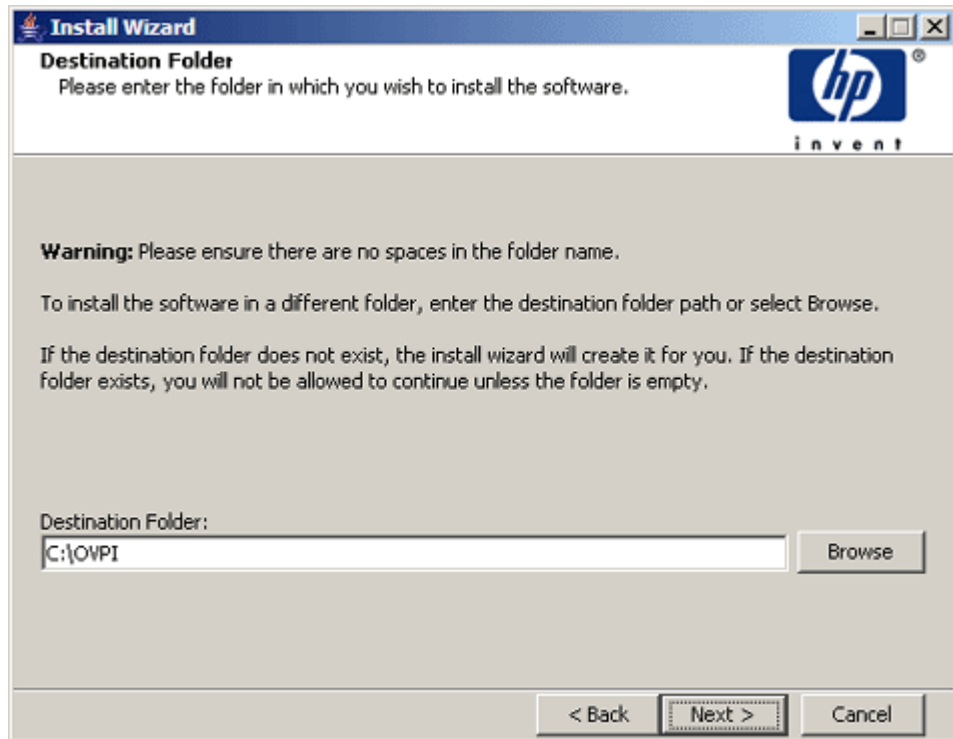
Task 4: Specify the host name and port number for the Satellite Server



The screenshot shows a Windows-style dialog box titled "Install Wizard" with a sub-title "Central Server Registration". The main text reads "Enter the information necessary to register with the Central Server." and the HP logo is visible in the top right corner. The dialog contains two text input fields: "Central Server's Host Name:" (empty) and "Central Server's Port Number:" (containing "80"). Below these is a checkbox labeled "The Central Server is configured to use SSL" which is currently unchecked. At the bottom, there are three buttons: "< Back", "Next >" (highlighted with a dashed border), and "Cancel".

- 1 Specify the host name of the central server with which you want to register this satellite server.
- 2 Specify the port number of the central server (the default value is 80).  
Host name and port number are required to synchronize the information stored in the `systems.xml` file. For secure communication, you can enable SSL.  
The registration is completed at the end of the installation process.
- 3 Click **Next**. The Destination Folder window opens.

## Task 5: Specify an installation directory for the PI software



### 1 Follow either of the two options:

- Accept the default destination directory.
- Click **Browse** to choose a different installation directory for PI software.

The destination directory can be an NFS mounted directory or a Windows mapped drive. The directory path, however, must not contain any spaces.

The Installation Program does the following:

- Creates the destination directory if it does not exist.
- Sends a warning message if the destination directory exists but contains data.

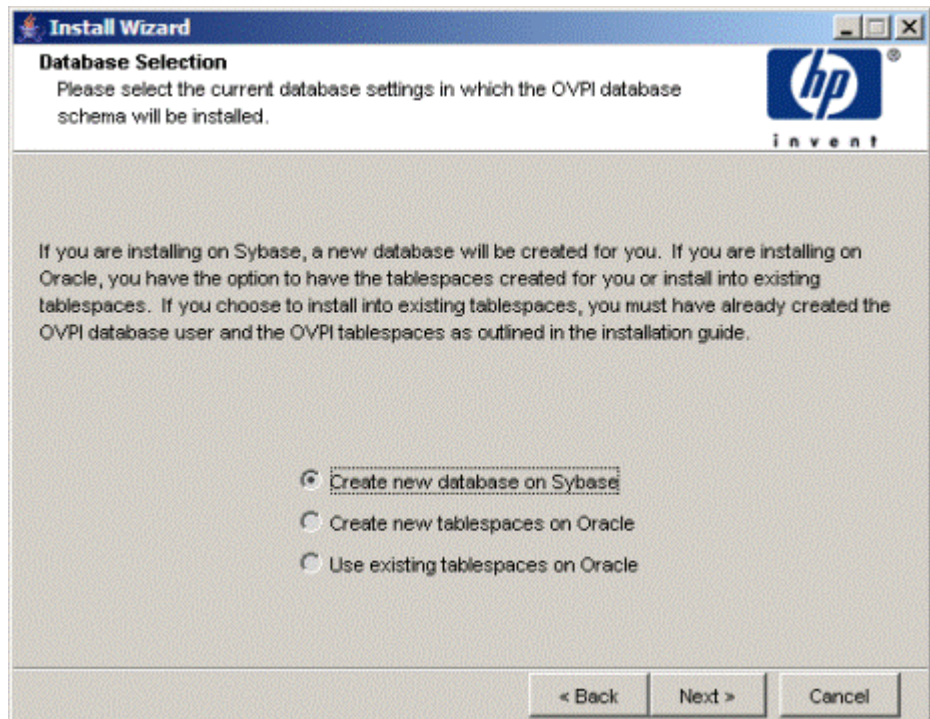


- Sends a warning message if the destination directory is located on a file system that the Installation Program cannot access.

You must provide a valid destination folder to continue the installation.

- 2 Click **Next**. The Database Selection window opens.

Task 6: Select the RDBMS on which the PI database instance must be installed

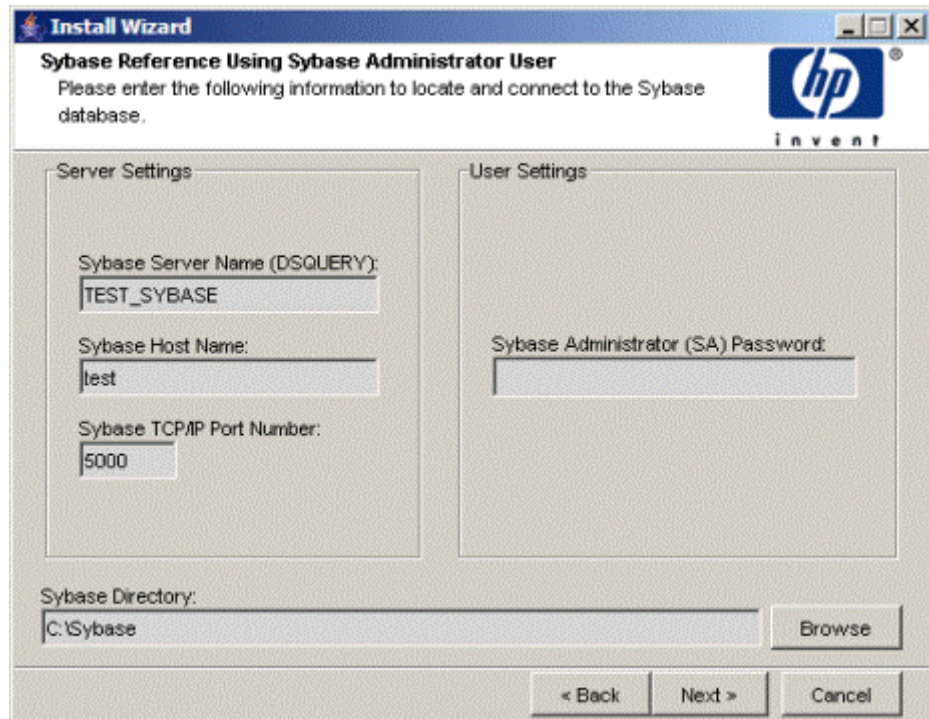


- 1 Read the content displayed in the window and select one of the three options given.

If you select the **Create new database on Sybase** option ensure that there is no existing database user account (dsi\_dpipeline) or dsi\_dpipeline user. Otherwise, the installation fails.

- 2 Click **Next**. The Sybase Reference Using Sybase Administrator User window opens.

Task 7: Locate and connect to the database



In the Sybase Reference Using Sybase Administrator User window, locate and connect to the Sybase database.

1 Accept the default values or type new values for the following parameters:

- **Sybase Server Name (DSQUERY):** The name of the Sybase SQL Server (this name is case sensitive.) By default, the client applications searches for information in this server. You can find the name of this server in the Sybase interfaces file. The Sybase interfaces file is located on the system where you installed the Sybase SQL Server.

For more information about the Sybase interfaces file, see [Appendix A, The Sybase Interfaces File](#).

- **Sybase Host Name:** This is the name of the system on which you installed Sybase.

- **Sybase TCP/IP Port Number.** The TCP/IP port number that Sybase uses to communicate with clients and servers on other systems. In addition to <DSQUERY>, there are several other Sybase SQL Servers that are assigned port numbers during the installation. These servers are the following:

<b>Sybase Server</b>	<b>Port Number</b>
<DSQUERY>_BS	5001
<DSQUERY>_MS	5002
<DSQUERY>_HS	5003
<DSQUERY>_XP	5004

You must manually start each of these servers.

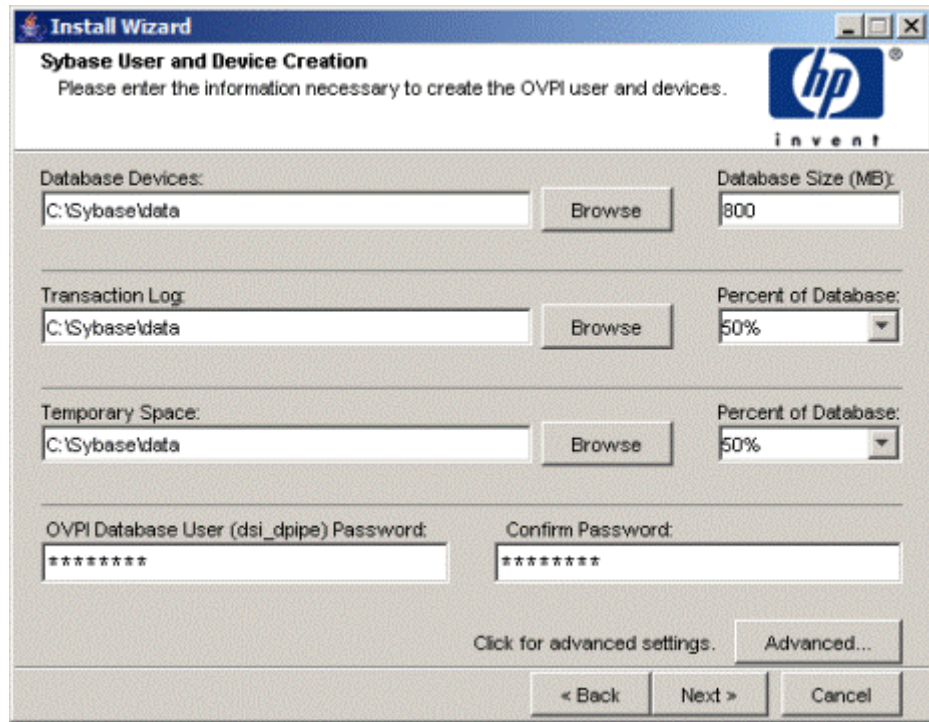
- **Sybase Administrator (SA) Password:** If you changed the Sybase Administrator password, during the Sybase installation, from a NULL value to an actual password, type that password in the Sybase Administrator (SA) Password box.

If you did not change the Sybase Administrator password, you can leave this box blank.

- **Sybase Directory:** The directory in which you installed Sybase. Click **Browse** to select a different directory. After selecting a directory, click **Open** to return to the Sybase Reference Using Sybase Administrator User window.

- 2 Click **Next**. The Sybase User and Device Creation window opens.

Task 8: Create the Sybase user account and the new database devices



In the Sybase User and Device Creation window, create the PI database user account and database devices.

The installation wizard creates the device files for the PI database using Sybase Adaptive Server. Files are created within Sybase for the PI database, transaction log, and temporary space. The PI database uses the device files to store its data. (If raw devices are used, no device files are created.)

By default, the installation wizard creates the device files in a subfolder called `dbfiles` under the Sybase installation directory. You can change the name of this folder at this point in the installation. The folder name must not contain any spaces.



All Sybase devices are created using the `vstart=512` option. This enables you to use labeled file systems with PI. For example, if the size of your database is 800 MB, only 799 MB of it is available, and 1 MB is allocated for the label.

1 Accept the default values or type new values for the following parameters:

- **Database Devices and Database Size (MB):** Type the file location of the database device and its size.
- **Transaction Log and Percent of Database:** Type the file location of the transaction log and the amount of space allocated to it in the database.
- **Temporary Space and Percent of Database:** Type the file location of the temporary space and the amount of space allocated to it in the database.



The temporary space (`dpipe_temp`) and the transaction log (`dpipe_log`) be approximately 50% the size of the database device (`dpipe_db`). For example, if the database (`dpipe_db`) is 800 MB, then the temporary space (`dpipe_temp`) and temporary log (`dpipe_log`) should be 400 MB each.

- **PI Database User (`dsi_dpipe`) Password:** Type a password for the PI database user account (`dsi_dpipe`).

The password must start with an alphabetic character and must be between one and 30 characters in length. The minimum length is six. Valid characters are all alphanumeric characters, the pound (#), and the underscore (\_). The password is case sensitive.

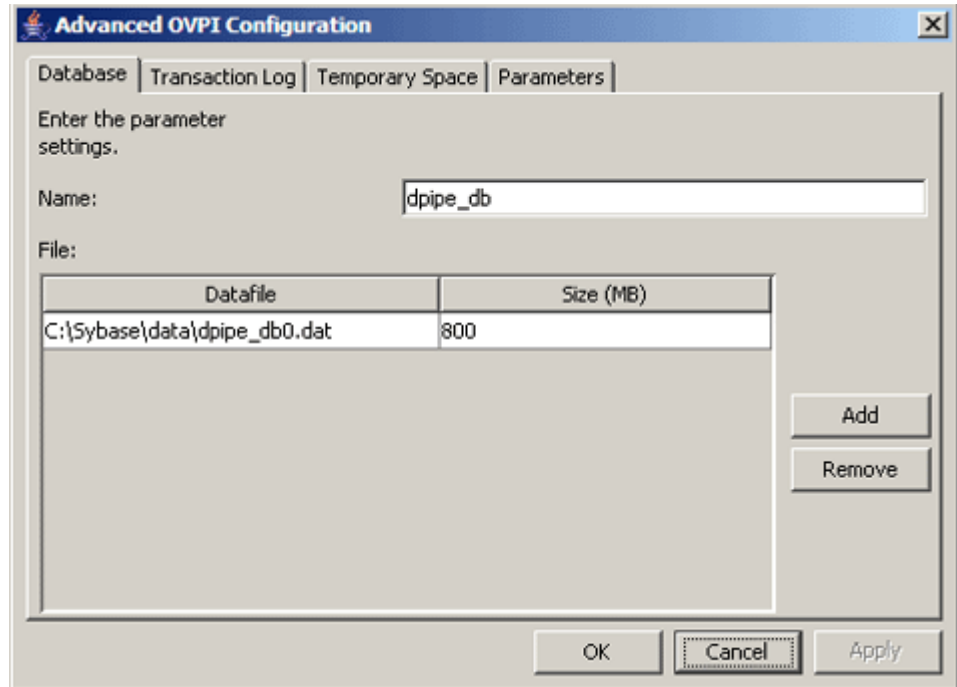
- **Confirm Password:** Retype the password.

2 (Optional) If required, click **Advanced** to display the Advanced OVPI Configuration window. You can use the window to:

- Add files to or remove them from the PI database devices (`dpipe_db`, `dpipe_temp`, and `dpipe_log`).
- Modify the Sybase configuration parameters (Parameters tab). See [Task 10](#) on page 95.

- 3 Click **Next**. The Performance Manager Settings window opens. See [Task 11](#) on page 97.

Task 9: (Optional) Modify the default database devices



- 1 Select the tab associated with the device (Database, Transaction Log, or Temporary Space) you want to modify.
- 2 To add a file to a database device, click **Add**.
- 3 To edit a **File-system database** file, double-click the file, path, or size cell.
- 4 To remove a file:
  - a Click on the file, and press the **Tab** key.
  - b Press the up or down arrow key to select a file and then use the up or down arrow keys to navigate to the file you want to remove.
  - c Click **Remove**.
- 5 Click **Apply** after you finish making all the changes.



