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Oracle welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information used for revision.

- Did you find any errors?
- Is the information clearly presented?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most about this manual?

If you find any errors or have any other suggestions for improvement, please indicate the title and part number of the documentation and the chapter, section, and page number (if available). You can send comments to us in the following ways:

- Electronic mail: ntdoc_us@oracle.com
- FAX: (650) 506-7357.   Attn: Oracle Database for Windows Documentation
- Postal service:
  Oracle Corporation
  Oracle Database for Windows Documentation Manager
  500 Oracle Parkway, Mailstop 1op4
  Redwood Shores, CA 94065
  USA

If you would like a reply, please give your name, address, telephone number, and electronic mail address (optional).

If you have problems with the software, please contact your local Oracle Support Services.
This guide provides instructions on installing and configuring Oracle Database Client for 32-bit Windows. Only the features of Oracle Database Client for Windows software installed on Windows NT, Windows 2000, Windows XP, and Windows Server 2003 operating systems are discussed in this guide.

This preface contains these topics:

- Audience
- Documentation Accessibility
- Structure
- Related Documents
- Conventions

Audience

*Oracle Database Client Installation Guide for 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

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 documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For additional information, visit the Oracle Accessibility Program Web site at

http://www.oracle.com/accessibility/
Accessibility of Code Examples in Documentation

JAWS, a Windows screen reader, may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, JAWS may not always read a line of text that consists solely of a bracket or brace.

Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

Structure

This document contains:

Chapter 1, "Oracle Database Client Installation Overview"
Introduces you to the different types of Oracle Database Client installations that you can perform, as well as issues that you should consider before installing the software.

Chapter 2, "Oracle Database Client Preinstallation Requirements"
Describes the tasks that you must complete before you start Oracle Universal Installer.

Chapter 3, "Installing Oracle Database Client"
Describes how to install Oracle Database Client from the installation media or from a hard disk using Oracle Universal Installer.

Chapter 4, "Oracle Database Client Postinstallation Tasks"
Describes how to complete postinstallation tasks after you have installed the software.

Chapter 5, "Removing Oracle Database Client Software"
Describes how to completely remove all Oracle databases, instances, and software from an Oracle home directory.

Appendix A, "Installing Java Access Bridge"
Describes how to install Java Access Bridge. Java Access Bridge enables use of a screen reader with Oracle components.

Appendix B, "Oracle Database Client Advanced Installation Topics"
Describes how to run Oracle Universal Installer in noninteractive mode or in a foreign language.

Appendix C, "Oracle Database Client Globalization Support"
Describes Globalization Support.

Appendix D, "Oracle Database Client Installation Troubleshooting"
Contains information about troubleshooting.

Glossary
Related Documents

For more information, see these Oracle resources:

- *Oracle Database Installation Guide for Windows*
- *Oracle Database Client Release Notes for Windows*
- *Oracle Workflow Installation Notes for Oracle Database*
- *Oracle Enterprise Manager Grid Control Installation and Basic Configuration*
- *Oracle Database Upgrade Guide*
- *Oracle Database Platform Guide for 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/](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://otn.oracle.com/membership/](http://otn.oracle.com/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://otn.oracle.com/documentation/](http://otn.oracle.com/documentation/)

Conventions

This section describes the conventions used in the text and code examples of this documentation set. It describes:

- **Conventions in Text**
- **Conventions in Code Examples**
- **Conventions for Windows Operating Systems**

**Conventions in Text**

We use various conventions in text to help you more quickly identify special terms. The following table describes those conventions and provides examples of their use.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bold</strong></td>
<td>Bold typeface indicates terms that are defined in the text or terms that appear in a glossary, or both.</td>
<td>When you specify this clause, you create an index-organized table.</td>
</tr>
<tr>
<td><strong>Italics</strong></td>
<td>Italic typeface indicates book titles or emphasis.</td>
<td>Oracle Database Concepts Ensure that the recovery catalog and target database do not reside on the same disk.</td>
</tr>
</tbody>
</table>
Conventions in Code Examples

Code examples illustrate SQL, PL/SQL, SQL*Plus, or other command-line statements. They are displayed in a monospace (fixed-width) font and separated from normal text as shown in this example:

```
SELECT username FROM dba_users WHERE username = 'MIGRATE';
```

The following table describes typographic conventions used in code examples and provides examples of their use.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPPERCASE monospace</td>
<td>Uppercase monospace typeface indicates elements supplied by the system.</td>
<td>You can specify this clause only for a NUMBER column.</td>
</tr>
<tr>
<td>(fixed-width) font</td>
<td></td>
<td>You can back up the database by using the BACKUP command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Query the TABLE_NAME column in the USER_TABLES data dictionary view.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use the DBMS_STATS.GENERATE_STATS procedure.</td>
</tr>
<tr>
<td>lower monospace</td>
<td>Lowercase monospace typeface indicates executable programs, filenames,</td>
<td>Enter sqlplus to start SQL*Plus.</td>
</tr>
<tr>
<td>(fixed-width) font</td>
<td>directory names, and sample user-supplied elements.</td>
<td>The password is specified in the orapwd file.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Back up the datafiles and control files in the /disk1/oracle/dbs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>directory.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The department_id, department_name, and location_id columns are in the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>hr.departments table.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Set the QUERY_REWRITE_ENABLED initialization parameter to true.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Connect as oe user.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The JRepUtil class implements these methods.</td>
</tr>
<tr>
<td>lower italic monospace</td>
<td>Lowercase italic monospace font represents placeholders or variables.</td>
<td>You can specify the parallel_clause.</td>
</tr>
<tr>
<td>(fixed-width) font</td>
<td></td>
<td>Run old_release.SQL where old_release refers to the release you installedprior to upgrading.</td>
</tr>
</tbody>
</table>

Conventions in Code Examples

Code examples illustrate SQL, PL/SQL, SQL*Plus, or other command-line statements. They are displayed in a monospace (fixed-width) font and separated from normal text as shown in this example:

```
SELECT username FROM dba_users WHERE username = 'MIGRATE';
```

The following table describes typographic conventions used in code examples and provides examples of their use.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
<td>Anything enclosed in brackets is optional.</td>
<td>DECIMAL (digits [ ] precision)</td>
</tr>
<tr>
<td>{ }</td>
<td>Braces are used for grouping items.</td>
<td>(ENABLE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A vertical bar represents a choice of two options.</td>
</tr>
<tr>
<td>[ ]</td>
<td>Braces are used for grouping items.</td>
<td>[COMPRESS</td>
</tr>
<tr>
<td>...</td>
<td>Ellipsis points mean repetition in syntax descriptions.</td>
<td>CREATE TABLE ... AS subquery;</td>
</tr>
<tr>
<td></td>
<td>In addition, ellipsis points can mean an omission in code examples or text.</td>
<td>SELECT col1, col2, ..., coln FROM employees;</td>
</tr>
<tr>
<td>Other symbols</td>
<td>You must use symbols other than brackets ([ ]), braces ({}), vertical bars (!), and ellipsis points (...) exactly as shown.</td>
<td>acctbal NUMBER(11,2); acct CONSTANT NUMBER(4) := 3;</td>
</tr>
<tr>
<td>Italics</td>
<td>Italicized text indicates placeholders or variables for which you must supply particular values.</td>
<td>CONNECT SYSTEM/system_password</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DB_NAME = database_name</td>
</tr>
</tbody>
</table>
The following table describes conventions for Windows operating systems and provides examples of their use.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPPERCASE</td>
<td>Uppercase typeface indicates elements supplied by the system. We show these terms in uppercase in order to distinguish them from terms you define. Unless terms appear in brackets, enter them in the order and with the spelling shown. Because these terms are not case sensitive, you can use them in either UPPERCASE or lowercase.</td>
<td>SELECT last_name, employee_id FROM employees; SELECT * FROM USER_TABLES; DROP TABLE hr.employees;</td>
</tr>
<tr>
<td>lowercase</td>
<td>Lowercase typeface indicates user-defined programmatic elements, such as names of tables, columns, or files.</td>
<td>SELECT last_name, employee_id FROM employees; sqlplus hr/hr CREATE USER mjones IDENTIFIED BY ty3MU9;</td>
</tr>
</tbody>
</table>

