Oracle® Database

Client Installation Guide

11*g* Release 1 (11.1) for Microsoft Windows

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Oracle Database Client Installation Guide 11*g* Release 1 (11.1) for Microsoft Windows

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Preface

This guide provides instructions about installing and configuring Oracle Database Client for both Microsoft Windows (32-Bit) and Microsoft Windows (x64). Only the features of Oracle Database for Microsoft Windows (32-Bit) and Microsoft Windows (x64) software installed on Windows Server 2000, Windows Server 2003, Windows Server 2003 R2, Windows XP Professional, and Windows Vista are discussed in this guide.

This preface contains these topics:

- Audience
- Documentation Accessibility
- Related Documentation
- Conventions

Audience

Oracle Database Client Installation Guide for Microsoft Windows is intended for anyone installing an Oracle Database Client.

To use this document, you need the following:

- A supported Microsoft Windows operating system installed and tested on your computer system
- Administrative privileges on the computer where you are installing Oracle Database Client
- Familiarity with object-relational database management concepts

See Also:

- *Oracle Database Client Quick Installation Guide for Microsoft Windows (32-Bit)* if you want to perform a quick installation using the default settings
- *Oracle Database Client Quick Installation Guide for Microsoft Windows (x64)* if you want to perform a quick installation using the default settings

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our

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http://www.oracle.com/accessibility/

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Oracle provides dedicated Text Telephone (TTY) access to Oracle Support Services within the United States of America 24 hours a day, 7 days a week. For TTY support, call 800.446.2398. Outside the United States, call +1.407.458.2479.

Related Documentation

For more information, see these Oracle resources:

- *Oracle Database Release Notes for Microsoft Windows*
- *Oracle Database Installation Guide for Microsoft Windows*
- *Oracle Enterprise Manager Grid Control Installation and Basic Configuration*
- *Oracle Database Upgrade Guide*
- *Oracle Database Platform Guide for Microsoft Windows*
- *Oracle Database 2 Day DBA*

Many of the examples in this book use the sample schemas, which are installed by default when you select the Basic Installation option with an Oracle Database installation. Refer to *Oracle Database Sample Schemas* for information on how these schemas were created and how you can use them yourself.

Printed documentation is available for sale in the Oracle Store at

http://oraclestore.oracle.com/

To download free release notes, installation documentation, white papers, or other collateral, please visit the Oracle Technology Network (OTN). You must register online before using OTN; registration is free and can be done at

http://www.oracle.com/technology/membership/

If you already have a username and password for OTN, then you can go directly to the documentation section of the OTN Web site at

http://www.oracle.com/technology/documentation/

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Oracle Database Client Installation Overview

This chapter describes the different types of Oracle Database Client installations that you can perform, as well as issues that to consider before you install the software:

- Installation Overview
- New Oracle Product Installed with This Release
- Deprecated Components in Oracle Database Client 11g Release 1 (11.1)
- Managing User Accounts with User Account Control on Windows Vista
- Oracle Database Client Installation Types

Installation Overview

The Oracle Database Client installation process consists of five steps:

1. **Read the release notes**: Read the Oracle Database 11*g* release 1 (11.1) release notes before you begin the installation. The release notes are available with the platform-specific documentation. The latest version of the release notes is available on Oracle Technology Network at:

   `http://www.oracle.com/technology/documentation`

2. **Plan your installation:** This overview chapter describes the installation types that you can use to install Oracle Database Client and issues to consider before you begin.

   You may also want to refer to Appendix A, "Frequently Asked Questions about Installation," in *Oracle Database Installation Guide*. This appendix advises on the best way to install Oracle products depending on your site's requirements.

3. **Complete preinstallation tasks:** Chapter 2 describes preinstallation tasks that you must complete before installing Oracle Database Client.

4. **Install the software:** Use the following sections to install Oracle Database Client:

   - Chapter 3 describes how to use the Oracle Universal Installer (OUI) GUI to install Oracle Database Client.
   - Appendix B describes how to perform a silent or noninteractive installation using response files.
   - "Installing and Using Oracle Components in Different Languages" on page C-1 describes how to install and use Oracle components in different languages.
   - Appendix D provides troubleshooting advice in case you encounter problems with the installation.

- Chapter 5 describes how to remove Oracle Database Client.

5. **Complete postinstallation tasks:** Use the following sections to complete the postinstallation tasks:
   - Chapter 4 describes recommended and required postinstallation tasks.
   - Appendix C provides information on globalization support.

New Oracle Product Installed with This Release

The following product is installed by default during a Database Client installation for 11*g* release 1:

Oracle SQL Developer

Oracle SQL Developer is a graphical version of SQL*Plus that gives database developers a convenient way to perform basic tasks. Following are the functions you can perform with Oracle SQL Developer:

- Browse, create, edit, and delete (drop) database objects
- Run SQL statements and scripts
- Create, edit, compile, and debug PL/SQL code
- Create, edit, and update data
- Import data, export data, and Data Definition Language (DDL)
- View and create reports
- View metadata and data of Microsoft Access, Microsoft SQL Server, and MySQL databases

Deprecated Components in Oracle Database Client 11*g* Release 1 (11.1)

The following is a list of components that were part of Oracle Database Client 10*g* release 2 (10.2), and are not available for installation with Oracle Database Client 11*g*:

- Oracle Enterprise Manager Java console
- SQL*Plus Graphic User Interface

Managing User Accounts with User Account Control on Windows Vista

To ensure that only trusted applications run on your computer, Windows Vista provides User Account Control. If you have enabled this security feature, then, depending on how you have configured it, Oracle Universal Installer prompts you for either your consent or your credentials when installing Oracle Database. Provide either the consent or your Windows Administrator credentials as appropriate.

You must have Administrator privileges to run some Oracle tools, such as Database Configuration Assistant, Net Configuration Assistant, and OPatch, or to run any tool or application that writes to any directory within the Oracle home. If User Account Control is enabled, and you are logged in as the local Administrator, then you can successfully run each of these commands in the usual way. However, if you are logged in as "a member of the Administrator group," then you must explicitly invoke these tasks with Windows Administrator privileges. All the Oracle shortcuts which require Administrator privileges will be invoked as "Administrator" automatically when we click the shortcuts. However, if you run the above tools from a Windows command

prompt, you need to run them from an admin command prompt. OPatch does not have a shortcut and has to be run from an admin command prompt. See "Starting Database Tools on Windows Vista" in *Oracle Database Platform Guide for Microsoft Windows* for more information.

To start a command prompt window with Windows Administrator privileges:

1. On your Windows Vista Desktop, create a shortcut for the command prompt window. An icon for that shortcut appears on the Desktop.
2. Right click the icon for the newly created shortcut, and specify "Run as administrator."

When you open this window, the title bar reads Administrator: Command Prompt. Commands run from within this window are run with Administrator privileges.

Oracle Database Client Installation Types

You can choose one of the following installation types when installing Oracle Database Client:

- **Instant Client:** Installs only the shared libraries required by Oracle Call Interface applications that use the Instant Client feature. This installation type requires much less disk space than the other Oracle Database Client installation types.

  Included in the Instant Client installation is Instant Client Light. You may want to use this version of Instant Client if your applications will generate error messages in American English only. The advantage of using Instant Client Light is that it has a much smaller footprint than regular Instant Client. Hence, your applications use less memory.

- **Administrator:** Enables applications to connect to an Oracle database on the local system or on a remote system. It provides tools that let you administer an Oracle database.
- **Runtime:** Enables applications to connect to an Oracle database on the local system or on a remote system.
- **Custom:** Enables you to select individual components from the list of Administrator and Runtime components.

2

Oracle Database Client Preinstallation Requirements

This chapter describes the following tasks that you must complete before you can install the Oracle Database Client products:

- Oracle Database Client Hardware Requirements
- Oracle Database Client Software Requirements
- Oracle Database Client Hardware and Software Certification
- Recommended System Requirements for SQL Developer

Oracle Database Client Hardware Requirements

Table 2–1 lists the required hardware components for Oracle Database Client on Windows 32-Bit.

Table 2–2 lists the required hardware components for Oracle Database Client on Windows x64.

Table 2–1 Windows 32-Bit Hardware Requirements

Requirement	Minimum Value
Physical memory (RAM)	256 MB minimum, 512 MB recommended (On Windows Vista, 512 MB minimum)
Virtual memory	Double the amount of RAM
Hard disk space	Total ranges between 160–700 MB. See Table 2–3 for details.
Processor	550 MHz minimum (On Windows Vista, 800 MHz minimum)
Video adapter	256 colors

Table 2–2 Windows x64 Hardware Requirements

Requirement	Minimum Value
Physical memory (RAM)	512 MB minimum, 1 GB recommended
Virtual memory	Double the amount of RAM
Hard disk space	Total ranges between 280–855 MB. See Table 2–3 for details.
Processor	AMD64, or Intel Extended memory (EM64T)

Table 2–2 (Cont.) Windows x64 Hardware Requirements

Requirement	Minimum Value
Video adapter	256 colors

Hard Disk Space Requirements

This section lists system requirements for Windows platforms that use the NT File System (NTFS). FAT32 space requirements are slightly higher. Oracle recommends installing Oracle components on NTFS.

The NTFS system requirements listed in this section are more accurate than the hard disk values reported by the Oracle Universal Installer Summary window. The Summary window does not include the space required to create a database or the size of compressed files that are expanded on the hard drive.

The hard disk requirements for Oracle Database Client components include space required to install Java Runtime Environment (JRE) and Oracle Universal Installer on the partition where the operating system is installed. If sufficient space is not detected, then installation fails and an error message appears.

Table 2–3 lists the Windows 32-Bit disk space requirements on NTFS.

Table 2–4 lists the Windows x64 disk space requirements on NTFS.

Table 2–3 Windows 32-Bit Disk Space Requirements on NTFS

Installation Type	TEMP Space	*SYSTEM_DRIVE*:\Program Files\Oracle\Inventory	Oracle Home	Total
Instant Client	100 MB	1.1 MB	160 MB	261 MB
Administrator	100 MB	1.1 MB	700 MB	801 MB
Runtime	100 MB	1.1 MB	450 MB	551 MB
Custom (all components installed)	100 MB	1.1 MB *	580 MB *	681 MB *

* Disk space requirements vary, depending on the components selected.

Note: If you want to configure only the Instant Client Light component of Instant Client, you need 30–32 MB of disk space to store the related files. Refer to "Configuring Instant Client Light" on page 4-2 for more information.

See Also: "NTFS File System and Windows Registry Permissions" in *Oracle Database Platform Guide for Microsoft Windows*

Table 2–4 Windows x64 Disk Space Requirements on NTFS

Installation Type	TEMP Space	*SYSTEM_DRIVE*:\Program Files\Oracle\Inventory	Oracle Home	Total
Instant Client	100 MB	1.1 MB	175 MB	276 MB

Table 2–4 (Cont.) Windows x64 Disk Space Requirements on NTFS

Installation Type	TEMP Space	*SYSTEM_DRIVE*:\Program Files\Oracle\Inventory	Oracle Home	Total
Administrator	100 MB	1.1 MB	760 MB	861 MB
Runtime	100 MB	1.1 MB	500 MB	600 MB
Custom (all components installed)	100 MB	1.1 MB *	650 MB *	750 MB *

* Disk space requirements vary, depending on the components selected.

Note: If you want to configure only the Instant Client Light component of Instant Client, you need 30–32 MB of disk space to store the related files. Refer to "Configuring Instant Client Light" on page 4-2 for more information.

See Also: "NTFS File System and Windows Registry Permissions" in *Oracle Database Platform Guide for Microsoft Windows*

To ensure that the system meets these requirements, follow these steps:

1. Determine the physical RAM size. For example, on a Windows 2003 computer, open **System** in the Windows Control Panel and select the **General** tab. If the size of the physical RAM installed in the system is less than the required size, then you must install more memory before continuing.
2. Determine the size of the configured virtual memory (also known as paging file size). For example, on a Windows 2003 computer, open **System**, select the **Advanced** tab, and click **Settings** in the **Performance** section. Then select the **Advanced** tab. The virtual memory is listed in the **Virtual Memory** section.

   If necessary, see your operating system documentation for information about how to configure additional virtual memory.
3. Determine the amount of free disk space on the system. For example, on a Windows 2003 computer, open **My Computer**, right-click the drive where the Oracle software is to be installed, and choose **Properties**.
4. Determine the amount of disk space available in the `temp` directory. This is equivalent to the total amount of free disk space, minus what will be needed for the Oracle software to be installed.

   If there is less than 100 MB of disk space available in the `temp` directory, then delete all unnecessary files. If the temp disk space is still less than 100 MB, then set the `TEMP` or `TMP` environment variable to point to a different hard drive location. For example, to change the environment variables on a Windows 2003 computer, open **System**, select the **Advanced** tab, and click **Environment Variables**.