- 6 Click **OK** to return to the Sybase User and Device Creation window.  
In the Sybase User and Device Creation window, you might notice the following changes:
  - If you added a file to or removed a file from one of the devices, the recalculated percentages and database size is listed on the window.
  - If a database device has several files that are located in different directories, the fields for the database device appears dimmed in the window.
- 7 Click **Next** to continue the installation. See [Task 11](#) on page 97.

#### Task 10: (Optional) Changing Sybase Configuration Parameters



Only a Sybase database administrator must change the values for these parameters.

The screenshot shows the 'Advanced OVPI Configuration' dialog box with the 'Parameters' tab selected. The dialog contains the following fields and values:

Parameter	Value
Recovery Interval (Minutes):	1
Maximum Memory (MB):	1201
User Connections:	100
Number of Locks:	80000
Maximum Online Engines:	1
Maximum Network Packet Size (Bytes):	16384
Addition Network Memory (Bytes):	5013504
Number of Devices:	20

Buttons at the bottom: OK, Cancel, Apply.

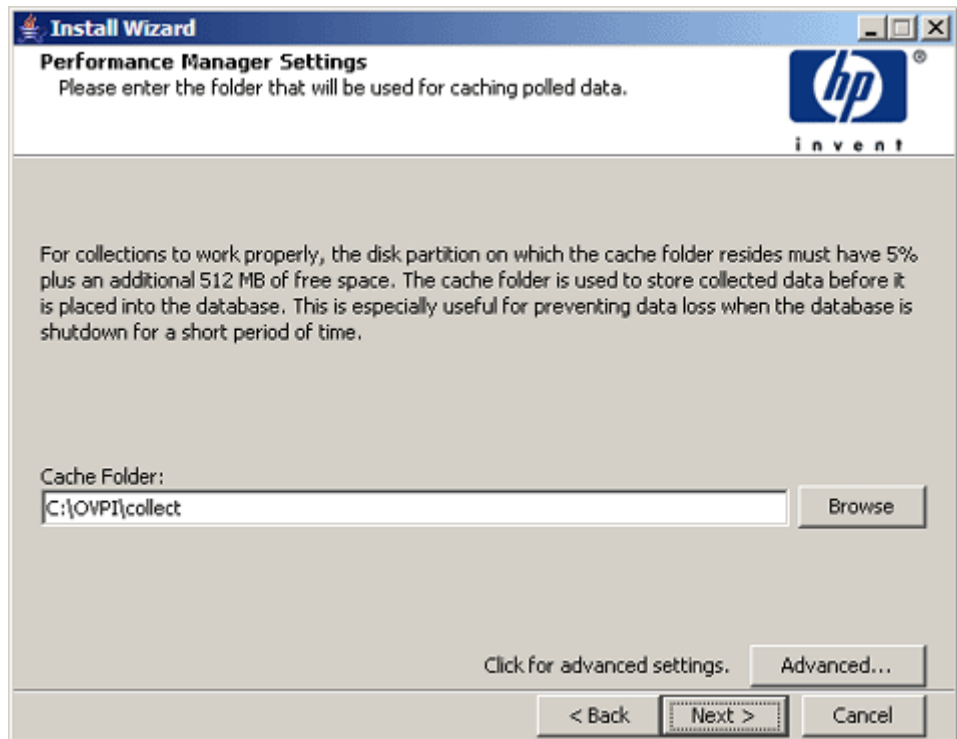
To change your Sybase configuration parameters:

- 1 Select the Parameters tab. The Parameters tab contains the following options that you can use:
  - **Recovery Interval (Minutes):** To set the maximum number of minutes the SQL Server must use to recover a database in case of system failure.
  - **Maximum Memory (MB):** To set the size of memory that the SQL Server allocates from the operating system.
  - **User Connections:** To set the maximum number of user connections that can be connected to a SQL Server at the same time. The global variable @@max\_connections stores the maximum values for your system. It varies according to operating system.
  - **Number of Locks:** To set the number of available locks.
  - **Maximum Online Engines:** To control the number of engines in a symmetric multiprocessor environment.

If your system uses a single CPU, the recommended value is 1. If you increase the value, there is a possibility that Sybase slows down due to internal contention. However, if your system uses multiple CPUs, the value may be increased to benefit from the multiple CPU architecture.
  - **Maximum Network Packet Size (Bytes):** To set the maximum network packet size that a client program can request.
  - **Additional Network Memory (Bytes):** To allocate additional memory for clients that request packet sizes larger than the default packet size for the server.
  - **Number of Devices:** To limit the number of database devices that the SQL Server can use.
- 2 Click **Apply** after you finish making all the changes.
- 3 Click **OK** to return to the Sybase User and Device Creation window.
- 4 Click **Next** to continue the installation.



## Task 11: Configure polling collections

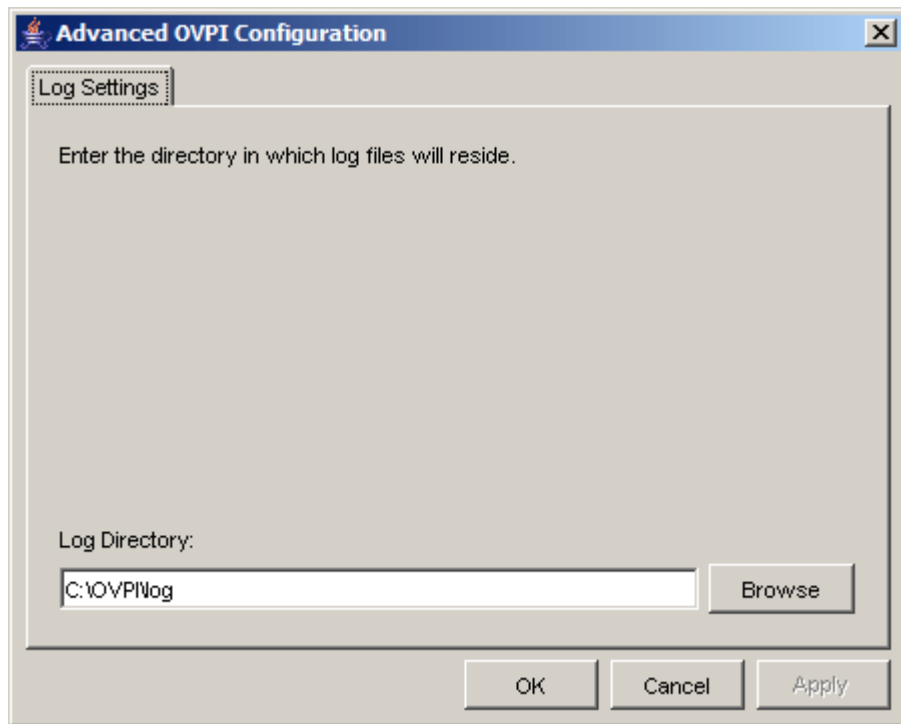


In the Performance Manager Settings window, set the cache directory in which the collected data is stored before it is placed into the database. Caching prevents data loss when the database is shut down for a short period.

- 1 Accept the default directory or click **Browse** to select the directory that can be used for caching polled data.

For collections to work properly, the disk partition containing the cache directory must have 5% of the total disk partition size plus an additional 512 MB of free space. For example, if the disk partition is 10 GB, it must have 1 GB of free space.

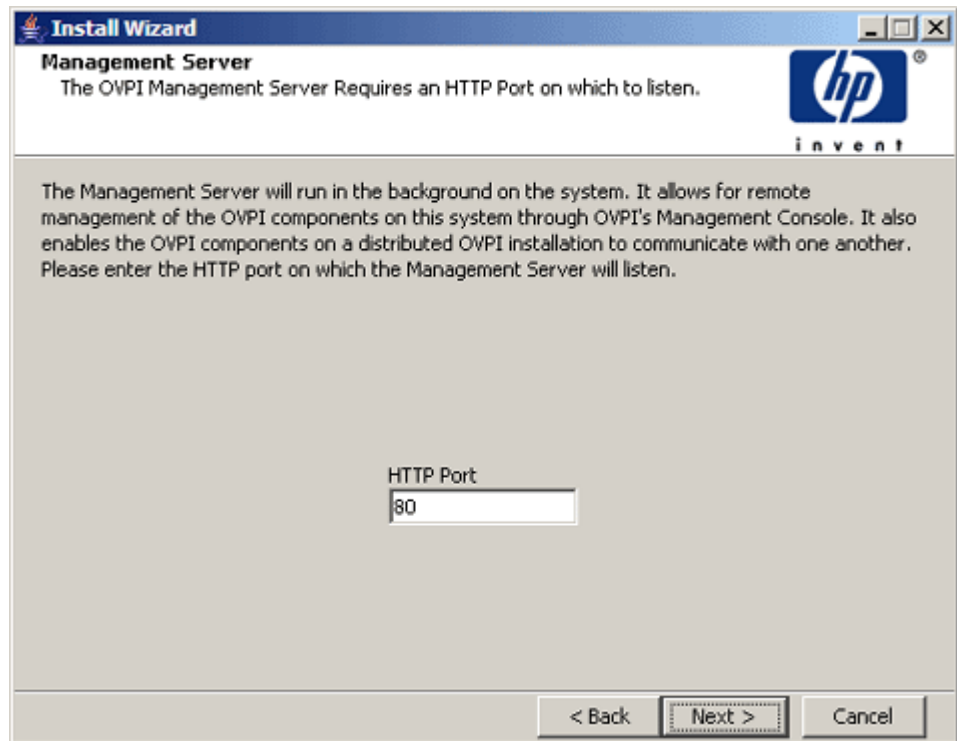
- 2 If required, click **Advanced** to open the Advanced OVPI Configuration window. In this window, you can specify the directory in which the log files must be saved.



Accept the default path, which creates a log directory under the directory in which you installed PI (log files are maintained there, regardless of the directory you specify), or click **Browse** to select the directory in which the log files are located.

- 3 Click **OK** to apply changes and return to the Performance Manager Settings window.
- 4 Click **Next**.

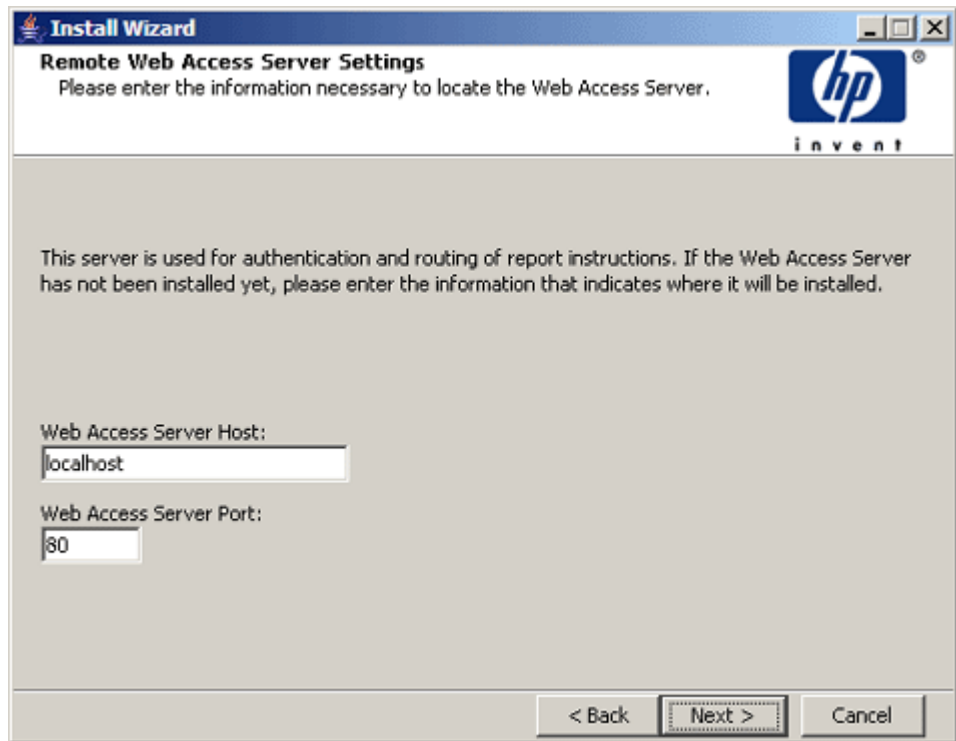
Task 12: Specify an HTTP port number through which the PI Management Server communicates



In the Management Server window:

- 1 Type the port number through which the PI management server communicates. The default value is 80.
- 2 Click **Next**.

Task 13: Specify the information required to locate the Web Access Server



In the Remote Web Access Server Settings window:

- 1 Type the name of the Web Access Server Host and the Web Access Server Port.

Click **Next**.

Task 14: Review the installation information and install

- 1 In the Summary window, review the installation selections and click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.

▶ In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Summary window.

- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears.
- 3 Click **Done** and restart the system to complete installation.

If the PI installation is unsuccessful:

- 1 Click **Details** at the bottom of the Installation Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5).

**Task 15:** [Install other PI components as required](#)

- To install the Web Access Server, see [Installing the Web Access Server](#) on page 102.
- To install Remote Pollers, see [Installing the Remote Poller Component](#) on page 110.
- To install Client Applications, see [Installing the HP Performance Insight Client](#) on page 108.

# Installing the Web Access Server

Install and start the Sybase database before installing the Web Access Server.


During installation, the system prompts you to provide the remote management server host name and port number. The host name and port name are used by the Installation Program to download database information from the database system.

If you did not install the database, the installation continues. However, you must use the Management Console to configure the database system after the installation.

The procedure for installing Web Access Server in a distributed setup is almost similar to the procedure for installing the Web Access Server on a standalone system.

## Task 1: Start the PI installation program

- 1 If you have not started the PI installation program, start it now. The Setup window opens.
- 2 Select **OVPI 5.40.0** from the Install section of the window. The Welcome window opens.
- 3 Read the contents in the Welcome window and click **Next**. The License Agreement window opens.
- 4 Accept the license agreement and click **Next**. The Component Selection window opens.

 You must accept the license agreement to proceed. If you click **Cancel**, you are prompted to confirm your rejection of the license agreement and installation ends.

## Task 2: Select the PI components to install

In the Component Selection window, to select the components to install.

- 1 Select **Web Access Server** from the Install section of the window. Clear all other check boxes.
- 2 Click **Next**.

### Task 3: Specify an installation directory for the PI components

If you installed another PI component on this system, you provided directory information. Continue to [Task 4](#).

1 Follow either of the two options:

- Accept the default destination directory.
- Click **Browse** to choose a different installation directory for PI software.

The destination directory can be an NFS mounted directory or a Windows mapped drive. The directory path, however, must not contain any spaces.

The Installation Program does the following:

- Creates the destination directory if it does not exist.
- Sends a warning message if the destination directory exists but contains data.
- Sends a warning message if the destination directory is located on a file system that the Installation Program cannot access.

You must provide a valid destination folder to continue the installation.

2 Click **Next**. The Web Access Server Settings window opens.

### Task 4: Specify an administrator and port for the Web Access Server

Use the Web Access Server Settings window to create a PI administrator account for the Web Access Server, as well as an HTTP port on which to listen.

1 Type values for the following parameters:

- **Username:** Accept the default username for the Web Access Server administrator, or type a new name. This account is used to log on to the Web Access Server.

There are no restrictions on the minimum and maximum length or on the characters that can be used in the username and password.

Adhere to your company's policy for username and password creation.

- **Password:** Type a password for the Web Access Server administrator account.

You can change the password rules after you install PI using the Web Access Server application. See the *HP Performance Insight Administration Guide* for details.

- **Confirm Password:** Retype the password.
  - **HTTP Port:** Accept the default port (80) or type a new port number for the Web Access Server. Any open port can be used.
- 2 If required, click **Advanced** to open the Advanced Configuration window, where you can select the following tabs:

**Directories:** To modify the report directories. The reports directories are where all deployed reports are stored.

- a Accept the default directory or identify a new directory.
- b Click **Apply**.
- c Click **OK** to return to the Web Access Server Settings window.

**OVPI Users:** To create and modify user accounts that are used to log on to PI clients like the Management Console, Report Builder, Report Viewer, and Web Access Server. You can create regular user accounts or administrator accounts. Regular user accounts can access the PI clients. Administrator accounts can access the administrative features (Administration link) of the Web Access Server. See the *HP Performance Insight Administration Guide* for details.

To add or modify a user account:

- a Click **Add User**. A default user name (new-user), password (new-user), and role (user) appears, along with the created user accounts.
- b Double-click the name or password, delete the value, and type a new value. Select either **user** or **admin** for Role.
- c Click **Apply**.

To remove a user account:

- a Select the user name and click **Remove User**.
- b Click **Apply**.
- c Click **OK** to return to the Web Access Server Settings window.

You can also create, modify, and delete user accounts after you install PI using the Web Access Server. See the *HP Performance Insight Administration Guide* for details.