**Conventions for Windows Operating Systems**

The following table describes conventions for Windows operating systems and provides examples of their use.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>From the Start menu, select menu_item</td>
<td>How to start a program.</td>
<td>From the Start menu, select Programs, then Oracle - HOME_NAME, then Configuration and Management Tools, then Database Configuration Assistant.</td>
</tr>
<tr>
<td>File and directory names</td>
<td>File and directory names are not case sensitive. The following special characters are not allowed: left angle bracket (&lt;), right angle bracket (&gt;, colon (:), double quotation marks (&quot;), slash (/), pipe (</td>
<td>), and dash (-). The special character backslash () is treated as an element separator, even when it appears in quotes. If the file name begins with \, then Windows assumes it uses the Universal Naming Convention.</td>
</tr>
<tr>
<td>C:&gt;</td>
<td>Represents the Windows command prompt of the current hard disk drive. The escape character in a command prompt is the caret (^). Your prompt reflects the subdirectory in which you are working. Referred to as the command prompt in this manual.</td>
<td>C:\oracle\oradata&gt;</td>
</tr>
<tr>
<td>Special characters</td>
<td>The backslash () special character is sometimes required as an escape character for the double quotation mark (&quot;), colon (:), pipe (</td>
<td>), and dash (-). The special character backslash () is treated as an element separator, even when it appears in quotes.</td>
</tr>
<tr>
<td>HOME_NAME</td>
<td>Represents the Oracle home name. The home name can be up to 16 alphanumeric characters. The only special character allowed in the home name is the underscore.</td>
<td>C:&gt; net start OracleHOME_NAME TNSListener</td>
</tr>
</tbody>
</table>
In releases prior to Oracle8i release 8.1.3, when you installed Oracle components, all subdirectories were located under a top level ORACLE_HOME directory. The default for Windows NT was C:\orant.

This release complies with Optimal Flexible Architecture (OFA) guidelines. All subdirectories are not under a top level ORACLE_HOME directory. There is a top level directory called ORACLE_BASE that by default is C:\oracle\product\10.1.0. If you install the latest Oracle release on a computer with no other Oracle software installed, then the default setting for the first Oracle home directory is C:\oracle\product\10_1_0\db_n, where n is the latest Oracle home number. The Oracle home directory is located directly under ORACLE_BASE.

All directory path examples in this guide follow Optimal Flexible Architecture conventions.

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.

This chapter contains these topics:

- Installation Overview
- Oracle Database Client Installation Types

### Installation Overview

The Oracle Database Client installation process consists of four steps:

1. **Planning 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.

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

3. **Installing software:** Use the following sections to install Oracle Database Client:
   - Chapter 3 describes how to use Oracle Universal Installer (OUI) to install Oracle Database Client.
   - Appendix B describes advanced installation topics: performing noninteractive (silent) installations, which you may want to use if you need to perform multiple installations of Oracle Database Client. This appendix also covers how to install and use Oracle components in different languages.
   - Appendix A describes how to install Java Access Bridge, which enables a screen reader with Oracle components.
   - Appendix D provides troubleshooting advice in case you encounter problems with the installation.
   - Chapter 5 describes how to remove Oracle Database Client.

4. **Completing 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.
Oracle Database Client Installation Types

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

- **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.

- **Instant Client**: Install 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.

**See Also:** *Oracle Call Interface Programmer’s Guide* for more information about the Instant Client feature.
Oracle Database Client Preinstallation Requirements

This chapter describes the tasks that you must complete before you start Oracle Universal Installer.

This chapter contains these topics:

- Oracle Database Client Hardware Requirements
- Oracle Database Client Software Requirements
- Oracle Database Client Hardware and Software Certification
- Oracle Snap-Ins to the Microsoft Management Console Requirements

Oracle Database Client Hardware Requirements

The following hardware components are required for Oracle Database Client:

- RAM: 128 MB minimum, 256 MB recommended
- Virtual memory: double the amount of RAM
- Disk space: see Table 2–1
- Temp disk space: 100 MB
- Video adapter: 256 color
- Processor: 200 MHz minimum

Hard Disk Space Requirements

This section lists system requirements for Windows NT File System (NTFS) file systems. FAT32 space requirements are slightly larger. 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 screen. The Summary screen 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 2–1 lists the space requirements for NTFS.
To ensure that the system meets these requirements, follow these steps:

1. Determine the physical RAM size. For a computer using Windows 2000, for example, open the System 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 swap space (also known as paging file size). For a computer using Windows 2000, for example, open the System control panel, select the Advanced tab, and click Performance Options.

   If necessary, see your operating system documentation for information about how to configure additional swap space.

3. Determine the amount of free disk space on the system. For a computer using Windows 2000, for example, 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 first 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. For a computer using Windows 2000, for example, open the System control panel, select the Advanced tab, and click Environment Variables.

---

<table>
<thead>
<tr>
<th>Table 2–1 Hard Disk Space Requirements for NTFS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation Type</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Administrator</td>
</tr>
<tr>
<td>Runtime</td>
</tr>
<tr>
<td>Instant Client</td>
</tr>
</tbody>
</table>

See Also: "About NTFS File System and Windows Registry Permissions" in Oracle Database Platform Guide for Windows
Oracle Database Client Software Requirements

Table 2–2 lists the software requirements for Oracle Database Client.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Architecture</td>
<td>32-bit</td>
</tr>
<tr>
<td>Operating System</td>
<td>Oracle Database Client for Windows is supported on the following operating systems:</td>
</tr>
<tr>
<td></td>
<td>■ Windows NT Server 4.0, Windows NT Server Enterprise Edition 4.0, and Terminal Server Edition with service pack 6a or higher are supported. Windows NT Workstation is no longer supported.</td>
</tr>
<tr>
<td></td>
<td>■ Windows 2000 with service pack 1 or higher. All editions, including Terminal Services and Windows 2000 MultiLanguage Edition (MLE), are supported.</td>
</tr>
<tr>
<td></td>
<td>■ Windows Server 2003</td>
</tr>
<tr>
<td></td>
<td>■ Windows XP Professional</td>
</tr>
<tr>
<td>Compiler</td>
<td>ACUCOBOL-GT for Pro*COBOL compiler version 6.0.0 is supported.</td>
</tr>
<tr>
<td></td>
<td>Pro*COBOL supports the Micro Focus Net Express compiler.</td>
</tr>
<tr>
<td></td>
<td>Object Oriented COBOL (OOCOBOL) specifications are not supported.</td>
</tr>
<tr>
<td></td>
<td>The following components are not supported with the Microsoft Visual C++ 6.0, Microsoft Visual C++ .NET 2002, and Microsoft Visual C++ .NET 2003 compilers:</td>
</tr>
<tr>
<td></td>
<td>■ Oracle C++ Call Interface</td>
</tr>
<tr>
<td></td>
<td>■ Oracle Call Interface</td>
</tr>
<tr>
<td></td>
<td>■ External callouts</td>
</tr>
<tr>
<td></td>
<td>■ PL/SQL native compilation</td>
</tr>
<tr>
<td></td>
<td>■ XDK</td>
</tr>
<tr>
<td>Network Protocol</td>
<td>The Oracle Net foundation layer uses Oracle protocol support to communicate with the following industry-standard network protocols:</td>
</tr>
<tr>
<td></td>
<td>■ TCP/IP</td>
</tr>
<tr>
<td></td>
<td>■ TCP/IP with SSL</td>
</tr>
<tr>
<td></td>
<td>■ Named Pipes</td>
</tr>
</tbody>
</table>

