

**Oracle® Database**

Client Installation Guide

12c Release 1 (12.1) for Microsoft Windows

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Oracle Database Client Installation Guide 12c Release 1 (12.1) for Microsoft Windows

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# Preface

This guide provides instructions about installing and configuring Oracle Database Client on Microsoft Windows x64 (64-Bit) and Microsoft Windows (32-Bit). This guide also provides information about troubleshooting the installation and removing the client software.

**See Also:** "[Oracle Database Client Software Requirements](#)" for information about supported operating systems for Windows 32-bit and 64-bit

This preface contains these topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Related Documentation](#)
- [Conventions](#)

## Audience

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

To use this document, you need the following:

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

**See Also:** *Oracle Database Client Quick Installation Guide for Microsoft Windows x64 (64-Bit)* to perform a quick installation using the default settings

## Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

## Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

## Related Documentation

For more information, see these Oracle resources:

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

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

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

<http://www.oracle.com/technetwork/community/join/overview/index.html>

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

<http://www.oracle.com/technetwork/indexes/documentation/index.html>

## Conventions

The following text conventions are used in this document:

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



# Oracle Database Client Installation Overview

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

- [Installation Overview](#)
- [Oracle Database Client and Oracle Database Interoperability](#)
- [Recommended File System](#)
- [Managing User Accounts with User Account Control](#)
- [Oracle Database Client Installation Types](#)
- [Simplified Patching of Timestamp with Time Zone Data Type](#)
- [Unsupported Oracle Database Client Components](#)

## 1.1 Installation Overview

The Oracle Database Client installation process consists of five steps:

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

<http://www.oracle.com/technetwork/indexes/documentation/index.html>

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

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

3. **Complete preinstallation tasks:** [Chapter 2](#) describes preinstallation tasks that you must complete before installing Oracle Database Client.
4. **Install the software:** Use the following sections to install Oracle Database Client:
  - [Chapter 3](#) describes how to use the Oracle Universal Installer (OUI) GUI to install Oracle Database Client.
  - [Appendix B](#) describes how to perform a silent or response file installation.
  - ["Installing and Using Oracle Components in Different Languages"](#) on page C-1 describes how to install and use Oracle components in different languages.

- [Appendix D](#) provides troubleshooting advice in case you encounter problems with the installation.
5. **Complete postinstallation tasks:** Use the following sections to complete the postinstallation tasks:
- [Chapter 4](#) describes recommended and required postinstallation tasks.
  - [Appendix C](#) provides information about globalization support.
6. **Remove Oracle Database Client:** [Chapter 5](#) describes how to remove Oracle Database Client.

## 1.2 Oracle Database Client and Oracle Database Interoperability

For information about interoperability between different versions of Oracle Database Client and Oracle Database releases, see Note 207303.1 on the My Oracle Support website at

<https://support.oracle.com/>

## 1.3 Recommended File System

Oracle strongly recommends that you install the Oracle database client home on Oracle ACFS or NTFS. Usage of Oracle ACFS and Oracle ASM or NTFS is recommended to ensure security of these files.

**See Also:** "Setting File Permissions" in *Oracle Database Platform Guide for Microsoft Windows* for information about the default permissions when using Oracle Universal Installer and Database Configuration Assistant to install the Oracle Database software

## 1.4 Managing User Accounts with User Account Control

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

You must have Administrator privileges to run some Oracle tools, such as Net Configuration Assistant, and OPatch, or to run any tool or application that writes to any directory within the Oracle home. If User Account Control is enabled, and you are logged in as the local Administrator, then you can successfully run each of these commands in the usual way. However, if you are logged in as "a member of the Administrator group," then you must explicitly invoke these tasks with Windows Administrator privileges. All the Oracle shortcuts that require Administrator privileges will be invoked as "Administrator" automatically when you click the shortcuts. However, if you run the above tools from a Windows command prompt, you must run them from an Administrator command prompt. OPatch does not have a shortcut and has to be run from an Administrator command prompt.

**See Also:** "Running Tools with Windows User Account Control" in *Oracle Database Platform Guide for Microsoft Windows* for more information.

**To start a command prompt window with Windows Administrator privileges:**

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

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

## 1.5 Oracle Database Client Installation Types

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

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

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

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

## 1.6 Simplified Patching of Timestamp with Time Zone Data Type

Oracle Database simplifies the patching process of `TIMESTAMP WITH TIME ZONE` data type values.