**SSL Setup:** To enable SSL communications. You can use SSL communication to enable secure communication between the Web Access Server and a supported web browser, Report Viewer, Report Builder, and the Management Console.

Select the **Enable SSL** check box to enable SSL communications and create a self-signed certificate. The self-signed certificate is required to enable SSL. This certificate has a validity of 90 days.

The standard HTTP port is not disabled by selecting this option. Thus, the secured SSL port and the unsecured HTTP are both enabled.

- **SSL Port:** Accept the default value or type a new value.
- **Keystore Password:** Type a password of six characters or more.

Record the password and keep it safely. You need it to generate a signed certificate.

After you generate your self-signed certificate, it is stored in the certificate repository. This password lets the Web Access Server access the certificate repository.

Send this certificate to a certificate authority to receive a signed digital certificate or generate another self-signed certificate before the 90-day validity expires. After signing the digital certificate, import it using the Web Access Server application. You can also use the Web Access Server to change SSL settings after you install PI. See the *HP Performance Insight Administration Guide* for details.

The remaining fields require information that must be provided if you are generating an SSL key that must be verified and signed by a certificate-signing authority. This information is used by the person who checks the certificate to ensure that the certificate is valid.

- **Organization** (Optional): Type the name of your organization, for example, “ABC Systems, Inc.”
- **Org. Unit** (Optional): Type the name of your department or division, for example, “Northeast Sales”.
- **City** (Optional): Type the name of your city or locality, for example, “Los Angeles”.
- **State** (Optional): Type the name of your state or province, for example, “California”.

- **Country** (Required): Type your two-letter country code in the Country box, for example, “US”.
- 3 Click **Apply**.
  - 4 Click **OK** to return to the Web Access Server Settings window.
  - 5 Click **Next**. The Remote Management Server Settings window opens.

**Task 5:** Supply information about the remote database.

Use the Remote Management Server Settings window to supply information necessary to locate and download system information required to connect to your remote PI database.

- 1 Specify information for the following parameters:
  - **Remote Management Server Host:** Type the name of the database host.
  - **Remote Management Server Port:** Type the HTTP port number through which the database host communicates.

If the system is unable to connect to the database to obtain database information, a warning message appears. You may choose to continue with the installation, however, after the installation finishes, you must set up the database connection through the Management Console.

- 2 Click **Next**. The Summary window opens.

**Task 6:** Review the installation information and install

- 1 In the Summary window, review the installation selections and click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.
  - ▶ In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.
- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears.
- 3 Click **Done** and restart the system to complete installation.

If the PI installation is unsuccessful:

- 1 Click **Details** at the bottom of the Installation Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5).



If the system where you installed the Web Access Server experiences hardware failure, reinstall the Web Access Server on a new system. If you deployed reports (a configuration task), then to re-deploy the reports to the Web Access Server, run the `deploytool` command from the system on which the PI database is installed. See the *HP Performance Insight Reference Guide* for more information about the `deploytool` command.

**Task 7:** [Install other PI components as required](#)

- To install Client Applications, see [Installing the HP Performance Insight Client](#) on page 108.
- To install Remote Pollers, see [Installing the Remote Poller Component](#) on page 110.

# Installing the HP Performance Insight Client

PI clients provide the interface between PI and its users, and are installed as a group on any networked system.

## Task 1: Start the PI installation program

- 1 If you did not start the PI Installation Program, start it now.
- 2 The Setup window opens. Select **OVPI 5.40.0** from the Install section of the window.
- 3 The Welcome window opens. Read the contents in the Welcome window and click **Next**.
- 4 The License Agreement window opens. Accept the license agreement and click **Next**.



You must accept the license agreement to proceed. If you click **Cancel**, you are prompted to confirm your rejection of the license agreement and installation ends.

## Task 2: Select the PI components to install

The Component Selection window opens. Use the window to select the components to install.

- 1 Select **OVPI Clients** from the Install section of the window. Clear all other check boxes.
- 2 Click **Next**.

## Task 3: Specify an installation directory for the PI software.

If you installed another PI component on this system, you provided directory information. Continue to [Task 4](#) on page 109.

- 1 Follow either of the two options:
  - Accept the default destination directory.
  - Click **Browse** to choose a different installation directory for PI software.

The destination directory can be an NFS mounted directory or a Windows mapped drive. The directory path, however, must not contain any spaces.

The Installation Program does the following:

- Creates the destination directory if it does not exist.
- Sends a warning message if the destination directory exists but contains data.
- Sends a warning message if the destination directory is located on a file system that the Installation Program cannot access.


2 Click **Next**. The Remote Web Access Server Settings window opens.

#### Task 4: Specify the information needed to access the Web Access Server

Use the Remote Web Access Server Settings window to enter information about where the Web Access Server is installed.

- 1 Accept the defaults or specify values for the following parameters:
  - **Web Access Server Host:** Type the name of the Web Access Server.
  - **Web Access Server Port:** Type the port number for the Web Access Server.
- 2 Click **Next**.

#### Task 5: Review the installation information and install

- 1 In the Summary window, review the installation selections and click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.
  -  In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.
- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears.
- 3 Click **Done** and restart the system to complete installation.

If the PI installation is unsuccessful:

- 1 Click **Details** at the bottom of the Installation Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5).

**Task 6:** Install other PI components as required

To install Remote Pollers, see [Installing the Remote Poller Component](#).

## Installing the Remote Poller Component

You do not need to install the Remote Poller component on a system where the PI Performance Manager is installed. Remote Poller component is installed with PI Performance Manager.

Remote Poller systems do not use Performance Manager.

**Task 1:** Start the PI installation program

- 1 Start the PI installation program. The Setup window opens.
- 2 Select **Remote Poller** from the Install section of the window. The Welcome window opens.
- 3 Read the contents of the Welcome window and click **Next**.
- 4 The License Agreement window opens. Accept the license agreement and click **Next**.



You must accept the license agreement to proceed. If you click **Cancel**, you are prompted to confirm your rejection of the license agreement and installation ends.

## Task 2: Specify an installation directory for the PI components



If you already installed another PI component on this system, you provided directory information. Continue to [Task 3](#).

If you installed another PI component on this system, you provided directory information. Continue to [Task 3](#) on page 111.

1 Follow either of the two options:

- Accept the default destination directory.
- Click **Browse** to choose a different installation directory for PI software.

The destination directory can be an NFS mounted directory or a Windows mapped drive. The directory path, however, must not contain any spaces.

The Installation Program does the following:

- Creates the destination directory if it does not exist.
- Sends a warning message if the destination directory exists but contains data.
- Sends a warning message if the destination directory is located on a file system that the Installation Program cannot access.

2 Click **Next**. The Remote Management Server Settings window opens.

## Task 3: Supply information about the database

Use the Remote Management Server Settings window to provide information necessary to locate and download system information required to connect to the remote PI database.

1 Specify information for the following parameters:

- **Remote Management Server Host:** Type the name of the database host.
- **Remote Management Server Port:** Type the HTTP port number for the database host.

The database host name and port number are used by the remote poller system to automatically connect with the PI server on which the PI Performance Manager is running. The first time a remote poller connects to the PI server, an information block is downloaded from the PI server and saved on the remote poller.

- 2 Click **Next**. The Performance Manager Settings window opens.

#### Task 4: Configure polling collections

In the Performance Manager Settings window, set the cache directory in which the collected data is stored before it is placed into the database. Caching prevents data loss when the database is shut down for a short period.


- 1 Accept the default directory or click **Browse** to select the directory that can be used for caching polled data.

For collections to work properly, the disk partition containing the cache directory must have 5% of the total disk partition size plus an additional 512 MB of free space. For example, if the disk partition is 10 GB, it must have 1 GB of free space.

- 2 If required, click **Advanced** to open the Advanced OVPI Configuration window. In this window, you can specify the directory in which the log files must be saved.
  - a Accept the default path, which creates a log directory under the directory in which you installed PI (log files are maintained there, regardless of the directory you specify), or click **Browse** to select the directory in which the log files are located.
  - b Click **OK** to apply changes and return to the Performance Manager Settings window.
- 3 Click **Next**.

#### Task 5: Review the installation information and install

- 1 In the Summary window, review the installation selections and click **Install**. The Installation Progress window opens. The Installation Progress window shows the status of the installation as it occurs.

 In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.



- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears.
- 3 Click **Done** and restart the system to complete installation.

If the PI installation is unsuccessful:

- 1 Click **Details** at the bottom of the Installation Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5).

The Remote Poller does not poll devices until you configure its polling policy. To configure the polling policy, use the Polling Policies application in the Management Console. For more information, see the *HP Performance Insight Administration Guide*.

# Client-Only Installation

You can install only the PI clients on any system in a standalone or distributed environment without installing any other PI components on that system. This type of installation is called a client-only installation. A client-only installation enables you to access the Web Access Server for reporting and administration functions from local workstations.

In a client-only installation, you cannot use the following applications from the Management Console Tools menu

- Catalog Manager
- MIB Browser
- SNMP Discovery
- Type Discovery
- Package Manager

Additionally, you can not register a new data table, property table, or automatically add a collection to the database. For full functionality, PI Performance Manager must be installed along with the client.

To install only PI clients, follow the instructions given in [Installing the HP Performance Insight Client](#) on page 108.

# 7 Post-Installation

After installing Sybase and PI on your system, complete the following tasks:

## Apply the Latest Patch

After installing PI, install the latest patch required (if any) for your PI setup. The recent most patch includes all previous patches.

You must have an HP Passport ID to access patches. For information about how to obtain an HP Passport ID, see [Support on page 5](#).

To locate the most recent patch for this release

- 1 Go to the following url:  
**[www.hp.com/go/hpsoftwaresupport](http://www.hp.com/go/hpsoftwaresupport)**
- 2 Click **Software patches**.  
The HP Passport sign-in window opens.
- 3 Enter your HP Passport ID and log on.
- 4 Navigate to the Performance Insight software patches and download the latest patch.

## Use a Common Character Set Across Distributed Systems

In a distributed configuration, the central database server, satellite database servers, and polling systems can be installed on different operating systems. Because, the default database character sets might be different for different operating systems, make sure that all database instances and PI clients use a common character set.

## Root Permission for Certificate Management Application

The Certificate Management application uses `ovcert` and `ovconfchg` programs present in the `/opt/OV/bin` directory. These programs manage security certificates on the system. You need root privilege to run these programs.

Typically the `trendadm` user, that has no root privileges, launches the Certificate Management application. If you are using the `trendadm` user profile to launch this application, run the `ovswitchuser.sh` script using the following command:

```
/opt/OV/bin/ovswitchuser.sh -existinguser trendadm  
-existinggroup trendadm
```

For more information, see *HP Performance Insight Administration Guide*.

## Complete Immediate Configuration Tasks

- 1 Install the report packs on the central database server and deploy them to the Web Access server.

A report pack is a collection of reports that analyze performance data. Installing the report pack configures PI to summarize and aggregate the data collected by the datapipe.

A datapipe contains directives that PI uses when collecting the data. Installing the datapipe configures PI to collect a specific type of performance data at a specific polling interval.

To install report packs and datapipes, use the PI Package Manager, an application supplied by the Management Console client application. You can choose from a variety of reports. If you are an advanced user, you can also create your own reports.

Before installing a report pack, see the user guide for the report pack. If your configuration has more than one Web Access Server, deploy the report packs on each instance. Do not install datapipes on the central database server unless the central server is polling.

- 2 From the satellite database server, run the discovery utility to discover the network of the managed objects that you plan to poll.

The discovery utility determines if there is a device at a specific IP address, if the device is SNMP-manageable, and if so, what kind of device it is (router, hub, or switch). This information is used to populate and update the tables in the PI database instance.

- 3 Install report packs and datapipes on the satellite database servers, but do not deploy them. You must install the same report packs on the satellite database servers that you installed on the central database server. If you do not plan to use a satellite server as a polling device, you must disable polling on that satellite database server.
- 4 Run type discovery on the satellite database servers.
- 5 In a distributed configuration, configure report packs and polling policies for the distributed configuration. For example, modify the report package polling policies, located on the satellite database servers, such that the policies start collecting data from the system on which the remote poller component is installed.

Other configuration tasks include:

- Configuring the trendtimer utility to schedule activities to run at specific times
- Creating data collections (types and sources of data)
- Configuring polling policies
- Configuring users and groups
- Creating views for presenting data
- Configuring the Web Access Server
- Configuring the PI database
- Scheduling and generating reports

These configuration tasks are explained in detail in the *HP Performance Insight Administration Guide*.

## Take a Backup

After installing Sybase Database and PI, take a backup of both the installations. For instructions, see the *HP Performance Insight Administration Guide*.

## Confirm that PI is Running and Collecting Data

To verify that PI is running and collecting data, follow these steps:

- 1 From the Control Panel window, double-click **Administrative Tools**.
- 2 The Administrative Tools window opens.
- 3 Double-click the **Services** icon.
- 4 Locate the following PI Services in the Services list:
  - OVPI Timer
  - OVPI\_HTTP\_ServerThe Status should be “Started”.
- 5 If the service is stopped, right-click the service name and select **Start** from the shortcut menu.

## Install JBoss 4.2.3

After installing PI 5.40, upgrade JBoss to version 4.2.3 to ensure that the latest JBoss security fix is applied. By default, PI installs JBoss version 4.0.5. The installables for JBoss 4.2.3 are shipped with PI 5.40 and are available in the `<Installation_Directory>\Data\packages\directory`. `<Installation_Directory>` is the directory where the PI installables are located.

To upgrade to JBoss 4.2.3, complete these tasks:

### Task 1: Create JBoss folder

- 1 Go to `<Installation_Directory>\Data\packages\`
- 2 Double-click `HPPiNewJBoss.msi`  
  
This will create the folder `C:\Program Files\HP OpenView\nonOV\PiJBoss\4.23.000`

### Task 2: Create the piweb application server inside JBoss

- 1 Copy the file `<Installation_Directory>\Data\data\extracts\appserver-bin423.dat` to the folder `C:\Program Files\HP OpenView\nonOV\PiJBoss\4.23.000`

- 2 At the command prompt, type `cd C:\Program Files\HP OpenView\nonOV\PiJBoss\4.23.000`
- 3 Type: `"C:\Program Files\HP OpenView\nonOV\jdk\b\bin\jar" xvf appserver-bin423.dat`  
to extract the contents of `appserver-bin423.dat`. This will create the folder `C:\Program Files\HP OpenView\nonOV\PiJBoss\4.23.000\server\piweb`
- 4 Copy the file `<Installation_Directory>\Data\data\extracts\appserver423-pijar.dat` to `C:\Program Files\HP OpenView\nonOV\PiJBoss\4.23.000\server\piweb\lib\`
- 5 At the command prompt, type `cd C:\Program Files\HP OpenView\nonOV\PiJBoss\4.23.000\server\piweb\lib\`
- 6 Type: `"C:\Program Files\HP OpenView\nonOV\jdk\b\bin\jar" xvf appserver423-pijar.dat` to extract the contents of `appserver423-pijar.dat`

### Task 3: Deploy PI specific files and directories to the piweb server

- 1 Copy the following directories and their contents:
  - `C:\Program Files\HP OpenView\nonOV\PiJBoss\405\server\piweb\deploy\tw-app.war`
  - `C:\Program Files\HP OpenView\nonOV\PiJBoss\405\server\piweb\deploy\piadmin.war`

to the following directory: `C:\Program Files\HP OpenView\nonOV\PiJBoss\4.23.000\server\piweb\deploy`
- 2 Copy the following files:
  - `C:\Program Files\HP OpenView\nonOV\PiJBoss\405\server\piweb\deploy\quartz-service.xml`
  - `C:\Program Files\HP OpenView\nonOV\PiJBoss\405\server\piweb\deploy\log-service.xml`
  - `C:\Program Files\HP OpenView\nonOV\PiJBoss\405\server\piweb\deploy\derby-service.xml`

to the following directory: `C:\Program Files\HP OpenView\nonOV\PiJBoss\4.23.000\server\piweb\deploy`

#### Task 4: Modify the JBoss startup scripts

- 1 Open the file `C:\Program Files\HP OpenView\nonOV\PiJBoss\4.23.000\bin\run.bat`

- 2 Add the following lines in the beginning of the file:

```
@echo off

set JAVA_HOME=C:\Program Files\HP OpenView\nonOV\jdk\b
set JAVA_OPTS= -Xms128m -Xmx256m -Dtrend.home=<dpipes_home>
-Dfile.encoding=UTF-8 -Djava.awt.headless=true
-Djava.library.path=<dpipes_home>\lib;<dpipes_home>\bin

set JBOSS_CLASSPATH=<dpipes_home>\data\nls

set DIRNAME=C:\Program Files\HP OpenView\nonOV\PiJBoss\
4.23.000\bin

set PATH=%PATH%;C:\Program Files\HP OpenView\nonOV\PiJBoss\
4.23.000\bin
```

In this instance, `<dpipes_home>` is the directory where you installed PI.

