TestPartner

Installation and Configuration Guide

Release 05.03

COMPUWARE.

Customer support is available from our Customer Support Hotline or via our FrontLine Support Web site.

Customer Support Hotline:
1-800-538-7822

FrontLine Support Web Site:
http://frontline.compuware.com

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Introduction

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Who Should Read This Guide

This guide is intended for administrators who are installing or Configuring TestPartner; it does not contain reference or usage information. You can find that information in your product's online help facility and documentation set.

Compuware assumes that you are familiar with basic Microsoft Windows navigation. If this is not the case, familiarize yourself with the documentation for Microsoft Windows before reading this guide.

Related Publications

The TestPartner installation documentation set includes:

- ◆ The *TestPartner Installation and Configuration Guide*, which contains system requirements and instructions for installing TestPartner.

- ◆ The *License Installation Guide*, which contains instructions for licensing your *QA*Center product.

All of these books are provided in PDF format only. You can access the online versions of these books from the installation bookshelf (as described below) or from Compuware's FrontLine customer support Web site at http://frontline.compuware.com

Viewing and Printing Online Books

To access these online books:

1 Insert the *QA*Center CD into the CD-ROM drive. If the CD browser does not automatically start, navigate to the CD's root directory and run `setup.exe`.

2 Click **View *QA*Center Documentation**. The documentation bookshelf opens in Acrobat Reader. (If necessary, Acrobat Reader can be installed from the *QA*Center CD by clicking **Install 3rd Party Software**, then clicking **Install Adobe Acrobat Reader**.)

3 From the bookshelf, select the installation guide that you wish to view.

Because PDF is based on PostScript, a PostScript printer is the most reliable way to print online books. In most cases, you can also print .pdf files to PCL printers. If you cannot print the .pdf files to your printer, refer to Adobe's Web site at http://www.adobe.com for troubleshooting information.

World Wide Web Information

To access Compuware Corporation's site on the World Wide Web, point your browser at http://www.compuware.com. The Compuware site provides a variety of product and support information.

FrontLine Support Web Site: You can access online customer support for Compuware products via the FrontLine support web site. FrontLine provides fast access to critical information about your *QA*Center product. You can read or download documentation, frequently asked questions, and product fixes, or e-mail your questions or comments. To access FrontLine, follow these steps:

1 Open a web browser and go to: http://frontline.compuware.com The Welcome to FrontLine page appears.

2 On the right side of the page, enter your login ID and password and click the **Login** button.

Note: If you are a first-time visitor, click the **Register** button to receive your free password to access FrontLine. After you complete the registration form, your login ID and password will be e-mailed to you and your account will be activated.

3 From the drop-down list in the center of the page, select a product and click the **Go** button. You will see the product's FrontLine home page, where you can access documentation, technical information, fixes, and other support items.

Getting Help

At Compuware, we strive to make our products and documentation the best in the industry. Feedback from our customers helps us maintain our quality standards. If you need support services, please obtain the following information before calling Compuware's 24-hour product support hotline:

◆ The name, release (version), and build number of the *QA*Center product. This information is displayed when you select the About command from your product's Help menu. The name and release are also on the covers of the product documentation.

◆ Installation information, including installed options, whether the product uses local or network databases, whether it is installed in the default directories, whether it is a standalone or network installation, and whether it is a client or server installation.

◆ Environment information, such as the operating system and release on which the product is installed, memory, hardware/network specifications, and the names and releases of other applications that were running.

◆ The location of the problem in the *QA*Center product software, and the actions taken before the problem occurred.

◆ The exact product error message, if any.

◆ The exact application, licensing, or operating system error messages, if any.

◆ Your Compuware client, office, or site number, if available

Compuware Customer support

Compuware Corporation
One Campus Martius
Detroit MI 48226-5099
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Chapter 1
Getting Started
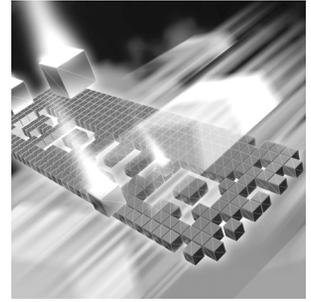
- ◆ Overview of QACenter
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Overview of *QA*Center

*QA*Center is a suite of automated software quality products for enterprise and e-business applications. *QA*Center offers a comprehensive solution for IT organizations concerned with assuring quality and performance, while keeping pace with faster development cycles. *QA*Center includes:

Compuware Central: An HTML-based component that provides a Web framework for managing and performing testing efforts from the beginning to the end of a project. Compuware Central supports a complete, seamless testing process from requirements management to test execution to results analysis and defect tracking. Because it is Web-based, Compuware Central supports remote testing for those organizations whose testing and development teams are not in the same geographic location. Compuware Central's flexibility allows small to large companies to customize it according to their needs.

*QA*Director: Coordinates the entire testing process by organizing, tracking, and executing automated and manual tests. *QA*Director integrates with Compuware's testing, program analysis, defect tracking, and requirements management tools.

*QA*Hiperstation+: Works with mainframe *QA*Hiperstation to test host-based applications directly from your Windows desktop. This integrated, workstation-based interface tool uses 32-bit code that provides improved performance and better stability on 32-bit Windows platforms.

*QA*Run: Tests enterprise client/server applications. *QA*Run creates and runs test scripts that support a wide variety of development tools and the diverse components of today's corporate environments. *QA*Run couples advanced verification facilities with error-recovery mechanisms to reliably test local and remote applications.

Reconcile: Helps create and control project requirements. It stores the project requirements in a relational database. You can view the requirements through Microsoft Word, a reporting view (grid), and the Web. Reconcile is fully integrated with *QA*Director and TrackRecord. Working together, these products help you manage project development from conception through delivery.

TestPartner: Tests Web- and Windows-based applications that use Microsoft technologies. You can record user sessions with the application, add validation functions, and replay the sessions later to ensure that the application works as expected. TestPartner's scripting language is Visual Basic for Applications (VBA); it supports testing of Java, Visual Basic, and Visual C++ applications; browser-based Web applications; and COM components including both ActiveX controls and automation objects.

TrackRecord: Records and reports information about products being developed or supported. Information on team members, testers, schedules, and defect reports is recorded in an object-oriented database; it can be retrieved using TrackRecord's query and reporting features.

WebCheck: Checks the quality of even the largest web sites. WebCheck automatically scans a web site for more than 50 potential types of problems and provides 19 HTML reports. WebCheck is integrated with *QA*Run and *QA*Director and can be used as a stand-alone product.

In addition to the *QA*Center suite of products, the *QA*Center CD includes Adobe Acrobat Reader, Microsoft Internet Explorer, Java 2 Runtime Environment, and Microsoft Virtual Machine installation programs. To install one or more of these products from the *QA*Center CD, click **Install 3rd Party Software**, then click on the product installation you would like to perform.

Installation Types

Before you begin, determine the type of installation you need to perform:

Initial Installation: An initial installation is the first-time installation of a product on your computer. See the installation chapter for each product for instructions.

Modify: A modification of the product installation occurs when you add or remove one or more of a product's components, but not all of them. See the maintenance chapter for instructions.

Repair: A repair installation may be necessary due to a corruption of a program or the inadvertent deletion of the product. See the maintenance chapter for instructions.

Remove: A remove or uninstallation removes all the components of a product. See the maintenance chapter for instructions.

Upgrade: Normally, an upgrade to a new release of a product does not require that you uninstall the current release first. Special concerns regarding TestPartner upgrades are explained in Chapter 3, "Maintaining the Installation".

Before Installation

Before installing any *QA*Center product, you should carefully review the following information:

System Requirements

Review the system requirements to ensure that you meet the prerequisites for the successful installation and operation of the product. System requirements are listed in the Release Notes as well as in this book.

Release Notes

Review the Release Notes for information about new features, technical notes, and known issues that may enhance or impact your product's performance. Release Notes contain recent changes that may not be included in your *QA*Center product documentation.

Release Notes can be viewed from the *QA*Center CD or on FrontLine, Compuware's product support web site. The Release Notes on FrontLine are periodically updated as new information becomes available.

*To access the Release Notes from the QACenter CD, follow these steps:*

1   Insert the *QA*Center CD into the CD-ROM drive. If the CD browser does not start automatically, navigate to the CD's root directory and run `setup.exe`.

2   Click **View QACenter Release Notes**. The Release Notes open in your default web browser.

3   Read the Release Notes online, or print the document.

4   After reading and/or printing the Release Notes, close the document to return to the CD browser.

1   Open a web browser and go to: http://frontline.compuware.com The Welcome to FrontLine page appears.

2   On the right side of the page, enter your login ID and password and click the **Login** button.

Note: If you are a first-time visitor, click the **Register** button to receive your free password to access FrontLine. After you complete the registration form, your login ID and password will be e-mailed to you and your account will be activated.

3   From the drop-down list in the center of the page, select a product and click the **Go** button. You will see the product's FrontLine home page.

4   On the left side of the product's homepage, select the **Documentation** link. You will see the product's documentation page, which includes links to Release Notes and other documentation types.

5   Click the **HTML** or **PDF** icons to view documents.

Chapter 2
Installing TestPartner
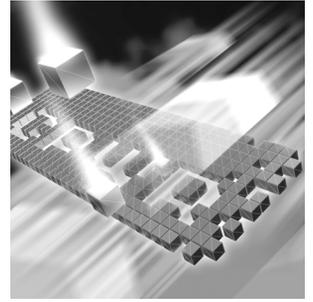
System Requirements

TestPartner has the following minimum system requirements:

For English:

◆ Microsoft Windows XP Professional with Service Pack 1a and Service Pack 2, Windows 2000 with Service Pack 1, 2, 3, or 4, or Windows Server 2003 (formerly named .NET server 2003) including Standard Edition (32 bit) and Enterprise Edition (32 bit).

For Japanese:

◆ Microsoft Windows XP Professional with Service Pack 1a and Service Pack 2, Windows 2000 with Service Pack 3 or 4, or Windows Server 2003 (formerly named .NET server 2003) including Standard Edition (32 bit) and Enterprise Edition (32 bit).

For Korean, Simplified Chinese, and Traditional Chinese:

◆ Microsoft Windows XP Professional with Service Pack 1a and Service Pack 2, Windows 2000 with Service Pack 4, or Windows Server 2003 (formerly named .NET server 2003) including Standard Edition (32 bit) and Enterprise Edition (32 bit).

◆ Mid-level Pentium III PC with 256 MB of RAM.

◆ 200 MB of available disk space.

◆ 800 x 600 or higher screen resolution.