See Also:

■ "Windows XP Support" on page 2-5
■ "Windows Telnet Services Support" on page 2-4
■ "Windows Terminal Services and Remote Desktop Support" on page 2-4
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 and database versions, patches, and workaround information for bugs. The Oracle MetaLink Web site is available at the following URL:

http://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 following certification information:

- Windows Telnet Services Support
- Windows Terminal Services and Remote Desktop Support
- Windows XP Support

Windows Telnet Services Support

Windows XP, Windows 2000, and Windows Server 2003 include a Telnet Service that allows remote users to log on to the operating system and run console programs using the command line. Oracle supports database command line utilities such as sqlplus, sqlldr, import, and export using this feature, but does not support the database GUI tools such as Oracle Universal Installer and Oracle Net Configuration Assistant.

---

**Note:** Ensure that the Telnet service is started on the Services control panel.

Windows Terminal Services and Remote Desktop Support

Oracle supports installing, configuring, and running Oracle Database Client through Terminal Services on Windows 2000 Server, Windows XP Professional, and Windows Server 2003. If you encounter problems with the installation through Terminal Server, Oracle recommends connecting to the Terminal Services console session of the server (using mstsc\console).

Platform-specific support information is as follows:

- **Windows 2000:** Oracle supports installing, configuring, and running Oracle Database Client from a remote Terminal Services Client.
- **Windows XP:** The Remote Desktop is only available in Single User Mode.
- **Windows Server 2003:** You can configure Windows Server 2003 to use Terminal Services in Remote Desktop for Administration Mode or Terminal Server Mode.
Oracle Snap-Ins to the Microsoft Management Console Requirements

See Also:
- The Microsoft Web site for more information about terminal servers
  http://www.microsoft.com/
- The OracleMetaLink Web site for the latest Terminal Server certification information
  http://metalink.oracle.com/

Windows XP Support
The following components are not supported on Windows XP:
- DCE Adapter Support
- Entrust PKI Support
- Generic Connectivity
- nCipher Accelerator Support

Oracle Snap-Ins to the Microsoft Management Console Requirements
Oracle Database ships several Snap-Ins for the Microsoft Management Console (MMC). These Snap-ins require MMC version 1.2 or higher.

Install Internet Explorer version 5.0 (IE 5.0) or later before installing Oracle Snap-ins. If you install any Oracle Snap-ins before installing IE 5.0, then reinstall the Oracle Snap-ins.

The following components depend on Oracle Snap-In components:
- Oracle Administration Assistant for Windows
- Oracle Counters for Windows Performance Monitor

**Note:** Installing Oracle Administration Assistant for Windows automatically installs each Oracle Snap-In component.

You can download the Microsoft Management Console add-on from the following Web site:
http://www.microsoft.com/
This chapter describes how to install Oracle Database Client.

This chapter contains these 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

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:

- Performing Multiple Oracle Database Client Installations
- Creating the Oracle Base Directory
- Installing Oracle Database Client into Multiple Oracle Homes
- Installing on a System with an Existing Oracle Installation

Performing Multiple Oracle Database Client Installations

If you need to perform multiple installations of Oracle Database Client, you may want to use noninteractive mode. In noninteractive mode, 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: "Installing Oracle Components in Noninteractive Mode" on page B-1 for instructions on performing 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**

Starting with Oracle Database 10g release 1 (10.1), 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
- Oracle Provider for OLE DB

---

**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 10g release 1 (10.1) software into an existing Oracle9i 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 compact disc (CD-ROM or DVD-ROM) 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 CD-ROM or 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 CD-ROM or DVD Drive**

If the computer where you want to install Oracle Database Client does not have a CD-ROM or DVD drive, you can perform the installation from a remote CD-ROM or DVD drive. Complete the following steps:

- On the Remote Computer, Share the CD-ROM or DVD Drive
- On the Local Computer, Map the CD-ROM or DVD Drive
On the Remote Computer, Share the CD-ROM or DVD Drive
The remote CD-ROM or 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 CD-ROM or DVD drive:

1. Log in to the remote computer as an Administrator user.
2. Start Windows Explorer.
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 cdrom or dvd. You will use this name when you map the CD-ROM or 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. For a CD-ROM, insert the CD labeled Oracle Database 10g Release 1 (10.1) Disk 1 of 1 into the CD-ROM drive.
   For a DVD, insert the Oracle Database DVD into the DVD drive.

On the Local Computer, Map the CD-ROM or DVD Drive
Perform these steps on the local computer to map a remote CD-ROM or DVD drive and to run Oracle Universal Installer from the mapped drive:

1. Map the remote CD-ROM or 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 CD-ROM or DVD drive.
   d. In Folder, enter the location of the remote CD-ROM or DVD drive using the following format:
      \\
      where:
      - \remoteHostname\shareName
      - remoteHostname is the name of the remote computer with the CD-ROM or DVD drive.
      - shareName is the share name that you entered in step 4 of the previous procedure. For example
      \\
   e. If you need to connect to the remote computer as a different user:
      - Windows NT: Enter the username in Connect As.
      - Windows 2000: Click different user name, and enter the username.
      - Windows 2003 or Windows XP: Click different user name, and enter the username.
f. Click **OK** (Windows NT) or **Finish** (Windows 2000, Windows 2003, Windows XP).

2. Run Oracle Universal Installer from the mapped CD-ROM or DVD drive.

3. Go to the "Installing the Oracle Database Client Software" section on page 3-5.

### 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 CD-ROM or DVD to a hard drive, you can install from the hard drive.
- You can insert the CD-ROM or DVD into a drive on your local computer, and install from the CD-ROM or DVD.

#### Installing from a Hard Drive

If you have copied the contents of the Oracle Database Client CD-ROM or 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 CD-ROM or 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 3-5.

#### Installing from a Remote CD-ROM or DVD Drive

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

   On the remote computer, map a drive letter to the shared CD-ROM or 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 CD-ROM or DVD Drive" section on page 3-2.

3. Through the remote access software, run Oracle Universal Installer on the remote computer. You access Oracle Universal Installer from the shared CD-ROM or DVD drive.
4. Go to the "Installing the Oracle Database Client Software" section on page 3-5

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 any browser to access the Oracle Technology Network software download page:
   http://otn.oracle.com/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 OraDBClient10g, 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 3-5.

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\Disk1

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 3-5.

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 noninteractive installations, 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, "Oracle Database Client Advanced Installation Topics" for information on noninteractive installations and other advanced installation topics

- 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, "Oracle Database Client Installation Troubleshooting".

**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 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. If you are installing from the CD, insert the CD labeled Oracle Database Client 10g Release 1 (10.1) Disk 1 of 1, or navigate to the directory where you downloaded or copied the installation files.