- 3 Save and close the file.

#### Task 5: Change the HTTP port to existing JBoss port

- 1 Open the file `C:\Program Files\HP OpenView\nonOV\PiJBoss\4.23.000\server\piweb\deploy\jboss-web.deployer\server.xml`

- 2 Update the connector port number in the following section. The port number must be same as the one used by PI application in JBoss 405:

► To view the connector port number in JBoss 405, see `C:\Program Files\HP OpenView\nonOV\PiJBoss\405\server\piweb\deploy\jbossweb-tomcat55.sar\server.xml`

#### HTTP connections:

```
<Connector port="<port_number>"
address="{jboss.bind.address}"
maxThreads="250" maxHttpHeaderSize="8192"
emptySessionPath="true" protocol="HTTP/1.1"
```



```
enableLookups="false" redirectPort="<port_number>"
acceptCount="100" connectionTimeout="20000"
disableUploadTimeout="true" URIEncoding="UTF-8" />
```

### **HTTPS connections:**

```
<Connector port="<port_number>"
address="${jboss.bind.address}" maxThreads="100"
strategy="ms" maxHttpHeaderSize="8192"
emptySessionPath="true" scheme="https" secure="true"
clientAuth="false" keystoreFile="${jboss.server.home.dir}/
conf/keyStore" keystorePass="trendadm"
trustStore="${jboss.server.home.dir}/conf/trustStore"
sslProtocol="TLS" URIEncoding="UTF-8" />
```

- 3 Save and close the file.

#### **Task 6: Stop OVPI HTTP service**

#### **Task 7: Uninstall the existing OVPI HTTP service**

At the command prompt, type:

```
cd C:\Program Files\HP OpenView\nonOV\PiJBoss\405\bin
```

Then type:

```
service.bat uninstall
```

#### **Task 8: Install the new JBoss 4.2.3 OVPI HTTP service.**

- 1 At the command prompt, type:

```
cd C:\Program Files\HP OpenView\nonOV\PiJBoss\
4.23.000\bin
```

Then type:

```
service.bat install
```

- 2 Start the OVPI HTTP service.

# Starting and Stopping PI Components

## Start PI services

Follow these steps:

- 1 From the Control Panel window, double-click **Administrative Tools**. The Administrative Tools window opens.
- 2 Double-click the **Services** icon.
- 3 From the Services window, right-click **OVPI Timer** and select **Start** from the shortcut menu.
- 4 From the Services window, right-click **OVPI\_HTTP\_Server** and select **Start** from the menu.

## Stop PI services

Follow these steps:

- 1 From the Control Panel window, double-click **Administrative Tools**. The Administrative Tools window opens.
- 2 Double-click the **Services** icon.
- 3 From the Services window, right-click **OVPI Timer** and select **Stop** from the shortcut menu.
- 4 From the Services window, right-click **OVPI\_HTTP\_Server** and select **Stop** from the menu.

# Troubleshooting PI Installation

## PI Log Files

All PI log files are located in `$TREND_LOG/`

All information related to PI installation is logged in `install.log`. For all errors related to PI installation see this log file.

## NNM Integration

When installing PI on a system running NNM, you can safely ignore the following messages (only the messages specified here):

- During installation:

failed to copy the file, `msvcr70.dll`, into the OVPI "bin" directory

- After installation completes, the following error message might appear in the Details Window Error tab:

`msiexec failed with exit status: 1603`

One or both of the following warning messages may appear in the Warning tab:

- Higher version of package might have been installed.  
Failed to install  
`packageHPOvXpl-02.50.100-WinNT4.0-release.msi:{C9C24CC5-23CE-4B55-8BC0-6D5785924842}`
- Higher version of package might have been installed.  
Failed to install  
`packageHPOvJxpl-02.50.100-WinNT4.0-release.msi:{48C97C18-5AFA-40FE-B51D-A4EECB02808}`



---

# 8 Upgrading From PI 5.10 to 5.40

You can upgrade to PI 5.40 if you currently have OVPI 5.10.010 or later.

The installation process provided in this chapter applies to both standalone and distributed setups.

The remote poller must be upgraded separately from PI.

## Pre-Upgrade Requirements

Before upgrading PI to 5.40, go through the following checklist and ensure that the following conditions are being met:

- The operating system is Windows 2000 server with service pack 4 or above.
- Sybase RDBMS version 11.9.2.5 is installed.
- PI is on service pack level 5.10.010 or above.
- You have set the environment variables for OVPI and Sybase home folders accurately. To verify, type **set** on a windows command prompt.

Upgrading PI from 5.10.010 to 5.40 involves the following two tasks:

- 1 [Upgrading Sybase Database from 11.9 to 15.0.2.](#)

This step is mandatory if you are upgrading a system that has a database installed.

- 2 [Upgrading PI.](#)

# Upgrading Sybase Database from 11.9 to 15.0.2

To upgrade your existing Sybase 11.9 database to Sybase 15.0.2, complete the following tasks in the order given.

## Task 1: Take a backup of Sybase 11.9

- 1 Stop the trendtimer and wait for all PI processes to halt.
- 2 From your existing Sybase 11.9 system, do the following:
  - a Back up the file `<SYBASE_HOME>\<SERVER_NAME>.cfg`.  
`<SYBASE_HOME>` is the Sybase install folder. To find `<SYBASE_HOME>`, at the command prompt, type - **echo %SYBASE%**
  - b Open `<SYBASE_HOME>\ini\sql.ini` and note down the values of the following:
    - sybase server name
    - database server name (it is the first entry in the file).
    - Sybase installation path

You will need these values when installing Sybase 15.0.2.

- c Log in to `isql`, run the following commands, and store the values of the parameters. Type the following commands:

```
sp_configure 'recovery interval in minutes'  
go  
sp_configure 'total memory'  
go  
sp_configure 'number of user connections'  
go  
sp_configure 'number of locks'  
go  
sp_configure 'max online engines'  
go  
sp_configure 'max network packet size'  
go  
sp_configure 'additional network memory'  
go  
sp_configure 'number of devices'  
go
```

```
sp_configure 'procedure cache percent'  
go  
sp_configure 'number of open objects'  
go  
sp_configure 'number of open indexes'  
go
```



The following step is mandatory. If you do not perform this step, the Sybase 11.9 database will be lost.

3 Dump the database `dpipe_db` on the Sybase 11.9 database.

a Configure and start the Sybase backup server.



Sybase 11.9 installer configures the backup server by default. Check for Sybase `BCK_Server_<MachineName>_BS` service from the list of services available in the services window.

If the backup server is missing, you can create it. Follow these steps sequentially to create the backup server:

- Launch **Programs** → **Sybase** → **Adaptive Server Enterprise** → **Server Config**.
- Select **Backup Server** from under the Products list.
- Click **Create Backup Server** from under the Adaptive Server list. The Backup Server Name window opens.
- Accept the default name and click **Continue**. The Backup Server Options window opens.
- Click **Network Addresses**. The Network Connections window opens.
- Click **Add** to add network connections. The Enter Connection window opens.
- Enter the machine name and port number in the Add Connection Info box. For example, `hostname, 5001`.
- Click **OK** in the Enter Connection window.
- Click **OK** in the Network Connections window.
- Click **Continue** in Backup Server Window.  
The backup server is ready.

- b Start the backup server.
- c Log in to `isql` as `sa` user and run the following commands. You must provide a valid path for the dump file. Type the following commands:
 

```
dump transaction dpipe_db with no_log
go
dump database dpipe_db to '<dump_folder_path>\
dpipe_db.dmp'
go
```
- 4 Make a note of all the `dpipe_db` database file names and sizes. To access these files go to PI Management Console's Systems snapin → Databases, Select a database and click the Tablespace tab.

## Task 2: Uninstall Sybase 11.9.

To uninstall Sybase 11.9, follow these steps:

- 1 Stop all Sybase services
  - a From the Control Panel window, double-click the **Administrative Tools** icon. The Administrative Tools windows opens.
  - b Double-click the **Services** icon. The Services window opens.
  - c Select **Sybase SQLServer\_***server*, where *server* is the name of your Sybase SQL Server.
  - d Right-click the service name, and then select **Stop** from the shortcut menu.
  - e Similarly, stop any other Sybase service that might be running.
  - f Close the Services window.
- 2 Run the Sybase uninstall program.
  - a Insert the OVPI 5.10 CD in the CD-ROM drive.
  - b From the top level folder on the CD, double-click **setup.exe**. The Setup window opens.
  - c Click **Sybase 11.9.2.5**. The Sybase Welcome window opens.
  - d Click **Next** to continue the uninstall process. The Select Installation Type window opens.
  - e Click **Uninstall** to continue the uninstall process. The Uninstall Sybase Products window opens.



- f Click **OK** to continue with the uninstall. A warning message appears.
  - g Click **OK** to continue with the uninstall. A verification message appears asking if you want to delete the Sybase program group.
  - h Click **OK** to continue with the uninstall. The Uninstallation is complete message appears.
  - i Click **OK**. The Select Installation Type window opens.
  - j Click **Exit**.
- 3 Delete the Sybase folder.

### Task 3: Upgrade to Windows 2003.

This task is mandatory because PI 5.40 is supported only on Windows 2003 SP2 or later.

### Task 4: Install Sybase 15.0.2 with the PI 5.40 installer.

Make sure the server name, path, and port number (5000 is the default value) are the same as those used in Sybase 11.9.

- 1 Manually create the backup server. It is not created by default.
  - a Launch **Programs** → **Sybase** → **Adaptive Server Enterprise** → **Server Config**.
  - b Select **Backup Server** from under the Products list.
  - c Click **Create Backup Server** from under the Adaptive Server list. The Backup Server Name window opens.
  - d Name the backup server as SYB\_BACKUP.
  - e Click **Continue**. The Backup Server Options window opens.
  - f Click **Network Addresses**. The Network Connections window opens.
  - g Click **Add** to add network connections. The Enter Connection window opens.
  - h Enter the machine name and port number in the Add Connection Info box. For example, `hostname, 5001`.
  - i Click **OK** in the Enter Connection window.
  - j Click **OK** in the Network Connections window.
  - k Click **Continue** in Backup Server Window.

The backup server is ready.

- 2 Start the backup server.

#### Task 5: Restore the dpipe\_db on Sybase

- 1 Create the dpipe\_db database on Sybase 15.0.2.
  - a Create the data device, log device, and temp device. The size of this device should be the same as the sizes (noted in [Task 1](#), step 4) used in version 11.9. Change the file paths and device sizes in the following commands. The size here is in terms of 2K pages; for example, 409600 means 800 MB.



You should create the dbfiles folder under Sybase home directory. After creating this dbfiles folder, you can create the dpipe\_db database.

Make sure that you create all the database files noted in [Task 1](#), step 4 for data device, log device and temp device.

**Example :** If there are two dpipe\_dbxxxx.dat files, create two such files using the following commands. Similarly, for dpipe\_tempxxx.dat and so on.

Log in to isql as sa user and run the following commands.

```
print 'Creating the device dpipe_db0'
declare @vdevno int
select @vdevno = max(vdevno) + 1 from
master.dbo.sysdevices
disk init
name='dpipe_db0',physname='<SYBASE_HOME>\dbfiles\
dpipe_db0.dat', vdevno = @vdevno ,
size=<size of dpipe_db0.dat/2048>
go
print 'Creating device dpipe_log0'
declare @vdevno int
select @vdevno = max(vdevno) + 1 from
master.dbo.sysdevices
disk init
name='dpipe_log0',physname='<SYBASE_HOME>\dbfiles\
dpipe_log0.dat', vdevno = @vdevno ,
size=<size of dpipe_log0.dat/2048>
go
```

```

print 'Creating device dpipe_temp0'
declare @vdevno int
select @vdevno = max(vdevno) + 1 from
master.dbo.sysdevices
disk init
name='dpipe_temp0',physname='<SYBASE_HOME>\dbfiles\
dpipe_temp0.dat', vdevno = @vdevno ,
size=<size of dpipe_temp0.dat/2048>
go

```

- b Create the dpipe\_db database. The size should be as it was in Sybase 11.9.

```

create database dpipe_db on dpipe_db0 = <size of
dpipe_db0 in MB> log on dpipe_log0 = <size of
dpipe_log0 in MB>
go
alter database tempdb on dpipe_temp0 = <size of
dpipe_temp0 in MB>
go

```

- 2 Restore the config values in Sybase 15.0.2.

The total memory parameter in version 11.9 is called “max memory” in version 15.0.2.

The procedure cache percent parameter in 11.9 is called “procedure cache size” in 15.0.2.

- a Calculate the value for procedure cache size parameter from percent. Use the following formula:

```

procedure cache size = total memory * procedure cache
percent / 100

```

If the value is in decimals, round it off to an integer.

- b Calculate default data cache size parameter. Follow these steps sequentially:

- Create a file mem.sql with the following contents:

```

dbcc traceon(3604)
go
dbcc memusage
go

```

- Run the following command from the command prompt:

```
isql -Usa -P -i mem.sql -o mem.out
```

This creates a file mem.out

- Open the mem.out file. The following is a sample content of the mem.out file:

	<b>Meg</b>	<b>2K Blks</b>	<b>Bytes</b>
Configured Memory	1024.0000	524288	1073741824
Non Dynamic Structures	7.0964	3634	7441115
Dynamic Structures	97.5332	49937	102270976
Cache Memory	387.6387	198471	406468608
Proc Cache Memory	223.1992	114278	234041344
Unused Memory	308.4883	157946	323473408

- Calculate the following:

**VALUE = Cache Memory + Unused Memory - Non Dynamic Structures - Dynamic Structures - Proc Cache Memory**

**default data cache = VALUE - 20**

All the values are in MB.



If the value of default data cache is less than 60 MB, set the default data cache to 60 MB

- 3 Login into isql and run the following commands:

- Replace the **A** value with the values previously stored in Sybase 11.9 as shown in [Task 1](#), step 2-c.
- Replace **B** with the value calculated in [Task 5](#), step 2-a.
- Replace **C** with the value calculated in [Task 5](#), step 2-b.

```
sp_configure 'allow updates to system tables', 1  
go  
sp_configure 'recovery interval in minutes', A  
go  
sp_configure 'max memory', A
```

```

go
sp_configure 'number of user connections', A
go
sp_configure 'number of locks', A
go
sp_configure 'max online engines', A
go
sp_configure 'max network packet size', A
go
sp_configure 'additional network memory', A
go
sp_configure 'number of devices', A
go
sp_configure 'procedure cache', B
go
sp_configure 'allow updates to system tables', 0
go
sp_configure 'number of open objects', A
go
sp_configure 'number of open indexes', A
go
sp_configure 'number of open partitions', 3000
go
sp_cacheconfig 'default data cache', C
go

```

- 4 Load the dump to Sybase 15.0.2.

```

load database dpipe_db from
'<dump_folder_path>\dpipe_db.dmp'
go

```

If there is an error, there will be no connection to the SYB\_BACKUP server. Make sure that a SYB\_BACKUP entry exists in the <SYBASE\_HOME>\ini\sql.ini file.

Move the SYB\_BACKUP entry to the beginning of the sql.ini file so that it is the first entry in the file.

- 5 Restart the backup server from Services. The backup server name is now BCKServer\_SYB\_BACKUP.
- 6 Type the following command at the command prompt:

```

online database dpipe_db

```

```
go
```

- 7 Configure the `dpipe_db` and `dsi_dpipe`. Remember to set the appropriate password to the `dsi_dpipe` user.

```
print 'Setting bulkcopy, trunc and override options'
exec sp_dboption dpipe_db, bulkcopy, true
go
exec sp_dboption dpipe_db, trunc, true
go
reconfigure with override
go
print 'Adding a default user'
exec sp_addlogin dsi_dpipe, <PASSWORD>
go
print 'Adding required system roles to user.'
go
exec sp_role 'grant', 'sa_role', dsi_dpipe
go
exec sp_role 'grant', 'sso_role', dsi_dpipe
go
print 'Making the user the default for dpipe_db'
go
exec sp_defaultdb dsi_dpipe, dpipe_db
go
use dpipe_db
go
print 'Making dsi_dpipe the owner of dpipe_db database'
exec sp_changedbowner dsi_dpipe, true
checkpoint
go
exit
```

# Upgrading PI

## Pre-Upgrade Tasks

You must complete the following tasks before you upgrade to PI 5.40.

### Task 1: Verify that Java patches are running

PI 5.40 includes Java 1.5. During upgrade PI 5.40 installs Java 1.5 in a separate folder.

You must install the appropriate Java patches required for your operating system (see [Task 2: Install All the Patches Required for Java](#) on page 34).

### Task 2: Stop the OVPI Timer

You must stop the OVPI Timer and wait for all PI processes to halt. For more information about stopping or starting the OVPI Timer, see the *HP Performance Insight Administration Guide*.