**See Also:** "What's New in Globalization Support?" and "Clients and Servers Operating with Different Versions of Time Zone Files" in *Oracle Database Globalization Support Guide* for information about simplified patching process and how certain clients work with server with different time zone files

## 1.7 Unsupported Oracle Database Client Components

The following 32-bit Oracle Database Client components are not supported on Windows:

- Oracle Connection Manager
- Oracle Net Listener



# Oracle Database Client Preinstallation Tasks

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

- [Oracle Database Client Hardware Requirements](#)
- [Oracle Database Client Software Requirements](#)
- [Creating Oracle Home User](#)
- [Operating System Groups for Oracle Database Client Installations](#)
- [Oracle Database Client Network Topics](#)
- [Oracle Database Client Hardware and Software Certification](#)

## 2.1 Oracle Database Client Hardware Requirements

[Table 2-1](#) lists the required hardware components for Oracle Database Client on Windows 32-bit.

[Table 2-2](#) lists the required hardware components for Oracle Database Client on Windows x64.

**Table 2-1 Windows 32-Bit Hardware Requirements**

Requirement	Minimum Value
System Architecture	Processor: Intel (x86), AMD64, and Intel EM64T <b>Note:</b> Oracle provides 32-bit (Windows x86) and 64-bit (Windows x64) versions of Oracle Database Client. The 32-bit database client version runs on the 32-bit version of Windows on either x86 or x64 hardware. Oracle certifies 32-bit Oracle Database Client on Windows x64. <a href="#">Table 2-5</a> lists the operating systems supported on Windows 32-bit.
Physical memory (RAM)	1 GB minimum
Virtual memory	Double the amount of RAM
Hard disk space	Total ranges between 300 - 1160 MB. See <a href="#">Table 2-3</a> for details.
Video adapter	256 colors
Screen Resolution	1024 X 768 minimum

**Table 2–2 Windows x64 Hardware Requirements**

Requirement	Minimum Value
System Architecture	Processor: AMD64 and Intel EM64T  <b>Note:</b> Oracle provides 32-bit (Windows x86) and 64-bit (Windows x64) versions of Oracle Database Client. Oracle certifies 32-bit Oracle Database Client on Windows x64. <a href="#">Table 2–6</a> lists the operating systems supported on Windows x64.
Physical memory (RAM)	2 GB minimum
Virtual memory	Double the amount of RAM
Video adapter	256 colors
Screen Resolution	1024 X 768 minimum

### 2.1.1 Hard Disk Space Requirements

This section lists system requirements for Windows platforms that use the NT File System (NTFS).

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

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

[Table 2–3](#) lists the Windows 32-Bit disk space requirements on NTFS.

[Table 2–4](#) lists the Windows x64 disk space requirements on NTFS.

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

Installation Type	TEMP Space	SYSTEM_DRIVE:\Program Files\Oracle\Inventory	Oracle Home	Total
Instant Client	130 MB	5 MB	350 MB	485 MB
Administrator	130 MB	5 MB	1.5 GB	1635 MB
Runtime	130 MB	5 MB	1.1 GB	1235 MB
Custom (all components installed)	130 MB	5 MB *	1.5 GB *	1635 MB *

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

**Table 2–4 Windows x64 Disk Space Requirements on NTFS**

Installation Type	TEMP Space\	SYSTEM_DRIVE:\Program Files\Oracle\Inventory	Oracle Home	Total
Instant Client	130 MB	5 MB	350 MB	485 MB

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

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

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

## 2.1.2 Verifying Hardware Requirements

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

1. Determine the physical RAM size. For example, on a Windows Server 2008 computer, double-click **System** in the Windows Control Panel to display System information such as, Processor, Memory (RAM) and System type.

On a Windows Server 2008 R2 computer, click **System and Security** in the Windows Control Panel, then click **System**.

If the size of the physical RAM installed in the system is less than the required size, then you must install more memory before continuing.

2. Determine the size of the configured virtual memory (also known as paging file size). For example, on a Windows Server 2008 computer, double-click **System**, click the **Advanced** tab, and click **Settings** in the Performance section. Then select the **Advanced** tab.

On a Windows Server 2008 R2 computer, click **System and Security**, then click **System**, click **Advanced System Settings**, click the **Advanced** tab on System Properties page, and then click **Settings** in the Performance section. Then select the **Advanced** tab on Performance Options page.

The virtual memory is listed in the Virtual Memory section.

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

3. Determine the amount of free disk space on the system. For example, on a Windows Server 2008 computer, double-click **My Computer**, right-click the drive where the Oracle software is to be installed, and select **Properties**.

On a Windows Server 2008 R2 computer, right-click **My Computer** and click **Open**.

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.

On Windows x64, if there is less than 125 MB of disk space available in the `temp` directory, then delete all unnecessary files. If the `temp` disk space is still less than 125 MB, then set the `TEMP` or `TMP` environment variable to point to a different hard drive location.