◆ Microsoft Visual Basic for Applications (VBA) 6.2 (6.0.8714), 6.2x (6.0.8967), 6.3 (6.0.9108), or 6.4 (6.4.9969, 6.4.9971, or 6.4.9972). TestPartner installs VBA 6.2 (6.0.8714).

◆ Microsoft Internet Explorer 5.01 (build 5.00.2919.6307) or later. You can install Internet Explorer 5.01 from the *QA*Center CD.

◆ Microsoft SQL Server v2000, Oracle v9.0.1 or 8.1.7 database on a Microsoft platform. For SQL Server v2000, MDAC 2.6 SP2 (2.62.7400.1) is required for establishing an ODBC connection. Microsoft MSDE database can be used for up to 5 users. TestPartner also supports Microsoft Access 2000 as a single-user database.

◆ Adobe Acrobat or Acrobat Reader (provided on the *QA*Center CD) to view the online books in PDF format.

◆ Additional resources may be required for testing tools and the application under test.

Input Method Editor (IME) Support

TestPartner supports the following IMEs for the listed input systems.

Legend   X = Supported

Japanese Input
System:

Description	Name	Windows 2000	Windows XP	Windows 2003
MS-IME2000	imejp.ime	X	X	X
MS-IME2002	imjp81.ime		X	X
MS-IME2003	imjp9.ime		X	X

Korean Input System:

Description	Name	Windows 2000	Windows XP	Windows 2003
MS-IME98	imekr98u.ime	X		
IME 2002	imekr61.ime		X	X
IME 2003	imekr.ime		X	X

Simplified Chinese Input System:

Description	Name	Windows 2000	Windows XP	Windows 2003
QuanPin	winpy.ime	X	X	X
MS-PinYin98	pintlgnt.ime	X	X	
MS-PinYin 3.0	pintlgnt.ime		X	X
NeiMa	wingb.ime	X	X	
ZhengMa	winzm.ime	X	X	X
ShuangPin	winsp.ime	X	X	X
WuBi86	winwb86.ime	X*	X*	X*
WuBi98	winwb98.ime	X*	X*	X*
Enhanced Unicode	surime.ime		X*	X*

* Only appears with Windows XP and Windows Server 2003 with Office XP Multilingual Support complete install.

Traditional Chinese Input System:

Description	Name	Windows 2000	Windows XP	Windows 2003
Alphanumeric	romanime.ime	X	X	X
Unicode	unicdime.ime	X	X	X
Quick	quick.ime	X	X	X
Phonetic	phon.ime	X	X	X
New Phonetic	tintlgnt.ime	X	X	X
New ChangJie	cintlgnt.ime	X	X	X

Description	Name	Windows 2000	Windows XP	Windows 2003
DaYi	dayi.ime	X	X	X
ChangJie	chajie.ime	X	X	X
Big5 Code	winime.ime	X	X	X
Array	winar30.ime	X	X	X

Notes: IMEs not listed above are not supported.

Text Services FrameWork (TSF) and the Rich Edit control (version 4.1) are not supported for recording. This does not affect playback.

Office 2003 IMEs are only supported for the Japanese Input System.

Installing TestPartner

This section explains the installation process for TestPartner. Please review "System Requirements" on page 13 to ensure that TestPartner will install and operate properly on your computer.

Before proceeding with the TestPartner installation, Compuware recommends that you review the TestPartner Release Notes which includes information about new features, technical notes, and known issues. The Release Notes also document recent changes that might not be included in TestPartner documentation. Please review this information carefully; the Release Notes document is updated as new product information becomes available. To review the Release Notes prior to installation, refer to the "Before Installation" section of the "Getting Started" chapter.

Required: Compuware recommends that you exit all non-essential Windows programs before running this setup program. Some Windows programs may interfere with the installation process.

If TestPartner version 5.0.4 or earlier is installed on your computer, or if you have any beta version installed, Compuware recommends that you back up your data and uninstall TestPartner before installing the new version. Failure to do so may cause problems.

To install TestPartner, follow these steps:

1. If you are installing TestPartner on Windows NT, Windows 2000, or Windows XP Professional, log on as a user with administrator permissions (user must have full administrator permissions in order to both install and use TestPartner).

2. Insert the Compuware CD into the CD-ROM drive. The CD browser should automatically appear. If it does not, open the **Run** option from the **Start** menu. Click the **Browse** button to navigate to the `setup.exe` file on the CD-ROM disk.

3. Click **Install QACenter Products**.

4. Click **Install TestPartner**. The Choose Setup Language dialog box appears.

5. Select the language for which you want TestPartner installed from the list and click **Next**.

   An installation setup screen appears, then the Welcome dialog box appears.

6. Read the welcome screen and click **Next**. The License Agreement dialog box appears.

7. Read the license agreement and click **Yes** to accept the terms of the agreement. The Customer Information dialog box appears.

8. Type your name and company in the **User Name** and **Company Name** fields. Click **Next**. The Choose Destination Location dialog box appears.

9. Select a location for the TestPartner installation.

   ◇ By default, TestPartner installs in the folder `x:\Program Files\Compuware\TestPartner` where *x* is the drive where Windows resides on your computer.

   ◇ To specify a different path, click the **Browse** button and select an existing folder or type the path name in the **Path** field. Click **OK**.

10. Click **Next**. The Select Components dialog box appears. This dialog box allows you to select or clear components for installation. Highlight a component to view a brief description.

11 Select the components you want to install:

◇ **Active Object Recognition:** Lets you define support for Java controls that may not be recognized by TestPartner out of the box. The Active Object Recognition (AOR) utility includes a collection of core Java classes and lets you add custom Helper classes and metadata based on your application and requirements. This component is typically used by advanced Java users.

◇ **SAP eCATT Integration:** Configures TestPartner for proper integration with SAP eCATT, the online SAP testing tool for the SAP Web Application Server 6.20. This allows for storage/retrieval of TestPartner data from the eCATT repository and full integration for external testing from eCATT.

Make your selection(s) and click **Next**. The Select Program Folder dialog box appears.

12 Specify a location for the TestPartner program shortcuts. You may type a new folder name, or select one from the existing folders list. Click **Next**. The Start Copying Files dialog box appears.

13 Review the summary of the settings that you specified and click **Next** to start copying the program files. The Setup Status dialog box displays the progress of the installation.

14 After the installation completes, the Setup Complete dialog box appears. Depending on the circumstances, you will see one of the following dialog boxes:

◇ Display Release Notes and/or Register for FrontLine.
  – **Display Release Notes:** Select this check box to review the information in the Release Notes. This file contains information about new features, technical notes, and known issues that may enhance or impact TestPartner's performance. Release Notes contain recent changes that may not be included in your TestPartner product documentation.

  – **Register for FrontLine:** Select this check box to register for the FrontLine customer support site. The first time you access FrontLine, you are required to register and obtain a password. FrontLine provides fast access to critical information such as documentation, frequently asked questions, and product fixes.

◇ Restart Your Computer: You may be prompted to restart your computer. If you are prompted to restart your computer, you may choose to restart it now (recommended) or to restart it later.

15 Click **Finish** to complete the installation of TestPartner.

Where To Go Next

◆ The evaluation license (CompuLock) supplied with your *QA*Center product allows you to install the product and run it for a specific time period without first installing a license. During this trial period, you will be informed of how much evaluation time remains.

At any time during the evaluation period, you can obtain and install a permanent license. When the evaluation period expires, you **must** obtain a license and install it before you can successfully run this product. See the *License Installation Guide* for instructions on installing a license. To access this online book:

   a Insert the *QA*Center CD into the CD-ROM drive. If the CD browser does not automatically start, navigate to the CD's root directory and run `setup.exe`.

   b Click **View QACenter Documentation**.

   c From the bookshelf, select the *License Installation Guide*.

◆ If Adobe Acrobat or Acrobat Reader is not installed on your computer, click **Install 3rd Party Software**, then **Install Adobe Acrobat Reader** from *QA*Center's CD browser. Adobe Acrobat or Acrobat Reader is required to view the online books in PDF format.

◆ TestPartner automatically configures an ODBC data source when installed using an Access Database. Before use TestPartner with other databases, you must create and configure an ODBC data source and an ODBC database. Continue to the following sections for instructions:

   ◇ "Setting Up a SQL Server or MSDE Database with TestPartner" on page 20

   ◇ "Setting Up an Oracle Database with TestPartner" on page 27

   ◇ "Setting Up SQL Server or Oracle for TestPartner without a Domain" on page 38.

◆ After you have created and configured your database resources, you are ready to begin using TestPartner. Refer to the *TestPartner Getting Started Guide* for more information about the tasks and activities associated with preparing for, planning, building, and running test projects. You can access this book by clicking the taskbar's **Start** button and choosing **Programs>Compuware>TestPartner>Documentation>Getting Started Guide**.

Setting Up a SQL Server or MSDE Database with TestPartner

TestPartner accesses scripts and other assets stored in the TestPartner database. This section describes how to configure a SQL Server or MSDE database for use with TestPartner.

Note: Compuware recommends that a database administrator or a person with general knowledge of database administration performs the database setup and configuration.

SQL Server/MSDE Database Connection Requirements

Each client machine uses an ODBC data source to connect to the database. As a result, connecting to the TestPartner database has the following requirements:

◆ Each machine running TestPartner must be able to access the machine where the database resides.

◆ TestPartner must be installed on all machines accessing the database.

Creating a New SQL Server Database

This section describes how to create a SQL Server database using SQL Server Enterprise Manager. In addition to the following procedures, you must also populate the database with TestPartner tables using the Database Maintenance utility, which is described in "Preparing the SQL Server TestPartner Database" on page 25.