Oracle Database Client Software Requirements

This section covers the following topics:

- General Oracle Database Client Software Requirements for Windows 32-Bit
- General Oracle Database Client Software Requirements for Windows x64
- Instant Client Light Language and Character Set Requirements

General Oracle Database Client Software Requirements for Windows 32-Bit

Table 2–5 lists the software requirements for Oracle Database Client on Windows 32-Bit.

Table 2–5 Windows 32-Bit Software Requirements

Requirement	Value
System Architecture	Processor: Intel (x86), AMD64, and Intel EM64T **Note:** Oracle provides 32-bit (x86) and 64-bit (x64) versions of Oracle Database Client for Windows. The 32-bit database client version, which this installation guide describes, runs on the 32-bit version of Windows on either x86 or x64 hardware. Oracle provides limited certification for 32-bit Oracle Database Client on 64-bit Windows (x64). For additional information, visit Oracle*MetaLink* at: `https://metalink.oracle.com`
Operating System	Oracle Database Client for Windows is supported on the following operating systems: ■ Windows 2000 with service pack 1 or later. All editions, including Terminal Services and Microsoft Windows 2000 MultiLanguage Edition (MLE), are supported. ■ Windows Server 2003 - all editions ■ Windows Server 2003 R2 - all editions ■ Windows XP Professional ■ Windows Vista - Business, Enterprise, and Ultimate editions Windows NT is not supported. Windows Multilingual User Interface Pack is supported on Windows Server 2003, Windows Server 2003 R2, Windows XP Professional, and Windows Vista.
Compiler	Pro*Cobol has been tested and certified with Net Express 5.0. Object Oriented COBOL (OOCOBOL) specifications are not supported. **Note:** This version of Pro*Cobol has also been tested and certified on Windows x64 with Net Express 5.0. The following components are supported with the Microsoft Visual C++ .NET 2002 7.0 and Microsoft Visual C++ .NET 2003 7.1 compilers: ■ Oracle Call Interface ■ External callouts ■ Pro*C/C++ ■ XDK Oracle C++ Call Interface is supported with ■ Microsoft Visual C++ .NET 2003 7.1 ■ Microsoft Visual C++ .NET 2005 8.0 - OCCI libraries are installed under *ORACLE_BASE*`\`*ORACLE_HOME*`\oci\lib\msvc\vc8`. when developing OCCI applications with MSVC++ 8.0, ensure that the OCCI libraries are correctly selected from this directory for linking and executing.

Table 2–5 (Cont.) Windows 32-Bit Software Requirements

Requirement	Value
Network Protocol	The Oracle Net foundation layer uses Oracle protocol support to communicate with the following industry-standard network protocols: ■ TCP/IP ■ TCP/IP with SSL ■ Named Pipes

See Also:

- "Windows Terminal Services and Remote Desktop Support" on page 2-8
- "Components Supported on Windows XP and Windows Vista (32-Bit)" on page 2-9

General Oracle Database Client Software Requirements for Windows x64

Table 2–6 lists the software requirements for Oracle Database Client on Windows x64.

Table 2–6 Windows x64 Software Requirements

Requirement	Value
System Architecture	Processor: AMD64, or Intel (EM64T) **Note:** Oracle provides 32-bit (x86) and 64-bit (x64) versions of Oracle Database Client for Windows. The 64-bit (x64) database client version, which this installation guide describes, runs on the 64-bit version of Windows on AMD64 and EM64T hardware. Oracle provides limited certification for 32-bit Oracle Database Client on 64-bit Windows (x64). For additional information, visit Oracle MetaLink at: `https://metalink.oracle.com`
Operating System	Oracle Database Client for Windows x64 is supported on the following operating systems: ■ Windows Server 2003 - all x64 editions ■ Windows Server 2003 R2 - all x64 editions ■ Windows XP Professional x64 Edition ■ Windows Vista x64 - Business, Enterprise, and Ultimate editions Windows Multilingual User Interface Pack is supported on Windows Server 2003, Windows Server 2003 R2, Windows XP, and Windows Vista.

Table 2–6 (Cont.) Windows x64 Software Requirements

Requirement	Value
Compiler	Pro*Cobol is supported with Net Express 5.0. The following components are supported with the Windows 2003 Microsoft Platform SDK (or later) and Intel compiler version 8.1: ■ Oracle C++ Call Interface ■ Oracle Call Interface ■ External callouts ■ Pro*C/C++ ■ XDK Microsoft Visual C++ 8 (Visual Studio 2005) is supported for Oracle C++ Call Interface. GNU Compiler Collection (GCC) and Object Oriented COBOL (OOCOBOL) specifications are not supported. OCCI libraries are installed under *ORACLE_BASE**ORACLE_HOME*\oci\lib\msvc\vc8. When developing OCCI applications with MSVC++ 8.0, ensure that the OCCI libraries are correctly selected from this directory for linking and executing.
Network Protocol	The Oracle Net foundation layer uses Oracle protocol support to communicate with the following industry-standard network protocols: ■ TCP/IP ■ TCP/IP with SSL ■ Named Pipes

See Also:

- "Windows Terminal Services and Remote Desktop Support" on page 2-8
- "Unsupported Components on Windows x64" on page 2-9

Instant Client Light Language and Character Set Requirements

In addition to the requirements described in the previous section, if you plan to use Instant Client Light, the applications must use the following languages and character sets:

- **Language:** Any language that is supported by Oracle, but only US English error messages are returned for errors generated on the client side.
- **Territory:** Any territory that is supported by Oracle.
- **Character sets:**
  - Single byte
    - US7ASCII
    - WE8DEC
    - WE8ISO8859P1
    - WE8MSWIN1252
  - Unicode

* UTF8
* AL16UTF16
* AL32UTF8

Instant Client Light can connect to databases having one of the following database character sets. An error is returned if a character set other than those in the list is used as the client or database character set.

- US7ASCII
- WE8DEC
- WE8MSWIN1252
- WE8ISO8859P1
- WE8EBCDIC37C
- WE8EBCDIC1047
- UTF8
- AL32UTF8

Instant Client Light can also operate with the OCI Environment handles created in the OCI_UTF16 mode.

The language, territory, and character sets are determined by the `NLS_LANG` parameter, which is stored in the registry under the `HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\`*`KEY_HomeName`*`\NLS_LANG` subkey, where *`HomeName`* is the unique name identifying the Oracle home.

Caution: AL32UTF8 is the Oracle Database character set that is appropriate for XMLType data. It is equivalent to the IANA registered standard UTF-8 encoding, which supports all valid XML characters.

Do not confuse Oracle Database database character set UTF8 (no hyphen) with database character set AL32UTF8 or with character encoding UTF-8. Database character set UTF8 has been superseded by AL32UTF8. Do not use UTF8 for XML data. UTF8 supports only Unicode version 3.1 and earlier; it does not support all valid XML characters. AL32UTF8 has no such limitation.

Using database character set UTF8 for XML data could potentially cause a fatal error or affect security negatively. If a character that is not supported by the database character set appears in an input-document element name, a replacement character (usually "?") is substituted for it. This terminates parsing and raise an exception.

See Also: Appendix C, "Configuring Oracle Database Globalization Support" for more information on `NLS_LANG`

Oracle Database Client Hardware and Software Certification

The platform-specific hardware and software requirements included in this installation guide were current at the time this guide was published. However, because new platforms and operating system software versions might be certified after this guide is published, review the certification matrix on the Oracle*MetaLink* Web site

for the most up-to-date list of certified hardware platforms and operating system versions. This Web site also provides compatible client an database versions, patches, and workaround information for bugs. The Oracle*MetaLink* Web site is available at the following URL:

`https://metalink.oracle.com/`

You must register online before using Oracle*MetaLink*. After logging in, select **Certify & Availability** from the left-hand column. From the Product Lifecycle page, select the **Certifications** button. Other Product Lifecycle options include **Product Availability**, **Desupport Notices**, and **Alerts**.

The following sections list the certification information:

- Windows Telnet Services Support
- Windows Terminal Services and Remote Desktop Support
- Components Supported on Windows XP and Windows Vista (32-Bit)
- Unsupported Components on Windows x64
- Third-Party Database Certification for SQL Developer
- Web Browser Support

Windows Telnet Services Support

Windows 2000, Windows 2003, Windows Server 2003 R2, and Windows XP include a Telnet Service that allows remote users to log on to the operating system and run console programs using the command line, in the same way that they do on UNIX. Oracle supports database command line utilities, such as SQL*Plus, Export, Import, and SQL*Loader, using this feature, but does not support their GUI tools, such as Oracle Universal Installer, Database Configuration Assistant, and Oracle Net Configuration Assistant.

Note: Make sure that the Telnet service is started on the Windows **Services** utility.

Windows Terminal Services and Remote Desktop Support

Oracle supports installing, configuring, and running Oracle Database through Terminal Services on Windows 2000, Windows 2003, Windows Server 2003 R2, Windows XP, and Windows Vista. To install Oracle Database, Oracle recommends that you start all configuration tools from the Terminal Server console session of the server (using `mstsc/console`).

For Windows 2000, Oracle supports installing, configuring, and running Oracle Database Client from a remote Terminal Services Client. You can configure Windows 2003 to use Terminal Services in Remote Desktop for Administration Mode or Terminal Server Mode. For Windows XP and Windows Vista, the Remote Desktop is only available in Single User Mode.

See Also:

- The Microsoft Web site for more information about terminal servers

  http://www.microsoft.com/

- The Oracle*MetaLink* Web site for the latest Terminal Server certification information

  https://metalink.oracle.com/

Components Supported on Windows XP and Windows Vista (32-Bit)

All Oracle Database Client components are supported on Windows XP and Windows Vista with the following exceptions:

- DCE Adapter Support
- Entrust PKI Support
- nCipher Accelerator Support
- Oracle Services for Microsoft Transaction Server are not supported on Windows Vista. As a result, all Oracle Windows data access drivers on Windows Vista that use Oracle Services for Microsoft Transaction Server to enlist in Microsoft Distributed Transaction Coordinator (MSDTC) coordinated transactions cannot participate in those coordinated transactions. These data access drivers include Oracle Data Provider for .NET, Oracle Provider for OLE DB, Oracle Objects for OLE, and ODBC. Check Oracle*MetaLink* for up to date information on Oracle Services for Microsoft Transaction Server certification with Windows Vista.
- Oracle Fail Safe Manager Console is supported on Windows XP but not on Windows Vista.

Additional Components Supporting Windows Vista (32-Bit)

Oracle Developer Tools for Visual Studio .NET 10.2.0.2.20 or higher is certified for Microsoft Vista beginning with Oracle Data Access Components (ODAC) 10.2.0.2.21. Oracle Data Access Components bundle these products together in a single installation and is available for download from Oracle Technology Network:

http://www.oracle.com/technology/software/tech/windows/odpnet/index.html

The tools provide support for Microsoft Visual Studio 2005 and Microsoft Visual Studio .NET 2003 users.

Unsupported Components on Windows x64

All Oracle Database Client components are supported on Windows x64 with the following exceptions:

- DCE Adapter
- GNU Compiler Collection (GCC)
- Oracle Developer Tools for Visual Studio .NET
- Oracle HTTP Server
- Business Components for Java (BC4J)
- CyberSafe Adapter Support

- Entrust PKI Support
- Java Server Pages
- nCipher Accelerator Support
- Oracle Services for Microsoft Transaction Server are not supported on Windows Vista. As a result, all Oracle Windows data access drivers on Windows Vista that use Oracle Services for Microsoft Transaction Server to enlist in Microsoft Distributed Transaction Coordinator (MSDTC) coordinated transactions cannot participate in those coordinated transactions. These data access drivers include Oracle Data Provider for .NET, Oracle Provider for OLE DB, Oracle Objects for OLE, and ODBC. Check Oracle*MetaLink* for up to date information on Oracle Services for Microsoft Transaction Server certification with Windows Vista.
- Oracle Objects for OLE
- Oracle Fail Safe Manager Console

Third-Party Database Certification for SQL Developer

SQL Developer can be used to view metadata and data of several non-Oracle databases. The following table lists the third-party database certifications.

Database	Releases	Notes
Microsoft Access	Access 97 Access 2000 Access 2003	For any Access release: no JDBC driver needed, but you must ensure read access to the system tables in the `.mdb` file.
Microsoft SQL Server	SQL Server 7 SQL Server 2000 SQL Server 2005	For any Microsoft SQL Server release: JDBC driver `jtds-1.2.2.jar` required. This is included in the `jtds-1.2-dist.zip` available from `sourceforge.net`.
MySQL	MySQL 3.x	For any MySQL release: JDBC driver required.
	MySQL 4.x MySQL 5.x	For MySQL 5.x: `mysql-connector-java-5.0.4-bin.jar` is required, which is included in `mysql-connector-java-5.0.4.zip`.

Web Browser Support

The following Web browsers are supported for Oracle Enterprise Manager Database Control:

- Netscape Navigator 7.2
- Netscape Navigator 8.1
- Mozilla version 1.7
- Microsoft Internet Explorer 6.0 SP2
- Microsoft Internet Explorer 7.0 or later
- Firefox 1.0.4
- Firefox 1.5
- Firefox 2.0

Note: Microsoft Internet Explorer 7.0 is the only web browser certified on Windows Vista.