   When installing from the installation media, the Autorun screen automatically appears. If the Autorun screen does not appear, then:
   
   a. From the Start menu, choose Run.
   
   b. Enter the following:

      `DRIVE_LETTER:\autorun\autorun.exe`

   In the Autorun screen, choose Install/Deinstall Products.

   When installing from a hard disk, double-click `setup.exe`, which is located in the directory you created for the downloaded or copied installation files.

3. In the Welcome screen, click Next.

4. In the Specify File Locations screen, do the following:

   - Under Source, leave the path representing the products to install at the default setting.

     In most cases, you do not need to change this setting, but if you do, click **Browse** to find the installation file you want.
Under Destination, enter the name and location of the Oracle home.
Install Oracle Database Client into a new Oracle Home, even if you are installing onto a computer that has existing Oracle components installed.
Do not install Oracle Database Client 10g release 1 (10.1) software into an existing Oracle home that contains Oracle9i or earlier software.

5. Click Next.

6. 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 1-2 for more information on these installation types.

7. If you select Custom, in the Available Product Components screen, select the components you want to install and click Next or Install.

8. In the Summary screen, check the installed components listing and click Install.

9. Depending on the installation type you chose, configure Oracle Database Client to connect to an Oracle database:
   - Instant Client: Go to Step 11. After the installation completes, follow the instructions in the "Connecting Instant Client to an Oracle Database" section on page 4-3.
   - Administrator or Custom: Go to Step 10.
   - Runtime: If Oracle Universal Installer determines that your installation can use the easy connect naming method, click Next, then Finish. Alternatively, after the installation completes, you can reconfigure the database connection by following the instructions in the "Connecting Oracle Database Client to an Oracle Database" section on page 4-2.

10. For the Administrator or Custom installation type, choose either the naming method or typical configuration to connect Oracle Database Client to an Oracle database.

   If you choose the Naming Methods configuration, you can configure a naming method to allow an end user to connect to a database service. If you select the typical configuration, Oracle Net Configuration Assistant (NetCA) completes a default configuration for you. (You can always reconfigure the connection later, if necessary.)

   If you do not choose to perform a typical configuration, follow these steps:
   a. In the Welcome screen, select Local Net Service Name configuration and click Next.
   b. In the Select Naming Methods screen, select the appropriate naming methods and click Next.
   c. In the Service Name screen, enter the name of the Oracle database to which you want to connect and click Next.
   d. In the Select Protocols screen, select the protocol you want and click Next.
   e. In the Protocol screen, depending on the protocol you selected, enter the appropriate information and click Next.
   f. In the Test screen, select whether you want to test the connection, and click Next.

   See Also: "Oracle Database Client Installation Types" on page 1-2 for more information on these installation types.
g. In the Net Service Name screen, enter a name for the net service and click Next.

h. Answer the remaining prompts, which allow you to configure another net service name, and then click Finish to complete the configuration.

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

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

12. Optionally, delete the \temp\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 45 MB of files.

    Restarting your computer also removes the OraInstall\date_time directory.

13. Go to Chapter 4, "Oracle Database Client Postinstallation Tasks" to complete the postinstallation tasks.
This chapter describes how to complete postinstallation tasks after you have installed the software.

This chapter contains these topics:

- Required Postinstallation Tasks
- Recommended Postinstallation Tasks
- Required Product-Specific Postinstallation Task—Configuring Oracle Net Services

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

### Required Postinstallation Tasks

You must perform the tasks described in the following section after completing an installation:

- Downloading and Installing Patches
- Configuring Oracle Database to Communicate with Automatic Storage Management

### Downloading and Installing Patches

Check the Oracle Metalink Web site for required patches for your installation. To download required patches:

1. Use a Web browser to view the Oracle Metalink Web site:
   
   http://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 OracleMetaLink.

Configuring Oracle Database to Communicate with Automatic Storage Management

On a Windows installation of Oracle Database using Automatic Storage Management, you must enable Windows native authentication on each client. To do so, check the sqlnet.ora file, by default located in ORACLE_BASE\ORACLE_HOME\network\admin, and make sure that it has NTS enabled. For example:

sqlnet.authentication_services=(NTS)

See Also: Oracle Database Platform Guide for Windows for more information about Windows native authentication.

Recommended Postinstallation Tasks

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

- Connecting Oracle Database Client to an Oracle Database
- Connecting Instant Client to an Oracle Database
- Setting Up User Accounts
- Running Oracle Enterprise Manager Java Console
- Using Oracle9i Language and Definition Files with Oracle Database 10g Release 1 (10.1)

Connecting Oracle Database Client to an Oracle Database

When you run Oracle Universal Installer to install Oracle Database Client, you are given the option of launching Net Configuration Assistant to complete a typical configuration. This enables you to configure Oracle Database Client to connect to an Oracle database. If you chose not to run this tool but later decide you should have, use the following procedure to configure Oracle Database Client.

1. From the Start menu, choose Oracle - HOME_NAME, then Configuration and Migration Tools, then Net Configuration Assistant.
2. In the Welcome screen, select **Local Net Service Name configuration** and click **Next**.

3. In the Net Service Name Configuration screen, select **Add** and click **Next**.

4. In the Service Name screen, enter the name of the Oracle database to which you want to connect and click **Next**.

5. In the Select Protocols screen, select the protocol you want and click **Next**.

6. In the Protocol screen, depending on the protocol you selected, enter the appropriate information and click **Next**.

7. In the Net Test screen, select whether you want to test the connection, and click **Next**.

8. In the Net Service Name screen, 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.

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

### Connecting Instant Client to an Oracle Database

Before you can connect Instant Client 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. This directory is the Oracle home directory that you specified during installation, for example:

```
C:\oracle\products\10.1.0\client_1
```

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 Direct Addressing**
- **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 Direct Addressing

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 easy in that you do not have to create and manage a `tnsnames.ora` file, but your application users will need to specify the hostname and port number when they want to log in to your application.

For example, suppose you are running SQL*Plus on the client machine 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
Recommended Postinstallation Tasks

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 screen, 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 4-2 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_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 Direct Addressing" on page 4-3
- 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 Windows.

Running Oracle Enterprise Manager Java Console

In addition to using Oracle Enterprise Manager Database Control or Grid Control, you can use the Oracle Enterprise Manager Java Console to manage databases from this release or previous releases. You install the Java Console by using the Administrator installation type.

Note: Oracle recommends that you use Database Control in preference to the Java Console when possible.

To start the Java Console, follow these steps:
1. From the Start menu, choose Run.
2. Enter the following command and click OK:
   oemapp console

Note: You can also start the Oracle Enterprise Manager Java Console from the Start menu. From the Start menu, choose Programs, then Oracle - HOME_NAME, then Enterprise Manager Console.
Using Oracle9i Language and Definition Files with Oracle Database 10g Release 1 (10.1)

You can use Oracle9i database language and territory definition files with Oracle Database 10g release 1 (10.1). If the computer where Oracle Database is installed has been configured to use this functionality, you need to enable this functionality on each client computer 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, "Oracle Database Client Advanced Installation Topics" 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, "Oracle Database Client 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 and Globalization Support initialization parameters

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.
Removing Oracle Database Client Software

This chapter describes how to remove Oracle databases, instances, and software. 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.

This chapter contains these topics:

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

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 Services control panel:
   - On Windows NT, from the Start menu, choose Settings, then Control Panel, then Services.
   - On Windows 2000, from the Start menu, choose Settings, then Control Panel, then Administrative Tools, then Services.
   - On Windows XP and Windows Server 2003, from the Start menu, choose Control Panel, 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. Click Close to exit the Services window.