### Task 3: Check if Sybase server name in sql.ini is same as in config.prp and systems.xml files.

The Sybase server name mentioned in the `sql.ini` file must be similar to the one mentioned in the `config.prp` and `systems.xml` files.

#### 1 Open the following files:

- `<SYBASE_HOME>\ini\sql.ini`
- `{DPIPE_HOME}/data/systems.xml`
- `{DPIPE_HOME}/data/config.prp`

#### 2 Check the Sybase database server name in each file. It must be the same. If there is a mismatch, edit the `config.prp` and `systems.xml` files. Follow these steps:

- a Open `{DPIPE_HOME}/data/systems.xml` file and locate the line:  
`<DatabaseInstance>Sybase server name</DatabaseInstance>`
- b Replace the Sybase server name with the one mentioned in the `sql.ini` file.
- c Open `{DPIPE_HOME}/data/config.prp` file and locate the line:

```
sybase.server=<Sybase server name>
```

- d Replace the Sybase server name with the one mentioned in the `sql.ini` file.

- 3 Restart the OVPI HTTP server.

#### Task 4: Run the Pre Upgrade Checker (Optional)

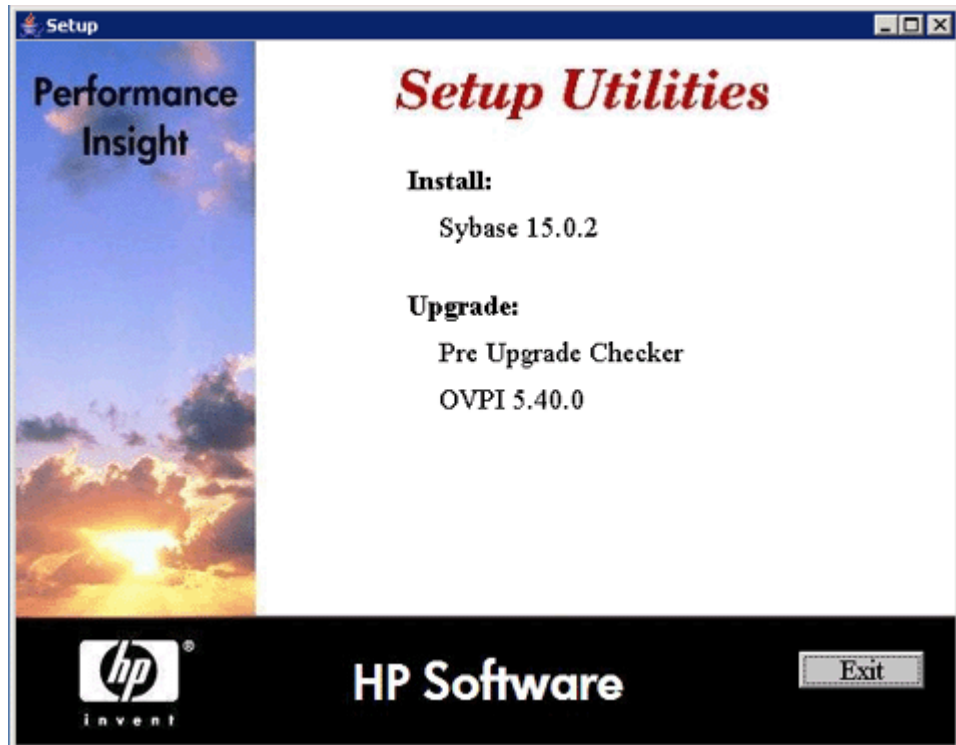
The Pre Upgrade Checker (PUC) is a new functionality introduced with PI 5.40 upgrade. This is not a mandatory task, but running the PUC prevents possible errors during upgrade.

PUC is a rule-based engine that can perform some pre-defined tests detailed in an XML file. These tests check for the existence or non-existence of pre-defined conditions and show the status of your environment's suitability for upgrade.

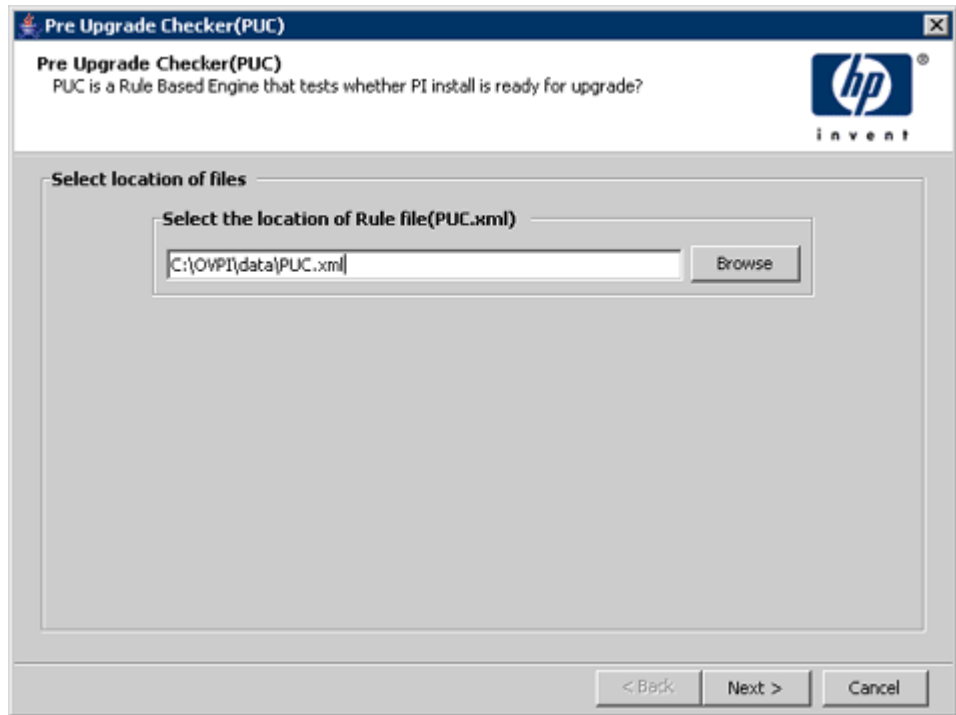
To run the PUC:

- 1 Run the Setup Utilities program from the product DVD. The Setup Utilities window opens.

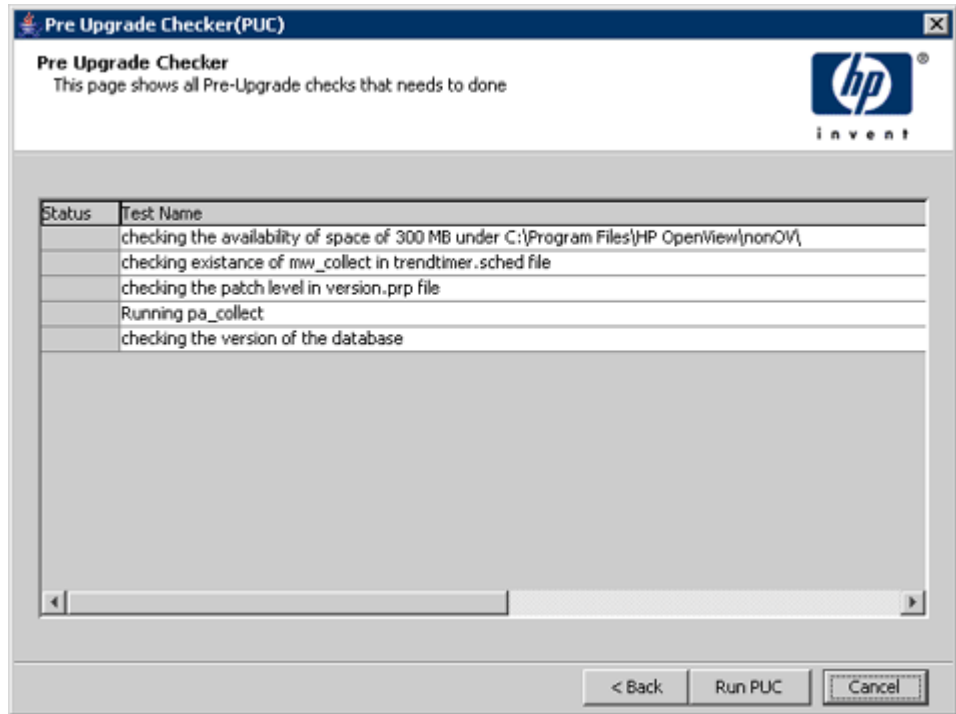




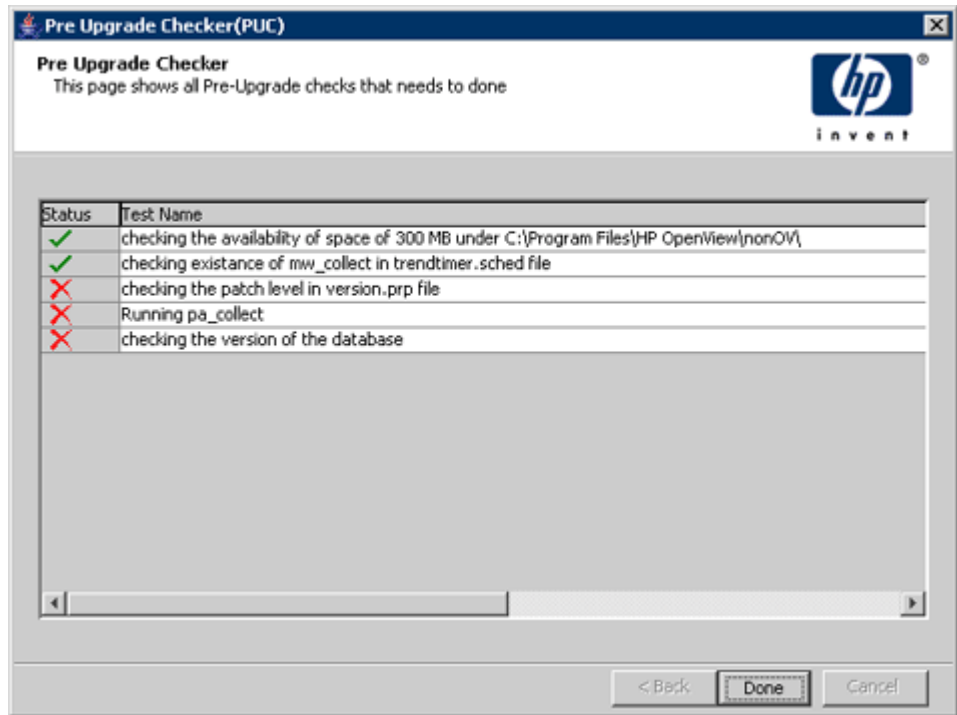
- 2 Click **Pre Upgrade Checker**. The Pre Upgrade Checker (PUC) window opens.



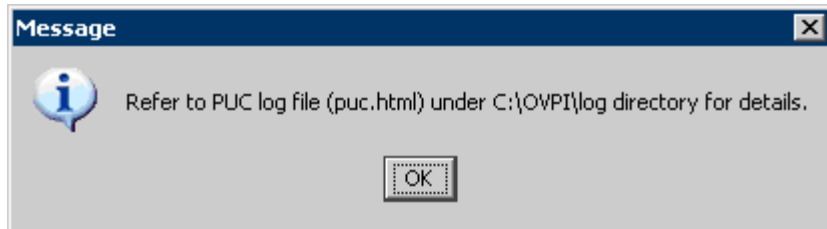
- 3 Click browse to locate the PUC .xml file on your local system.  
PUC .xml contains a set of pre-defined tests that are run to validate your setup. Download PUC .xml from [www.hp.com/go/hpsoftwaresupport](http://www.hp.com/go/hpsoftwaresupport) (search for id number **KM528404**) and save it on your local system.
- 4 Click **Next**. A window with the list of tests to be performed appears.
  - ▶ The tests that are listed depend on your setup and might differ from the ones listed in the previous image.



- 5 Click **Run PUC**. The status of each tests appears.



- Click **Done**. A message window appears with information about the log file to refer for details of the tests.



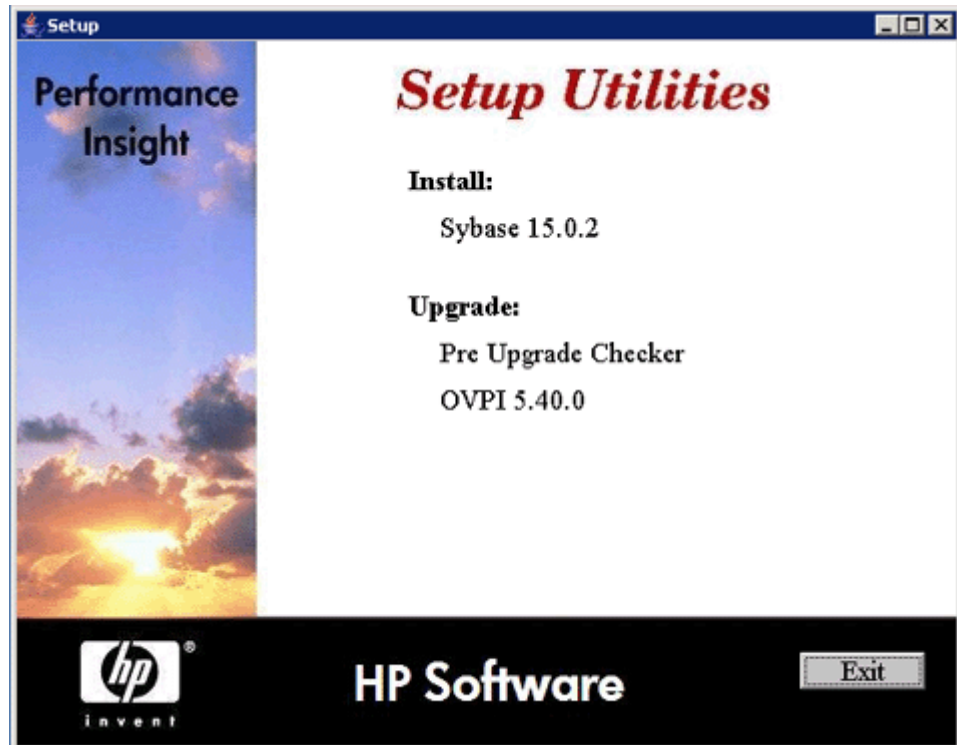
- Click **OK**.

Open the `puc.html` file from the `C:\OVPI\log` directory to find out the errors (if any) and correct them before upgrading PI.

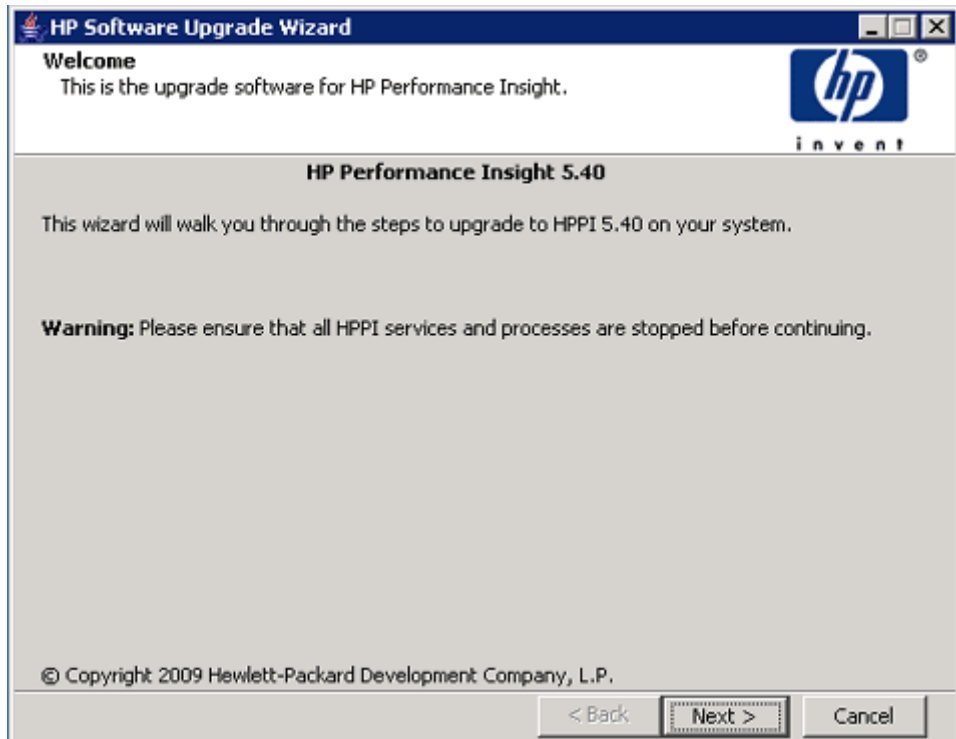
## Upgrading PI Using the Wizard

To upgrade PI to version 5.40, follow these steps:

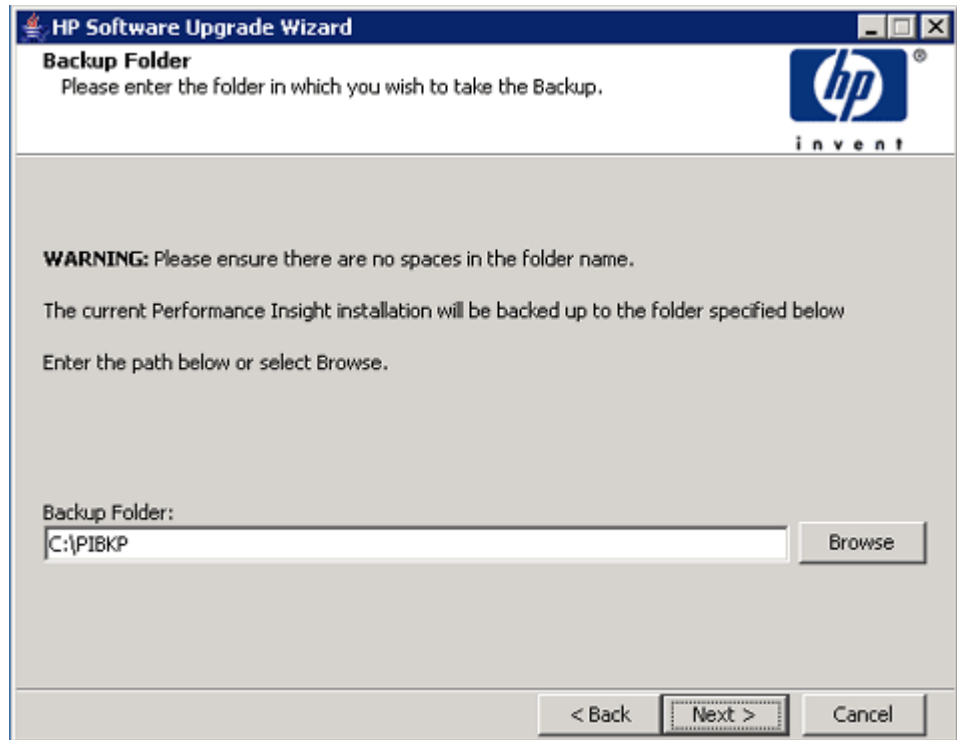
- 1 Run the Setup Utilities program from the product DVD.