Recommended System Requirements for SQL Developer

Following are the recommended CPU, memory, and display requirements on the supported systems for SQL Developer:

Resource	Recommended
Operating System	Windows 2000-Service Pack 4 (32-Bit only) Windows Server 2003 R2 Windows XP-Service Pack 2
CPU Type and Speed	Pentium IV 2 GHz or faster
Memory	1 GB RAM (recommended), 256 MB RAM (minimum)
Display	65536 colors, set to at least 1024 X 768 resolution
Java SDK	JDK 5.0 Update 6 or later

3

Installing Oracle Database Client

You can use 32-Bit media for installing Oracle Database Client on all supported operating systems. You can use 64-Bit media for installing Oracle Database Client on all supported operating systems. This guide is for both Windows 32-Bit and Windows x64. This chapter covers the following topics:

- Preinstallation Considerations Before Installing Oracle Database Client
- Accessing the Installation Software
- Installing the Oracle Database Client Software

Preinstallation Considerations Before Installing Oracle Database Client

The Oracle Database Client software is available on DVD and from the Oracle Technology Network (OTN) Web site. In most cases, you use the graphical user interface (GUI) provided by Oracle Universal Installer to install the software. However, you can also use Oracle Universal Installer to complete silent or noninteractive installations using response files, without using the GUI.

Note: Windows Vista requires Administrator privileges at the command prompt.

See Also: "Managing User Accounts with User Account Control on Windows Vista"

Review the information in Chapter 1, "Oracle Database Client Installation Overview" and complete the tasks listed in Chapter 2, "Oracle Database Client Preinstallation Requirements" before beginning the installation.

Next, consider the following issues:

- Installation Consideration on Windows Vista
- Installing Oracle Database Client Installations in Silent or Noninteractive Mode
- Creating the Oracle Base Directory
- Installing Oracle Database Client into Multiple Oracle Homes
- Installing on a System with an Existing Oracle Installation

Installation Consideration on Windows Vista

The installation consideration on Windows Vista is to open a command prompt with Administrator privileges.

Installing Oracle Database Client Installations in Silent or Noninteractive Mode

If you need to perform multiple installations of Oracle Database Client, you may want to use silent or noninteractive mode, with response files. In these modes, at each computer, you run Oracle Universal Installer from the command line using a response file. The response file is a text file containing the settings you normally enter in the Oracle Universal Installer GUI dialog boxes. This method lets you quickly perform multiple installations using similar settings for each computer.

> **See Also:** Appendix B, "Installing Oracle Database Client Using Response Files" for instructions on performing silent and noninteractive installations

Creating the Oracle Base Directory

If you install Oracle Database Client on a computer with no other Oracle software installed, Oracle Universal Installer creates an Oracle base directory for you. If Oracle software is already installed, one or more Oracle base directories already exist. In the latter case, Oracle Universal Installer offers you a choice of Oracle base directories into which you can install Oracle Database Client.

You are not required to create an Oracle base directory before installation, but you can do so if you want.

> **Note:** You can choose to create a new Oracle base directory, even if other Oracle base directories exist on the system.

Installing Oracle Database Client into Multiple Oracle Homes

You can install all Oracle components in multiple Oracle homes on the same computer. However, some components can only support one active instance at a time. This means that the current (latest) installation renders the previous one inactive. These components are:

- Oracle Administration Assistant for Windows
- Oracle Counters for Windows Performance Monitor
- Oracle Objects for OLE on Windows 32-bit
- Oracle Provider for OLE DB

> **Note:** Oracle Objects for OLE is not supported on Windows x64.

Installing on a System with an Existing Oracle Installation

You must install Oracle Database Client into a new Oracle home directory. Oracle Universal Installer will prompt you for an Oracle home directory, whether you have other Oracle software installed on the computer or not. You cannot install products from one release of Oracle Database Client into an Oracle home directory of a different release. For example, you cannot install Oracle Database 11*g* release 1 (11.1) software

into an existing Oracle9*i* Oracle home directory. If you attempt to install this release into an Oracle home directory that contains software from an earlier Oracle release, the installation fails.

You can install this release more than once on the same system as long as each installation is installed in a separate Oracle home directory.

Accessing the Installation Software

The Oracle Database Client software is available on DVD or you can download it from the Oracle Technology Network (OTN) Web site. You can access and install Oracle Database Client by using the following scenarios:

- Installing from a Remote DVD Drive
- Installing on Remote Computers Through Remote Access Software
- Downloading Oracle Software from the Oracle Technology Network Web Site
- Copying the Oracle Database Client Software to a Hard Disk

Installing from a Remote DVD Drive

If the computer where you want to install Oracle Database Client does not have a DVD drive, you can perform the installation from a remote DVD drive. You will need to complete the following steps:

- Step 1: On the Remote Computer, Share the DVD Drive
- Step 2: On the Local Computer, Map the DVD Drive

Step 1: On the Remote Computer, Share the DVD Drive

The remote DVD drive that you want to use must allow shared access. To set this up, perform these steps on the remote computer that has the DVD drive:

1. Log in to the remote computer as an Administrator user.
2. Start Windows Explorer.
3. Right-click the DVD drive letter and choose **Sharing** (or **Sharing and Security**).
4. Click the **Sharing** tab and do the following:
   a. Select **Share this folder**.
   b. In **Share name**, give it a share name such as `dvd`. You will use this name when you map the DVD drive on the local computer. See Step d under Step 1 of the next procedure.
   c. Click **Permissions**. You need at least "read" permission for the user who will be accessing it to install Oracle Database.
   d. Click **OK** when you are finished.
5. Insert the DVD labeled Oracle Database 11*g* Release 1 (11.1) into the DVD drive.

Step 2: On the Local Computer, Map the DVD Drive

Perform these steps on the local computer to map a remote DVD drive and to run Oracle Universal Installer from the mapped drive:

1. Map the remote DVD drive.
   a. Start Windows Explorer on the local computer.

b. From the **Tools** menu, select **Map Network Drive** to display the Map Network Drive dialog.

c. Select a drive letter to use for the remote DVD drive.

d. In **Folder**, enter the location of the remote DVD drive using the following format:

```
\\remote_hostname\share_name
```

where:

- *remote_hostname* is the name of the remote computer with the DVD drive.
- *share_name* is the share name that you entered in Step 4 of the previous procedure. For example

```
\\computer2\dvd
```

e. If you need to connect to the remote computer as a different user, click **different user name**, and enter the username.

f. Click **Finish**.

2. Run Oracle Universal Installer from the mapped DVD drive.
3. Go to the "Installing the Oracle Database Client Software" section on page 3-6.

Installing on Remote Computers Through Remote Access Software

If you want to install and run Oracle Database Client on a remote computer (that is, the remote computer has the hard drive and will run Oracle Database Client components), but you do not have physical access to the computer, you still can perform the installation on the remote computer if it is running remote access software such as VNC or Symantec pcAnywhere. You also need the remote access software running on your local computer.

You can install Oracle Database Client on the remote computer in one of two ways:

- If you have copied the contents of the Oracle Database Client DVD to a hard drive, you can install from the hard drive.
- You can insert the DVD into a drive on your local computer, and install from the DVD.

Installing on Remote Computers from a Hard Drive

If you have copied the contents of the Oracle Database Client DVD to a hard drive, you can install from the hard drive.

The steps that you have to complete are:

1. Make sure that the remote access software is installed and running on the remote and local computers.
2. Share the hard drive that contains the Oracle Database Client DVD.
3. On the remote computer, map a drive letter to the shared hard drive. You would use the remote access software to do this on the remote computer.
4. Through the remote access software, run Oracle Universal Installer on the remote computer. You access Oracle Universal Installer from the shared hard drive.
5. Go to the "Installing the Oracle Database Client Software" section on page 3-6.

Installing on Remote Computers from a Remote DVD Drive

You can insert the DVD into a drive on your local computer, and install from the DVD.

The steps that you need to complete are:

1. Make sure that the remote access software is installed and running on the remote and local computers.
2. On the local computer, share the DVD drive.

   On the remote computer, map a drive letter to the shared DVD drive. You would use the remote access software to do this on the remote computer.

   These steps are described in the "Installing from a Remote DVD Drive" section on page 3-3.
3. Through the remote access software, run Oracle Universal Installer on the remote computer. You access Oracle Universal Installer from the shared DVD drive.
4. Go to the "Installing the Oracle Database Client Software" section on page 3-6

Downloading Oracle Software from the Oracle Technology Network Web Site

You can download the installation files from the Oracle Technology Network (OTN) and extract them on your hard disk.

1. Use a browser to access the Oracle Technology Network software download page:

   `http://www.oracle.com/technology/software/`
2. Navigate to each of the download pages for the products that you want to install.
3. On each download page, identify the required disk space by adding the file sizes for each required file. The file sizes are listed next to the filenames.
4. Select a file system with enough free space to store and expand the files. In most cases, the available disk space must be at least twice the size of all compressed files combined.
5. On the file system that you just selected, create a parent directory for each product you plan to install, for example `OraDBClient11g`, to hold the installation directories.
6. Download all of the installation files to the directories that you just created.
7. Verify that the files you downloaded are the same sizes as the corresponding files on Oracle Technology Network.
8. Extract the files in each directory that you just created.

When you have extracted the required installation files, see the "Installing the Oracle Database Client Software" section on page 3-6.

Copying the Oracle Database Client Software to a Hard Disk

To copy the contents of the media to a hard disk:

1. Create a directory for the installation files on your hard drive. For example:

   ```
   d:\install\client
   ```
2. Copy the contents of the installation media to the directory that you just created.

When you have copied the required installation files, see the "Installing the Oracle Database Client Software" section on page 3-6.

Installing the Oracle Database Client Software

This section covers the following topics:

- Guidelines for Installing Oracle Database Client
- Procedure for Installing Oracle Database Client

Guidelines for Installing Oracle Database Client

In most cases, you use the graphical user interface (GUI) provided by Oracle Universal Installer to install Oracle Database Client. However, you can also use Oracle Universal Installer to complete silent or noninteractive installations using a response file, without using the GUI. This method is particularly useful if you need to perform multiple installations of Oracle Database Client.

As you install Oracle Database Client, follow these guidelines:

> **See Also:** Appendix B, "Installing Oracle Database Client Using Response Files" for information on silent or noninteractive installations

- Do not use Oracle Universal Installer from an earlier Oracle product release to install components from this release.
- Use the same installation media to install Oracle Database Client on all supported Windows platforms.
- If you reinstall Oracle software into an Oracle home directory where Oracle Database Client is already installed, you must reinstall any components that were installed before you began the reinstallation.
- Do not modify the Java Runtime Environment (JRE) except by using a patch provided by Oracle Support Services. Oracle Universal Installer automatically installs the Oracle-supplied version of the JRE. This version is required to run Oracle Universal Installer and several Oracle assistants.
- If you encounter errors during installation, click **Help** or see Appendix D, "Troubleshooting the Oracle Database Client Installation" for advice.

Procedure for Installing Oracle Database Client

To install Oracle Database Client:

1. Log on as a member of the Administrators group to the computer on which you want to install Oracle components.

   If you are installing on a Primary Domain Controller (PDC) or a Backup Domain Controller (BDC), log on as a member of the Domain Administrators group.

2. Insert the Oracle Database Client installation media and navigate to the `client` directory. Alternatively, navigate to the directory where you downloaded or copied the installation files.

   Use the same installation media to install Oracle Database on all supported Windows platforms.

3. Double-click `setup.exe` to start Oracle Universal Installer.

4. In the Select a Product to Install screen, select the product that you want to install: Oracle Database 11*g*, Oracle Client, or Oracle Clusterware and click **Next**.

5. In the Select Installation Type screen, select the type of installation that you want: Instant Client, Administrator, Runtime, or Custom and click **Next**.

   See Also: "Oracle Database Client Installation Types" on page 1-3 for more information on these installation types.

6. In the Install Location screen, enter the following details:
   - Oracle Base: The Oracle base path appears by default. You can change the path based on your requirement.
   - Name: Enter the name of the Oracle home.

     Install Oracle Database Client in a new Oracle home, even if you are installing on a computer that has existing Oracle components installed.

     Do not install Oracle Database Client 11*g* release 1 (11.1) software in an existing Oracle home that contains Oracle Database 10*g* or earlier software. You can install Oracle Database Client in an existing Oracle home that contains Oracle Database Client 10*g* release 2 (10.2) or later software, so long as Oracle Database is not installed in the same home.
   - Path: Enter the directory location for the Oracle home files. Do not include spaces in the path name.
7. Click **Next**.
8. If you selected Custom in Step 5, in the Available Product Components screen, select the components you want to install and click **Next** or **Install**.
9. In the Product-specific Prerequisite Checks screen, correct any errors that Oracle Universal Installer may have found, and then click **Next**.
10. In the Summary screen, check the installed components listing and click **Install**.
11. If you selected the Administrator, Runtime, or Custom installation types, follow Steps 12 to 20 to complete the Oracle Net Configuration Assistant procedure.