Create a SQL Server database on the server machine by following these steps:

1 From the SQL Server Enterprise Manager, expand the navigation tree until the Databases folder is visible.

2 Right-click the Databases folder and choose **New Database**. The Database Properties window appears.
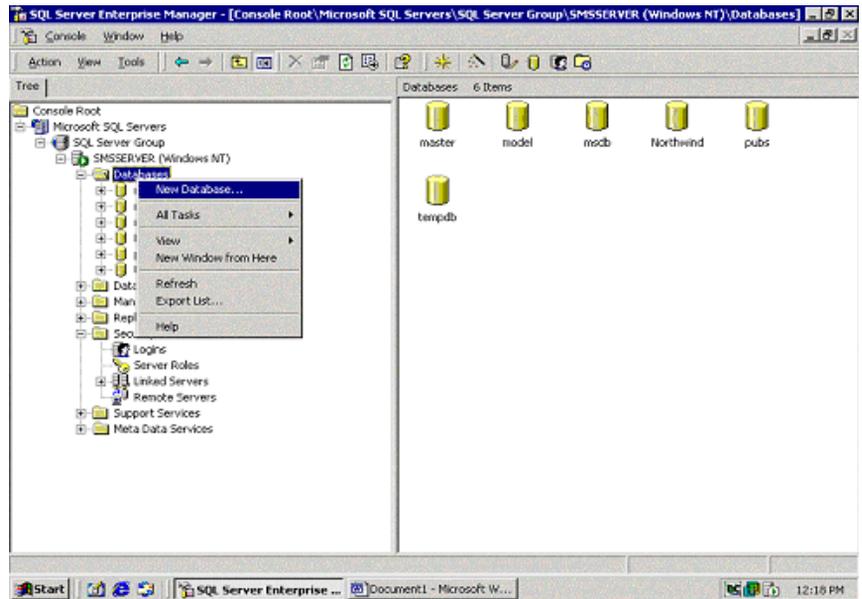

3 In the Database Properties window, enter a name for the database and in the **Name** field and click **OK**.

Creating a New SQL Server Admin User

You need to create a SQL Server user with system administrator rights to perform subsequent setup steps. To create a SQL Server admin user, follow these steps:

1 In SQL Server Enterprise Manager, navigate to the Security folder and expand it. Right-click on the **Logins** icon and choose **New Login**. The SQL Server Login Properties dialog box appears.
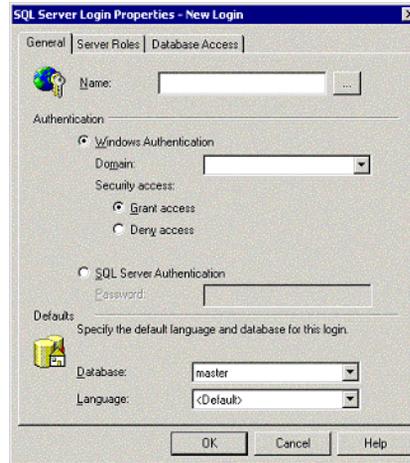
2 On the **General** tab, enter a user ID in the **Name** field and select **SQL Server Authentication**.

3 Click the **Server Roles** tab. Select **System Administrators**.

4 Click the **Database Access** tab. Select your TestPartner database and select db_owner in the database roles list that appears below. Click **OK**.

Setting Up Users in SQL Server

The following procedure should be performed on the database server machine for each user who needs to connect to the SQL Server database.

Required: You must create users within a Windows NT domain. Refer to your Microsoft Windows documentation for more information about using a Windows domain.

1 Click **Start>Programs>Microsoft SQL Server>Enterprise Manager**. The SQL Server Enterprise Manager dialog box appears:
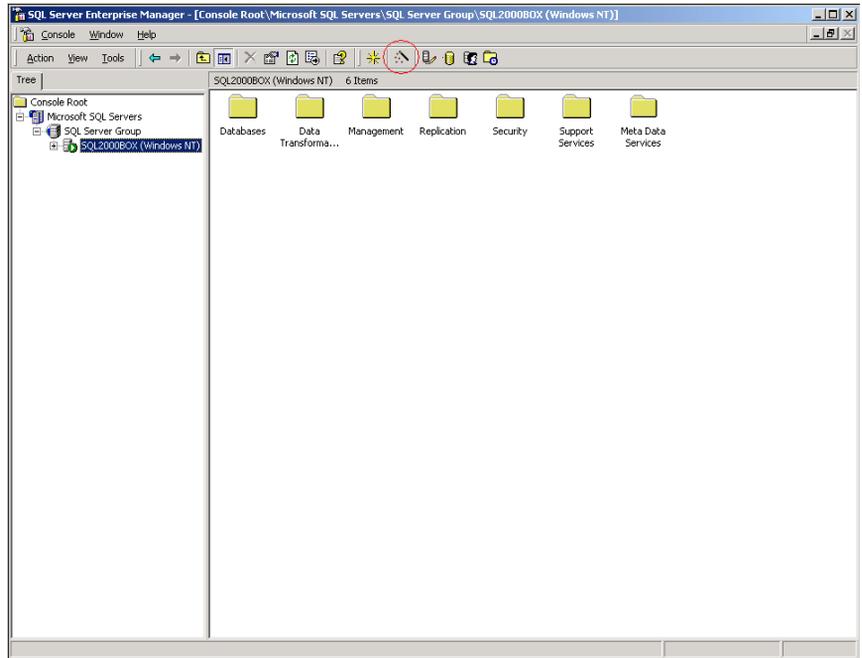
2 In the left pane, navigate to the database to which you would like to add users.

3 Click **Tools>Wizards...** or click the **Run a Wizard** button on the toolbar. This is the button with an image of a wand. The Select Wizard dialog box appears:

4 Click **Database** and select **Create Login Wizard**. Click **OK**. The Create Login Wizard dialog box appears.

5 Click **Next**.

Required: Currently, TestPartner only supports Windows NT Authentication. Microsoft suggests that Windows NT Authentication is more secure because Windows NT's security features are more robust than SQL Server's security features.

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6 Select the **Windows account information I use to logon to my computer (Windows authentication)** option and click **Next.**
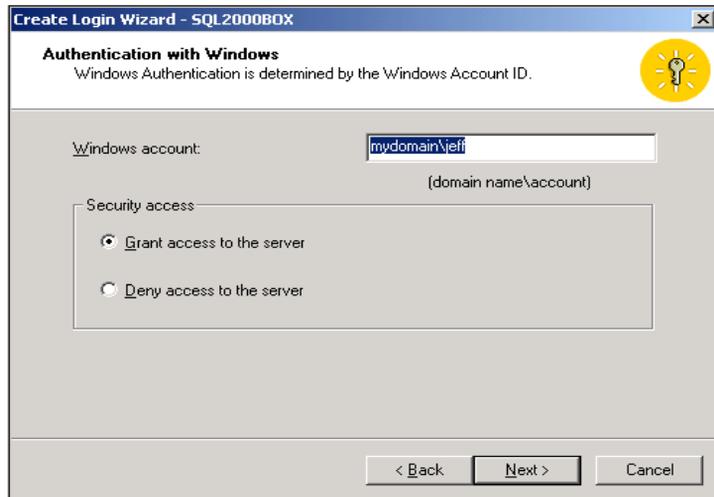
7 Type the domain name and user ID or group name for the user or group you would like to add.

8 Select the **Grant access to the server** option. Click **Next**.

9 Click **Next** again.

10 Select the check box for the database(s) to which the users will have access. Click **Next**.

11 Click **Finish**.

12 In the left pane, navigate to the database to which you added users with the Create Login Wizard. Click **Users**.

13 In the right pane, right-click the user ID or group you added with the wizard in the steps above and choose **Properties**. The Database User Properties dialog box appears.

14 Select the **db_datareader** and **db_datawriter** check boxes. Click **OK**.

Creating a New Data Source

You must create a new data source to SQL Server from the workstation that has TestPartner installed. See "Creating a Data Source Name for a SQL Server Database" on page 45 for detailed instructions.

## Preparing the SQL Server TestPartner Database

You must prepare your new SQL Server database for use with TestPartner. This section describes how to use the Database Maintenance utility to populate the database with TestPartner tables.

Required: SQL Server Authentication Mode must be set to: SQL Server and Windows (Mixed Mode) to allow connection to the SQL Server database through the Database Maintenance utility. This setting can be changed after any database maintenance tasks are performed.

1 Start TestPartner's Database Maintenance utility.

2 Click **File>New Database>SQL Server**. The SQL Server Data Source Connection dialog box appears.
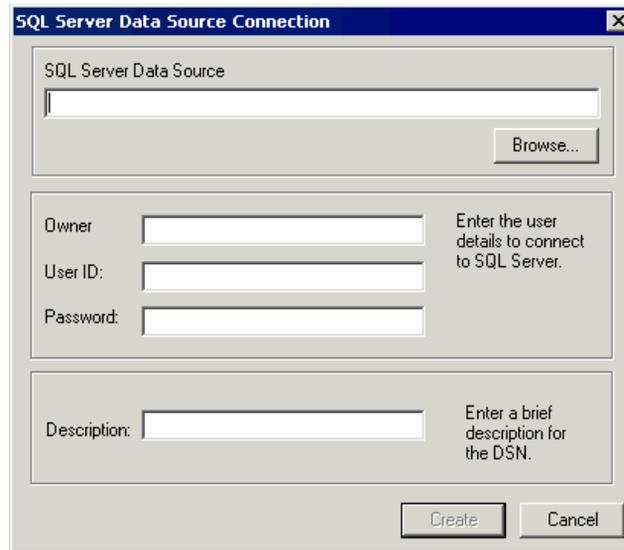
3 Type the name of the new SQL Server data source or click the **Browse** button and select a data source name from the Select ODBC Data Source dialog box. Type the name of the database Owner, User ID, and Password. Click the **Create** button.

Note: A table called TP_DSNSCHEMA must exist in the dbo schema. If the table does not already exist in the dbo schema, a System Login dialog box appears, requiring the password for dbo. Type the password, and click **OK**. The table is created.

Only one schema can be associated with a DSN name (ODBC connection). If the chosen DSN name is already associated with a schema, a Database Maintenance dialog box appears:
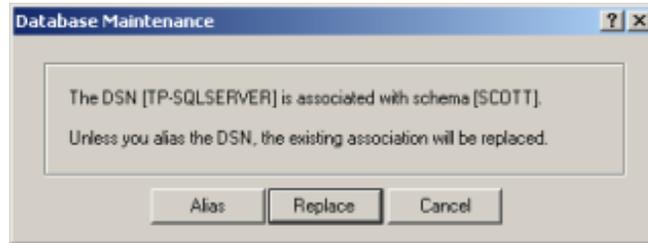
4   Click the **Replace** button to change the association of the DSN name from its current schema to the new schema (users will no longer be able to access TestPartner tables in the old schema), or click the **Alias** button to create an alias for the DSN name, a DSN Alias Creation dialog box appears:

5   Type an alias name for the DSN, this alias will be associated with the current schema. Click **OK**.

The Data Source Creation Status dialog box appears and displays the progress of the database creation.

Log on to TestPartner

To test your setup, start TestPartner and log on. The TestPartner welcome screen appears.