For example, to change the environment variables on a Windows Server 2008 computer, double-click **System**, click the **Advanced** tab, and click **Environment Variables**.

On a Windows Server 2008 R2 computer, click **System and Security**, then click **System**, click **Advanced System Settings**, click the **Advanced** tab on System Properties page, and then click **Environment Variables**.

## 2.2 Oracle Database Client Software Requirements

This section covers the following topics:

- [General Oracle Database Client Software Requirements for Windows 32-Bit](#)
- [General Oracle Database Client Software Requirements for Windows x64](#)
- [Instant Client Light Language and Character Set Requirements](#)

### 2.2.1 General Oracle Database Client Software Requirements for Windows 32-Bit

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

**Table 2–5 Windows 32-Bit Software Requirements**

Requirement	Value
Operating System	<p>Oracle Database Client for Windows is supported on the following operating systems:</p> <ul style="list-style-type: none"> <li>■ Windows Server 2008 - Standard, Enterprise, Datacenter, and Web editions. The Server Core option is not supported.</li> <li>■ Windows 7 - Professional, Enterprise, and Ultimate editions</li> <li>■ Windows 8 and Windows 8.1 - Pro and Enterprise editions</li> </ul> <p>Windows Multilingual User Interface Pack is supported.</p> <p>For information about Hyper-V support, visit My Oracle Support at <a href="https://support.oracle.com/epmos/faces/DocumentDisplay?id=1563794.1">https://support.oracle.com/epmos/faces/DocumentDisplay?id=1563794.1</a></p>
Compiler	<p>Pro*COBOL has been tested and certified with Net Express 5.1.</p> <p>The following components are supported with the Microsoft Visual C++ 2010 SP1, Microsoft Visual C++ 2012, Microsoft Visual C++ 2013 Update 2, and Intel 12.1 C compilers:</p> <ul style="list-style-type: none"> <li>■ Oracle Call Interface</li> <li>■ External callouts</li> <li>■ Pro*C/C++ (not supported with Microsoft Visual C++ 2013 Update 2 at this time of release.)</li> <li>■ Oracle XML Developer's Kit (XDK)</li> </ul> <p>Oracle C++ Call Interface is supported with</p> <ul style="list-style-type: none"> <li>■ Microsoft Visual C++ 2010 SP1</li> <li>■ Microsoft Visual C++ 2012 - OCCI libraries are installed under <code>ORACLE_HOME\oci\lib\msvc\vc11</code>. When developing OCCI applications with MSVC++ 2012, ensure that the OCCI libraries are correctly selected from this directory for linking and executing.</li> <li>■ Microsoft Visual C++ 2013 - OCCI libraries are installed under <code>ORACLE_HOME\oci\lib\msvc\vc12</code>. When developing OCCI applications with MSVC++ 2013, ensure that the OCCI libraries are correctly selected from this directory for linking and executing.</li> <li>■ Intel 12.1 C compilers with Microsoft Visual Studio 2010 STLs</li> </ul>



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

Requirement	Value
Network Protocol	<p>The Oracle Net foundation layer uses Oracle protocol support to communicate with the following industry-standard network protocols:</p> <ul style="list-style-type: none"> <li>■ TCP/IP</li> <li>■ TCP/IP with SSL</li> <li>■ Named Pipes</li> </ul>

## 2.2.2 General Oracle Database Client Software Requirements for Windows x64

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

**Table 2–6 Windows x64 Software Requirements**

Requirement	Value
Operating System	<p>Oracle Database Client for Windows is supported on the following operating systems:</p> <ul style="list-style-type: none"> <li>■ Windows Server 2008 x64 - Standard, Enterprise, DataCenter, and Web editions</li> <li>■ Windows Server 2008 R2 x64 - Standard, Enterprise, Datacenter, Web, and Foundation editions.</li> <li>■ Windows 7 x64 - Professional, Enterprise, and Ultimate editions</li> <li>■ Windows 8 x64 and Windows 8.1 x64 - Pro and Enterprise editions</li> <li>■ Windows Server 2012 x64 and Windows Server 2012 R2 x64 - Standard, Datacenter, Essentials, and Foundation editions</li> </ul> <p>Windows Multilingual User Interface Pack is supported. The Server Core option is not supported.</p> <p><b>Note:</b> For more information about Hyper-V support, visit My Oracle Support at <a href="https://support.oracle.com/epmos/faces/DocumentDisplay?id=1563794.1">https://support.oracle.com/epmos/faces/DocumentDisplay?id=1563794.1</a></p>