    If you selected the Instant Client installation type, go to Step 21. After you complete the installation, you can follow the steps under "Connecting Instant Client or Instant Client Light to an Oracle Database" on page 4-4 to configure the database connection.
12. In the Oracle Net Configuration Assistant: Welcome screen, either select **Perform typical configuration** to use a default configuration, or select the **Naming Methods configuration** option. Then click **Next**. (The remaining steps in this procedure assume you are using Naming Methods.)
13. In the Naming Methods Configuration, Select Naming Methods screen, select the naming method you want and then click **Next**.

    In most cases, Local Naming is sufficient.
14. In the Net Service Name Configuration, Service Name screen, enter the name of the database service to which you want to connect. Click **Next**.

    For example, to connect to a database named **`sales`**, enter sales.
15. In the Net Service Name Configuration, Select Protocols screen, depending on the protocol you selected, enter the appropriate information and click **Next**.
16. In the Net Service Name Configuration, TCP/IP Protocol screen, enter the host name of the computer where the Oracle database is installed. Specify the port number, then click **Next**.

For example, to connect to the computer **shobeen**, you would enter shobeen.

17. In the Net Service Name Configuration, Test screen, click **Yes** to perform a test of the connection. Then click **Next**.

    In most cases, the test fails only because the default user name and password Oracle Universal Installer supplies in the dialog box do not match the user name and password for the target database. Click **Change Login**, re-enter the user name and password, and then click **OK**.

18. In the Connecting screen, click **Next**.

19. In the Net Service Name screen, enter the name of the net service name to use.

20. Answer the remaining prompts to complete the configuration.

21. In the End of Installation screen, click **Exit**, then click **Yes** to exit from Oracle Universal Installer.

22. Optionally, delete the `OraInstall`*`date_time`* directory if you want to remove the temporary files that were created during the installation process. The `OraInstall`*`date_time`* directory holds about 50.5 MB of files. This directory is created in the location set by the `TEMP` environment variable setting.

    Restarting your computer also removes the `OraInstall`*`date_time`* directory.

23. Go to Chapter 4, "Oracle Database Client Postinstallation Tasks" to complete the postinstallation tasks.

4

Oracle Database Client Postinstallation Tasks

This chapter describes the following postinstallation tasks:

- Required Postinstallation Tasks
- Recommended Postinstallation Tasks
- Required Product-Specific Postinstallation Task – Configuring Oracle Net Services
- Postinstallation Tasks for SQL Developer

> **Note:** This chapter describes basic configuration only. See *Oracle Database Platform Guide for Microsoft Windows* and product-specific administration and tuning guides for more sophisticated configuration and tuning information.

Required Postinstallation Tasks

This section covers the following topics:

- Downloading and Installing Patches
- Updating Instant Client

Downloading and Installing Patches

To download required patches, check the Oracle*Metalink* Web site for required patches for your installation. Doing so ensures that you have the latest update of Oracle Database Client.

> **Note:** You cannot update Instant Client by downloading a patch. Use the procedure under "Updating Instant Client" on page 4-2 to update Instant Client.

1. Use a Web browser to view the Oracle*Metalink* Web site:

   `https://metalink.oracle.com`

2. Log in to Oracle*Metalink*.

> **Note:** If you are not an Oracle*Metalink* registered user, then click **Register for MetaLink!** and follow the registration instructions.

3. On the main Oracle*Metalink* page, click **Patches**.
4. Select **Simple Search**.
5. Specify the following information, then click **Go**:
   - In the **Search By** field, choose Product or Family, then specify `RDBMS Server`
   - In the **Release** field, specify the current release number
   - In the **Patch Type** field, specify Patchset/Minipack
   - In the **Platform or Language** field, select your platform
6. Open the patch ReadMe file, which you can access by clicking the **View ReadMe** icon, and follow the installation instructions.

   Some patches install with Oracle Universal Installer; others require special procedures. Oracle recommends that you always read the ReadMe before proceeding.
7. Return to the Patch Set page, click **Download**, and save the file on the system.
8. Use an `unzip` utility to uncompress the Oracle patches that you downloaded from Oracle*MetaLink*.

Updating Instant Client

To update Instant Client:

1. Download Instant Client from Oracle Technology Network (`http://www.oracle.com/technology/index.html`).
2. Place the new files directly on top of the previous files.

   If you place the files into a different directory (and remove the previous files), be sure to update your `PATH` environment variable setting to reflect the new location.

Recommended Postinstallation Tasks

Oracle recommends that you perform the tasks in the following sections after completing an installation:

- Configuring Instant Client Light
- Connecting Oracle Database Client to an Oracle Database
- Connecting Instant Client or Instant Client Light to an Oracle Database
- Setting Up User Accounts
- Using Oracle9i Language and Definition Files with Oracle Database 11g Release 1 (11.1)
- Configuring Oracle Counters for Windows Performance Monitor

Configuring Instant Client Light

To configure Instant Client Light, you need to make it the default instead of Instant Client.

To configure Instant Client Light:

1. In the *ORACLE_BASE**ORACLE_CLIENT_HOME* directory, either rename or delete the `oraociei11.dll` file.

   The `oraociei11.dll` file is the main binary for Instant Client.

2. From the *ORACLE_BASE**ORACLE_CLIENT_HOME*\`install\instantclient\light` directory, copy the `oraociicus11.dll` file to the *ORACLE_BASE**ORACLE_CLIENT_HOME* directory.

   The `oraociicus11.dll` file is the binary for Instant Client Light.

3. Make sure that the `PATH` environment variable points to the *ORACLE_BASE**ORACLE_CLIENT_HOME* directory.

Note: If the Instant Client `PATH` is not set, applications will try to load the regular Instant Client libraries first. If the applications cannot find these, they will attempt to load the Instant Client Light library next.

Connecting Oracle Database Client to an Oracle Database

After you run Oracle Universal Installer to install Oracle Database Client, you need to use Net Configuration Assistant (NetCA) to configure Oracle Database Client to connect to an Oracle database. At the end of installation, Oracle Universal Installer prompts you to configure the database connection. If you bypassed that option, or if you need to change the database connection later on, use the following procedure if you installed the **Administrator**, **Runtime**, or **Custom** installation types.

> **See Also:** "Connecting Instant Client or Instant Client Light to an Oracle Database" on page 4-4 if you had installed the **Instant Client** installation type

To connect Oracle Database Client to an Oracle Database:

1. From the **Start** menu, choose **Oracle -** ***HOME_NAME***, then **Configuration and Migration Tools**, then **Net Configuration Assistant**.
2. In the Welcome window, select **Local Net Service Name configuration** and click **Next**.
3. In the Net Service Name Configuration window, select **Add** and click **Next**.
4. In the Service Name window, enter the name of the Oracle database to which you want to connect and click **Next**.
5. In the Select Protocols window, select the protocol you want and click **Next**.
6. In the Protocol window, depending on the protocol you selected, enter the appropriate information and click **Next**.
7. In the Net Test window, select whether you want to test the connection, and click **Next**.
8. In the Net Service Name window, enter a name for the net service and click **Next**.
9. Answer the remaining prompts, which allow you to configure another net service name, and then click **Finish** to complete the configuration.

Net Configuration Assistant creates the `tnsnames.ora` file in the following location:

*ORACLE_BASE**ORACLE_HOME*\network\admin\tnsnames.ora

See Also: *Oracle Database Net Services Administrator's Guide* for more information on Oracle Net Configuration Assistant

Connecting Instant Client or Instant Client Light to an Oracle Database

Before you can connect Instant Client or Instant Client Light to an Oracle database, make sure that the `PATH` environment variable specifies the directory that contains the Instant Client libraries. (By default, Oracle Universal Installer updates the `PATH` variable for you during the installation process, but another user may have inadvertently reset it since then.) This directory is the Oracle home directory that you specified during installation.

For example, for regular Instant Client, it is in:

C:\app*username*\products\11.1.0\client_1

For Instant Client Light, it is in:

C:\app*username*\products\11.1.0\client_1\light

After you have checked the `PATH` environment variable, you can use any of the following methods to specify Oracle Database connection information for client applications:

- Specifying a Connection by Using the Easy Connect Naming Method
- Specifying a Connection by Configuring a tnsnames.ora File
- Specifying a Connection by Using an Empty Connect String and the LOCAL Variable

Specifying a Connection by Using the Easy Connect Naming Method

You can specify a connection address to an Oracle Database directly from a client application, without having to configure a `tnsnames` setting for the Instant Client. This method is convenient in that you do not have to create and manage a `tnsnames.ora` file. However, your application users will need to specify the host name and port number when they want to log in to your application.

For example, suppose you are running SQL*Plus on the client computer and want to connect to the `sales_us` database, which is located on a server whose host name is `shobeen` and port number is 1521. If you launch SQL*Plus from the command line, you could log in as follows:

```
Enter user-name: system@admin@//shobeen:1521/sales_us
```

Similarly, in your application code, you can use Oracle Call Interface net naming methods to create the Instant Client-to-Oracle Database connection. For example, the following formats in the `OCIServerAttach()` call specify the connection information:

- Specify a SQL connect URL string using the following format:

  //host[:port][/service_name]

  For example:

  ```
  //shobeen:1521/sales_us
  ```

- Alternatively, you can specify the SQL connect information as an Oracle Net keyword-value pair. For example:

```
"(DESCRIPTION=(ADDRESS=(PROTOCOL=tcp) (HOST=shobeen) (PORT=1521))
(CONNECT_DATA=(SERVICE_NAME=sales_us)))"
```

> **See Also:** *Oracle Call Interface Programmer's Guide* for more information on using Oracle Call Interface Instant Client

Specifying a Connection by Configuring a tnsnames.ora File

By default, when you install Instant Client, Oracle Universal Installer does not include a sample `tnsnames.ora` file nor the Oracle Net Configuration Assistant utility normally used to create it. However, if you want to shield users from having to specify actual host names and port numbers, you may want to consider using a `tnsnames.ora` file to set the Instant Client-to-Oracle Database connection.

You can create the `tnsnames.ora` file manually by copying and modifying a version of this file from another Oracle installation, or you can use Oracle Net Configuration Assistant to create and manage it for you.

To install Oracle Net Configuration Assistant:

1. Run Oracle Universal Installer.
2. Select the **Custom** installation type.
3. In the Available Product Components list, select **Oracle Network Utilities** and click **Next**.
4. In the Summary window, click **Install**, then click **Exit** and **Yes** to exit Oracle Universal Installer.

After you have installed Oracle Net Configuration Assistant, follow the procedure in "Connecting Oracle Database Client to an Oracle Database" on page 4-3 for each client computer.

Then, on each client computer, configure either of the following settings:

- Set the `TNS_ADMIN` environment variable to specify the location of the `tnsnames.ora` file and specify a service name from that file.
- Place the `tnsnames.ora` file in the *`ORACLE_BASE`*`\`*`ORACLE_HOME`*`\network\admin` directory, and make sure that the `ORACLE_HOME` environment has been set to this Oracle home.

> **See Also:** *Oracle Call Interface Programmer's Guide* for more information on Oracle Call Interface Instant Client connection strings

Specifying a Connection by Using an Empty Connect String and the LOCAL Variable

You can set the connect string to an empty connect string (""), and then set the `LOCAL` environment variable to one of the following values:

- A direct address, as described under "Specifying a Connection by Using the Easy Connect Naming Method" on page 4-4
- Oracle Net keyword-value pair
- A `tnsnames.ora` entry and `TNS_ADMIN` is set to the location of `tnsnames.ora`
- A `tnsnames.ora` entry and the following:

- `tnsnames.ora` file located in *ORACLE_HOME*`/network/admin`
- The `ORACLE_HOME` environment variable set to this Oracle home

This method allows your applications to specify internally a connection string if the application code itself uses an empty connection string. The benefit of an empty connect string is that the application itself does not need to specify the `tnsnames.ora` entry. Instead, when a user invokes the application, the location of the database is determined by a script or the environment, depending on where you have set the `LOCAL` environment variable. The disadvantage of using empty strings is that you need to configure this additional information in order for your application to connect to the database.

Setting Up User Accounts

For information about setting up additional user accounts, see *Oracle Database Platform Guide for Microsoft Windows*.

Using Oracle9*i* Language and Definition Files with Oracle Database 11*g* Release 1 (11.1)

Changes have been made to the content of some of the language and territory definition files in Oracle Database 10*g* and later releases. These updates are necessary to correct the legacy definitions that no longer meet the local conventions in some of the languages and territories that Oracle Database supports.

Oracle Database 11*g* customers should review their existing application code to make sure that the correct cultural conventions, which were introduced and defined in Oracle Database 10*g*, are being used. For customers who may not be able to make the necessary code changes to support their applications, Oracle Database offers Oracle9*i* locale definition files with this release of Oracle Database. If the Oracle Database server installation has been configured to use the Oracle9*i* files, you need to enable this functionality in each client installation as well

To enable this functionality:

1. Run the `cr9idata.pl` script, by default located in *ORACLE_BASE*`\`*ORACLE_HOME*`\nls\data\old`.

   If the client installation type you chose does not include this directory, you can find the `cr9idata.pl` script in the same directory path in a default Oracle Database installation.