- 2 Select **OVPI 5.40.0**. The Welcome Page opens.

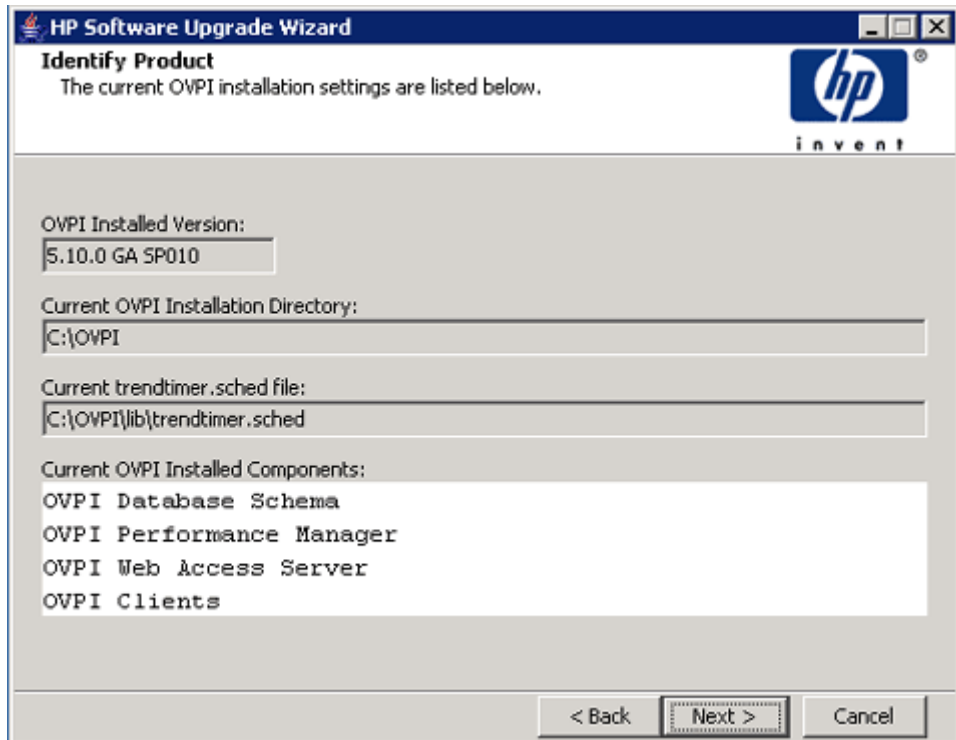


- 3 Click **Next**. The License Agreement window opens.
- 4 Accept the terms of the license agreement and click **Next**. The Backup Folder window opens.



Enter the name and path of the folder you want to set as the backup folder or accept the default path mentioned in the window.

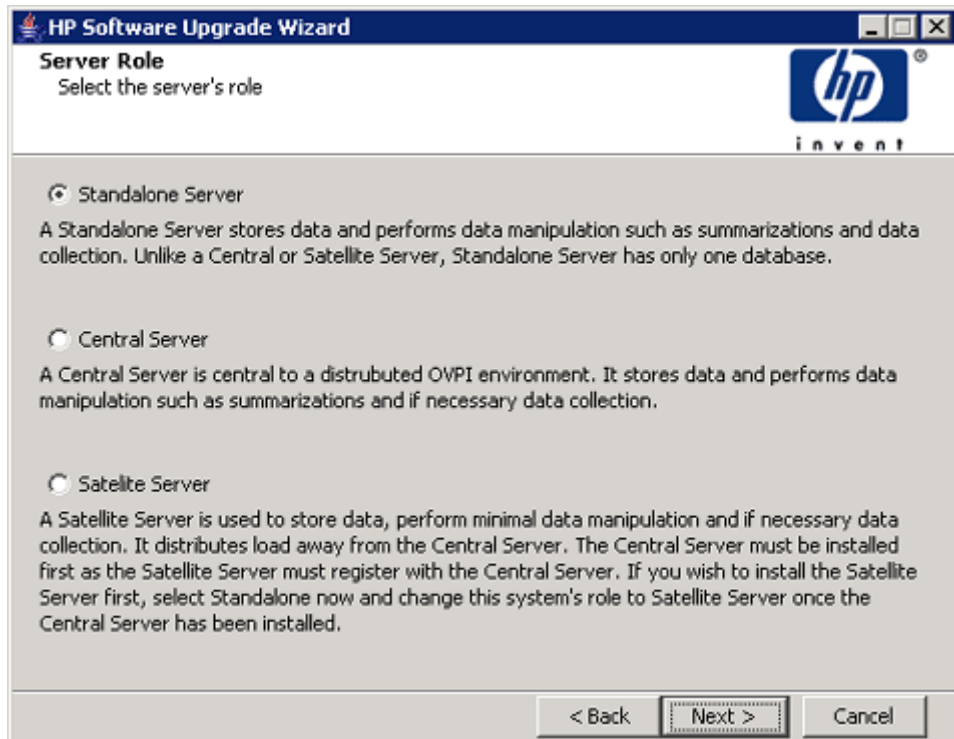
- 5 Click **Next**. The Identify Product window opens.



The Identify Product window displays information for the product currently installed, including the existing installed components.

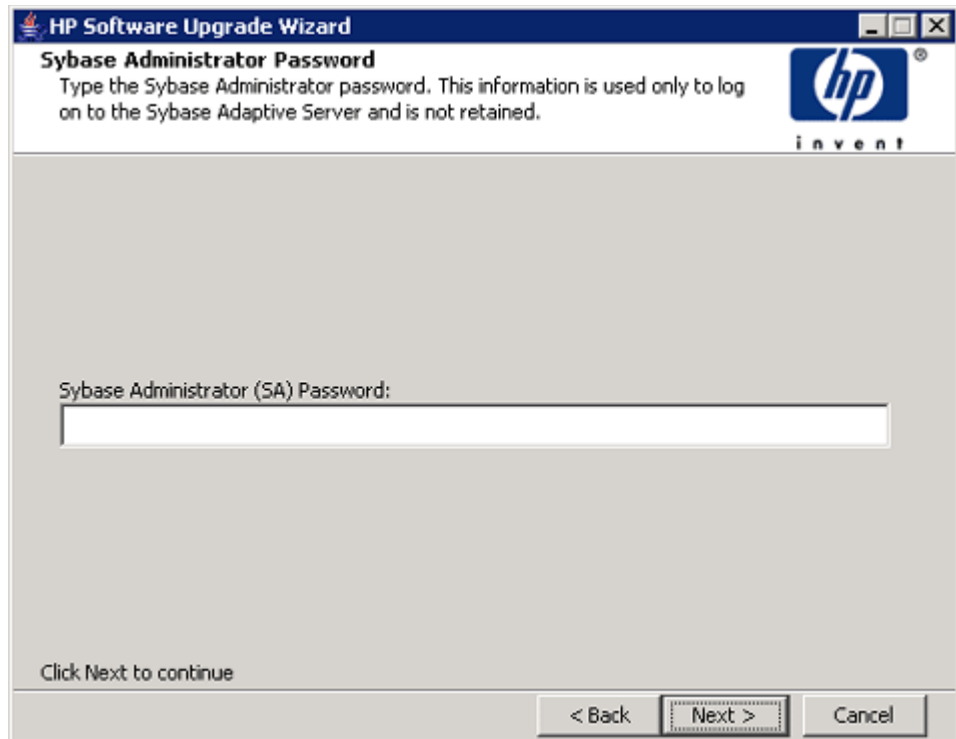
- 6 Click **Next**. The Server Role window opens.





Select the server role for the PI installation.

- 7 Click **Next**. The Sybase Administrator Password window opens.



If you had set the SA password, type it here and click **Next**. If you did not set the password, leave the field blank.

- 8 Click **Next**. The Summary Window opens. Read the contents displayed in the Summary window.
  - ▶ In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Summary window.
- 9 Click **Install**. The Installation Progress window opens. It shows the progress of the installation as it occurs.
- 10 Click **Done** after the installation is complete.

# Upgrading Report Packs

After you upgrade PI, you must upgrade the report packs to version RNS14. Start the OVPI Timer.

# Upgrading Remote Pollers

PI provides the ability to install or upgrade remote pollers separately from the PI installation.

When upgrading remote pollers, you do not have to provide database information. Also, the Server Role window does not appear.



---

## 9 Upgrading From PI 5.30 to 5.40

You can upgrade to PI 5.40 if you currently have any one of the following versions of PI:

- OVPI 5.30
- OVPI 5.31
- OVPI 5.31.001

The installation process provided in this section applies to both standalone or a distributed setups.

The remote poller must be upgraded separately from PI.

# Pre-Upgrade Tasks

You must complete the following tasks before you upgrade to PI 5.40.

## Task 1: [Verify that Java patches are running](#)

PI 5.40 includes Java 1.5. During upgrade PI 5.40 installs Java 1.5 in a separate folder.

You must install the appropriate Java patches required for your operating system (see [Task 2: Install All the Patches Required for Java](#) on page 34).

## Task 2: [Stop the OVPI Timer](#)

You must stop the OVPI Timer and wait for all PI processes to halt. For more information about stopping or starting the OVPI Timer, see the *HP Performance Insight Administration Guide*.

## Task 3: [Run the Pre Upgrade Checker \(Optional\)](#)

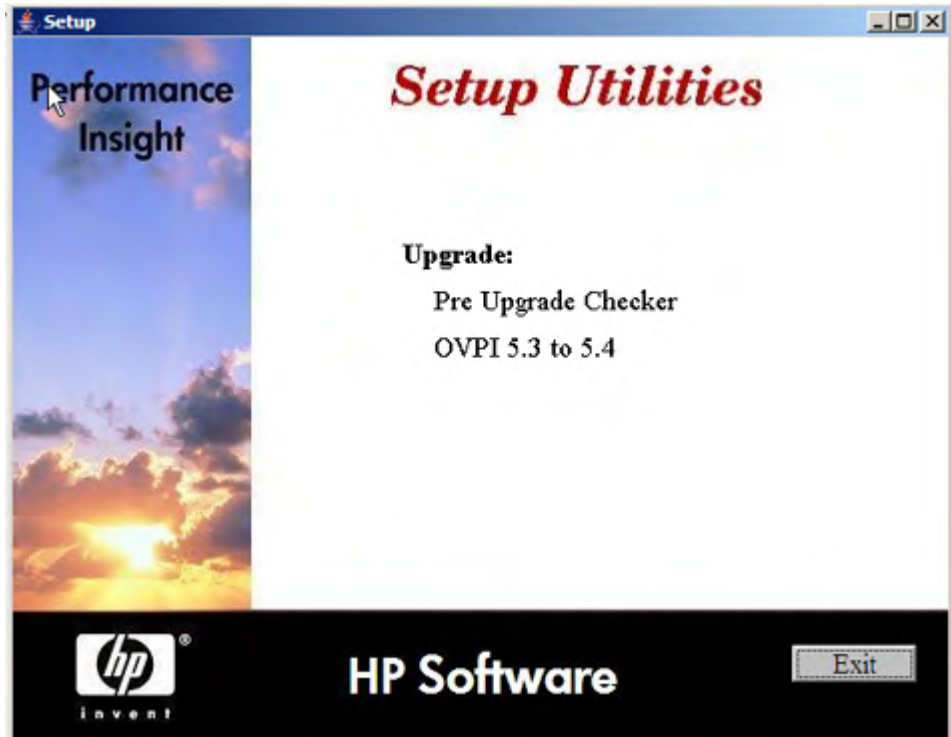
The Pre Upgrade Checker (PUC) is a new functionality introduced with PI 5.40 upgrade. This is not a mandatory task, but running the PUC prevents possible errors during upgrade.

PUC is a rule-based engine that can perform some pre-defined tests detailed in an XML file. These tests check for the existence or non-existence of pre-defined conditions and show the status of your environment's suitability for upgrade. For information on how to run PUC, see [Run the Pre Upgrade Checker \(Optional\)](#) on page 150

# Using the Wizard to Upgrade PI

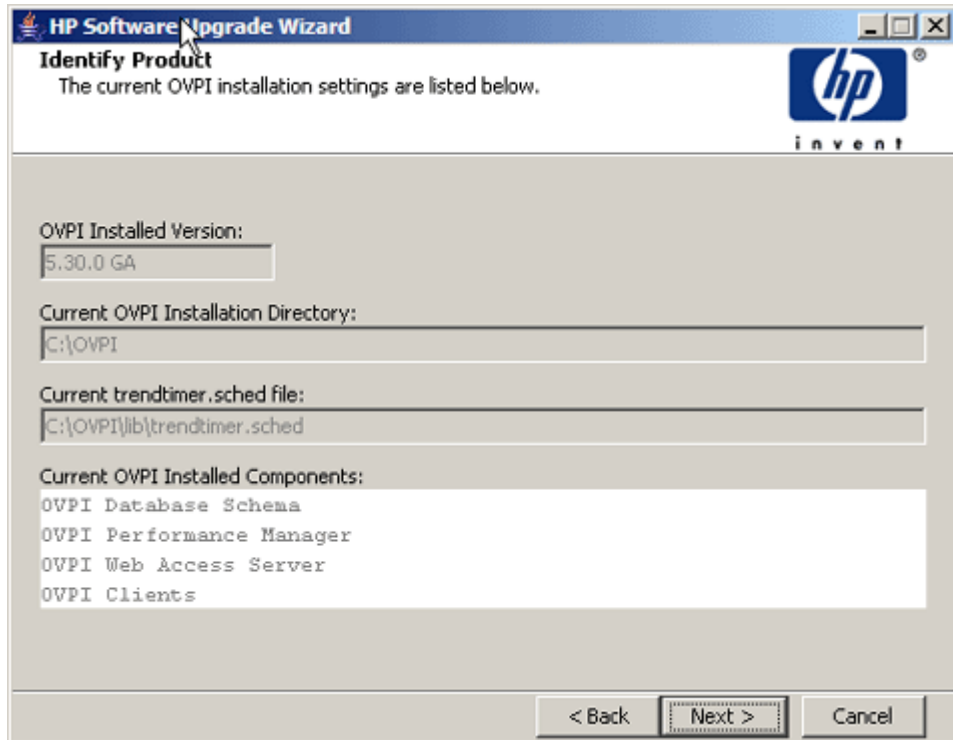
To upgrade PI to version 5.40, follow these steps:

- 1 Run the Setup Utilities program from the product DVD.




- 2 Select **OVPI 5.3 to 5.4**. The Welcome Page opens.
- 3 Click **Next**. The License Agreement window opens.
- 4 Accept the terms of the license agreement and click **Next**. The Backup Folder window opens.
- 5 Enter the name and path of the folder you want to set as the backup folder or accept the default path mentioned in the window.