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

Requirement	Value
Compiler	<p>Pro*COBOL has been tested and certified with Net Express 5.1.</p> <p>The following components are supported with the Microsoft Visual C++ 2010 SP1, Microsoft Visual C++ 2012, Microsoft Visual C++ 2013 Update 2, and Intel 12.1 C compilers:</p> <ul style="list-style-type: none"> <li>■ Oracle Call Interface</li> <li>■ External callouts</li> <li>■ Pro*C/C++ (not supported with Microsoft Visual C++ 2013 Update 2 at this time of release.)</li> <li>■ Oracle XML Developer's Kit (XDK)</li> </ul> <p>Oracle C++ Call Interface is supported with</p> <ul style="list-style-type: none"> <li>■ Microsoft Visual C++ 2010 SP1</li> <li>■ Microsoft Visual C++ 2012 - OCCI libraries are installed under <code>ORACLE_HOME\oci\lib\msvc\vc11</code>. When developing OCCI applications with MSVC++ 2012, ensure that the OCCI libraries are correctly selected from this directory for linking and executing.</li> <li>■ Microsoft Visual C++ 2013 - OCCI libraries are installed under <code>ORACLE_HOME\oci\lib\msvc\vc12</code>. When developing OCCI applications with MSVC++ 2013, ensure that the OCCI libraries are correctly selected from this directory for linking and executing.</li> <li>■ Intel 12.1 C compilers with Microsoft Visual Studio 2010 STLs</li> </ul>
Network Protocol	<p>The Oracle Net foundation layer uses Oracle protocol support to communicate with the following industry-standard network protocols:</p> <ul style="list-style-type: none"> <li>■ TCP/IP</li> <li>■ TCP/IP with SSL</li> <li>■ Named Pipes</li> </ul>

### 2.2.3 Instant Client Light Language and Character Set Requirements

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

- **Language:** Any language that is supported by Oracle, but only US English error messages are returned for errors generated on the client side.
- **Territory:** Any territory that is supported by Oracle.
- **Character sets:**
  - Single byte
    - \* US7ASCII
    - \* WE8DEC
    - \* WE8ISO8859P1
    - \* WE8MSWIN1252
  - Unicode
    - \* UTF8

- \* AL16UTF16
- \* AL32UTF8

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

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

Instant Client Light can also operate with the OCI Environment handles created in the OCI\_UTF16 mode.

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

---

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

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

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

---

**See Also:** [Appendix C, "Configuring Oracle Database Globalization Support"](#) for more information about `NLS_LANG`

## 2.3 Creating Oracle Home User

During Oracle Database Client installation, you can specify an optional Oracle Home User associated with the Oracle home. For example, assume that you use an Administrator user named `OraSys` to install the software (Oracle Installation user), then you can specify the `ORADOMAIN\OraClient` domain user as the Oracle Home user for this installation. The specified Oracle Home domain user must exist before you install the Oracle Database software.

Oracle Home User can be Windows Built-in Account or a standard Windows User Account (not an Administrator account). Windows User Account can be a Windows Local User, Windows Domain User or Managed Services Account (MSA). If you want to create a new user during installation, then it can only be a Windows Local User and not a Windows Domain User or an MSA. The new user created is denied interactive logon privileges to the Windows computer. However, a Windows administrator can manage this account like any other Windows account.

**Note:** You cannot change the Oracle Home User after the installation is complete. If you must change the Oracle Home User, then you must reinstall the Oracle Database Client software.

**See Also:** "Managing Oracle Home User" in *Oracle Database Platform Guide for Microsoft Windows*

Silent install is enhanced to support password prompt for Oracle Home User. So, customers and independent software vendors (ISV) can use response files without hard coding the password into the source code.

## 2.4 Operating System Groups for Oracle Database Client Installations

Oracle Universal Installer creates groups, such as, `ORA_INSTALL`, `ORA_CLIENT_LISTENERS`, `ORA_HOMENAME_SVCSIDS` during installation and you should not change these groups, memberships, and ACLs associated with various Oracle created groups.

## 2.5 Oracle Database Client Network Topics

Typically, the computer on which you want to install Oracle Database Client is connected to the network, has local storage to contain the Oracle Database Client installation, has a display monitor, and has a media drive.

This section describes how to install Oracle Database Client on computers that do not meet the typical scenario. It covers the following topics:

- [Installing Oracle Database Client on Computers with Multiple IP Addresses](#)
- [Installing Oracle Database Client on Computers with Multiple Aliases](#)
- [Installing Oracle Database Client on Non-Networked Computers](#)
- [Installing a Loopback Adapter](#)

### 2.5.1 Installing Oracle Database Client on Computers with Multiple IP Addresses

You can install Oracle Database Client on a computer that has multiple IP addresses, also known as a multihomed computer. Typically, a multihomed computer has multiple network cards. Each IP address is associated with a host name; additionally, you can set up aliases for the host name. By default, Oracle Universal Installer uses the `ORACLE_HOSTNAME` environment variable setting to find the host name.