2. Set the `ORA_NLS10` environment variable to point to the directory where you installed the new language and territory definition files, which by default are in *ORACLE_BASE*`\`*ORACLE_HOME*`\nls\data`.

3. Restart Oracle Database.

See Also:

- Appendix B, "Installing Oracle Database Client Using Response Files" for information on response files, in which you can set the `b_cr9idata` variable and then run the response file with Oracle Universal Installer
- Appendix C, "Configuring Oracle Database Globalization Support" for information on globalization support that is affected by this release of Oracle Database
- *Oracle Database Globalization Support Guide* for information about the `NLS_LANG` parameter, the Globalization Support initialization parameters, and the changes made to language and territory definitions in Oracle Database 10*g*

Configuring Oracle Counters for Windows Performance Monitor

Before you can use to view Oracle-specific counters, you must specify the `SYSTEM` password using `Operfcfg.exe` located in the *ORACLE_BASE*`\`*ORACLE_HOME*`\bin` directory.

To set the system password, enter the following:

`operfcfg.exe -U SYSTEM -P` *password* `-D` *TNS_Alias_for_database*

See Also: *Oracle Database Platform Guide for Microsoft Windows* for additional information about Oracle Counters for Windows Performance Monitor

Required Product-Specific Postinstallation Task – Configuring Oracle Net Services

You can configure Oracle Database Client to communicate with Oracle Net Services by adding the appropriate entries to the `tnsnames.ora` and `listener.ora` files. If you have a previous release or Oracle software, you can just copy information in the Oracle Net `tnsnames.ora` and `listener.ora` configuration files from the previous release to the corresponding files in the new release.

Note: The default location for the `tnsnames.ora` and `listener.ora` files is the *ORACLE_BASE*`\`*ORACLE_HOME*`\network\admin` directory.

Postinstallation Tasks for SQL Developer

This section describes tasks that you need to complete after you install the software:

- Migrating User Settings from Release 1.0
- Migrating Information from Previous Releases
- Location of User-Related Information

Migrating User Settings from Release 1.0

The first time you start SQL Developer after installing it or after adding any extensions, you are asked if you want to migrate your user settings from a previous

release. (This occurs regardless of whether there was a previous release on your system.)

> **Note:** Migration of user settings is supported only from SQL Developer Release 1.0 to Release 1.1. It is *not* supported for migration from a pre-release version of 1.1 to Release 1.1.

These settings refer to database connections, reports, and certain SQL Developer user preferences that you set in a previous version by clicking **Tools** and then **Preferences**. However, some user preferences are not saved, and you must re-specify these using the new release.

To migrate user settings from SQL Developer Release 1.0:

1. Install Oracle SQL Developer.
2. When you start SQL Developer Release 1.1, click **Yes** when asked if you want to migrate settings from a previous release.
3. In the dialog box that is displayed, do *not* accept the default location for the settings. Instead, specify the location of your Release 1.0 settings, which might be a folder whose path ends with `sqldeveloper\jdev\system`.

See also Section , "Migrating Information from Previous Releases".

Migrating Information from Previous Releases

If you have used a previous release of SQL Developer or a pre-release version of the current release, you may want to preserve database connections that you have been using. To preserve database connections, save your existing database connections in an XML file. To save the connections, right-click the Connections node in the Connections Navigator and select **Export Connections**. After you complete the installation described in this guide, you can use those connections by right-clicking the Connections node in the Connections Navigator and selecting **Import Connections**

If you want to use any user-defined reports or the SQL history from a previous version, see "Location of User-Related Information" on page 4-8 for information about where these are located. If you want to use any user-defined reports or the SQL history from Release 1.0 with both Releases 1.0 and 1.1, you must save them before using Release 1.1, because Release 1.1 modifies the files to a format that is incompatible with Release 1.0.

SQL Developer preferences (specified by clicking Tools and then Preferences) from a pre-release version of the current release cannot currently be saved and reused; you must re-specify any desired preferences.

Location of User-Related Information

SQL Developer stores user-related information in several places, with the specific location depending on the operating system and certain environment specifications. User-related information includes user-defined reports, user-defined snippets, SQL Worksheet history, and SQL Developer user preferences.

SQL Developer user preferences are stored under the installation directory. To preserve preferences when upgrading to a more recent version of the same SQL Developer release, but *not* to upgrade from Release 1.0 to 1.1, use the Check for Updates feature (click **Help,** then **Check for Updates**) to upgrade your system.

This user-related information is stored in or under the HOME environment variable location, if defined; otherwise the SQLDEVELOPER_USER_DIR location, if defined; otherwise as indicated in the following table.

The table shows the typical default locations (under a directory or in a file) for specific types of resources on different operating systems. (Note the period in the name of any directory or folder named .sqldeveloper.)

Table 4–1 Default Locations for User-Related Information

Resource Type	Windows Systems
User-defined reports	C:\Documents and Settings\<*user-name*>\.sqldeveloper\UserReports.xml
User-defined snippets	C:\Documents and Settings\<*user-name*>\.sqldeveloper\UserReports.xml
SQL history	C:\Documents and Settings\<*user-name*>\.sqldeveloper\SqlHistory.xml
SQL Worksheet archive files	C:\Documents and Settings\<*user-name*>\.sqldeveloper\tmp\
SQL Developer user preferences	<*sqldeveloper_install*>\sqldeveloper\sqldeveloper\system\ ~/.sqldeveloper/system/

SQL Worksheet archive files contain SQL statements that you have entered. These files begin with *sqldev* and then have a random number (for example, sqldev14356.sql). If you close SQL Developer with a SQL Worksheet open that contains statements, then you will be prompted to save these files.

To specify a non-default SQLDEVELOPER_USER_DIR location, do either of the following:

- Set the SQLDEVELOPER_USER_DIR environment variable to specify another directory path.
- Edit the <*sqldeveloper_install*>\sqldeveloper\sqldeveloper\bin\sqldeveloper.conf file and substitute the desired directory path for SQLDEVELOPER_USER_DIR in the following line:

```
SetUserHomeVariable SQLDEVELOPER_USER_DIR
```

If you want to prevent other users from accessing your user-specific SQL Developer information, you must ensure that the appropriate permissions are set on the directory where that information is stored or on a directory above it in the path hierarchy. For example, you may want to ensure that the sqldeveloper folder and the <*user-name*>\.sqldeveloper folder under Documents and Settings are not shareable.

5

Removing Oracle Database Client Software

This chapter describes how to remove the Oracle Database Client software:

- Stopping Oracle Services on Windows
- Removing Oracle Database Client with Oracle Universal Installer
- Manually Removing the Remaining Oracle Database Client Components

---

Note: Always use Oracle Universal Installer to initially remove Oracle components. To avoid installation and configuration problems with new Oracle installations, follow the instructions in this chapter.

See Also: Component-specific documentation for individual requirements and restrictions

Stopping Oracle Services on Windows

You must first stop the Oracle Windows services before removing Oracle components or removing any registry entries.

See Also: Your Microsoft online help for more information about stopping services

To stop Windows services:

1. Open the Windows **Services** utility: From the **Start** menu, choose **Programs**, then **Administrative Tools**, then **Services**.
2. If any Oracle services (names begin with `Oracle` or `Ora`) exist and have the status *Started*, then select each of the services, and click **Stop**.
3. Exit **Services**.

Removing Oracle Database Client with Oracle Universal Installer

You first use Oracle Universal Installer to remove Oracle Database Client from the inventory on the computer. Afterwards, you must manually remove the remaining components. This section covers the following topics:

- Guidelines for Removing Oracle Database Client with Oracle Universal Installer
- Procedure for Removing Oracle Database Client with Oracle Universal Installer

Guidelines for Removing Oracle Database Client with Oracle Universal Installer

Follow these guidelines:

- Do not manually remove Oracle Database Client components without first deinstalling with Oracle Universal Installer. An exception is if, during an installation, you exit Oracle Universal Installer using any of the following methods:
  - Clicking **Cancel**
  - Turning off the computer
  - If the installation does not complete (that is, all required configuration tools do not run at the end)

  In these cases, Oracle Universal Installer does not register the installation in its inventory. However, it may have copied files to your Oracle home. Remove these files manually and restart the installation.
- If you need to remove an Oracle home manually, first remove the Oracle components with Oracle Universal Installer. An example of removing the Oracle home manually would be by deleting the directory structure with Windows Explorer or the command prompt.

  You should not remove the Oracle home manually first because their components remain registered in the Oracle Universal Installer inventory. If you subsequently try to install Oracle in the same home, some or all of the components selected may not be installed, since Oracle Universal Installer will determine the components are already installed.

Procedure for Removing Oracle Database Client with Oracle Universal Installer

Oracle Universal Installer creates Windows services for Oracle components during installation. However, Oracle Universal Installer does not delete all the services created by Oracle Net Configuration Assistant.

To remove components on a Windows computer with Oracle Universal Installer:

1. Ensure that you first follow the instructions in "Stopping Oracle Services on Windows" on page 5-1.
2. Start Oracle Universal Installer. The start procedure depends on which version of Oracle Database Client you installed.
   a. If you installed the Administrator, Runtime, or Custom versions of Oracle Database Client, then Oracle Universal Installer was also installed. From the **Start** menu, choose **Programs**, then **Oracle - *HOME_NAME***, then **Oracle Installation Products**, then **Universal Installer**. The Welcome window for Oracle Universal Installer appears.
   b. If you installed the Instant Client version of Oracle Database Client, Oracle Universal Installer was not installed. Instead, run it from your installation media or the installation directory you created for downloaded or copied installation files.

      To do so, insert Oracle Database installation media and navigate to the `client` directory. Alternatively, navigate to the directory where you downloaded or copied the installation files. Then double-click `setup.exe` to start Oracle Universal Installer. In the Welcome window, choose **Install/Deinstall Products**.
3. Click the **Deinstall Products** button.

The Inventory window appears.

4. Select the Oracle home you wish to remove. Expand the tree of installed components only if you want to remove selected components of an Oracle home.

   For example, if you installed Oracle Database Client with the Runtime option and later installed additional components with the Custom option, then expand the Oracle home component to display all the components installed in the Oracle home.

5. Check the boxes of components to remove.

6. Click **Remove**.

   The Confirmation window appears.

7. Click **Yes** to remove the selected components.

   Note: A message may appear indicating that removing some components may cause other components to not function properly.

   After the components are removed from your computer, the Inventory window appears without the removed components.

8. Click **Close** to close the Inventory window.

9. Click **Cancel** to exit Oracle Universal Installer.

10. Click **Yes** to confirm that you want to exit.

11. After Oracle Universal Installer exits, go to the next section to remove the remaining Oracle Database Client components.

Manually Removing the Remaining Oracle Database Client Components

Oracle Universal Installer does not remove all Oracle components. After using Oracle Universal Installer to remove Oracle components, you need to manually remove remaining registry keys, environment variables, Start menu options, and directories.

This section contains these topics:

- Updating the PATH Environment Variable Path
- Removing Oracle Database Client from the Start Menu
- Removing Oracle Database Client Directories

Note: In rare situations, you might want to correct serious system problems by completely removing Oracle components manually from the computer without first deinstalling with Oracle Universal Installer. Do this only as a last resort, and only if you want to remove all Oracle components from your system.

Updating the PATH Environment Variable Path

Check the `PATH` environment variable and remove any Oracle entries.

1. Display **System** in the Control Panel.

2. Select the **Advanced** tab and then click **Environment Variables**.

3. Select the system variable `PATH` and edit it to remove any Oracle entries.

   For example, remove Oracle entries that contain *`ORACLE_BASE`*`\`*`ORACLE_HOME`* in the `PATH` variable. You may see a `PATH` variable that contains entries similar to the following:

   ```
   ORACLE_BASE\ORACLE_HOME\bin;ORACLE_BASE\ORACLE_HOME\jre\1.4.2\bin\client;
   ORACLE_BASE\ORACLE_HOME\jre\1.4.2\bin
   ```

4. Save any changes and exit **System**.

Removing Oracle Database Client from the Start Menu

Check the **Start** menu for any Oracle Database Client entries and remove them.

Follow these steps:

1. Select **Start**, then **Programs**, then **Oracle -** ***HOME_NAME***.
2. Right-click **Oracle -** ***HOME_NAME***, and from the menu, select **Delete**.

You can also remove Oracle Database Client menu entries by using the following method:

1. Right click the **Start** button to display the pop-up menu.
2. Select the **Explore All Users** option.
3. Under Documents and Settings, expand the `\Start Menu\Programs` folder.
4. Right-click and delete the **Oracle -** ***HOME_NAME*** folder.

Removing Oracle Database Client Directories

After removing all Oracle Database Client registry keys and restarting the computer, delete any existing Oracle Database Client directories and files.