Figure 2-1. TestPartner Welcome Screen
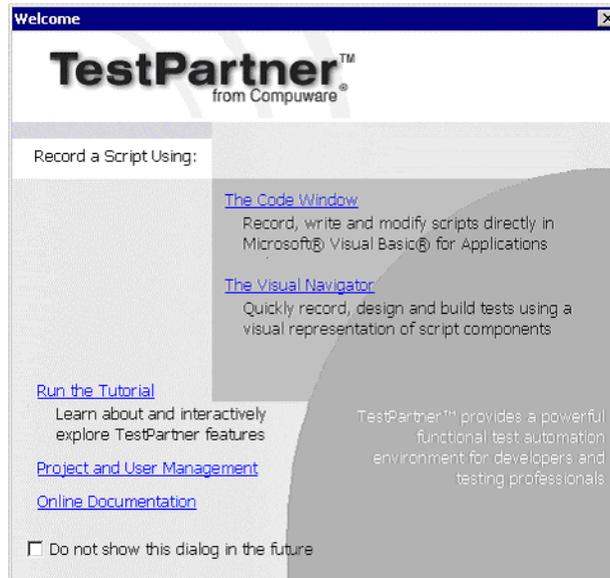
Setting Up an Oracle Database with TestPartner

This section describes how to configure an Oracle database with TestPartner.

Note: The following instructions assume familiarity with the Oracle database management system. Compuware recommends that a database administrator or a person with general knowledge of database administration performs database setup and configuration.

Oracle Database Connection Requirements

Each client machine requires a data source to connect to the database. As a result, connecting to an Oracle database for TestPartner has the following requirements:

◆ Each machine running TestPartner must be able to access the machine where the database resides.

◆ TestPartner must be installed on all machines that access the database.

◆ The appropriate database client connectivity software must be installed on any machine that runs TestPartner.

Creating a New Oracle Database

Create a new Oracle database with character set UTF8 (and National Character Set UTF8 for Oracle 8i). Consult your Oracle documentation if creating an Oracle database is unfamiliar.

Setting Up Oracle OS Authentication

On the server where the database is located, perform the following steps:

1 Locate the Oracle Initialization file in the directory where Oracle was installed.

Note: In Oracle versions below 9i, this file is called INIT.ORA. However, in Oracle 9i and later, initialization parameters can be set differently, please refer to Oracle documentation for details on initialization.

2 In the Oracle Initialization file, set values for the following parameters:

Note: If any of these parameters and values do not exist, add them.

```
remote_login_passwordfile = none
remote_os_authent = true
os_authent_prefix = ""
```

3 Locate the SQLNET.ORA file in the directory where Oracle was installed. The file should be located in ORACLE_HOME\Network\Admin directory under the main Oracle installation directory where ORACLE_HOME is the name assigned for the Oracle home during installation.

4 Open SQLNET.ORA and set the value of the following parameter to (NTS):

Note: If this parameter does not exist, add it.

```
sqlnet.authentication_services = (NTS)
```

Required: Ensure this parameter is not commented out with a # at the beginning of the line.

5 Click **Start>Run**. The Run dialog box appears.

6 In the **Open** field, type regedit. Click **OK**. The Registry Editor dialog box appears.

7 In the path `HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\HOME`*n* (where *n* is the number associated with the Oracle installation), right-click on `HOME`*n* and choose **New>String Value**. A new string value appears in the right pane of the registry editor.

8 Replace the default name, `New Value #1`, with `OSAUTH_PREFIX_DOMAIN`.

9 Double-click the string value you just created. The Edit String dialog box appears:
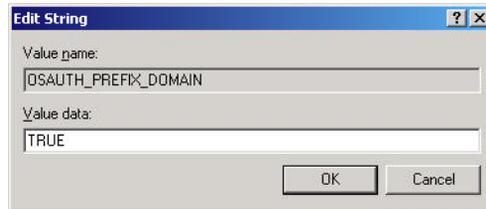
10 In the Value data field, type `TRUE`. Click **OK**.

Setting Up the Oracle Client

On the client machine from which you will connect, follow these steps:

1 Locate the `SQLNET.ORA` file in the directory where Oracle was installed. The file should be located in `ORACLE_HOME\Network\Admin` directory under the main Oracle installation directory where `ORACLE_HOME` is the name assigned for the Oracle home during installation.

2 Open `SQLNET.ORA` and set the value of the `sqlnet.authentication_services` as follows:

Note: If this parameter does not exist, add it.

```
sqlnet.authentication_services = (NTS)
```

Required: Ensure this parameter is not commented out with a # at the beginning of the line.

3 Open the `TNSNAMES.ORA` file in the directory where Oracle was installed. This file should be located in `ORACLE_HOME\Network\Admin` directory.

4 Copy the server's database entry to the `TNSNAMES.ORA` file on the client machine. For example:

```
ORACLE_SID.DOMAIN.COM=
(DESCRIPTION=
(ADDRESS_LIST=
(ADDRESS=(PROTOCOL=TCP)(HOST=SERVERNAME)(PORT=1521))
)
(CONNECT_DATA=
(SERVICE_NAME=ORACLE_SID)
)
)
```

Preparing the Oracle Database for Client Connectivity

Use the following procedure to prepare an Oracle database for client connectivity.

Note: This procedure is only necessary if you are using an Oracle client to set up the TestPartner database.

Required: You must be logged on using an ID with administrator privileges to perform this task.

You must create users within a Windows NT domain. Refer to your Microsoft Windows documentation for more information about using a Windows domain.

These procedures are for the Windows 2000 operating system. To set up users in another operating system, consult your Windows documentation.

1 On the machine that has User Manager for Domains, click **Start>Settings>Control Panel**.

2 Select **Administrative Tools**.

3 Select **Computer Management**. The Computer Management utility appears:
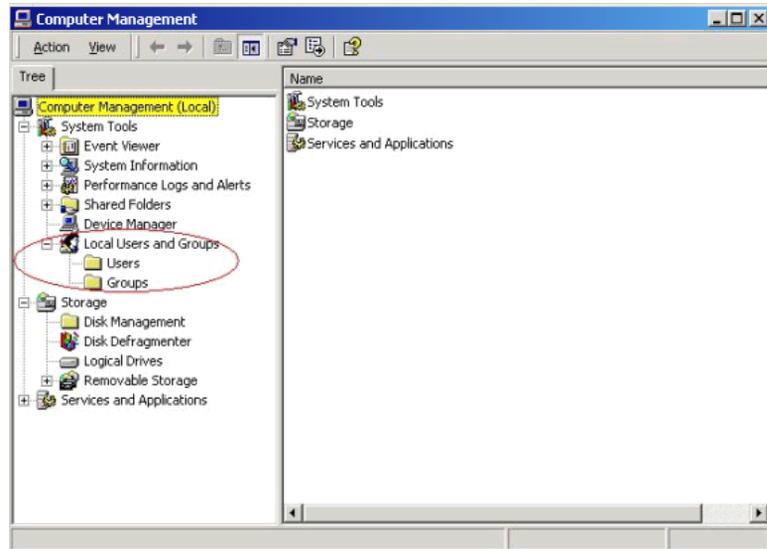
4 In the tree view, click **Local Users and Groups**.

5 Click **Groups**.

If Oracle is installed, you should see a group named **ORA_DBA**. If not, add it using the following procedure:

Creating the
ORA_DBA group:

1 In the tree view of the Computer Management utility, right click **Groups** and choose **New Group**. The New Group dialog box appears.

2 In the **Group Name** field, type ORA_DBA.

3 Click **Create**.

4 Click **Close**.

You are now ready to create server access for users.

Creating Server
Access For Users

To create individual user accounts:

1 In the tree view of the Computer Management utility, click **Local Users and Groups**.

2 Click **Groups**.
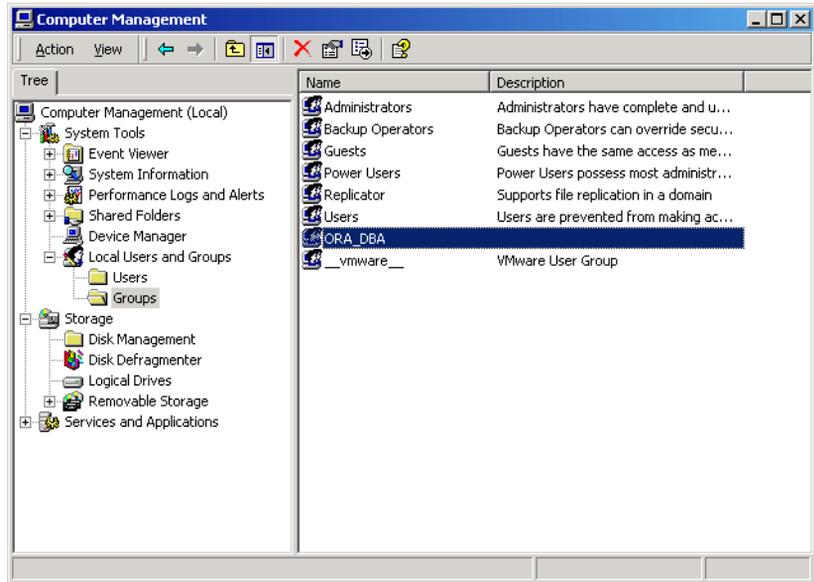
3 In the right pane, double click **ORA_DBA**. The ORA_DBA Properties dialog box appears:
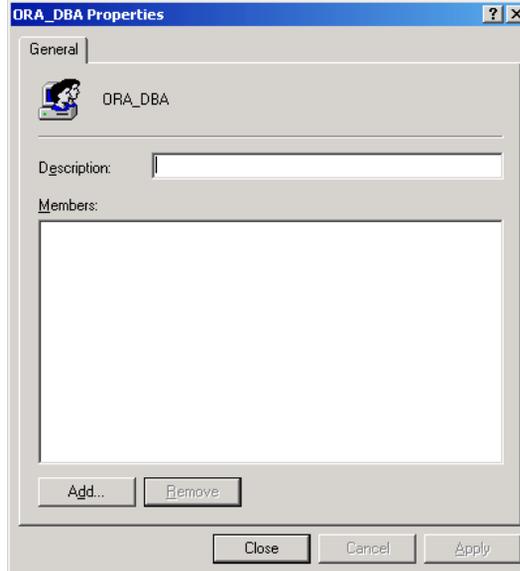
4 Click the **Add** button. The Select Users or Groups dialog box appears:
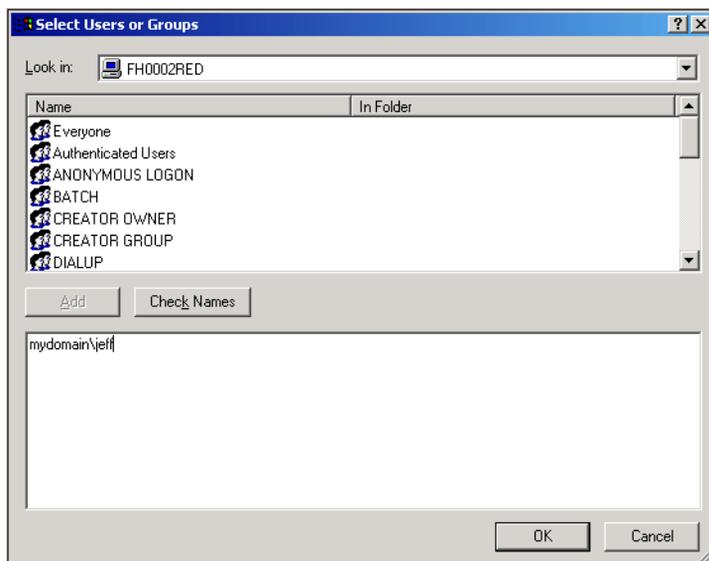
5 In the **Name** field, browse for the user's ID, select it, and click **Add.**

Or, click in the text area under the **Add** button and type:

`domain name\user ID`

Where:

`domain name:`	The name of the domain where the user is located.
`user ID:`	The network ID of the user you want to give access to.