Clients must be able to access the computer using this host name, or using aliases for this host name. To check, ping the host name from the client computers using the short name (host name only) and the full name (host name and domain name). Both must work.

#### **Setting the `ORACLE_HOSTNAME` Environment Variable**

To set the `ORACLE_HOSTNAME` environment variable:

1. Display **System** in the Windows Control Panel.
2. In the System Properties dialog box, click **Advanced**.
3. In the **Advanced** tab, click **Environment Variables**.
4. In the Environment Variables dialog box, under System Variables, click **New**.
5. In the New System Variable dialog box, enter the following information:
  - **Variable name:** ORACLE\_HOSTNAME
  - **Variable value:** The host name of the computer to use.
6. Click **OK**, then in the Environment Variables dialog box, click **OK**.
7. Click **OK** in the Environment Variables dialog box, then in the System Properties dialog box, click **OK**.

## 2.5.2 Installing Oracle Database Client on Computers with Multiple Aliases

A computer with multiple aliases is registered with the naming service under a single IP address but with multiple aliases. The naming service resolves any of those aliases to the same computer. Before installing Oracle Database Client on such a computer, set the ORACLE\_HOSTNAME environment variable to the computer whose host name you want to use.

## 2.5.3 Installing Oracle Database Client on Non-Networked Computers

You can install Oracle Database Client on a non-networked computer. If the computer, such as a laptop, is configured for DHCP and you plan to connect the computer to the network after the Oracle Database Client installation, perform these steps before you install Oracle Database Client on the non-networked computer.

1. Install a loopback adapter on the computer.

The loopback adapter and local IP address simulate a networked computer. If you connect the computer to the network, Oracle Database still uses the local IP address and host name.

**See Also:** [Installing a Loopback Adapter](#) on page 2-10

2. Ping the computer from itself, using only the host name and using the fully qualified name, which should be in the *DRIVE\_LETTER:\system32\drivers\etc\hosts* file.

For example, if you installed a loopback adapter on a computer called *mycomputer* on the *mydomain.com* domain, check the following:

```
DRIVE_LETTER:\>ping mycomputer           Ping itself using just the
hostname.
Reply from 10.10.10.10                   Returns local IP.
DRIVE_LETTER:\>ping mycomputer.mydomain.com Ping using a fully qualified
name.
Reply from 10.10.10.10                   Returns local IP.
```

---

**Note:** When you ping a computer from itself, the ping command should return the local IP address (the IP address of the loopback adapter).

---

If the ping command fails, contact your network administrator.

### Connecting the Computer to the Network after Installation

If you connect the computer to a network after installation, the Oracle Database instance on your computer can work with other instances on the network. Remember that you must have installed a loopback adapter on your computer. Your computer can use a static IP or DHCP, depending on the network to which you are connected.

## 2.5.4 Installing a Loopback Adapter

When you install a loopback adapter, the loopback adapter assigns a local IP address for your computer. After the loopback adapter is installed, there are at least two network adapters on your computer: your own network adapter and the loopback adapter. To run Oracle Database Client on Windows, set the loopback adapter as the primary adapter.

You can change the bind order for the adapters without reinstalling the loopback adapter. The bind order of the adapters to the protocol indicates the order in which the adapters are used. When the loopback adapter is used first for the TCP/IP protocol, all programs that access TCP/IP first probe the loopback adapter. The local address is used for tools, such as Oracle Enterprise Manager. Any other applications that use a different Ethernet segment are routed to the network card.

A loopback adapter is required if:

- You are installing on a non-networked computer and plan to connect the computer to a network after installation.

**See Also:** ["Installing Oracle Database Client on Non-Networked Computers"](#) on page 2-9

This section covers the following topics:

- [Checking if a Loopback Adapter Is Installed on Your Computer](#)
- [Installing a Loopback Adapter on Windows Server 2008](#)
- [Installing a Loopback Adapter on Windows 7 and Windows Server 2008 R2](#)
- [Installing a Microsoft KM-TEST Loopback Adapter on Windows 8 and Windows Server 2012](#)
- [Removing a Loopback Adapter](#)

### 2.5.4.1 Checking if a Loopback Adapter Is Installed on Your Computer

To check if a loopback adapter is installed on your computer, run the `ipconfig /all` command:

```
DRIVE_LETTER:\>ipconfig /all
```