1. Using My Computer or Windows Explorer, delete the *`SYSTEM_DRIVE`*`:\program files\oracle` directory.
2. Using My Computer or Windows Explorer, delete all *`ORACLE_BASE`* directories on your hard drive.

A

Installing Java Access Bridge on Windows x86-Based Systems

This appendix describes how to install Java Access Bridge, which enables use of a screen reader with Oracle components:

- Introduction
- Setup for JRE 1.5
- Setup for Oracle Installed Components

Note: Java Access Bridge is not supported on Windows x64.

Introduction

Java Access Bridge enables assistive technologies, such as JAWS screen reader, to read Java applications running on the Windows platform. Assistive technologies can read Java-based interfaces, such as Oracle Universal Installer and Oracle Enterprise Manager Database Control.

Your Oracle Database, Oracle Database Client, and Oracle Database Examples media contain the Java Runtime Environment (JRE) 1.5, which Oracle Universal Installer uses during installation. The JRE enables use of Java Access Bridge during installation. To install and configure Java Access Bridge after you install Oracle components, see "Setup for Oracle Installed Components" on page A-1.

Setup for JRE 1.5

To set up Java Access Bridge with JRE 1.5, stop your assistive technology, then run the following batch file on Oracle installation media prior to install:

```
DRIVE_LETTER:\install\access_setup.bat
```

After the batch file has run, restart your assistive technology program.

Setup for Oracle Installed Components

This section describes how to install and configure Java Access Bridge for Windows after installing Oracle components. It contains the following topics:

- Installing Java Access Bridge
- Configuring Oracle Components to Use Java Access Bridge

Installing Java Access Bridge

To install Java Access Bridge, follow these steps:

1. Go to the Sun Microsystem's Web site and download Java Access Bridge:

   http://java.sun.com/products/accessbridge/

2. Select the accessbridge-2_0_1-manual_install.zip file and extract its files to the system where you plan to install Java Access Bridge. For example:

   DRIVE_LETTER:\AccessBridge-2_0_1

3. Copy the Java Access Bridge files listed in Table A–1 into the JRE 1.5 directory used by Oracle components. If the files already exist, overwrite them. By default, the JRE used by Oracle components is installed in:

   *ORACLE_BASE**ORACLE_HOME*\jdk\jre\1.5

   Table A–1 lists the files you need to copy from the Java Access Bridge location on your hard drive to the JRE directory used by Oracle components:

Table A–1 Copy Files to JRE Directory

Copy	To
DRIVE_LETTER:\AccessBridge-2_0_1\installerFiles\jaccess-1_4.jar	*ORACLE_BASE**ORACLE_HOME*\jdk\jre\1.5\lib\ext
DRIVE_LETTER:\AccessBridge-2_0_1\installerFiles\access-bridge.jar	*ORACLE_BASE**ORACLE_HOME*\jdk\jre\1.5\lib\ext
DRIVE_LETTER:\AccessBridge-2_0_1\installerFiles\JavaAccessBridge.dll	*windows_directory*\system32
DRIVE_LETTER:\AccessBridge-2_0_1\installerFiles\WindowsAccessBridge.dll	*windows_directory*\system32
DRIVE_LETTER:\AccessBridge-2_0_1\installerFiles\JAWTAccessBridge.dll	*windows_directory*\system32
DRIVE_LETTER:\AccessBridge-2_0_1\installerFiles\accessibility.properties	*ORACLE_BASE**ORACLE_HOME*\jdk\jre\1.5\lib

4. You can access Java Access Bridge documentation located at:

   DRIVE_LETTER:\AccessBridge-2_0_1\doc

Configuring Oracle Components to Use Java Access Bridge

You can configure Oracle components to use Access Bridge after you complete the installation. To do so, you need to set the system variable ORACLE_OEM_CLASSPATH to point to the installed Java Access Bridge files.

Follow these steps:

1. Display **System** in the Control Panel.
2. Select the **Advanced** tab.
3. Click the **Environment Variables** button.
4. Click the **New** button under the System Variable list. The New System Variable dialog appears.
5. In the **Variable Name** field, enter ORACLE_OEM_CLASSPATH.

6. In the **Variable Value** field, enter the full path to `jaccess.jar` and `access-bridge.jar`.

   Use a semicolon to separate the two paths. Do not use quotes or character spaces. For example, if JRE 1.5 is installed in the default location, the setting would be:

   *ORACLE_BASE**ORACLE_HOME*\jdk\jre\1.5\lib\ext\jaccess.jar;*ORACLE_BASE**ORACLE_HOME*\jdk\jre\1.5\lib\ext\access-bridge.jar

7. Click **OK**.

B

Installing Oracle Database Client Using Response Files

This appendix describes how to use response files to perform a silent or noninteractive installation of Oracle Database Client. It covers the following topics:

- How Response Files Work?
- Preparing a Response File
- Running Oracle Universal Installer Using the Response File

How Response Files Work?

You can automate the installation and configuration of Oracle software, either fully or partially, by specifying a response file when you start Oracle Universal Installer. Oracle Universal Installer uses the values in the response file to provide answers to some or all of the Oracle Universal Installer prompts.

Typically, Oracle Universal Installer runs in interactive mode, which means that it prompts you to provide information in graphical user interface (GUI) screens. When you use response files to provide this information, you run Oracle Universal Installer at a command prompt using either of the following modes:

- **Silent mode**: Oracle Universal Installer does not display any screens. Instead it displays progress information in the command window where you started it. To use silent mode, you run `setup.exe` with the `-silent` parameter and include a response file, which contains responses to the Oracle Universal Installer prompts.
- **Noninteractive (or suppressed) mode**: Oracle Universal Installer only displays screens for which you did not supply information in the response file. You can use variables in the response file or command-line prompts to suppress other Oracle Universal Installer screens, such as Welcome and Summary, that do not prompt for information. To use noninteractive mode, run `setup.exe` without the `-silent` parameter, but include the response file or any other parameters that apply.

You define the settings for a silent or noninteractive installation by entering values for the variables listed in the response file. For instance, to specify the Oracle home name, you would supply the appropriate value for the `ORACLE_HOME_NAME` variable, as in the following example:

```
ORACLE_HOME_NAME="OraDBHome1"
```

Another way of specifying the response file's variable settings is to pass them as command line arguments when you run Oracle Universal Installer. For example:

```
DRIVE_LETTER:\setup.exe_location> setup -silent "ORACLE_HOME_NAME=OraDBHome1" ...
```

Ensure that you enclose the variable and its setting in quotes.

> **See Also:** *Oracle Universal Installer and OPatch User's Guide* for more information about response file formats.

Reasons for Using Silent Mode or Noninteractive Mode

Table B–1describes several reasons why you might want to run Oracle Universal Installer in silent mode or noninteractive mode.

Table B–1 Reasons for Using Silent Mode or Noninteractive Mode

Mode	Uses
Silent	Use silent mode if you want to: ▪ Complete an unattended installation ▪ Complete several similar installations on multiple systems without user interaction Oracle Universal Installer displays progress information in the window that you used to start it, but it does not display the Oracle Universal Installer screens.
Noninteractive	Use noninteractive mode if you want to complete similar Oracle software installations on more than one system, providing default answers to some, but not all, of Oracle Universal Installer prompts. If you do not specify information required for a particular Installer screen in the response file, Oracle Universal Installer displays that screen. It suppresses screens for which you have provided all of the required information.

General Procedure for Using Response Files

You follow these general steps to install Oracle Database Client using response files:

1. Customize or create a response file for the installation settings that you need.

   You can create the response file by using either of the following methods:

   - Modify one of the sample response files that is provided with the installation.
   - Run Oracle Universal Installer at a command prompt using record mode.

   "Preparing a Response File" on page B-3 explains how to customize or create the response file.

2. Run Oracle Universal Installer from a command prompt, specifying the response file, using either silent or noninteractive mode.

   > **Note:** Windows Vista requires Administrator privileges at the command prompt.

   "Running Oracle Universal Installer Using the Response File" on page B-5 explains how to run Oracle Universal Installer with a response file.

Preparing a Response File

This section describes the methods that you can use to prepare a response file for use during silent-mode or noninteractive-mode installations:

- Editing a Response File Template
- Recording a Response File

Editing a Response File Template

Oracle provides response file templates for each product and installation type, and for each configuration tool. These files are located in the `client\response` directory on the Oracle Database installation media.

Creating a response file using a response file template is most useful for the Enterprise Edition or Standard Edition installation types.

Table B–2 lists the available Oracle Database Client sample response files:

Table B–2 Response Files

Response File Name	Purpose
`netca.rsp`	Oracle Net Configuration Assistant to perform the configuration with the client installation types.
`clientadmin.rsp`	Administrator installation of Oracle Database Client
`clientcustom.rsp`	Custom installation of Oracle Database Client
`instantClient.rsp`	Instant Client installation of Oracle Database Client
`clientruntime.rsp`	Runtime installation of Oracle Database Client

To copy and modify a response file:

1. Copy the appropriate response files from the `client\response` directory on the Oracle Database media to your hard drive.
2. Modify the response files with a text file editor.

   In addition to editing settings specific to the Oracle Database Client installation, check that the `FROM_LOCATION` path is correct and points to the `products.xml` file in the `stage` directory in the installation media. You may want to set this variable to point to an absolute path, for example:

   ```
   FROM_LOCATION="\\myserver\client\stage\products.xml"
   ```

   Remember that you can specify the response file variables at the command line rather than within the response file. "How Response Files Work?" on page B-1 explains this method.

   > **See Also:** *Oracle Universal Installer and OPatch User's Guide* for detailed information on creating response files. In an installed Oracle Database, select **Start**, then **Programs**, then **Oracle - *HOME_NAME***, then **Oracle Installation Products**, then **Universal Installer Concepts Guide**. It appears in HTML format.

3. Run the response file by following the instructions in the "Running Oracle Universal Installer Using the Response File" section on page B-5.

Recording a Response File

You can create a response file by running Oracle Universal Installer in interactive mode using record mode. This method is most useful for custom or software-only installations.

Recording the response file generates the response file immediately after you complete the Summary window, so you do not need to install Oracle Database Client to create the response file. After you create the response file in this manner, you can customize it to meet your needs.

If you want to use record mode during a noninteractive mode installation, Oracle Universal Installer records the variable values that were specified in the original source response file into the new response file.

> **Note:** You cannot use record mode to create a response file based on the Basic installation type.

To record a response file:

1. Ensure that the computer on which you are creating the response file has met the requirements described in Chapter 2.
2. At the command prompt, use the `cd` command to change to the directory that contains the Oracle Universal Installer `setup.exe` executable.

   > **Note:** Windows Vista requires Administrator privileges at the command prompt.

   On the Oracle Database installation media, `setup.exe` is located in the `client` directory. Alternatively, navigate to the directory where you downloaded or copied the installation files.
3. Enter the following command:

   ```
   DRIVE_LETTER:\setup.exe_location> setup -record -destinationFile response_file_
   name
   ```

   Replace *`response_file_name`* with the complete path name for the new response file. For example:

   ```
   DRIVE_LETTER:\setup.exe_location> setup -record -destinationFile c:\response_
   files\install_oracle11_1.rsp
   ```
4. After Oracle Universal Installer starts, enter the installation settings, which will be recorded in the response file.
5. When the Summary window appears, do one of the following:
   - Click **Install** to create the response file and continue with the installation.
   - Click **Cancel** if you only want to create the response file but not continue with the installation. The installation will stop, but the settings you have entered will be recorded in the response file.

   Afterwards, Oracle Universal Installer saves your new response file using the path and file name you specified on the command line.
6. Edit the new response file to have any environment-specific changes for the computer on which you will run it.

In addition to editing settings specific to the Oracle Database Client installation, check that the `FROM_LOCATION` path is correct and points to the `products.xml` file in the `stage` directory in the installation media. You may want to set this variable to point to an absolute path, for example:

```
FROM_LOCATION="\\myserver\client\response\stage\products.xml"
```

Remember that you can specify the response file variables at the command line rather than within the response file. "How Response Files Work?" on page B-1 explains this method.

7. Run the response file by following the instructions in the "Running Oracle Universal Installer Using the Response File" section, next.

Running Oracle Universal Installer Using the Response File

At this stage, you are ready to run Oracle Universal Installer at the command line, specifying the response file you created, to perform the installation. On Windows Vista, you must open the command prompt with Administrator privileges. The Oracle Universal Installer executable, `setup.exe`, provides several options. For help information about the full set of these options, run `setup.exe` with the `-help` option, for example:

```
DRIVE_LETTER:\setup.exe_location> setup -help
```

A new command window appears, with the "Preparing to launch..." message. In a moment, the help information appears in that window.