4. Exit the Control Panel.
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 screen 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.

c. To start Oracle Universal Installer from the installation media, insert the CD labeled Oracle Database Client. The Autorun screen automatically appears.

If the Autorun screen does not appear, from the Start menu, choose Run, and then enter the following command:

```
DRIVE_LETTER:\autorun\autorun.exe
```

Choose Install/Deinstall Products from the Autorun screen.

d. To start Oracle Universal Installer from your installation directory, double-click setup.exe.

3. Click the Deinstall Products button.

The Inventory screen 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 screen 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 screen appears without the removed components.

8. Click Close to close the Inventory screen.

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:

- Removing Oracle Keys from the Registry Editor on Windows
- 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.

---

**Removing Oracle Keys from the Registry Editor on Windows**

Oracle Universal Installer does not delete all services created by Oracle Net Configuration Assistant. In addition, it does not delete several other registry keys. You must remove any existing registry keys manually by following the instructions in one of the following sections:

■ Removing Only the Oracle Net Service Registry Key

■ Removing All Oracle Registry Keys

**Caution:** Use Microsoft Registry Editor at your own risk. Incorrectly using the Registry Editor can cause serious problems and might require you to reinstall your operating system.

---

**Removing Only the Oracle Net Service Registry Key**

To remove only the Oracle Net Service registry entry (if it exists):

1. Log in as a member of the Administrators group.

2. Ensure that you first follow the instructions in "Stopping Oracle Services on Windows" on page 5-1.

3. From the **Start** menu, choose **Run**, and then enter the following command:

   \`regedt32`  

4. Go to **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services** and delete the **OracleHOME_NAME\TNSListener** registry entry.

   When you ran Oracle Universal Installer to deinstall Oracle Database Client, it deleted all other Oracle Net services.

5. Exit the registry editor.

6. Restart your computer.

**Removing All Oracle Registry Keys**

To remove all Oracle registry keys from a computer (if any exist):

**Caution:** These instructions remove all Oracle components, services, and registry entries from your computer. Exercise extreme care when removing registry entries. Removing incorrect entries can break your system. Any database files under \`ORACLE_BASE\ORACLE_HOME\DB_NAME` should be deleted only after completing these instructions.

1. Log in as a member of the Administrators group.
2. Ensure that you first follow the instructions in "Stopping Oracle Services on Windows" on page 5-1.

3. From the Start menu, choose Run, and enter the following command:
   regedit32

4. Go to HKEY_CLASSES_ROOT.

5. Delete keys that begin with the following:
   - ORAMMCPMON10
   - ORCLSSO

   **Note:** These registry keys do not appear if you installed Instant Client.

6. Go to HKEY_LOCAL_MACHINE\SOFTWARE.

7. Delete the ORACLE Group key.

8. If you installed Oracle Services for Microsoft Transaction Server, go to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services \Eventlog\Application.

9. Delete the Oracle Services for Microsoft Transaction Server key.

10. Go to HKEY_CURRENT_USER\Software.

11. Delete all Oracle keys, including Oracle-HOME_NAME entries under: Microsoft\Windows\CurrentVersion\Explorer\MenuOrder\Start Menu\Programs.

12. Exit the Registry Editor.

13. Restart your computer.

**Updating the PATH Environment Variable Path**

Check the PATH environment variable and remove any Oracle entries.

1. From the Start menu, choose Settings, then Control Panel, then System. Select the Advanced tab and then click Environment Variables.

2. 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

3. Save any changes and exit the Control Panel.
Removing Oracle Database Client from the Start Menu

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

On Windows NT computers, follow these steps:
1. Using My Computer or Windows Explorer, navigate to the SYSTEM_DRIVE:\WINNT\Profiles\All Users\Start Menu\Programs folder.
2. Delete the Oracle - HOME_NAME folder.

On Windows 2000 and Windows XP computers, follow these steps:
1. Using My Computer or Windows Explorer, navigate to the SYSTEM_DRIVE:\Document and Settings\All Users\Start Menu\Programs folder.
2. Delete the Oracle - HOME_NAME folder.

You can also remove Oracle Database Client menu entries with the following instructions:
1. Right click the Start button to display the context menu.
2. Select the Explore All Users option.
3. Expand the Start Menu\Programs folder if necessary.
4. 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.
Installing Java Access Bridge

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

This appendix contains these topics:

- Introduction
- Setup for JRE 1.4.2
- Setup for Oracle Installed Components

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 Companion CD installation media contain the Java Runtime Environment (JRE) 1.4.2, 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 1.4.2