- 6 Click **Next**. The Identify Product window opens.



The Identify Product window displays information for the product currently installed, including the existing installed components.

- 7 Click **Next**. The pop-up window Stopped Server? opens. Click **Yes** to proceed or **No** to go back and stop the PI server and processes.  
If you click **Yes**, the Sybase Administrator Password window opens.
- 8 If you had set the SA password, type it here and click **Next**. If you did not set the password, leave the field blank and click **Next**. The Summary Window opens. Read the contents displayed in the Summary window.  
 In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Summary window.



- 9 Click **Install**. The Installation Progress window opens. It shows the progress of the installation as it occurs.
- 10 Click **Done** after the installation is complete.



When upgrading to version 5.40 if PI encounters a fatal error, at any stage, you have the option to roll back PI to the previous installed version. You might also stop the upgrade process at the last completed stage and resume the upgrade later. See [Managing PI Upgrade Failure](#) on page 154 for more information about these features.

## Upgrading Report Packs

After you upgrade PI, you must upgrade the report packs to version RNS14. Start the OVPI Timer.

## Upgrading Remote Pollers

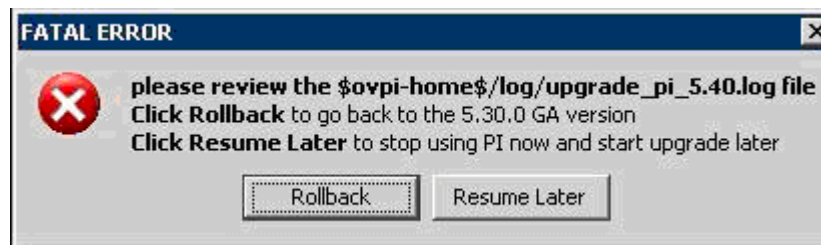
PI provides the ability to install or upgrade remote pollers separately from the PI installation.

When upgrading remote pollers, you do not have to provide database information. Also, the Server Role window does not appear.

## Managing PI Upgrade Failure

When upgrading to PI version 5.40, if the installer faces a fatal error, PI provides you the following options:

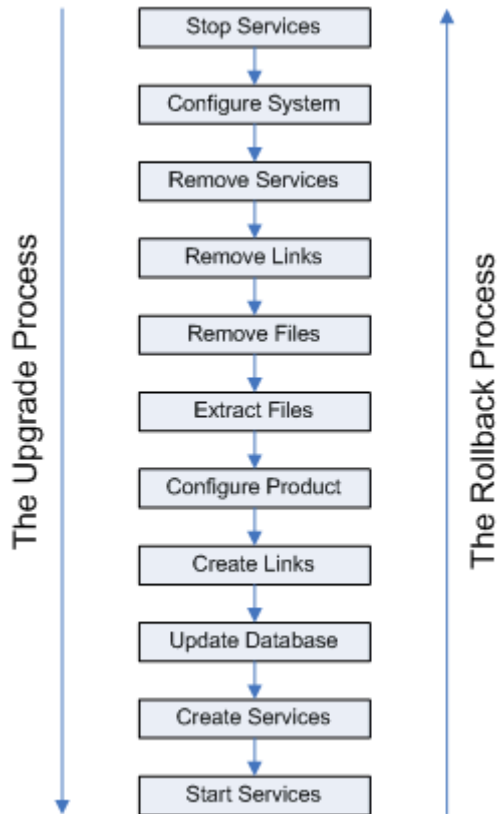
- Rollback
- Resume Later



### Rollback

If you click **Rollback**, the PI upgrade process is reversed and the system goes back to the previous installed version of PI.

The following flowchart explains the stages during upgrade and roll back:



The rollback process uses the data stored in the PI backup directory that you created when starting the upgrade process.

Information about the rollback data process is logged in the `upgrade_pi_5.40.log` file.



The rollback option is not available if the upgrade fails at the Extract Files stage. You can use the **Resume Later** option.

Upgrade might fail at this stage if some PI binaries are still running.

## Resume Later

If you click **Resume Later**, the upgrade process saves the upgrade details, till the last successful stage, in a file. When you start the upgrade process again with the resume option, PI upgrade continues from the last successful stage. To resume upgrade, type the following command:

```
<Installation Directory> setup
```

In this instance <Installation Directory> is the directory where PI installables are located.

A message box appears asking if you want to continue with the saved settings. Click **Yes**.

The Setup Utilities window opens. Upgrade according to the normal procedure.

In this instance <Installation Directory> is the directory where you have installed PI.

The the upgrade process fails at the Update Database stage, the process rolls back to the last successful stage which is the Create Links stage and saves the data in a file. When you resume the upgrade after rectifying the error, the process starts from the Update Database stage all over again.



Select the Resume Later option only if the error can be rectified in a short duration of time, without affecting other processes. All the upgrade related information is logged in the `upgrade_pi_5.40.log` file.

## Use Case: The Upgrade Process Fails at Update Database Stage

- **Click Rollback:** The upgrade process retrieves data from the backup folder and reverts to the previous installed version.
- **Click Resume:** Open the `upgrade_pi_5.40.log` file. Find the problem, fix it, and run the setup command with resume option. The Upgrade process start from where it had failed and completes the Upgrade process to PI 5.40.

---

# 10 Uninstalling HP Performance Insight

You must uninstall PI *before* you uninstall the Sybase RDBMS.

Uninstalling PI removes all PI-related tablespaces and the dsi\_dpipe user from the database used by PI and only the database remains.

## Prerequisites

Complete the following tasks before uninstalling PI:

- 1 Stop the OVPI Timer.
- 2 Stop the OVPI HTTP Server.
- 3 Wait for PI processes to complete.
- 4 Verify that Sybase is still running.

Note the directory locations for the following environment variables. You must remove these directories manually after the un-installation process is over.

- DPIPE\_HOME
- DPIPE\_TMP
- TREND\_LOG
- COLLECT\_HOME

# Uninstalling PI

Use the OVPI Uninstall Wizard to uninstall PI. It removes all PI components from the local system including the files that were added to the system during PI installation. However, the Uninstall Wizard does not remove the files that were created by users or applications. For example, log files and reports.

## Task 1: Start the PI Uninstall Wizard.

- 1 Log on to the local system as Administrator.
- 2 From the Windows Desktop, click **Start** → **All Programs** → **HP Software** → **Performance Insight** → **Uninstall**.
- 3 The Welcome window opens. Click **Next**.
- 4 If the PI database schema is installed on the system from which you are uninstalling PI, see [Task 2](#).
- 5 If the PI database schema is not installed on the system from which you are uninstalling PI, see [Task 3](#).

## Task 2: Supply the Sybase Administrator password (local Sybase database only)

The Sybase Administrator Password window opens. Do one of the following:

- If you set the Sybase Administrator password, type the password in the Sybase Administrator (SA) Password box and click **Next**.
- If you did not set the Sybase Administrator password, leave the Sybase Administrator (SA) Password box blank and click **Next**.

## Task 3: Review and uninstall

The Summary window opens.

- 1 Review the list of components to be uninstalled and click **Uninstall**. The Uninstall Progress window opens. This window shows the status of the uninstall as it occurs.



In case, you have to make any changes, click **Back** to return to a previous window to make changes. After making the changes, click **Next** until you return to the Selection Summary window.

- 2 If the PI installation completes successfully, a pop-up window conveying the successful installation appears.

- 3 Click **Done** and restart the system to complete installation.
- 4 Continue to [Post-Uninstallation Tasks for PI](#) on page 162.

If the PI uninstall was unsuccessful:

- 1 Click the **Details** button at the bottom of the Uninstall Progress window for additional information.
- 2 Contact Support (see [Support](#) on page 5).

# Uninstalling PI Manually

If PI fails to uninstall automatically, you can manually uninstall PI. The PI un-installation might fail if:

- PI processes are still running: Because of this, some files might not get deleted and the system sends warning messages.
- Physical reasons like power failure when the un-installation program is running.
- The PI database is not running or the un-installation program fails to connect to the database.

To manually uninstall PI, complete these tasks:

## Task 1: Stop PI services

- 1 From the Control Panel window, double-click **Administrative Tools**. The Administrative Tools window opens.
- 2 Double-click the **Services** icon.
- 3 From the Services window, right-click **OVPI Timer** and select **Stop** from the shortcut menu.
- 4 From the Services window, right-click **OVPI\_HTTP\_Server** and select **Stop** from the menu.

## Task 2: Remove the Web Access Server

- 1 Open a command prompt window.
- 2 Navigate to the following directory:  
%OvInstallDir%\nonOV\PiJBoss\405\bin
- 3 Run the following command:  
**Service.bat uninstall**

## Task 3: Remove Windows Registry entries

Using the Registry Editor, remove the following Windows Registry entry:

From HKEY\_LOCAL\_MACHINE → SOFTWARE → Hewlett-Packard → HP Software, remove the following entry:

Performance Insight



Task 4: Remove the OVPI Timer service

- 1 Open a command prompt window.
- 2 Navigate to the following directory:

```
<PI_HOME>\bin
```

In this instance, <PI\_HOME> is the directory in which you installed PI.

- 3 Type the command:

```
trendtimer -r
```

Task 5: Remove specific environment variables

- 1 From the Control Panel window, double-click **System**. The System Properties dialog box opens.
- 2 Click the **Advanced** tab, and then click the **Environment Variables** button. The Environment Variables dialog box opens.
- 3 Delete the following variables:
  - COLLECT\_HOME
  - DPIPE\_HOME
  - DPIPE\_TMP
  - TREND\_LOG
- 4 Edit the PATH environment variable by removing everything that relates to PI.
- 5 Click **OK**.

Task 6: Restart your system

# Post-Uninstallation Tasks for PI

To prevent potential problems if you plan to reinstall PI, delete the following:

- PI Installation Directory
- The `.ovpi` directory
- Folders containing PI environment variables

## Delete the PI Installation Directory

The PI installation directory is the directory in which you installed PI.

The OVPI Uninstall Wizard removes files from the PI directory that were installed by the PI Installation Program. It un-installation process, however, does *not* remove generated files (log files) or files created by users.

Also, if reports deployed for any installed report packs were saved in the PI installation directory, the un-installation process does *not* remove them.



If there are reports or data in the PI directory that you want to save, move those files to another location before continuing.

To delete the PI directory, complete either of the following:

- **Windows Explorer:** locate and right-click the **Performance Insight** directory. Select **Delete** from the menu.
- **Command Prompt window:** type the following command:

```
rmdir /S $DPIPE_HOME
```

In this instance, `$DPIPE_HOME` is the directory into which you installed PI.

## Delete the `.ovpi` Directory

The `.ovpi` directory stores a user's custom settings. It is present only if the user has run Report Builder, Report Viewer, or Web Access Server.



Users should remove their own `.ovpi` directory.

The `.ovpi` directory is located at `%SystemDrive%\Documents and Settings\username`.

The `.ovpi` directory is a hidden file. Therefore, you need to make it visible to remove it. Modify the directory view to show hidden files and directories by setting the **Tools** → **Folder Options** → **View** tab and selecting the “**Show hidden files and folders**” radio box.

Do one of the following:

- Windows Explorer: Right-click the `.ovpi` directory and select **Delete** from the menu.
- Command Prompt window: Type the following command:

```
rmdir /S .ovpi
```

## Delete Folders Containing PI Environment Variables

Manually remove the directories that contain the following environment variables:

- `DPIPE_TMP`
- `TREND_LOG`
- `COLLECT_HOME`

## Uninstall the RDBMS

Finally, to complete un-installation, uninstall the RDBMS. See [Chapter 11, Uninstalling the Sybase RDBMS](#).



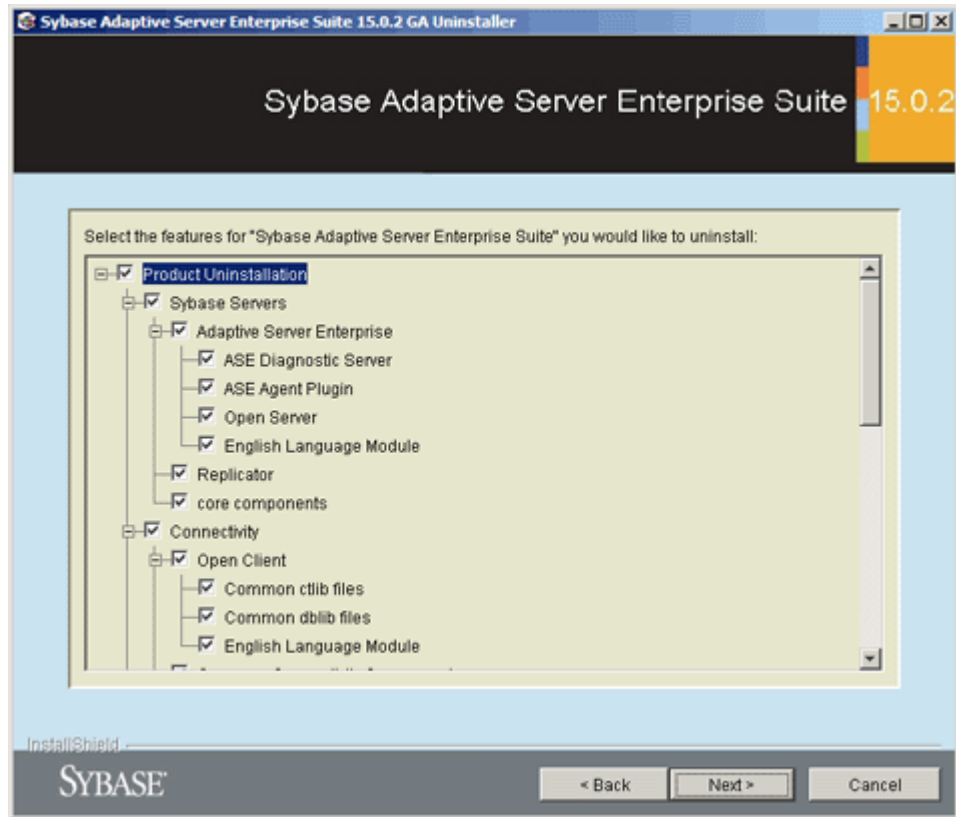
---

# 11 Uninstalling the Sybase RDBMS

To uninstall Sybase Adaptive Server 15.0.2 from Windows systems, follow these steps:

- 1 Shut down all servers before running the uninstall program.  
Stop all services using the Services option from the Control Panel. If any service is set to start automatically, change it to start manually. Restart the system to release any DLLs loaded in the memory.
- 2 Click **Start** → **Programs** → **Sybase** → **Adaptive Server Enterprise**
- 3 Click **Server Config**. The Configure Sybase Server Window opens.
- 4 Click **Remove Adaptive Server**. The Existing Servers window opens.
- 5 Select the server you want to remove and click **OK**.
- 6 Click **Start** → **Settings** → **Control Panel** → **Add or Remove Programs**.
- 7 Select **Sybase Adaptive Server Enterprise Suite** and click **Change/Remove**. The Sybase Uninstaller window opens.

- Click **Next**. The component selection window opens. A list of all Sybase Components appears in a tree format. By default all check boxes are selected. Clear the check box against any component that you want to retain.



- If there is SySAM Network License Server installed on the system, it may be used by other Sybase products. Clear the check box against SySAM Network License Server unless you are sure no other process is using it.
- Click **Next**. The Summary window appears. The summary window displays a list of all Sybase components to be uninstalled.
  - Click **Next** to uninstall. A window indicating that the uninstallation process is progressing, opens. There is no progress bar.

One or more confirm delete pop-up windows might appear for files that were modified after Sybase was installed. Click OK to delete those files and continue un-installation.

- 11 When the uninstaller prompts you, remove any user created files that were not deleted by the uninstall program.
- 12 After the uninstallation is over, click **Finish** to exit the uninstall program.
- 13 Remove the DSLISTEN and DSQUERY environment variables using the system option from the Control Panel. The uninstall program does not remove these variables.





---

# A The Sybase Interfaces File

The information in this appendix is supplied for reference purposes only. Any changes to the Sybase interfaces file should be made using the Management Console's System Management application. See the *Performance Insight Administration Guide* for more information about using this application.

Sybase uses a file called an **interfaces** file to locate the SQL Servers on the network. This appendix describes how to create or modify this file using dsedit.

The Sybase interfaces file is located in C:\Sybase\ini\sql.ini, where C: is the location of the Sybase directory. See [Creating the Sybase Interfaces File](#) on page 170 for details.