To run Oracle Universal Installer and specify a response file:

1. Place the response file on the computer where you want to install Oracle Database Client.
2. At a command prompt, run Oracle Universal Installer with the appropriate response file. On Windows Vista, you must open the command prompt with Administrator privileges. For example:

   ```
   DRIVE_LETTER:\setup.exe_location> setup [-silent] "variable=setting"
   [-nowelcome] [-noconfig] [-nowait] -responseFile filename
   ```

   where:

   - *filename*: Identifies the full path of the response file.
   - `-silent`: Runs Oracle Universal Installer in silent mode and suppresses the Welcome window. When you use `-silent`, then the `-nowelcome` option is not necessary.
   - "*variable=setting*" refers to a variable within the response file that you may prefer to run at the command line rather than set in the response file. Enclose the variable and its setting in quotes.
   - `-nowelcome`: Suppresses the Welcome window that appears during installation.
   - `-noconfig`: Suppresses running the configuration assistants during installation, performing a software-only installation instead.
   - `-nowait`: Closes the console window when the silent installation completes.

See Also:

- "Installing Oracle Products" in *Oracle Universal Installer and OPatch User's Guide* for more information about installing using response files
- "Deinstalling Products" in *Oracle Universal Installer and OPatch User's Guide* for more information about deinstalling using response files

C

Configuring Oracle Database Globalization Support

This appendix describes the following Globalization Support topics:

- Installing and Using Oracle Components in Different Languages
- Running Oracle Universal Installer in Different Languages

Installing and Using Oracle Components in Different Languages

This section describes the following procedures:

- Configuring Oracle Components to Run in Different Languages
- Installing Translation Resources

Configuring Oracle Components to Run in Different Languages

You can specify the language and the territory, or locale, in which you want to use Oracle components. The locale setting of a component determines the language of the user interface of the component and the globalization behavior, such as date and number formatting. Depending on the Oracle component, the locale of the component is either inherited from the operating system session that started the component, or is defined by the `NLS_LANG` environment variable.

The operating system locale usually influences Oracle components that are based on Java technology. The `NLS_LANG` environment variable usually influences Oracle components that use Oracle Client libraries such as OCI.

> **Note:** The user interface of an Oracle component will be displayed in a selected language only if the appropriate translation is available and has been installed. Otherwise, the user interface will be displayed in English.

Determining the Operating System Locale

The locale setting of your operating system session determines the language of the user interface and the globalization behavior for components such as Oracle Universal Installer, Oracle Net Configuration Assistant, and Oracle Database Configuration Assistant. It also determines the globalization behavior of Oracle Database sessions created by a user application through Oracle JDBC driver, unless overridden by the application.

Open the Control Panel from the Start menu to modify the operating system locale settings. On Windows 2000, click Regional Options. On Windows XP, Windows 2003, Windows Server 2003 R2, click Regional and Language Options.

To set locale for the current operating system user on Windows 2000, select the desired locale from the pop-up list in "Settings for the current user" area on the General tab. On Windows XP, Windows 2003, and Windows Server 2003 R2, select the desired locale from the pop-up list in "Standards and formats" area on the Regional Options tab.

Some of the locales may be unavailable until you install required operating system support files. On Windows 2000, make sure that the relevant language group is selected in "Language settings for the system" area on the General tab. On Windows XP, Windows 2003, and Windows Server 2003 R2, make sure the relevant check boxes are checked in "Supplemental language support" area on Languages tab.

Some Oracle components, such as SQL*Plus, require that also the Windows System Locale is set to the language in which the components are to be run. System Locale is called "Language for non-Unicode programs" on Windows XP, Windows 2003, and Windows Server 2003 R2. To set the System Locale on Windows 2000, click the "Set default..." button on the General tab and select the locale from the displayed pop-up list. On Windows XP, Windows 2003, and Windows Server 2003 R2, select the locale from the pop-up list in the "Language for non-Unicode programs" area on the Advanced tab.

Note: The operating system must be restarted after the System Locale is changed.

Note: Refer to the operating system documentation for further information about Windows locale settings.

Configuring Locale and Character Sets with the NLS_LANG Environment Variable

The `NLS_LANG` environment variable determines the language of the user interface and the globalization behavior for components such as SQL*Plus, exp, and imp. It sets the language and territory used by the client application and the database. It also declares the character set for entering and displaying data by the client application.

The `NLS_LANG` environment variable uses the following format:

```
NLS_LANG=language_territory.characterset
```

In this format:

- *`language`* specifies the language used for displaying user interface, error messages, sorting, day names, and month names
- *`territory`* specifies the conventions for default date, monetary and numeric formats
- *`characterset`* specifies the encoding of the database client, which is the character set for data entered or displayed by a client program

  In most cases, this is the Oracle character set that corresponds to the Windows ANSI Code Page as determined by the System Locale.

The *`NLS_LANG`* parameter on Windows can be set

- in Registry under the subkey corresponding to a given Oracle home,

- as an environment variable.

When you install Oracle Database components and the *NLS_LANG* parameter is not yet set in the Registry subkey of the target Oracle home, Oracle Universal Installer sets the *NLS_LANG* parameter to a default value derived from the operating system locale for the current user – see Table C–1.

Caution: AL32UTF8 is the Oracle Database character set that is appropriate for XMLType data. It is equivalent to the IANA registered standard UTF-8 encoding, which supports all valid XML characters.

Do not confuse Oracle Database database character set UTF8 (no hyphen) with database character set AL32UTF8 or with character encoding UTF-8. Database character set UTF8 has been superseded by AL32UTF8. Do not use UTF8 for XML data. UTF8 supports only Unicode version 3.0 and earlier; it does not support all valid XML characters. AL32UTF8 has no such limitation.

Using database character set UTF8 for XML data could cause a fatal error or affect security negatively. If a character that is not supported by the database character set appears in an input-document element name, a replacement character (usually a question mark) is substituted for it. This will terminate parsing and raise an exception.

See Also:

- *Oracle Database Platform Guide for Microsoft Windows* for more information about the subkey locations for multiple Oracle homes
- *Oracle Database Globalization Support Guide* for information about the NLS_LANG parameter and Globalization Support initialization parameters

Table C–1 lists the default NLS_LANG values for various Windows locales.

Table C–1 NLS_LANG Parameter Values

Operating System Locale	NLS_LANG Value
Arabic (U.A.E.)	ARABIC_UNITED ARAB EMIRATES.AR8MSWIN1256
Bulgarian	BULGARIAN_BULGARIA.CL8MSWIN1251
Catalan	CATALAN_CATALONIA.WE8MSWIN1252
Chinese (PRC)	SIMPLIFIED CHINESE_CHINA.ZHS16GBK
Chinese (Taiwan)	TRADITIONAL CHINESE_TAIWAN.ZHT16MSWIN950
Croatian	CROATIAN_CROATIA.EE8MSWIN1250
Czech	CZECH_CZECH REPUBLIC.EE8MSWIN1250
Danish	DANISH_DENMARK.WE8MSWIN1252
Dutch (Netherlands)	DUTCH_THE NETHERLANDS.WE8MSWIN1252
English (United Kingdom)	ENGLISH_UNITED KINGDOM.WE8MSWIN1252
English (United States)	AMERICAN_AMERICA.WE8MSWIN1252
Estonian	ESTONIAN_ESTONIA.BLT8MSWIN1257
Finnish	FINNISH_FINLAND.WE8MSWIN1252

Table C–1 (Cont.) NLS_LANG Parameter Values

Operating System Locale	NLS_LANG Value
French (Canada)	CANADIAN FRENCH_CANADA.WE8MSWIN1252
French (France)	FRENCH_FRANCE.WE8MSWIN1252
German (Germany)	GERMAN_GERMANY.WE8MSWIN1252
Greek	GREEK_GREECE.EL8MSWIN1253
Hebrew	HEBREW_ISRAEL.IW8MSWIN1255
Hungarian	HUNGARIAN_HUNGARY.EE8MSWIN1250
Icelandic	ICELANDIC_ICELAND.WE8MSWIN1252
Indonesian	INDONESIAN_INDONESIA.WE8MSWIN1252
Italian (Italy)	ITALIAN_ITALY.WE8MSWIN1252
Japanese	JAPANESE_JAPAN.JA16SJISTILDE
Korean	KOREAN_KOREA.KO16MSWIN949
Latvian	LATVIAN_LATVIA.BLT8MSWIN1257
Lithuanian	LITHUANIAN_LITHUANIA.BLT8MSWIN1257
Norwegian	NORWEGIAN_NORWAY.WE8MSWIN1252
Polish	POLISH_POLAND.EE8MSWIN1250
Portuguese (Brazil)	BRAZILIAN PORTUGUESE_BRAZIL.WE8MSWIN1252
Portuguese (Portugal)	PORTUGUESE_PORTUGAL.WE8MSWIN1252
Romanian	ROMANIAN_ROMANIA.EE8MSWIN1250
Russian	RUSSIAN_RUSSIA.CL8MSWIN1251
Slovak	SLOVAK_SLOVAKIA.EE8MSWIN1250
Spanish (Spain)	SPANISH_SPAIN.WE8MSWIN1252
Swedish	SWEDISH_SWEDEN.WE8MSWIN1252
Thai	THAI_THAILAND.TH8TISASCII
Spanish (Mexico)	MEXICAN SPANISH_MEXICO.WE8MSWIN1252
Spanish (Venezuela)	LATIN AMERICAN SPANISH_VENEZUELA.WE8MSWIN1252
Turkish	TURKISH_TURKEY.TR8MSWIN1254
Ukrainian	UKRAINIAN_UKRAINE.CL8MSWIN1251
Vietnamese	VIETNAMESE_VIETNAM.VN8MSWIN1258

NLS_LANG Settings in Console Mode and Batch Mode

Before you can use Oracle utilities such as SQL*Plus, SQL Loader, Import, and Export from the Command Prompt window, you may have to set the character set field of the NLS_LANG parameter to a value different than the one set in Registry.

This is required because programs running in console mode use, with a few exceptions, a different code page (character set) from programs running in GUI mode. The default Oracle home NLS_LANG parameter in the Registry is always set to the appropriate GUI code page. If you do not set the NLS_LANG parameter for the console mode session correctly, incorrect character conversion can corrupt error messages and data.

For Japanese, Korean, Simplified Chinese, Traditional Chinese, Thai, and Vietnamese, the console (OEM) code page is identical to the GUI (ANSI) code page. In this case, you do not need to set the NLS_LANG parameter. For other languages, set the correct character set value of NLS_LANG by issuing a SET NLS_LANG command in the same Command Prompt window in which you want to start the affected utility.

Similarly, in batch mode, set the correct character set value of NLS_LANG by inserting a SET NLS_LANG command at the start of the batch procedure, according to the character set of the files to be processed in the procedure.

To find the current console code page, issue the CHCP command in the Command Prompt window. Use the reported code page number to look up the corresponding Oracle character set name in Table C–2.

Table C–2 lists the Oracle character sets that correspond to the console mode code pages.

Table C–2 Oracle Character Sets for Console Mode (OEM) Code Pages

OEM Code Page	Oracle Character Set for Console Mode
437 (US)	US8PC437
737 (Greek)	EL8PC737
775 (Baltic)	BLT8PC775
850 (Multilingual Latin I)	WE8PC850
852 (Latin II)	EE8PC852
855 (Cyrillic)	RU8PC855
857 (Turkish)	TR8PC857
858 (Multilingual Latin I + Euro)	WE8PC858
866 (Russian)	RU8PC866
874 (Thai)	TH8TISASCII
932 (Japanese Shift-JIS)	JA16SJISTILDE
936 (Simplified Chinese GBK)	ZHS16GBK
949 (Korean)	KO16MSWIN949
950 (Traditional Chinese Big5)	ZHT16MSWIN950
1258 (Vietnam)	VN8MSWIN1258

Installing Translation Resources

To view the user interface of Oracle components in different languages, you must install the appropriate language translations along with the component. To select the translation resources that you want to install:

Note: Part of Oracle Database Vault user interface text is stored in database tables in the DVSYS schema. By default, only the English language is loaded into these tables. You can use Oracle Database Vault Configuration Assistant to add more languages to Oracle Database Vault. For the necessary steps, see Appendix C in *Oracle Database Vault Administrator's Guide*

---

1. Start Oracle Universal Installer.
2. On the Select Installation Type screen, click **Product Languages**.
3. On the Language Selection screen, select the language in which you want to use Oracle components from the Available Languages field.

   Note: The Available Languages field lists all languages supported by Oracle globalization libraries. The set of languages for which a translation is actually available is usually smaller and depends on a particular component. The scope of translation for a given component may differ between languages. For example, some translations may include all user interface text, while others may include only error messages and no help files.

4. Use the > arrow to move the selected language to the Selected Languages field, and then click **OK**.

   Note: Oracle Universal Installer will ignore languages in the Selected Languages field for which no translation is available.

5. Select the products you want, and then click **Next**.

   Note: To install additional languages for a component, you will have to reinstall this component.

Running Oracle Universal Installer in Different Languages

The operating system locale determines the language in which Oracle Universal Installer runs. Oracle Universal Installer may run in one of the following languages:

- Brazilian Portuguese
- English
- French
- German
- Italian
- Japanese
- Korean
- Simplified Chinese
- Spanish
- Traditional Chinese

To run Oracle Universal Installer in a desired language

1. Change the locale for the operating system user and the System Locale as described in "Determining the Operating System Locale" section.
2. Run Oracle Universal Installer by following the instructions in the "Installing the Oracle Database Client Software" section.