6 Click **OK** to save the user information and return to the ORA_DBA Properties dialog box.

7 Repeat step 4–6 to create any additional user accounts.

8 When you are finished, click **OK** in the Users Properties dialog box to return to the Computer Management utility.

Setting Up Users for TestPartner in Oracle

Users must be created in such a way that Oracle knows they are authenticated via a DOMAIN controller.

Required: When setting up users for TestPartner in Oracle, a schema must be also created to house the actual tables in addition to the remotely authenticated users. The schema is not domain authenticated, but is password authenticated. See "Creating the Password Authenticated Schema" on page 35 for instructions.

Users must be created within a Windows NT domain. Refer to your Microsoft Windows documentation for more information about using a Windows domain.

Users must be added to the ORA_DBA group.

Use SQL*Plus to create users. If you are not familiar with SQL*Plus, consult your Oracle documentation.

The user performing these steps must be a member of the ORA_DBA group and have SYSDBA privileges. To specify users that can access the Oracle database, follow these steps:

1 Click **Start>Programs>Oracle>Database Administration>SQL Plus**.

2 Log on as SYSTEM and connect as SYSDBA.

3 Type commands to create each user as "DOMAIN\USERNAME" IDENTIFIED EXTERNALLY, and grant connection rights for each user as "DOMAIN\USERNAME". Type DOMAIN\USERNAME in uppercase and between double quotation marks, where DOMAIN\USERNAME is each user's domain and user name. For example:

```
SQL> create user "NT-DOMAIN\JEFF" IDENTIFIED EXTERNALLY;
SQL> grant connect, resource to "NT-DOMAIN\JEFF";
```

Note: In the case of an Oracle 9 instance, SELECT_CATALOG_ROLE must also be granted to the user. For example:

```
SQL> grant select_catalog_role to "NT-DOMAIN\JEFF";
```

Required: Microsoft operating systems return the DOMAIN\USERNAME when the user is queried. If this does not match what is defined in the database, NTS authentication will fail with ORA-1017.

4 Grant rights to access the V_$SESSION view to individual users or to all users as a public group.

Required: All TestPartner users will need rights to access the V_$SESSION view. To grant these rights, you must be logged on as a user with administrative rights, e.g., SYSDBA.

When connecting remotely, use the server name or its alias from the TNSNAMES.ORA file with the password.

If typing the command to remotely grant access for individual users, type DOMAIN\USERNAME in uppercase and between double quotation marks, where DOMAIN\USERNAME is the user name within the domain of each user.

The following shows examples of the commands that are typed for remotely granting access for individual users, and remotely granting access for all users.

Remotely Granting Access for Individual Users

```
SQL>CONNECT SYSTEM/password@ORACLE_SID.DOMAIN.COM AS SYSDBA;
SQL>GRANT SELECT ON "V_$SESSION" TO "NT-DOMAIN\JEFF";
```

Remotely Granting Access for All Users (PUBLIC)

```
SQL>CONNECT SYSTEM/password@ORACLE_SID.DOMAIN.COM AS SYSDBA;
SQL>GRANT SELECT ON "V_$SESSION" TO PUBLIC;
```

Note: If you receive any errors that indicate you cannot grant these rights, or that the V_$SESSION table cannot be found, you are not logged on appropriately.

5 Test that Windows NT Authentication is set up correctly by connecting to the database via SQL*Plus. Type a "/" for the user name. Leave the **Password** field blank, and enter the host string appropriately. Click **OK**. If you are able to log on, Windows NT authentication is working properly.

Note: In the future, you do not need to create another Oracle TestPartner database to add users. You do not have to perform the procedures "Creating a New Data Source" and "Creating the Oracle TestPartner Database".

Creating the Password Authenticated Schema

Perform the following steps to set up the password authenticated schema into which the TestPartner tables are stored.

Note: The password authenticated schema should not be more than five characters in length because of Oracle character limitations in SQL series.

1   If SQL*Plus is not started, start it by click **Start>Programs>Oracle>Database Administration>SQL Plus**.

2   If you are not properly logged on, log on as SYSTEM and connect as SYSDBA.

3   Type commands to create each user as "DOMAIN\USERNAME" IDEN-TIFIED EXTERNALLY, and grant connection rights for each user as "DOMAIN\USERNAME". Type DOMAIN\USERNAME in uppercase and between double quotation marks, where DOMAIN\USERNAME is each user's domain and user name. For example:

```
SQL> create user "NT-DOMAIN\JEFF" IDENTIFIED EXTERNALLY;
SQL> grant connect, resource to "NT-DOMAIN\JEFF";
```

Creating a New Data Source

You must create a new data source to Oracle. See "Creating a Data Source Name for an Oracle Database" on page 49 for detailed instructions.

Creating the Oracle TestPartner Database

1   Start the Database Maintenance utility.

2   Click **File>New Database>Oracle**. The Oracle Data Source Connection dialog box appears.

3   Type the name of the new Oracle data source or click the **Browse** button and select a data source name from the Select ODBC Data Source dialog box. Type a User ID, Password, and a brief description of the DSN (the Schema field is filled in automatically with the same information as the User ID). Click the **Create** button.

Note: A table called TP_DSNSCHEMA must exist in the SYSTEM schema. If the table does not already exist in the SYSTEM schema, a System Login dialog box appears, requiring the password for SYSTEM. Type the password, and click **OK**. The table is created.

Only one schema can be associated with a particular DSN name (ODBC connection). If the chosen DSN name is already associated with a schema, a Database Maintenance dialog box appears:
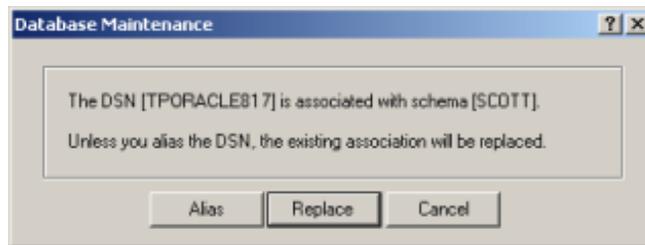
Click the **Replace** button to change the association of the DSN name from its current schema to the new schema (users will no longer be able to access TestPartner tables in the old schema), or click the **Alias** button to create an alias for the DSN name, a DSN Alias Creation dialog box appears:
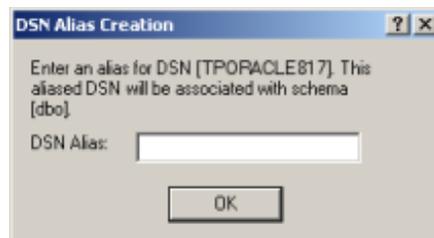
Type an alias name for the DSN, this alias will be associated with the current schema. Click **OK**.

The Data Source Creation Status dialog box appears and displays the progress of the database creation.

Log on to TestPartner

To test your setup, start TestPartner and attempt to log on. If you are successful, you will see the TestPartner welcome screen.

Figure 2-2. TestPartner Welcome Screen
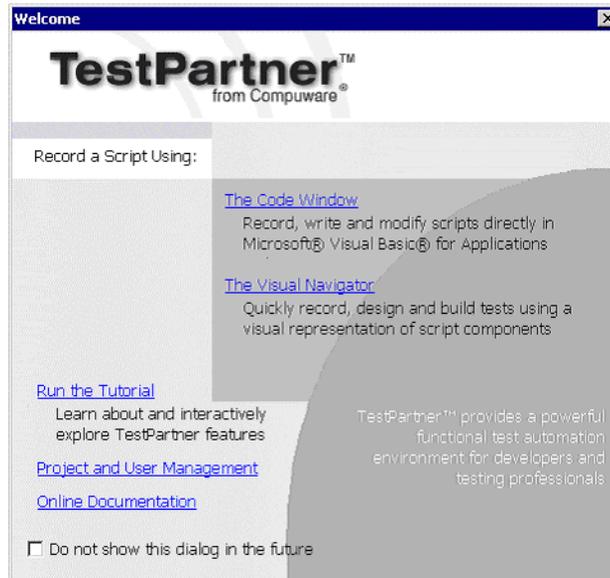
Setting Up SQL Server or Oracle for TestPartner without a Domain

Compuware strongly recommends that you use authentication within a domain when setting up an Oracle or SQL Server database with TestPartner. However, if you are not on a domain, it is still possible to set up these databases.
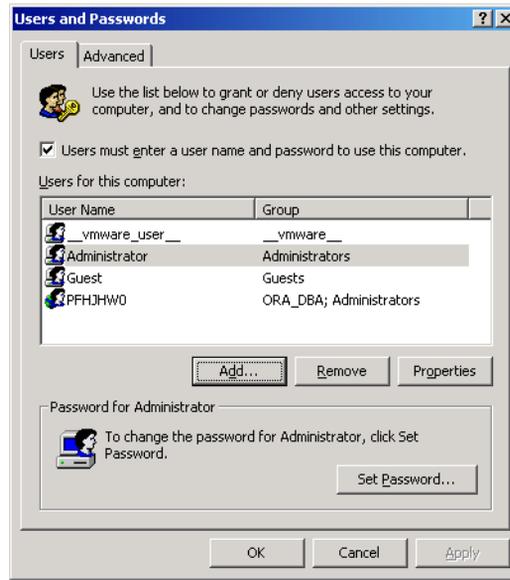
Required: To begin, you **must** create a user on **both** the client and the server machines.