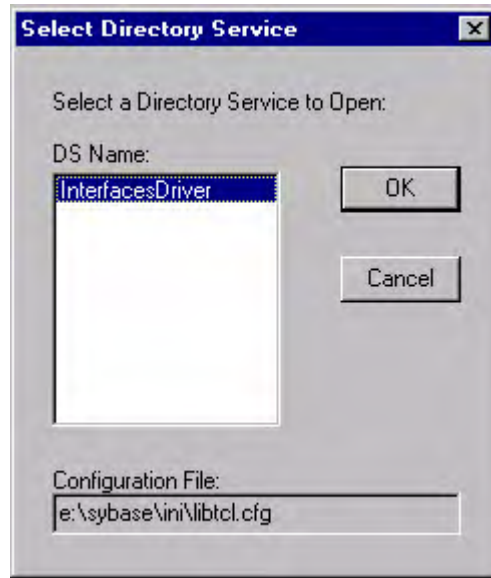
Make sure that when you type the SQL Server name that it matches the entry in the Sybase interfaces file exactly.

# Creating the Sybase Interfaces File

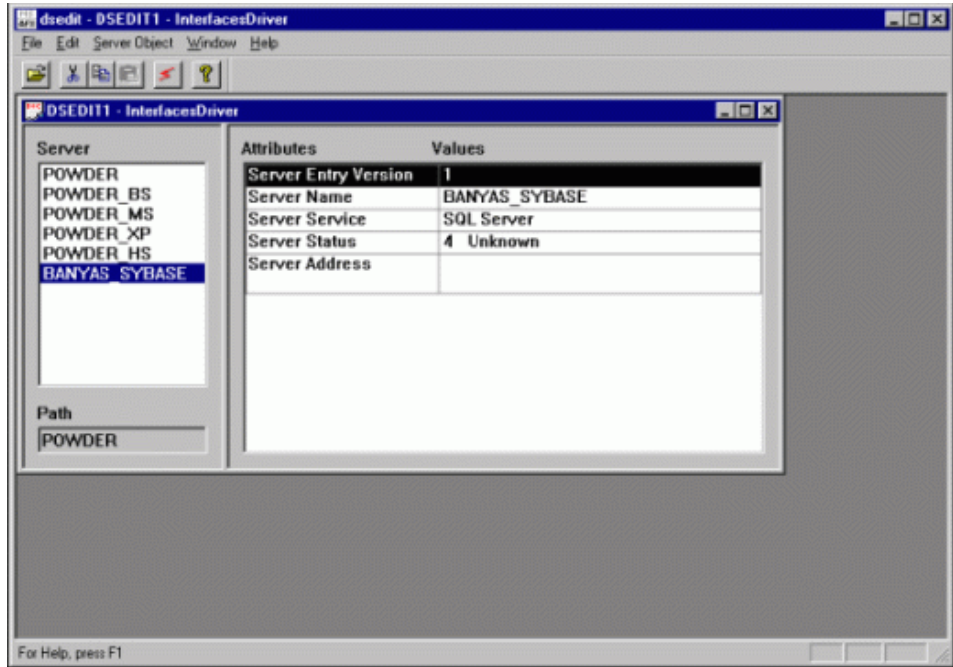
Use the `dsedit` utility to install a secondary server interfaces file entry for Sybase on a Windows system.

To create the Sybase interfaces file, follow these steps:

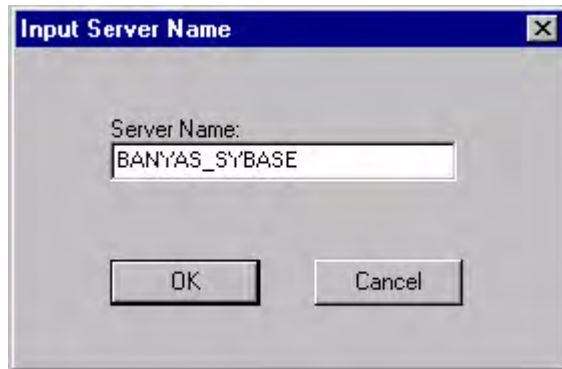
- 1 Select **Start Programs Sybase Dsedit**



- 2 Select **InterfacesDriver** in the DS Name box.
- 3 Click **OK**. The DSEdit1 - InterfacesDriver window opens.

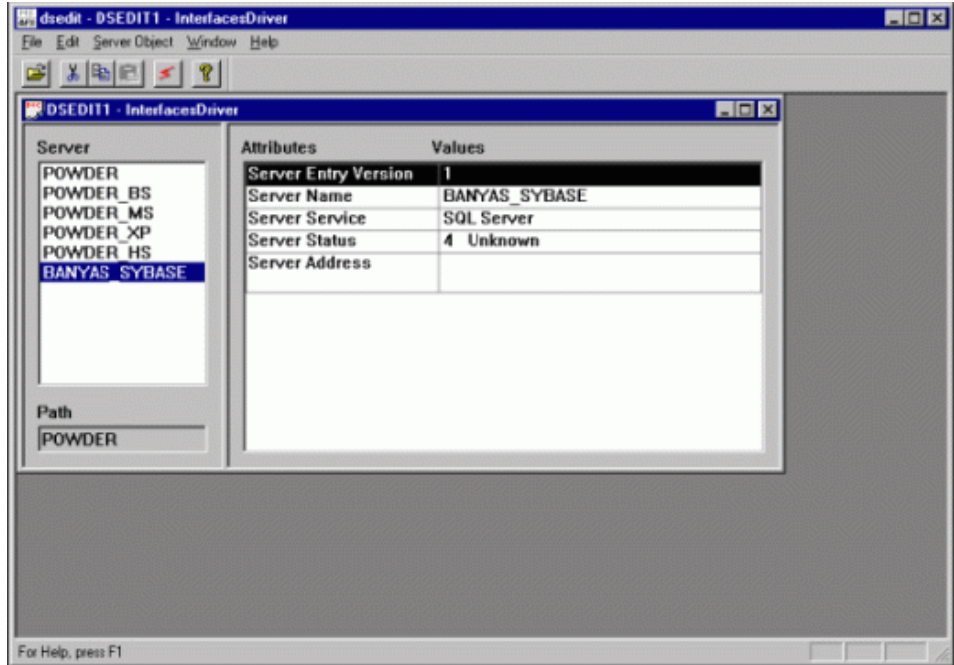


- From the Server Object menu, choose **Add**. The Input Server Name dialog box opens.

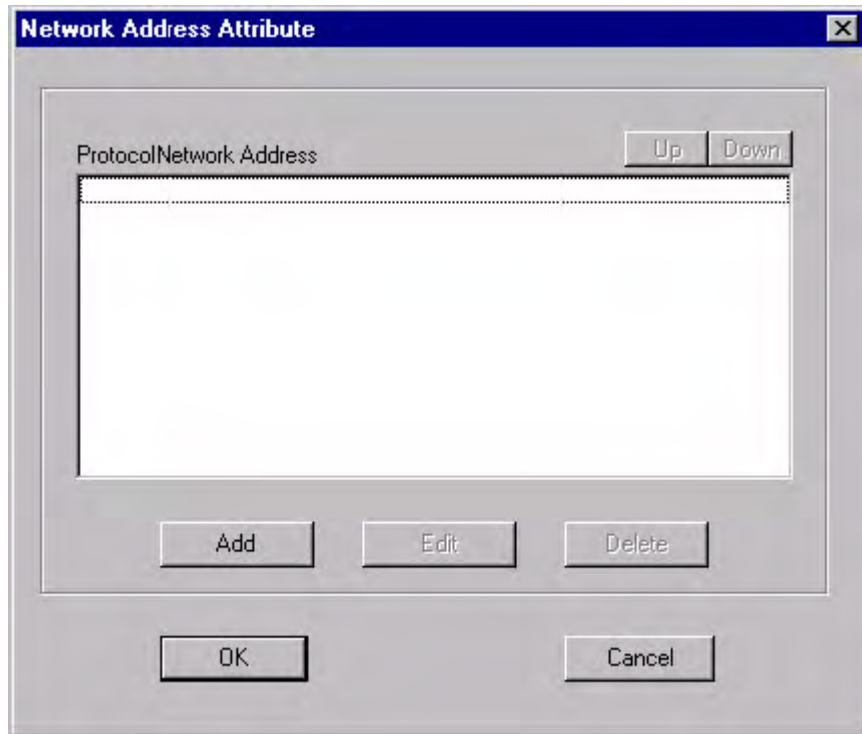


- Enter the database server name in the Server Name box.
  - ▶ The Sybase server name is typically the same as the host name.

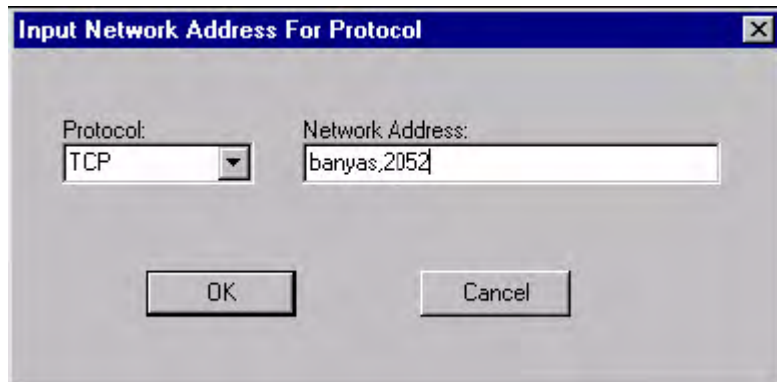
- Click **OK**. The DSEdit1 - InterfacesDriver window reopens with the server name that you added highlighted.



- 7 Double-click the **Server Address** attribute in the Attributes column. The Network Address Attribute dialog box opens.



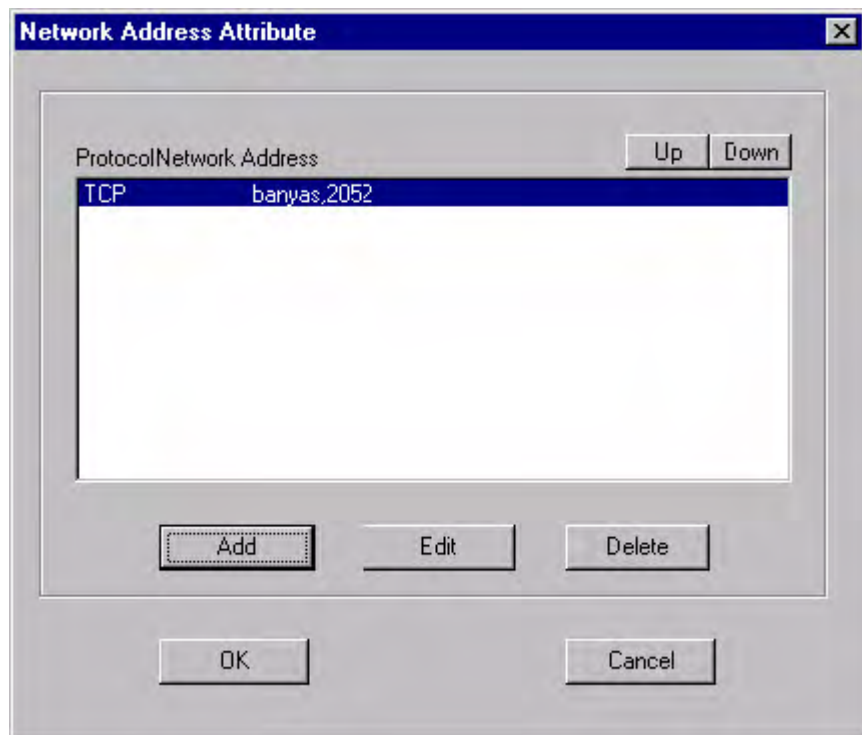
- 8 Click **Add**. The Input Network Address For Protocol dialog box opens.



- 9 In the Input Network Address For Protocol dialog box, do the following:
  - a From the Protocol drop-down list, select **TCP**.
  - b In the Network Address box, type the host name of the server (banyas, in this example), a comma, and the port number to which the server listens.
- 10 Click **OK**.

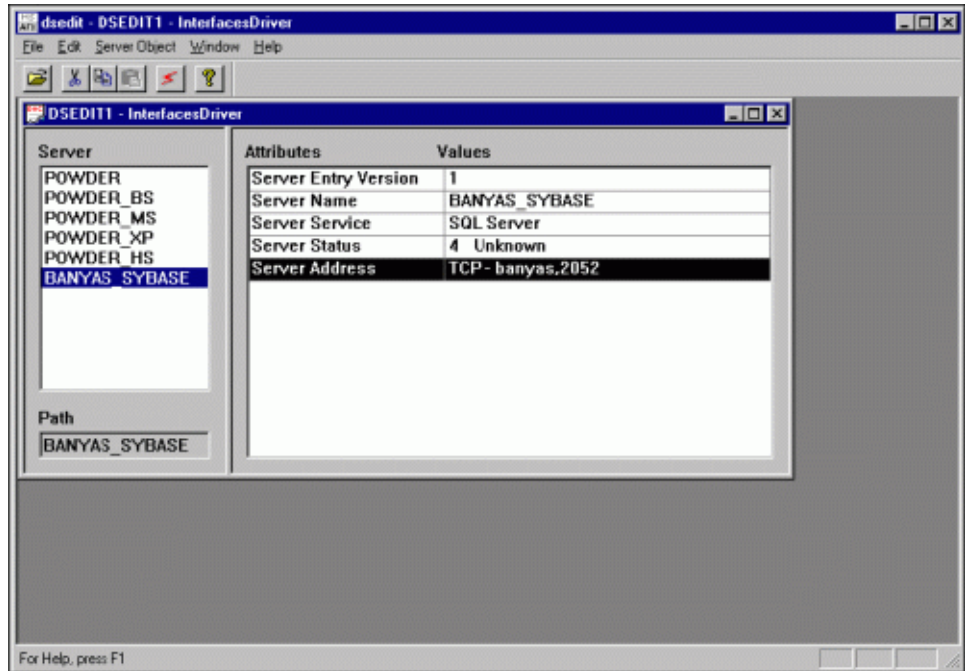
▶ The port number for PI servers installed on a Windows system is typically 5000.

The Network Address Attribute dialog box opens with your entry.

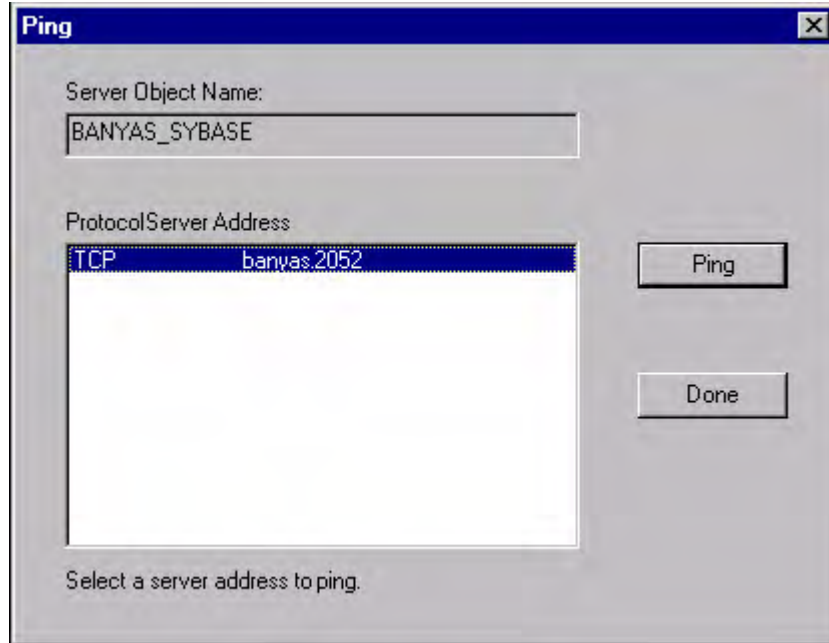


- 11 Click **OK**.

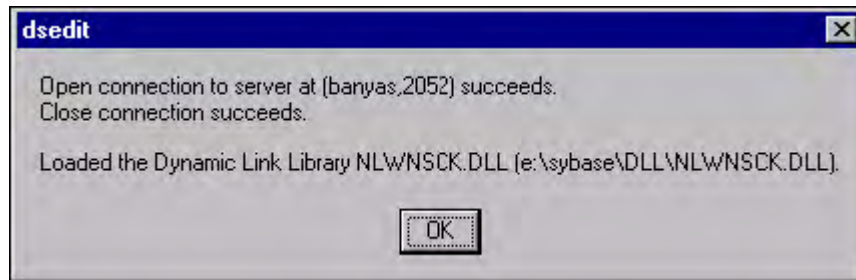
The DSEDIT1 - InterfacesDriver window opens with the information that you added highlighted.




- 12 Click the **Ping** icon to test the connection to the specified server. The Ping dialog box opens.



- 13 Click **Ping**. A message similar to the following displays in the dsedit window if you successfully opened a connection to the specified server.





 If the message you receive indicates that the server is not recognized, you incorrectly specified the host name of the server or the port number, or the server is down. Verify the host name of the server and its port number. If you are still having difficulties, contact Support (see [Support](#) on page 5).

- 14 Click **OK** to close the message.
- 15 Click **Done** to close the Ping dialog box.
- 16 From the dsedit utility's File menu, select **Exit**.



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