If the selected language is not one of the listed earlier, Oracle Universal Installer runs in English.

D

Troubleshooting the Oracle Database Client Installation

This appendix contains the following information about troubleshooting:

- Verifying Requirements
- What to Do if an Installation Error Occurs?
- Reviewing the Log of an Installation Session
- Silent or Noninteractive Installation Response File Error Handling
- Troubleshooting Configuration Assistants
- Cleaning Up After a Failed Installation

Verifying Requirements

Before you try any of the troubleshooting steps in this appendix, do the following:

- Check that the system meets the requirements and that you have completed all of the preinstallation tasks specified in Chapter 2, "Oracle Database Client Preinstallation Requirements".
- Read the release notes for the product on your platform before installing it. The release notes are available on the Oracle Database installation media. You can find the latest version of the release notes on the Oracle Technology Network Web site:

  `http://www.oracle.com/technology/documentation/`

What to Do if an Installation Error Occurs?

If you encounter an error during installation:

- Do not exit Oracle Universal Installer.
- If you clicked **Next** after you entered incorrect information about one of the installation windows, click **Back** to return to the window and correct the information.
- If you encounter an error while Oracle Universal Installer is copying or linking files, then see "Reviewing the Log of an Installation Session" on page D-2 for interactive installations or "Silent or Noninteractive Installation Response File Error Handling" on page D-2 for silent or noninteractive installations.
- If you encounter an error while a configuration assistant is running, then see "Troubleshooting Configuration Assistants" on page D-3.

- If you cannot resolve the problem, then remove the failed installation by following the steps listed in "Cleaning Up After a Failed Installation" on page D-3.

Reviewing the Log of an Installation Session

When you run Oracle Universal Installer on a computer with no Oracle software installed, it creates a directory called:

DRIVE_LETTER:\Program Files\Oracle\Inventory\logs

During this first installation and all subsequent installations, Oracle Universal Installer records all of the actions that it performs in a log file in this directory. If you encounter problems during the installation, review the log file for information about possible causes of the problem.

Log filenames for interactive installations take the form:

installActions*date_time*.log

For example, if an interactive installation occurred at 9:00:56 A.M. on February 14, 2005, the log file would be named:

installActions2005-02-14_09-00-56-am.log

Note: Do not delete or manually alter the `Inventory` directory or its contents. Doing so can prevent Oracle Universal Installer from locating products that you install on your system.

See Also: Silent or Noninteractive Installation Response File Error Handling on page D-2

Silent or Noninteractive Installation Response File Error Handling

To determine whether a silent or nonintereactive installation succeeds or fails, check the `silentInstallActions`*date_time*`.log` file, located in the *DRIVE_LETTER*`:\Program Files\Oracle\Inventory\logs` directory.

A silent installation fails if:

- You do not specify a response file.
- You specify an incorrect or incomplete response file.

  For example, a common problem is that while all the database-specific data is filled out correctly, the staging area location may be incorrect. If this is the case, check the `FROM_LOCATION` variable and make sure that it points to the `products.xml` file in the installation media. In the installation media, this `products.xml` is in `client\stage`.
- Oracle Universal Installer encounters an error, such as insufficient disk space.

Oracle Universal Installer or a configuration assistant validates the response file at runtime. If the validation fails, the installation or configuration process ends. Oracle Universal Installer treats values for parameters that are of the wrong context, format, or type as if no value was specified in the file.

See Also: "Reviewing the Log of an Installation Session" on page D-2 for information on interactive installation log files

Troubleshooting Configuration Assistants

To troubleshoot an installation error that occurs when a configuration assistant is running:

- Review the installation log files listed in "Reviewing the Log of an Installation Session" on page D-2.
- Review the specific configuration assistant log file located in the *ORACLE_BASE**ORACLE_HOME*\cfgtoollogs directory. Try to fix the issue that caused the error.
- If you see the `Fatal Error. Reinstall` message, look for the cause of the problem by reviewing the log files. Refer to "Fatal Errors" on page D-3 for further instructions.

Configuration Assistant Failure

Oracle configuration assistant failures are noted at the bottom of the installation window. The configuration assistant interface displays additional information, if available. The configuration assistant execution status is stored in the `installActions`*`date_time`*`.log` file.

The execution status codes are listed in the following table:

Status	Result Code
Configuration assistant succeeded	0
Configuration assistant failed	1
Configuration assistant cancelled	-1

Fatal Errors

If you receive a fatal error while a configuration assistant is running:

1. Remove the failed installation as described in "Cleaning Up After a Failed Installation" on page D-3.
2. Correct the cause of the fatal error.
3. Reinstall the Oracle software.

Cleaning Up After a Failed Installation

If an installation fails, you must remove files that Oracle Universal Installer created during the attempted installation and remove the Oracle home directory. Follow the instructions in Chapter 5, "Removing Oracle Database Client Software" to run Oracle Universal Installer to deinstall Oracle Database Client, manually remove the Oracle directory, and remove Oracle from the Registry Editor keys. Afterwards, reinstall the software.

Glossary

connect descriptor

A specially formatted description of the destination for a network connection. A connect descriptor contains destination service and network route information.

The destination service is indicated by using its service name for the Oracle Database or its Oracle system identifier (**SID**) for Oracle release 8.0, or version 7 databases. The network route provides, at a minimum, the location of the **listener** through use of a network address.

default domain

The network domain within which most client requests take place. It can be the domain where the client resides, or a domain from which the client often requests network services. The default domain is also the client configuration parameter that determines what domain to append to unqualified network name requests. A name request is unqualified if it does not have a "." character within it.

easy connect naming

A **naming method** that allows clients to connect to a database server without any configuration. Clients use a simple TCP/IP address, which consists of a host name and optional port number, service name, and instance name:

```
SQL>CONNECT user_name@host[:port][/service_name][/instance_name]
Enter password: password
```

installation type

An installation type is a predefined component set that automatically selects which components to install. See "Oracle Database Client Installation Types" on page 1-3 for a list of installation types available with each top-level component.

Interprocess Communication (IPC)

A protocol used by client applications that resides on the same node as the **listener** to communicate with the database. IPC can provide a faster local connection than TCP/IP.

ldap.ora file

A file created by the Oracle Net Configuration Assistant that contains the following directory access information:

- Type of directory
- Location of directory

- Default administrative context the client or server uses to look up or configure connect identifiers for connections to database services

The `ldap.ora` file resides in *ORACLE_BASE*`\`*ORACLE_HOME*`\network\admin`.

listener

A process that resides on the server and whose responsibility is to listen for incoming client connection requests and manage the traffic to the server.

When a client requests a network session with a database server, a listener receives the actual request. If the client information matches the listener information, then the listener grants a connection to the database server.

listener.ora file

A configuration file for the listener that identifies the:

- Listener name
- Protocol addresses on which it is accepting connection requests
- Services for which it is listening

The `listener.ora` file resides in *ORACLE_BASE*`\`*ORACLE_HOME*`\network\admin`.

An Oracle Database 11*g* 11*g* release 1 (11.1) does not require identification of the database service because of service registration. However, static service configuration is required for an Oracle Database 11*g* release 1 (11.1) if you plan to use Oracle Enterprise Manager.

local naming

A **naming method** that resolves a net service name into a connect descriptor. This name is configured and stored in the **tnsnames.ora file** on each individual client.

naming method

A resolution method used by a client application to resolve a connect identifier to a network address when attempting to connect to a database service. Oracle Net Services supports the following naming methods:

- Local naming
- Directory naming
- Host naming
- External naming

net service name

A simple name for a service that resolves to a connect descriptor. Users initiate a connect request by passing a username and password along with a net service name in a connect string for the service to which they want to connect:

```
SQL> CONNECT username@net_service_identifier
Enter password: password
```

Depending on your needs, net service names can be stored in a variety of places, including:

- Local configuration file, `tnsnames.ora`, on each client
- Directory server

- External naming service, such as Network Information Service (NIS) or Cell Directory Service (CDS)

operating system authenticated connections

Windows login credentials can be used to authenticate users connecting to an Oracle Database. The benefits of Windows native authentication include:

- Enabling users to connect to multiple Oracle Databases without supplying a username or password
- Centralizing Oracle Database user authorization information in Windows, which frees Oracle Database from storing or managing user passwords

OPS$

The initialization file parameter `OS_AUTHENT_PREFIX` enables users to specify a prefix that Oracle uses to authenticate users attempting to connect to the database. Oracle concatenates the value of this parameter to the beginning of the user's operating system account name and password. When a connection request is attempted, Oracle compares the prefixed username with Oracle usernames in the database.

The default value of this parameter is `""` (a null string), thereby eliminating the addition of any prefix to operating system account names. In earlier releases, `OPS$` (short for operating system specific) was the default setting.

Oracle Context

The root of a directory subtree with a relative distinguished name of `cn=OracleContext`, under which all Oracle software information is kept. There may be one (or more than one) Oracle Context in a directory. An Oracle Context can be associated with a directory naming context.

The Oracle Context can contain the following Oracle entries:

- Connect identifiers for use with Oracle Net Services directory naming to make database connections
- Enterprise user security for use with Oracle Advanced Security

Oracle home

The directory path to install Oracle components (for example, `c:\app\`*`username`*`\product\11.1.0\db_`*`n`* where *n* is the number of the Oracle home). You are prompted to enter an Oracle home in the Path field of the Oracle Universal Installer File Locations window.

Oracle home name

The name of the current Oracle home. Each Oracle home has a home name that distinguishes it from all other Oracle homes on your computer. During installation, you are prompted to enter an Oracle home name in the Name field of the Oracle Universal Installer File Locations window.

Oracle schema

A set of rules that determine what can be stored in an LDAP-compliant directory server. Oracle has its own schema that is applied to many types of Oracle entries, including Oracle Net Services entries. The Oracle schema for Oracle Net Services entries includes the attributes the entries may contain.

Oracle Net foundation layer

A networking communication layer that is responsible for establishing and maintaining the connection between the client application and server, as well as exchanging messages between them.

protocol address

An address that identifies the network address of a network object.

When a connection is made, the client and the receiver of the request, such as the **listener**, or Oracle Connection Manager, are configured with identical protocol addresses. The client uses this address to send the connection request to a particular network object location, and the recipient "listens" for requests on this address. It is important to install the same protocols for the client and the connection recipient, as well as configure the same addresses.

repository

A set of tables located in any Oracle database accessible to the Oracle Management Server. Oracle Management Server uses a repository to store all system data and application data, information on the state of managed nodes distributed throughout the environment, as well as information about the separately licensable management packs.

service registration

A feature by which the PMON process (an instance background process) automatically registers information with a **listener**. Because this information is registered with the listener, the **listener.ora file** does not need to be configured with this static information.

Service registration provides the listener with the following information:

- Service name(s) for each running instance of the database
- Instance name(s) of the database
- Service handlers (dispatchers and dedicated servers) available for each instance

  This allows the listener to direct a client's request appropriately.
- Dispatcher, instance, and node load information

  This allows the listener to determine which dispatcher can best handle a client connection's request. If all dispatchers are blocked, the listener can spawn a dedicated server for the connection.

This information allows the listener to determine how best to service a client connection request.

SID

The Oracle system identifier that distinguishes the database from all other database on your computer. The SID automatically defaults to the database name portion of the global database name (`sales` in the example `sales.us.acme.com`) until you reach eight characters or enter a period. You can accept or change the default value.

sqlnet.ora file

A configuration file for the client or server that specifies the:

- Client domain to append to unqualified service names or net service names
- Order of naming methods for the client to use when resolving a name

- Logging and tracing features to use
- Route of connections
- External naming parameters
- Oracle Advanced Security parameters

The `sqlnet.ora` file resides in *`ORACLE_BASE`*`\`*`ORACLE_HOME`*`\network\admin`.

system identifier

See **SID**.

Terminal Server

Microsoft Windows Terminal Server is a Windows thin-client terminal server, a product that adds support for multiple, simultaneous client sessions on the Windows Server. Windows Terminal Server provides an operating system graphical user interface (GUI) to users of Oracle databases.

tnsnames.ora file

A configuration file that contains net service names mapped to connect descriptors. This file is used for the local naming method. The `tnsnames.ora` file resides in *`ORACLE_BASE`*`\`*`ORACLE_HOME`*`\network\admin`.

UNC

See Universal Naming Convention (UNC)

typical configuration

Oracle Universal Installer option that performs a default configuration of a connection between Oracle Database Client and Oracle Database. It configures the following:

- One net service name in the **tnsnames.ora file**.
- **local naming** and **easy connect naming** methods in the **sqlnet.ora file**.

When Oracle Database Client attempts to connect, it tries local naming first, followed by easy connect naming.

unqualified name

A net service name that does not contain a network domain.

Universal Naming Convention (UNC)

The Universal Naming Convention provides a means to access files on a network without mapping the network drive to a drive letter. UNC names are constructed in the following manner:

`\\`*`computer name\share name\filename`*

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