To create a user, follow these procedures:

1 Click **Start>Settings>Control Panel**.

2 Double-click **Users and Passwords**. The Users and Passwords dialog box appears:

3 On the **Users** tab, click **Add**. The Add New User dialog box appears:

4 Type a valid user name in the **User name** field. Click the **Next** button.

5 Type a valid password in both the **Password** and **Confirm** password fields. Click the **Next** button.

6 Select the level of access for the user and click the **Finish** button.

7 On the Users and Passwords dialog box, click **OK**.

8 Repeat these steps on each client machine using the username and password.

Setting Up SQL Server for TestPartner without a Domain

To set up SQL Server for TestPartner without a domain, follow these steps:

1 On the server machine, click **Start>Settings>Control Panel**.

2 Select **Administrative Tools**.

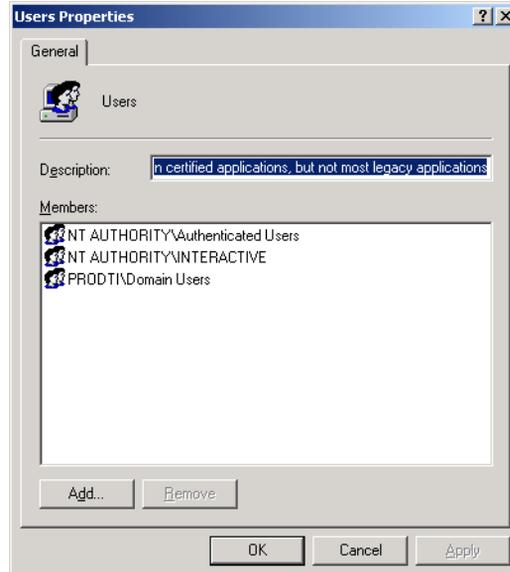**3** Select **Computer Management**. The Computer Management utility appears:
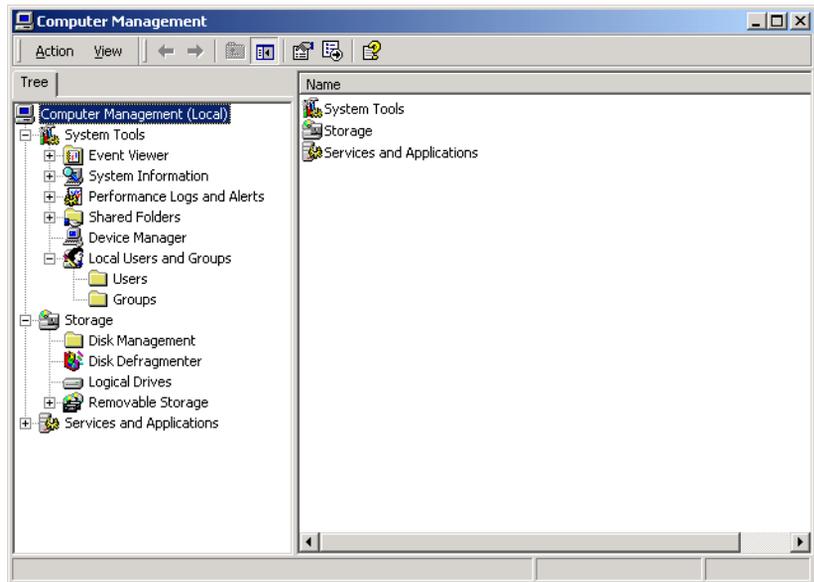
4 In the tree view, click **Local Users and Groups**.

5   Click **Groups**.
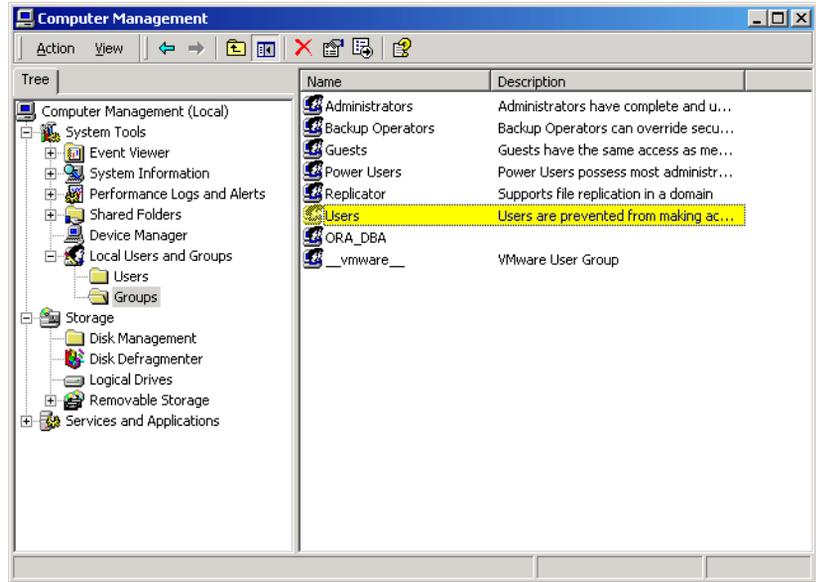
6   In the right pane, double click **Users**. The Users Properties dialog box appears:

7 Click the **Add** button. The Select Users or Groups dialog box appears.
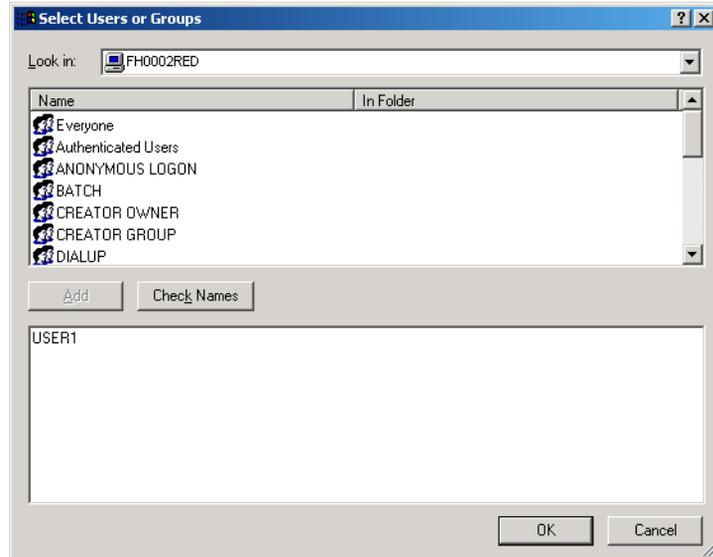
8 In the **Name** field, browse for the user's ID, select it, and click **Add.**

Or, click in the text area under the **Add** button and type:

`[user ID],`

where `[user ID]` is the user you want to give access to.

9 Click **OK** to save the user information and return to the Users Properties dialog box.

10 Repeat step 7–9 to create any additional user accounts.

11 When you are finished, click **OK** in the Users Properties dialog box to return to the Computer Management utility.

12 Close the Computer Management utility.

Setting Up Oracle for TestPartner without a Domain

To set up Oracle for TestPartner without a domain, follow the procedures for "Creating Server Access For Users" on page 31 with the following exceptions:

Substitute the user name you created under, "Setting Up SQL Server or Oracle for TestPartner without a Domain" on page 38 as shown in step 1 below:

Figure 2-3. Select Users or Groups Dialog Box
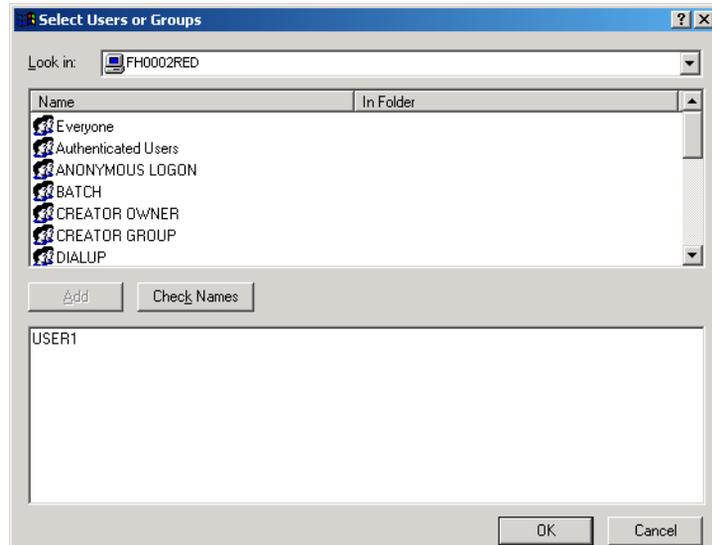
1 Click in the text area under the **Add** button (Figure 2-3) and type `[user name]` instead of [domain name]\[user ID] or [domain name]\[group name].

In addition, when using SQL*Plus to create users see step 3 on page 34, substitute *COMPUTERNAME\USERNAME* for *DOMAIN\USERNAME* as shown below:

2 Create the user as `"[COMPUTERNAME]\USERNAME" IDENTIFIED EXTER-NALLY`, entering the *COMPUTERNAME\USERNAME* in uppercase and between "" like the following example:

```
SQL> create user "FH0002RED\USER1" IDENTIFIED EXTERNALLY;
SQL> grant connect, resource to "FH0002RED\USER1";
```

3 Click **Start>Programs>Compuware>TestPartner>Utilities>Data-base Maintenance**.

4 Grant rights to access the V_$SESSION view to individual users or to all users as a public group.

Open Oracle's SQL*Plus Worksheet. Login as SYSTEM and connect as SYSDBA. You can grant the access rights by entering the commands shown below.

Required: All TestPartner users will need rights to access the V_$SESSION view. To grant these rights, you must be logged on as a user with administrative rights, e.g., SYSDBA.

Granting Access for
Individual Users

```
SQL>CONNECT SYSTEM/password AS SYSDBA;
SQL>GRANT SELECT ON "V_$SESSION" TO "COMPUTER NAME\JEFF";
```

Granting Access for All
Users (PUBLIC)

```
SQL>CONNECT SYSTEM/password AS SYSDBA;
SQL>GRANT SELECT ON "V_$SESSION" TO PUBLIC;
```

Note: If you receive any errors that indicate you cannot grant these rights, or that the V_$SESSION table cannot be found, you are not logged on appropriately.

Creating a Data Source Name

On each machine that is connecting to the TestPartner SQL Server, MSDE, Access or Oracle database, you must create a data source name (DSN) using the ODBC utility.

The ODBC utility can be accessed from the Windows Control Panel.

Required: These procedures are for the Windows 2000 operating system. To set up users in another operating system, consult your Windows documentation.

Creating a Data Source Name for an Access Database

On each client machine connecting to an Access database, perform the following steps to set up a DSN:

1 Click **Start>Settings>Control Panel>Administrative Tools>Data Sources (ODBC)**. The ODBC Data Source Administrator dialog box appears.