---

**Note:** Loopback Adapter installed on the computer should be made the Primary Network Adapter.

---

If there is a loopback adapter installed, you would see a section that lists the values for the loopback adapter. For example:

```
Ethernet adapter Local Area Connection 2:
```

```

Connection-specific DNS Suffix . . . :
Description . . . . . : Microsoft Loopback Adapter
Physical Address. . . . . : 02-00-4C-4F-4F-50
DHCP Enabled. . . . . : No
IP Address. . . . . : 10.10.10.10
Subnet Mask . . . . . : 255.255.0.0

```

### 2.5.4.2 Installing a Loopback Adapter on Windows Server 2008

To install a loopback adapter on Windows Server 2008:

1. Open the Windows Control Panel.
2. Double-click **Add Hardware** to start the Add Hardware wizard.
3. In the Welcome window, click **Next**.
4. In the The wizard can help you install other hardware window, select **Install the hardware that I manually select from a list**, and click **Next**.
5. From the list of hardware types, select the type of hardware you are installing window, select **Network adapters**, and click **Next**.
6. In the Select Network Adapter window, make the following selections:
  - **Manufacturer:** Select **Microsoft**.
  - **Network Adapter:** Select **Microsoft Loopback Adapter**.
7. Click **Next**.
8. In the The wizard is ready to install your hardware window, click **Next**.
9. In the Completing the Add Hardware Wizard window, click **Finish**.
10. If you are using Windows Server 2008, restart your computer.
11. Right-click **My Network Places** on the desktop and choose **Properties**. If you are using Windows Server 2008, then click **Manage Network Connections**. This displays the Network Connections Control Panel item.
12. Right-click the connection that was just created. This is usually named "Local Area Connection 2". Choose **Properties**.
13. On the **General** tab, select **Internet Protocol (TCP/IP)**, and click **Properties**.
14. In the Properties dialog box, click **Use the following IP address** and do the following:
  - a. **IP Address:** Enter a non-routable IP for the loopback adapter. Oracle recommends the following non-routable addresses:
    - 192.168.x.x (x is any value between 0 and 255)
    - 10.10.10.10
  - b. **Subnet mask:** Enter 255.255.255.0.
  - c. Save the values you entered, which you need later in this procedure.
  - d. Leave all other fields empty.
  - e. Click **OK**.
15. Click **Close**.
16. Close **Network Connections**.

17. Restart the computer.
18. Add a line to the `DRIVE_LETTER:\ WINDOWS\system32\drivers\etc\hosts` file with the following format, after the `localhost` line:

```
IP_address hostname.domainname hostname
```

where:

- `IP_address` is the non-routable IP address you entered in step 16.
- `hostname` is the name of the computer.
- `domainname` is the name of the domain.

For example:

```
10.10.10.10 mycomputer.mydomain.com mycomputer
```

19. Check the network configuration:

---



---

**Note:** Domain name is optional.

---



---

- a. Open **System** in the Control Panel, and select the **Computer Name** tab. In Windows Server 2008, the Computer Name tab is not available. In **Full computer name**, make sure you see the host name and the domain name, for example, `sales.us.example.com`.
- b. Click **Change**. In **Computer name**, you should see the host name, and in **Full computer name**, you should see the host name and domain name. Using the previous example, the host name would be `sales` and the domain would be `us.example.com`.
- c. Click **More**. In **Primary DNS suffix of this computer**, you should see the domain name, for example, `us.example.com`.

#### 2.5.4.3 Installing a Loopback Adapter on Windows 7 and Windows Server 2008 R2

To install a loopback adapter on Windows 7 and Windows Server 2008 R2:

1. Click **Start** and enter `hdwwiz` in the Search box.
2. Click **hdwwiz** to start the Add Hardware wizard.
3. Go to step 3 of the previous section. The remaining steps are the same as given for Windows Server 2008.

#### 2.5.4.4 Installing a Microsoft KM-TEST Loopback Adapter on Windows 8 and Windows Server 2012

To install a loopback adapter on Windows 8 and Windows Server 2012:

1. Complete steps 1-5 of section "[Installing a Loopback Adapter on Windows Server 2008](#)".
2. In the Select Network Adapter window, make the following selections:
  - **Manufacturer:** Select **Microsoft**.
  - **Network Adapter:** Select **Microsoft KM-TEST Loopback Adapter**.

Then continue with the same steps as given for Windows Server 2008.



### 2.5.4.5 Removing a Loopback Adapter

To remove a loopback adapter:

1. Display **System** in the Windows Control Panel.
2. In the Hardware tab, click **Device Manager**. This tab is not available with Windows Server 2008. Click **Device Manager** instead.
3. In the Device Manager window, expand **Network adapters**. You should see **Microsoft Loopback Adapter**.
4. Right-click **Microsoft Loopback Adapter** and select **Uninstall**.