To set up Java Access Bridge with JRE 1.4.2, run the following batch file on Oracle installation media.

```
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. On the Oracle installation media, go to the AccessBridge directory.

2. Select the accessbridge-1_0_4.zip file and extract its files to the system where you plan to install Access Bridge. For example:
   
c:\AccessBridge-1.0.4

3. Copy the Java Access Bridge files listed in Table A–1 into the JRE 1.4.2 directory used by Oracle components. By default, the JRE used by Oracle components is installed in:
   
   ORACLE_BASE\ORACLE_HOME\jre\1.4.2

   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

<table>
<thead>
<tr>
<th>Copy</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>\AccessBridge-1_0_4\installer\installerFiles\jaccess-1_4.jar</td>
<td>ORACLE_BASE\ORACLE_HOME\jre\1.4.2\lib\ext</td>
</tr>
<tr>
<td>\AccessBridge-1_0_4\installer\installerFiles\access-bridge.jar</td>
<td>ORACLE_BASE\ORACLE_HOME\jre\1.4.2\lib\ext</td>
</tr>
<tr>
<td>\AccessBridge-1_0_4\installer\installerFiles\JavaAccessBridge.dll</td>
<td>windows directory\system32</td>
</tr>
<tr>
<td>\AccessBridge-1_0_4\installer\installerFiles\WindowsAccessBridge.dll</td>
<td>windows directory\system32</td>
</tr>
<tr>
<td>\AccessBridge-1_0_4\installer\installerFiles\JAWTAccessBridge.dll</td>
<td>windows directory\system32</td>
</tr>
<tr>
<td>\AccessBridge-1_0_4\installer\installerFiles\accessibility.properties</td>
<td>ORACLE_BASE\ORACLE_HOME\jre\1.4.2\lib</td>
</tr>
</tbody>
</table>

4. Rename jaccess-1_4.jar (now located in ORACLE_BASE\ORACLE_HOME\jre\1.4.2\lib\ext) to jaccess.jar.

5. Following a successful installation, you can access Java Access Bridge documentation located at:
   
c:\AccessBridge-1.0.4\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.

Configuring for Windows NT

To configure Oracle components to use Access Bridge on Windows NT, follow these steps:

1. From the Start menu, select Settings, Control Panel, then System to display the Windows System Control Panel.
2. Select the Environment tab.
3. Select a variable in the System Variables list.
4. In the Variable field, enter `ORACLE_OEM_CLASSPATH`.
5. In the 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 space characters. For example, if JRE 1.4.2 is installed in the default location, the setting would be:

   `ORACLE_BASE\ORACLE_HOME\jre\1.4.2\lib\ext\jaccess.jar;ORACLE_BASE\ORACLE_HOME\jre\1.4.2\lib\ext\access-bridge.jar`

6. Click Set.
7. Click OK.

Configuring for Windows 2000, Windows XP, or Windows Server 2003

To configure Oracle components to use Access Bridge on Windows 2000, Windows XP, or Windows Server 2003, follow these steps:

1. From the Start menu, select Settings, Control Panel, then System to display the Windows System 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 1.4.2 is installed in the default location, the setting would be:

   `ORACLE_BASE\ORACLE_HOME\jre\1.4.2\lib\ext\jaccess.jar;ORACLE_BASE\ORACLE_HOME\jre\1.4.2\lib\ext\access-bridge.jar`

7. Click OK.
This appendix describes advanced installation topics.

This appendix contains these topics:

- Installing Oracle Components in Noninteractive Mode
- About Oracle Components in Different Languages

## Installing Oracle Components in Noninteractive Mode

Typically, Oracle Universal Installer runs in interactive mode, which means it prompts you to provide information in graphical user interface (GUI) screens. Alternatively, you can run Oracle Universal Installer in noninteractive mode. Noninteractive mode is also referred to as silent mode, or silent installation.

You may want to use noninteractive mode to install Oracle Database Client in the following scenarios:

- You need to deploy Oracle Database Client to multiple nodes in an unattended manner. You can schedule the noninteractive installation mode from the operating system scheduler or other job subsystem that your site normally uses. This method is particularly useful for large sites that require many Oracle Database Client installations.
- No interaction with the user is intended.
- A graphical facility to run Oracle Universal Installer in interactive mode is not available. (Oracle Universal Installer is always available on Windows, but not on UNIX systems.)

This section covers the following topics on how you can use response files to run Oracle Universal Installer in noninteractive mode:

- Using Response Files to Install Oracle Components in Noninteractive Mode
- Customizing a Sample Response File
- Creating a New Response File
- Running Oracle Universal Installer and Specifying a Response File

## Using Response Files to Install Oracle Components in Noninteractive Mode

To use noninteractive mode, you run Oracle Universal Installer with a response file. A response file is a text file that contains variables and values that Oracle Universal Installer uses during the installation process. Oracle provides a set of sample response
files that you can customize, or you can create your own response file by recording your installation selections.

See Also: Oracle Universal Installer Concepts Guide for more information about response file formats.

Customizing a Sample Response File

Table B–1 lists the available sample response files in the \Response directory on the CD labeled Oracle Database Client 10g Release 1 (10.1) Disk 1 of 1:

<table>
<thead>
<tr>
<th>Response File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>netca.rsp</td>
<td>Oracle Net Configuration Assistant to perform the configuration with the client installation types.</td>
</tr>
<tr>
<td>clientadmin.rsp</td>
<td>Administrator installation of Oracle Database Client</td>
</tr>
<tr>
<td>clientcustom.rsp</td>
<td>Custom installation of Oracle Database Client</td>
</tr>
<tr>
<td>instantClient.rsp</td>
<td>Instant Client installation of Oracle Database Client</td>
</tr>
<tr>
<td>clientruntime.rsp</td>
<td>Runtime installation of Oracle Database Client</td>
</tr>
</tbody>
</table>

To copy and modify a response file:

1. Copy the appropriate response files from the \Response directory on the CD labeled Oracle Database Client 10g Release 1 (10.1) Disk 1 of 1 to your hard drive.


3. Modify the response files with any text file editor by following the instructions in both the response files and Oracle Universal Installer Concepts Guide.

4. Run the response file by following the instructions in the "Running Oracle Universal Installer and Specifying a Response File" section on page B-3.

Creating a New Response File

When you run Oracle Universal Installer in interactive mode, you can record your installation selections into a response file. You do this by running Oracle Universal Installer in Record mode. Oracle Universal Installer generates the response file immediately after you complete the Summary page, so you do not need to actually install Oracle Database Client to create the response file.

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

To create a new response file:

1. Make sure that the computer on which you are creating the response file has met the requirements 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.

On the installation CD-ROM or DVD, setup.exe is located on Disk 1. If you want to run Oracle Universal Installer from an existing Oracle Database Client installation,
you can find setup.exe in the following locations, depending on the installation type you chose:

- **Administrator, Runtime, or Custom:** The ORACLE_BASE\ORACLE_HOME\oui\bin directory.
- **Instant Client:** Oracle Universal Installer is not included with Instant Client, but you can access it from any existing Oracle Database installation, in the ORACLE_BASE\ORACLE_HOME\oui\bin directory.

3. Enter the following command:

```
setup -record -destinationFile response_file_name
```

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

```
setup -record -destinationFile C:\response_files\install_oracle10g
```

4. After Oracle Universal Installer launches, enter the installation settings, which will be recorded into the response file.

5. When the Summary page appears, do one of the following:

- Click **Install** to 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 to 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. If necessary, make any environment-specific changes to the response file for the computer on which you will run it.

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

### Running Oracle Universal Installer and Specifying a Response File

You run Oracle Universal Installer at the command line, specifying a response file. The Oracle Universal Installer executable, setup.exe, provides several options. For help information on the full set of these options, run setup.exe with the -help option, for example:

```
C:\ORACLE_BASE\ORACLE_HOME\oui\bin> setup.exe -help
```

To run Oracle Universal Installer and specify a response file:

1. Launch a command prompt.
2. Go to the directory where Oracle Universal Installer is installed.
3. From the command line, run Oracle Universal Installer with the appropriate response file. For example:

```
C:\ORACLE_BASE\ORACLE_HOME\oui\bin> setup.exe [-silent] [-nowelcome] [-nowait] -responseFile filename
```

<table>
<thead>
<tr>
<th>Where...</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>filename</td>
<td>Identifies the full path of the response file.</td>
</tr>
</tbody>
</table>
About Oracle Components in Different Languages

This section describes the following features:

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

Running Oracle Universal Installer in Different Languages

Oracle Universal Installer runs by default in the selected language of your operating system. You can also run Oracle Universal Installer in the following languages:

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

To run Oracle Universal Installer in a different language:

1. Change the language in which your operating system is running. For example, on Windows 2000:
   a. From the Start menu, choose Settings, then Control Panel, then Regional Options.
   b. Select a language from the preceding table list and choose OK.
2. Run Oracle Universal Installer by following the instructions in "Installing the Oracle Database Client Software" on page 3-5.

See Also:

- "Installing Oracle Products" in Oracle Universal Installer Concepts Guide for more information about installing on using response files
- "Deinstalling Products" in Oracle Universal Installer Concepts Guide for more information about deinstalling using response files

### Where... | Description
---|---
-silent | Runs Oracle Universal Installer in silent mode and suppresses the Welcome screen. If you use -silent, -nowelcome is not necessary.
-nowelcome | Suppresses the Welcome screen that appears during installation.
-nowait | Closes the console window when the silent installation completes.
-help | Displays help information for the full set of setup.exe options.

---

About Oracle Components in Different Languages

This section describes the following features:

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

Running Oracle Universal Installer in Different Languages

Oracle Universal Installer runs by default in the selected language of your operating system. You can also run Oracle Universal Installer in the following languages:

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

To run Oracle Universal Installer in a different language:

1. Change the language in which your operating system is running. For example, on Windows 2000:
   a. From the Start menu, choose Settings, then Control Panel, then Regional Options.
   b. Select a language from the preceding table list and choose OK.
2. Run Oracle Universal Installer by following the instructions in "Installing the Oracle Database Client Software" on page 3-5.

See Also:

- "Installing Oracle Products" in Oracle Universal Installer Concepts Guide for more information about installing on using response files
- "Deinstalling Products" in Oracle Universal Installer Concepts Guide for more information about deinstalling using response files
Using Oracle Components in Different Languages

You can select other languages in which to use Oracle components such as Oracle Net Configuration Assistant. However, this does not change the language in which you run Oracle Universal Installer. For the Oracle component to run in the selected language, it must be the same as the language set for your operating system. You can change your operating system language in the Regional Settings window from the Control Panel.

To use Oracle components in different languages:

1. Follow the instructions in "Procedure for Installing Oracle Database Client" on page 3-6 to start Oracle Universal Installer.

2. From the Select a Product to Install screen, select Product Languages.

3. In the Language Selection screen, select a language in which to use Oracle components from the Available Languages field.

4. Use the arrow button to move the language to the Selected Languages field and click OK.

5. Select appropriate products for installation and click Next.

   After the installation completes, the dialog box wording, messages, and online help for the installed components display in the language you selected.

---

**Note:** The selected language is assigned to the NLS_LANG registry parameter.
This appendix describes Globalization Support topics.

This appendix contains these topics:

- About NLS_LANG Parameters
- Commonly Used Values for NLS_LANG
- NLS_LANG Settings in MS-DOS Mode and Batch Mode

About NLS_LANG Parameters

Oracle provides Globalization Support that enables users to interact with a database in their own language, as defined by the NLS_LANG parameter. When you install Oracle Database Client components, Oracle Universal Installer sets the NLS_LANG parameter in the registry.

The locale setting of your operating system determines the value of the NLS_LANG parameter at installation. Table C-1 on page C-2 lists the operating system locale and NLS_LANG value mappings.

The NLS_LANG parameter is stored in the registry under the HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\HOME\ID\NLS_LANG subkey, where ID is the unique number identifying the Oracle home.

The NLS_LANG parameter uses the following format:

\nNLS_LANG = LANGUAGE_TERRITORY. CHARACTER_SET\n\n
where:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANGUAGE</td>
<td>Specifies the language and conventions for displaying messages, day name, and month name.</td>
</tr>
<tr>
<td>TERRITORY</td>
<td>Specifies the territory and conventions for calculating week and day numbers.</td>
</tr>
<tr>
<td>CHARACTER_SET</td>
<td>Controls the character set used for displaying messages.</td>
</tr>
</tbody>
</table>
**See Also:**

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

## Commonly Used Values for NLS_LANG

Table C–1 lists commonly used NLS_LANG values for various operating system locales:

<table>
<thead>
<tr>
<th>Operating System Locale</th>
<th>NLS_LANG Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic (U.A.E.)</td>
<td>ARABIC_UNITED_ARAB_EMIRATES.AR8MSWIN1256</td>
</tr>
<tr>
<td>Bulgarian</td>
<td>BULGARIAN_BULGARIA.CL8MSWIN1251</td>
</tr>
<tr>
<td>Catalan</td>
<td>CATALAN_CATALONIA.WE8MSWIN1252</td>
</tr>
<tr>
<td>Chinese (PRC)</td>
<td>SIMPLIFIED_CHINESE_CHINA.ZHS16GBK</td>
</tr>
<tr>
<td>Chinese (Taiwan)</td>
<td>TRADITIONAL_CHINESE_TAIWAN.ZHT16MSWIN950</td>
</tr>
<tr>
<td>Croatian</td>
<td>CROATIAN_CROATIA.EE8MSWIN1250</td>
</tr>
<tr>
<td>Czech</td>
<td>CZECH_CZECH_REPUBLIC.EE8MSWIN1250</td>
</tr>
<tr>
<td>Danish</td>
<td>DANISH_DENMARK.WE8MSWIN1252</td>
</tr>
<tr>
<td>Dutch (Netherlands)</td>
<td>DUTCH_THE_NETHERLANDS.WE8MSWIN1252</td>
</tr>
<tr>
<td>English (United Kingdom)</td>
<td>ENGLISH_UNITED_KINGDOM.WE8MSWIN1252</td>
</tr>
<tr>
<td>English (United States)</td>
<td>AMERICAN_AMERICA.WE8MSWIN1252</td>
</tr>
<tr>
<td>Estonian</td>
<td>ESTONIAN_ESTONIA.BLT8MSWIN1257</td>
</tr>
<tr>
<td>Finnish</td>
<td>FINNISH_FINLAND.WE8MSWIN1252</td>
</tr>
<tr>
<td>French (Canada)</td>
<td>CANADIAN_FRENCH_CANADA.WE8MSWIN1252</td>
</tr>
<tr>
<td>French (France)</td>
<td>FRENCH_FRANCE.WE8MSWIN1252</td>
</tr>
<tr>
<td>German (Germany)</td>
<td>GERMAN_GERMANY.WE8MSWIN1252</td>
</tr>
<tr>
<td>Greek</td>
<td>GREEK_GREECE.EL8MSWIN1253</td>
</tr>
<tr>
<td>Hebrew</td>
<td>HEBREW_ISRAEL.IW8MSWIN1255</td>
</tr>
<tr>
<td>Hungarian</td>
<td>HUNGARIAN_HUNGARY.EE8MSWIN1250</td>
</tr>
<tr>
<td>Icelandic</td>
<td>ICELANDIC_ICELAND.WE8MSWIN1252</td>
</tr>
<tr>
<td>Indonesian</td>
<td>INDONESIAN_INDONESIA.WE8MSWIN1252</td>
</tr>
<tr>
<td>Italian (Italy)</td>
<td>ITALIAN_ITALY.WE8MSWIN1252</td>
</tr>
<tr>
<td>Japanese</td>
<td>JAPANESE_JAPAN.JA16SJIS</td>
</tr>
<tr>
<td>Korean</td>
<td>KOREAN_KOREA.KO16MSWIN949</td>
</tr>
<tr>
<td>Latvian</td>
<td>LATVIAN_LATVIA.BLT8MSWIN1257</td>
</tr>
<tr>
<td>Lithuanian</td>
<td>LITHUANIAN_LITHUANIA.BLT8MSWIN1257</td>
</tr>
<tr>
<td>Norwegian</td>
<td>NORWEGIAN_NORWAY.WE8MSWIN1252</td>
</tr>
<tr>
<td>Polish</td>
<td>POLISH_POLAND.EE8MSWIN1250</td>
</tr>
</tbody>
</table>
Before you can use Oracle utilities such as SQL*Plus, SQL Loader, Import, and Export in MS-DOS mode, make sure that you have set the character set field of the `NLS_LANG` parameter for the session to the correct value. This is required because MS-DOS mode uses, with a few exceptions, a different character set (or code-page) from Windows (ANSI code-page), and the default Oracle home `NLS_LANG` parameter in the registry is always set to the appropriate Windows code-page. If you do not set the `NLS_LANG` parameter for the MS-DOS mode session correctly, incorrect character conversion can corrupt error messages and data.

For Japanese, Korean, Simplified Chinese, and Traditional Chinese, the MS-DOS code-page is identical to the ANSI code-page. In this case, you do not need to set the `NLS_LANG` parameter in MS-DOS mode.