2 Click the **System DSN** tab, then click the **Add** button. The Create New Data Source dialog box appears:
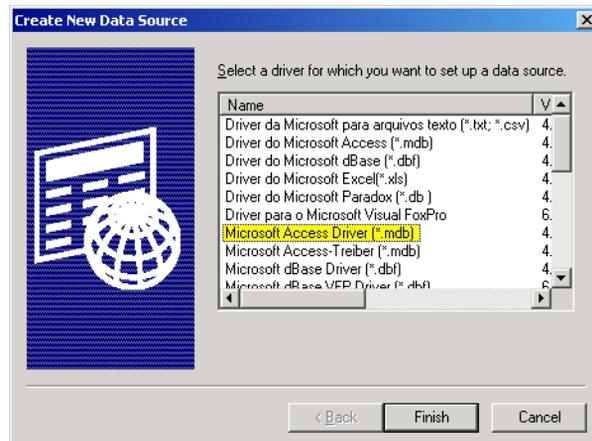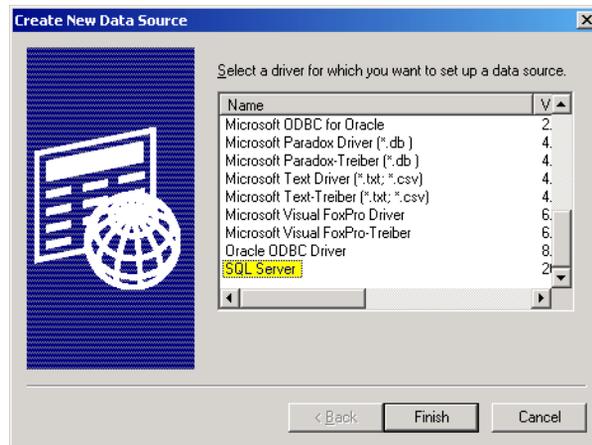

This dialog box lists the available ODBC drivers.

3 From the list of drivers, select the Microsoft Access Driver and click the **Finish** button. The ODBC Microsoft Access Setup dialog box appears.

4 In the **Data Source Name** field, type the data source name. Since this name appears as the database name in TestPartner's logon screen, it is recommended you enter a logical name in this field.

5 In the **Description** field, type a description for the data source. For example, `Connection to TestPartner Access database`.

6 Click the **Select** button and browse for your Access database.

7 On the ODBC Microsoft Access Setup dialog box, click **OK**.

8 Click **OK** on the ODBC Administrator dialog box.

Creating a Data Source Name for a SQL Server Database

On each client machine, perform the following steps to set up a DSN:

1 Click **Start>Settings>Control Panel>Administrative Tools>Data Sources (ODBC)**. The ODBC Data Source Administrator dialog box appears.

2 Click the **System DSN** tab, then click the **Add** button. The Create New Data Source dialog box appears:

This dialog box lists the available ODBC drivers.

3 From the list of drivers, select **SQL Server** and click the **Finish** button. The Create a New Data Source to SQL Server dialog box appears.

4 In the **Name** field, enter the data source name. Since this name appears as the database name in TestPartner's logon screen, it is recommended you enter a logical name in this field.

5 In the **Description** field, enter a description for the data source. For example, `Connection to TestPartner SQL database`.

6 In the **Server** field, enter the server name or select it from the drop-down list. If you do not know the server name, consult your database administrator.

7 Click the **Next** button. The Create a New Data Source to SQL Server dialog box appears.

8 Select the **With Windows NT authentication using the network login ID** option.

9 Click the **Client Configuration** button. The Add Network Library Configuration dialog box appears:
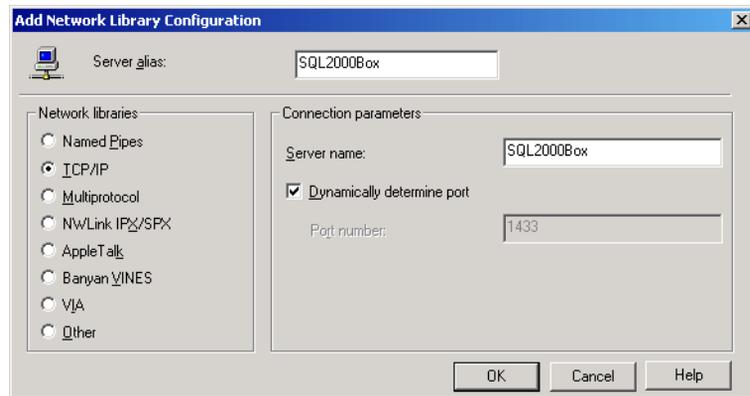

Ensure that the appropriate network library protocol is selected. If necessary, consult your network administrator to verify the correct network protocol.

10 Click **OK** to exit. You are returned to the Create a New Data Source to SQL Server dialog box.

11 Click **Next**.

12 Select the **Change the default database to** check box, then select your TestPartner database name from the drop-down list.

13 Accept all the other entries and click the **Next** button until the last panel in the wizard appears.

14 Accept the defaults and click the **Finish** button. The ODBC Microsoft SQL Server Setup window appears.

Testing the Connection

Once the connection to the database is established, use the following procedure to test the connection:

1   In the ODBC Microsoft SQL Server Setup window, click the **Test Data Source** button. You should see the following:
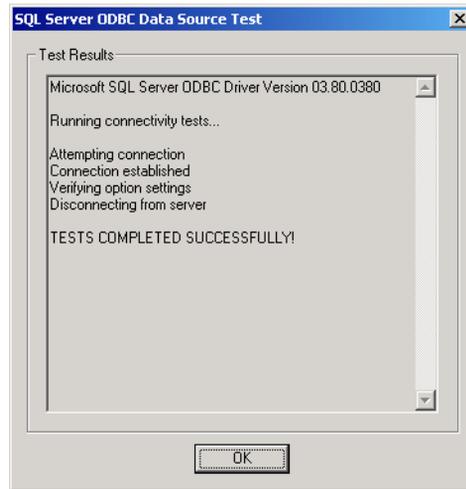
2   Click **OK**. The ODBC Microsoft SQL Server Setup window displays.

Note: If your test results fail, you need to check your setup steps again.

3   Click **OK**. The ODBC Data Source Administrator window displays. The newly created data source appears in the System Data Sources list.

4   Click **OK** to close the ODBC utility.

Creating a Data Source Name for an MSDE Database

Follow the same steps under "Creating a Data Source Name for a SQL Server Database" on page 45, **with the following exceptions**:

◆ In step 3, select **(local)** for the server name.

Figure 2-4. Create a New Data Source to SQL Server
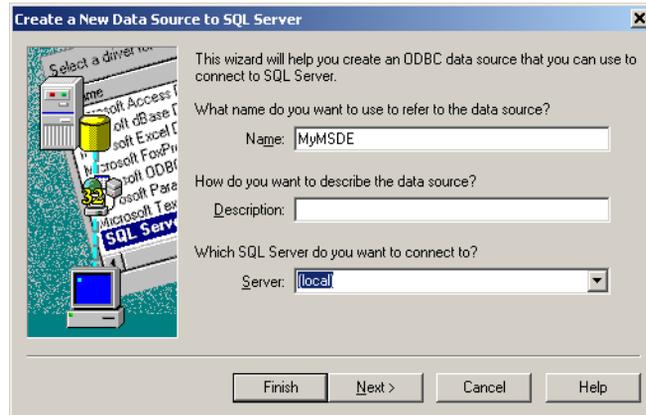
◆ In step 6, a list of databases will be available for selection. However, only the default databases from the MSDE installation will appear in the drop-down list. If you wish to create your own database for MSDE, you must use a front-end interface such as Enterprise Manager.

Creating a Data Source Name for an Oracle Database

On each client machine connecting to an Oracle database, perform the following steps to set up a DSN:

1 Click **Start>Settings>Control Panel>Administrative Tools>Data Sources (ODBC)**. The ODBC Data Source Administrator dialog box appears.

2 Click the **System DSN** tab, then click the **Add** button. The Create New Data Source dialog box appears:
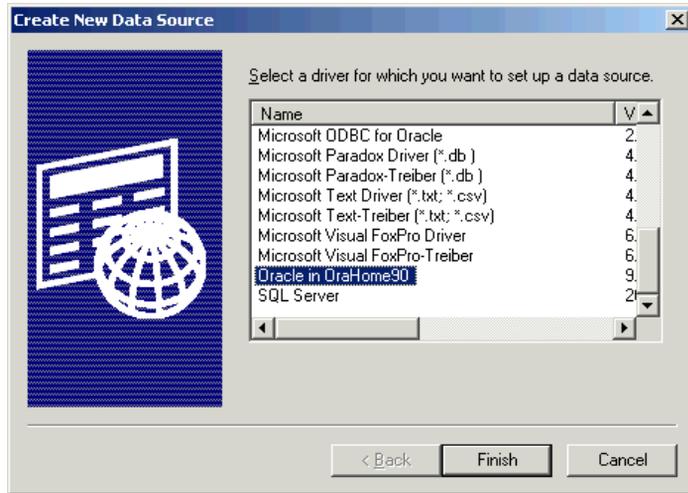
3 From the list of drivers, select the **Oracle in OraHome90** (not the Microsoft ODBC for Oracle driver) and click the **Finish** button.

Note: For Oracle 8.1.7, select the **Oracle ODBC Driver** (not the Microsoft ODBC for Oracle driver) and click the **Finish** button.

The Oracle ODBC Driver Configuration dialog box appears. The following shows this dialog box for Oracle 9.0.1.
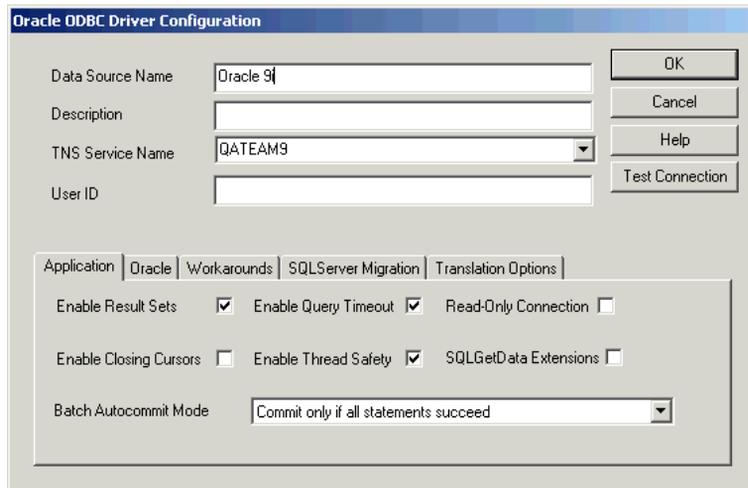
4 In the **Data Source Name** field, type the data source name. Since this name appears as the database name in TestPartner's logon screen, it is recommended you enter a logical name in this field.