In Windows 8 and Windows Server 2012, right-click **Microsoft KM-TEST Loopback Adapter** and select **Uninstall**.

5. Click **OK**.
6. Restart the computer.
7. Remove the line from the `DRIVE_LETTER:\WINDOWS\system32\drivers\etc\hosts` file, added after the localhost line while installing the loopback adapter on other Windows operating systems.

## 2.6 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 My Oracle Support website for the most up-to-date list of certified hardware platforms and operating system versions. This website also provides compatible client and database versions, patches, and workaround information for bugs. The My Oracle Support website is available at the following URL:

<https://support.oracle.com/>

You must register online before using My Oracle Support. After logging in, from the menu options, select the **Certifications** tab. On the Certifications page, use the **Certification Search** options to search by **Product**, **Release**, and **Platform**. You can also search using the **Certification Quick Links** options such as **Product Delivery**, and **Lifetime Support**.

The following sections list the certification information:

- [Remote Desktop Services](#)
- [Third-Party Database Certification for SQL Developer](#)
- [Separate 32-Bit Client Software for 64-Bit Platforms](#)
- [Default Share Configuration Requirement](#)
- [Installation Requirements for Web Browsers](#)

### 2.6.1 Remote Desktop Services

On Windows, Oracle supports installing, configuring, and running Oracle Database Client through Remote Desktop Services, formerly known as Terminal Services. To install Oracle Database Client, Oracle recommends that you start all configuration tools from the Terminal Server console session of the server (using `mstsc/console`).

Platform-specific support information is as follows:

- Windows client operating systems: The Remote Desktop is only available in Single User Mode.
- Windows server operating systems: You can have multiple Remote Desktop sessions.

**See Also:**

- The Microsoft website for more information about Remote Desktop Services  
<http://www.microsoft.com/>
- The My Oracle Support website for the latest Terminal Services and Remote Desktop Services certification information  
<https://support.oracle.com/>

## 2.6.2 Third-Party Database Certification for SQL Developer

You can use Oracle SQL Developer to view metadata and data of several non-Oracle databases. Refer to "Database Certification for SQL Developer (Oracle and Third-Party)" in *Oracle SQL Developer Installation Guide* for more information.

## 2.6.3 Separate 32-Bit Client Software for 64-Bit Platforms

Starting with Oracle Database 11g Release 2 (11.2), the 64-bit client software does not contain any 32-bit client binaries. If you require 32-bit client binaries on 64-bit platforms, then install the 32-bit binaries from the respective 32-bit client software.

However, when you install the 32-bit client binaries on 64-bit platforms, the installer checks for the existence of 32-bit software.

**See Also:** My Oracle Support notes 1243374.1 and 781432.1 if you intend to install both 32-bit and 64-bit Oracle Database Client software on the same system:

- <https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=1243374.1>
- <https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=781432.1>

## 2.6.4 Default Share Configuration Requirement

The prerequisite checks during Oracle Database Client installation require that the system drive on your computer has default share configured on it. Use the `net use` command to verify, for example:

```
C:\>net use\\hostname\c$  
The command completed successfully.
```

Ensure that the current user, the user in the Administrator group, has all the privileges on the default share.

## 2.6.5 Installation Requirements for Web Browsers

Web browsers are required to use Oracle Enterprise Manager Database Express and Oracle Enterprise Manager Cloud Control. Web browsers must support Java Script, and the HTML 4.0 and CSS 1.0 standards. For a list of browsers that meet these

requirements, see the Oracle Enterprise Manager certification matrix on My Oracle Support:

<https://support.oracle.com>

**See Also:** *Oracle Enterprise Manager Cloud Control Basic Installation Guide* for information on accessing the Oracle Enterprise Manager certification matrix



# 3

## Installing Oracle Database Client

This chapter covers the following topics:

- [Installation Considerations for Oracle Database Client](#)
- [Accessing the Installation Software](#)
- [Installing the Oracle Database Client Software](#)

### 3.1 Installation Considerations for Oracle Database Client

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

Review the information in [Chapter 1, "Oracle Database Client Installation Overview"](#) and complete the tasks listed in [Chapter 2, "Oracle Database Client Preinstallation Tasks"](#) before beginning the installation.

Next, consider the following issues:

- [Installation Consideration on Windows](#)
- [Installing Oracle Database Client Installations in Silent or Response File Mode](#)
- [Creating the Oracle Base Directory](#)
- [Installing Oracle Database Client into Multiple Oracle Homes](#)
- [Installing Oracle Database Client on a System with an Existing Oracle Software](#)
- [Updating the Existing Software with the Current Version](#)

#### 3.1.1 Installation Consideration on Windows

On Windows, command prompts should be opened with Administrator privileges.