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.

Table C–2 lists the Oracle character sets that correspond to the MS-DOS mode for various operating system locales:

<table>
<thead>
<tr>
<th>Operating System Locale</th>
<th>Character Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portuguese (Brazil)</td>
<td>BRLIAN_PORTUGUESE_BRAZIL..WE8MSWIN1252</td>
</tr>
<tr>
<td>Portuguese (Portugal)</td>
<td>PORTUGUESE_PORTUGAL..WE8MSWIN1252</td>
</tr>
<tr>
<td>Romanian</td>
<td>ROMANIAN_ROMANIA..EE8MSWIN1250</td>
</tr>
<tr>
<td>Russian</td>
<td>RUSSIAN_CIS..CL8MSWIN1251</td>
</tr>
<tr>
<td>Slovak</td>
<td>SLOVAK_SLOVAKIA..EE8MSWIN1250</td>
</tr>
<tr>
<td>Spanish (Spain)</td>
<td>SPANISH_SPAIN..WE8MSWIN1252</td>
</tr>
<tr>
<td>Swedish</td>
<td>SWEDISH_SWEDEN..WE8MSWIN1252</td>
</tr>
<tr>
<td>Thai</td>
<td>THAI_THAILAND..TH8TISASCII</td>
</tr>
<tr>
<td>Spanish (Mexico)</td>
<td>MEXICAN_SPANISH_MEXICO..WE8MSWIN1252</td>
</tr>
<tr>
<td>Spanish (Venezuela)</td>
<td>LATIN_AMERICAN_SPANISH_VENEZUELA..WE8MSWIN1252</td>
</tr>
<tr>
<td>Turkish</td>
<td>TURKISH_TURKEY..TR8MSWIN1254</td>
</tr>
<tr>
<td>Ukrainian</td>
<td>UKRAINIAN_UKRAINE..CL8MSWIN1251</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>VIETNAMESE_VIETNAM..VN8MSWIN1258</td>
</tr>
</tbody>
</table>

**NLS_LANG Settings in MS-DOS Mode and Batch Mode**

Before you can use Oracle utilities such as SQL*Plus, SQL Loader, Import, and Export in MS-DOS mode, make sure that you have set the character set field of the `NLS_LANG` parameter for the session to the correct value.

This is required because MS-DOS mode uses, with a few exceptions, a different character set (or code-page) from Windows (ANSI code-page), and the default Oracle home `NLS_LANG` parameter in the registry is always set to the appropriate Windows code-page. If you do not set the `NLS_LANG` parameter for the MS-DOS mode session correctly, incorrect character conversion can corrupt error messages and data.

For Japanese, Korean, Simplified Chinese, and Traditional Chinese, the MS-DOS code-page is identical to the ANSI code-page. In this case, you do not need to set the `NLS_LANG` parameter in MS-DOS mode.

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.

**Table C–2** lists the Oracle character sets that correspond to the MS-DOS mode for various operating system locales:

<table>
<thead>
<tr>
<th>Operating System Locale</th>
<th>Character Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalan</td>
<td>WE8PC850</td>
</tr>
<tr>
<td>Chinese (PRC)</td>
<td>ZHS16GBK</td>
</tr>
<tr>
<td>Chinese (Taiwan)</td>
<td>ZHT16MSWIN950</td>
</tr>
<tr>
<td>Czech</td>
<td>EE8PC852</td>
</tr>
<tr>
<td>Danish</td>
<td>WE8PC850</td>
</tr>
<tr>
<td>Dutch</td>
<td>WE8PC850</td>
</tr>
<tr>
<td>English (United Kingdom)</td>
<td>WE8PC850</td>
</tr>
</tbody>
</table>
### Table C–2 (Cont.) Oracle Character Sets for Operating System Locales

<table>
<thead>
<tr>
<th>Operating System Locale</th>
<th>Character Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (United States)</td>
<td>US8PC437</td>
</tr>
<tr>
<td>Finnish</td>
<td>WE8PC850</td>
</tr>
<tr>
<td>French</td>
<td>WE8PC850</td>
</tr>
<tr>
<td>German</td>
<td>WE8PC850</td>
</tr>
<tr>
<td>Greek</td>
<td>EL8PC737</td>
</tr>
<tr>
<td>Hungarian</td>
<td>EE8PC852</td>
</tr>
<tr>
<td>Italian</td>
<td>WE8PC850</td>
</tr>
<tr>
<td>Japanese</td>
<td>JA16SJIS</td>
</tr>
<tr>
<td>Korean</td>
<td>KO16MSWIN949</td>
</tr>
<tr>
<td>Norwegian</td>
<td>WE8PC850</td>
</tr>
<tr>
<td>Polish</td>
<td>EE8PC852</td>
</tr>
<tr>
<td>Portuguese</td>
<td>WE8PC850</td>
</tr>
<tr>
<td>Romanian</td>
<td>EE8PC852</td>
</tr>
<tr>
<td>Russian</td>
<td>RU8PC866</td>
</tr>
<tr>
<td>Slovak</td>
<td>EE8PC852</td>
</tr>
<tr>
<td>Slovenian</td>
<td>EE8PC852</td>
</tr>
<tr>
<td>Spanish</td>
<td>WE8PC850</td>
</tr>
<tr>
<td>Swedish</td>
<td>WE8PC850</td>
</tr>
<tr>
<td>Turkish</td>
<td>TR8PC857</td>
</tr>
<tr>
<td>Catalan</td>
<td>WE8PC850</td>
</tr>
</tbody>
</table>

**See Also:** "Globalization Support in the Directory” in *Oracle Internet Directory Administrator’s Guide* for Oracle Internet Directory

Globalization Support issues and required `NLS_LANG` environment variables for the various components and tools in an Oracle Internet Directory environment.
This appendix contains information about troubleshooting. This appendix contains these topics:

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

Verify 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 Client installation media. You can find the latest version of the release notes on the Oracle Technology Network Web site:

  http://otn.oracle.com/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 screens, click Back to return to the screen 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.
- If you encounter an error while a configuration assistant is running, then see "Troubleshooting Configuration Assistants" on page D-2.
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:

\SYSTEM_DRIVE:\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 take the form:

installActions<date_time>.log

For example, if the installation occurred at 9:00:56 A.M. on May 14, 2004, the log file would be named:

installActions2004-05-14_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.

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 screen. 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:

<table>
<thead>
<tr>
<th>Status</th>
<th>Result Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration assistant succeeded</td>
<td>0</td>
</tr>
<tr>
<td>Configuration assistant failed</td>
<td>1</td>
</tr>
</tbody>
</table>
Cleaning Up After a Failed Installation

<table>
<thead>
<tr>
<th>Status</th>
<th>Result Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration assistant cancelled</td>
<td>-1</td>
</tr>
</tbody>
</table>

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.

Noninteractive Installation Response File Error Handling

To determine whether a noninteractive installation succeeds or fails, check the installActionsdate_time.log file, located in the Inventory directory. If necessary, see the previous section for information about determining the location of the Inventory directory.

A silent installation fails if:

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

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.
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.

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

```
SQL> CONNECT username/password@connect_identifier
```

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 hose name and optional port number, service name, and instance name:

```
CONNECT username/password@host[:port][/service_name][/instance_name]
```

external procedures
A PL/SQL routine executing on an Oracle server can call an external procedure or function that is written in the C programming language and stored in a shared library. In order for the Oracle Database to connect to external procedures, the server must be configured with a net service name and the listener must be configured with protocol address and service information.

global database name
The full database name that uniquely distinguishes it from any other database in your network domain.

For example:
sales.us.acme.com

where sales is the name you want to call your database and us.acme.com is the network domain in which the database is located.

**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 1-2 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 10g release 1 (10.1) does not require identification of the database service because of service registration. However, static service configuration is required for an Oracle Database 10g release 1 (10.1) 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:
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/password@net_service_name
```

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 in which to install Oracle components (for example, \`c:\oracle\product\10.1.0\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 Database Documentation CD**

The CDs in your kit that include the Oracle Database Documentation CD. The Oracle Database Documentation CDs are separate from the component CDs.

The Oracle Database Documentation CDs do not include this installation guide or Oracle Database Client Release Notes for Windows. These documents are only included on the first component CD.

**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 NT 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**, which is established for connections to **external procedures**.

- **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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