5 In the **Description** field, type a description for the data source. For example, `Connection to TestPartner Oracle database`.

6 In the **TNS Service Name** field, type the service name for the database you would like to connect to in the format `ORACLE_SID.DOMAIN`, where `ORACLE_SID` is the Oracle SID you assigned to the database upon creation and `domain` is the domain that you are connecting to.

7 If you are using creating a Data Source name for an Oracle 9.0.1database, test the connection. See "Testing the Connection" below. Otherwise, click **OK**.

Testing the Connection

Oracle 9.0.1   **1** On the Oracle ODBC Driver Configuration dialog box, click the *Test Connection* button.

A message box appears stating the connection was successful.

2 Click **OK** to close the message box.

The Data Source name creation is complete.

Oracle 8.1.7   **1** Click **Start>Programs>Oracle>Network Administration>Oracle ODBC Test**. The Oracle ODBC 32Bit Test - QUERY 1 dialog box appears.

2 Click the **Connect** button. The Select Data Source dialog box appears:
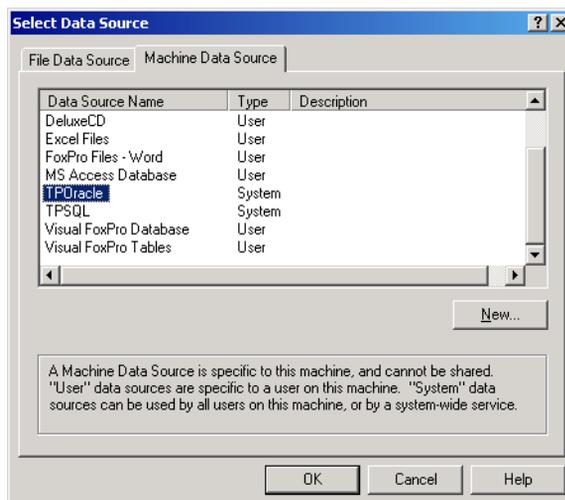
3 Click the **Machine Data Source** tab and select the appropriate DSN you created in the procedure described above.

4   Click **OK**. You are returned to the Oracle ODBC 32Bit Test - QUERY 1 dialog box.

5   Click the **All Tables** button. If data appears in the **QUERY 1** section of the dialog box, your setup is complete.

Migrating TestPartner Objects from a Standard Character Set to UTF8 (for Unicode)

It is recommended that an Oracle DBA or someone familiar with Oracle export and import utilities perform the following task. For databases larger than 2GB, the DBA should select appropriate parameters based on the size of the database.

TestPartner only supports databases with a UTF8 (Unicode) character set. Access stores strings in TEXT and MEMO fields, which are already Unicode, so no schema changes are needed. SQL Server uses the NCHAR, NVARCHAR, and NTEXT data types to store Unicode characters, so no schema changes are needed. However, in Oracle 8.x, the NCHAR family of data types is not Unicode, which means that any Oracle database character set must be converted to UTF8.

Note: In Oracle 9.x, the NCHAR data type is redefined to UTF16, but because TestPartner must support both 8.1.7 and 9.x, the 8.1.7 migration approach will be used in both instances, eliminating the need for two separate schemas.

In order to support a TestPartner database previously created in an Oracle instance with a standard character set, the database must be exported from the standard database and imported into an Oracle instance created with a UTF8 character set.

Caution: If the schema from which the TestPartner objects are being exported contains more than just TestPartner objects, it is recommended (required if the schema is SYSTEM) that the TestPartner objects be transferred to a new schema using the TestPartner Database Maintenance Utility 05.02.00 (or older) Oracle-to-Oracle Copy Utility. The objects can be then exported from the new schema.

To perform the Migration:

1 Start a command prompt and change the directory to $ORACLE_HOME/bin. This directory should contain both exp.exe and imp.exe. Exp.exe will be used to perform the export, imp.exe will be used to perform the import.

Caution: Before exporting, be sure there is sufficient disk space. If there is not enough space, export will end in a write failure.

---

2 Type `SET ORACLE_SID=MYSID` into the command prompt, where MYSID is the SID of the Oracle instance, and press **Enter**.

3 Type `EXP USERNAME/PASSWORD FILE=EXPORT.DMP LOG=EXPORT.LOG CONSISTENT=Y` into the command prompt, where USERNAME is the name of the schema to export and PASSWORD is the password for the schema. Press **Enter** to start the export.

Note: To perform the export without knowing the user's password, instead execute it as the system user. Type `EXP SYSTEM/PASSWORD FILE=EXPORT.DMP LOG=EXPORT.LOG CONSISTENT=Y OWNER=USER1` into the command prompt, where PASSWORD in the system user password and USER1 is the owner of the schema to export.

4 Create a new Oracle database with character set UTF8 (and National Character Set UTF8 for Oracle 8i). Consult your Oracle documentation if creating an Oracle database is unfamiliar.

5 Create a new user in the new Oracle instance and grant them CONNECT, RESOURCE, and SELECT_CATALOG_ROLES privileges.

6 Click **Start>Programs>Compuware>TestPartner>Utilities>Database Maintenance** from the Windows Start menu to start the TestPartner Database Maintenance Utility.

7 Click **Tools>Create UTF8 Migration Database**, the Oracle Data source Connection dialog displays.

8 Browse to the new Oracle instance with the UTF8 character set for the **Oracle Data Source Name** field and fill in the **User ID** and **Password** fields with the new schema (the **Description** field is optional). Click **OK** (steps identical to the steps in Creating the Oracle TestPartner Database may have to be followed in order to complete this step).

9 Return to the command prompt and type `SET ORACLE_SID=MYSID`, where MYSID is the SID of the UTF8 Oracle instance, and press **Enter**.

10 Type `IMP USERNAME/PASSWORD FILE=EXPORT.DMP LOG=IMPORT.LOG IGNORE=Y` into the command prompt, where USERNAME is the name of the schema to import into and PASSWORD is the password for the schema. Press **Enter** to start the import.

Note: To perform the import without knowing the user's password, instead execute it as the system user. Type `IMP SYSTEM/PASSWORD FILE=EXPORT.DMP LOG=IMPORT.LOG FROMUSER=USER1 TOUSER=USER1 IGNORE=Y` into the command prompt, where PASSWORD in the system user password and USER1 is the owner of the schema that was exported and FROMUSER and TOUSER are identical.

Chapter 3
Maintaining the Installation
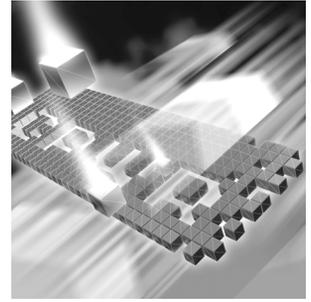
◆ Accessing Maintenance Mode

◆ Modifying an Installation

◆ Repairing an Installation

◆ Removing a Product

Note: TestPartner releases before 5.1.0 do not employ these maintenance procedures. If you need to modify or repair a TestPartner installation on releases before 5.1.0, you must uninstall it, then reinstall it. See the "Installing TestPartner" chapter for instructions on removing TestPartner from your machine.

Accessing Maintenance Mode

There are two methods for accessing a *QA*Center product's maintenance mode: from the *QA*Center CD or from the Windows Control Panel.

Required: Compuware recommends that you exit all non-essential Windows programs before running this setup program. Some Windows programs may interfere with the installation process.

Accessing Maintenance Mode from the Windows Control Panel

1   Click the Windows **Start** button and choose **Settings>Control Panel**. The Control Panel window appears.

2   **Windows 9x/NT:** Choose the **Add/Remove Programs** icon. The Add/Remove Programs Properties dialog box appears. Select the *QA*Center product to maintain and click **Add/Remove**.

Windows 2000, Windows XP Professional: Choose the **Add/ Remove Programs** icon. The Add/Remove Programs dialog box appears. Select the *QA*Center product to maintain and click **Change/ Remove**.

You are presented with the three maintenance mode options: modify, repair, and remove. For more information about these options, see the appropriate section in this chapter.

Accessing Maintenance Mode from the *QA*Center CD

1 In the CD-ROM drive, insert the *QA*Center CD containing the same version of the product that you have installed. The *QA*Center CD browser should automatically appear. If it does not, navigate to the root directory and run the `setup.exe` file.

2 Click **Install QACenter Products**.

3 Click **Install** *product name* (where *product name* is the name of the product that you want to maintain).

You are presented with three maintenance mode options: modify, repair, and remove.

Modifying an Installation

For products with optional components, you may want to add or remove a component.

Rather than uninstall and re-install the product, you can modify your installation.

Modifying Products With Optional Components

1 Access maintenance mode using one of the two methods described at the beginning of this chapter.

2 Select the **Modify** option. Click **Next**. The Select Components dialog box appears allowing you to add or remove components.

3 Click **Next**. Setup will add or remove the appropriate components.

4 After modifying, you may be prompted to restart your computer. If you are prompted to restart your computer, you may choose to restart it now (recommended) or to restart it later.

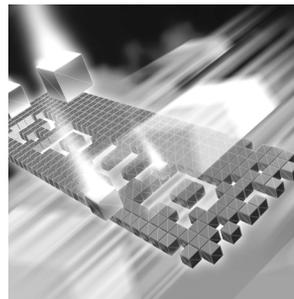**5** Click **Finish** to complete the maintenance.

Repairing an Installation

There may be times when you will need to repair a damaged *QA*Center product installation. This could be due to an inadvertent deletion or corruption of the program. To repair your *QA*Center product, follow these steps:

1   Access maintenance mode using one of the two methods described in "Accessing Maintenance Mode" at the beginning of this chapter.

2   Select the **Repair** option. Click **Next**. Setup will repair the specified *QA*Center product.

3   After repairing, you may be prompted to restart your computer. If you are prompted to restart your computer, you may choose to restart it now (recommended) or to restart it later.

4   Click **Finish** to complete the maintenance.

Removing a Product

If you want to remove a *QA*Center product from a PC, follow these steps:

1   Access maintenance mode using one of two methods described at the beginning of this chapter.

2   Select the **Remove** option. Click **Next**. The Confirm File Deletion dialog box appears.

3   Click **OK**. Setup will remove the specified *QA*Center product from your PC. If your product uses a database repository, you have the option to either save or delete it. Do not delete it if you need to retain the data in the database, as in the case of a product upgrade.

4   After uninstalling, you may be prompted to restart your computer. If you are prompted to restart your computer, you may choose to restart it now (recommended) or to restart it later.

5   Click **Finish** to complete the maintenance.

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