**See Also:** ["Managing User Accounts with User Account Control"](#)

#### 3.1.2 Installing Oracle Database Client Installations in Silent or Response File Mode

If you need to perform multiple installations of Oracle Database Client, you may want to use silent or response file installation. In these modes, at each computer, you run Oracle Universal Installer from the command line using a response file. The response file is a text file containing the settings you normally enter in the Oracle Universal

Installer GUI dialog boxes. This method lets you quickly perform multiple installations using similar settings for each computer.

**See Also:** [Appendix B, "Installing Oracle Database Client Using Response Files"](#) for instructions on performing silent and response file installations

### 3.1.3 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. If a Windows User Account is used as Oracle Home User, it can only share Oracle Base with other Oracle Homes with the same Windows user account. If Windows Built-in Account is specified as Oracle Home User, it can only share Oracle Base with other client Oracle Homes using Windows Built-in Account.

Oracle Database Client 12c Release 1 (12.1) cannot share Oracle base with Oracle homes from earlier database versions, such as Oracle Database 11g Release 2 (11.2) and earlier.

---

---

**Caution:** After installing Oracle Database Client 12c or later, do not install older version of databases or clients and share the same Oracle base directory. During the installation of older releases of Oracle Database, ACLs are reset corresponding to older releases. Thus Oracle Database 12c or later services might not be able to access the Oracle base directory and the files in it.

---

---

**See Also:** "Managing Oracle Home User" in *Oracle Database Platform Guide for Microsoft Windows*

---

---

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

---

---

### 3.1.4 Installing Oracle Database Client into Multiple Oracle Homes

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

- Oracle Administration Assistant for Windows
- Oracle Provider for OLE DB

### 3.1.5 Installing Oracle Database Client on a System with an Existing Oracle Software

Oracle Database Client can be installed in the same Oracle Database home if both products are at the same release level. For example, you can install Oracle Database

Client 12.1.0.1 into an existing Oracle Database 12.1.0.1 home. If you apply a patch set before installing the client, then you must apply the patch set again.

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.

### 3.1.6 Updating the Existing Software with the Current Version

Use the In-Place Upgrade feature to upgrade an existing client installation to the latest release by installing the new client software into an existing client home with the same installation type. For example, if release 12.1.0.1 is installed, then use Oracle Universal Installer to upgrade to release 12.1.0.2.

Consider the following before selecting this option:

- This upgrade is only possible in a client home and not in any other Oracle home that contains non-client installations, such as Database installations.
- This upgrade does not delete files in the client home that are commonly updated by other users. For example, configuration data files.
- This upgrade cannot be performed if processes associated with the Oracle Database Client home are running.
- Oracle Home User for the Oracle Home cannot be changed during the upgrade.

**See Also:** ["Performing an In-place Oracle Database Client Upgrade"](#)

## 3.2 Accessing the Installation Software

The Oracle Database Client software is available on installation media or you can download it from the Oracle Technology Network (OTN) website, or Oracle Software Delivery Cloud Web site. To install the software from the hard disk, you must either download it and unpack it, or copy it from the installation media, if you have it.

You can access and install Oracle Database Client by using the following scenarios:

- [Installing from a Remote DVD Drive](#)
- [Installing on Remote Computers Through Remote Access Software](#)
- [Downloading Oracle Software](#)
- [Copying the Oracle Database Client Software to a Hard Disk](#)

### 3.2.1 Installing from a Remote DVD Drive

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

- [Step 1: On the Remote Computer, Share the DVD Drive](#)
- [Step 2: On the Local Computer, Map the DVD Drive](#)

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

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

1. Log in to the remote computer as an Administrator user.
2. Start Windows Explorer.

3. Right-click the DVD drive letter and choose **Sharing** (or **Sharing and Security**).
4. Click the **Sharing** tab and do the following:
  - a. Select **Share this folder**.
  - b. In **Share name**, give it a share name such as `dvd`. You will use this name when you map the DVD drive on the local computer in step d of the next section.
  - c. Click **Permissions**. You need at least "read" permission for the user who will be accessing it to install Oracle Database.
  - d. Click **OK** when you are finished.
5. Insert the DVD labeled Oracle Database 12c into the DVD drive.

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

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

1. Map the remote DVD drive.
  - a. Start Windows Explorer on the local computer.
  - b. From the **Tools** menu, select **Map Network Drive** to display the Map Network Drive dialog.
  - c. Select a drive letter to use for the remote DVD drive.
  - d. In **Folder**, enter the location of the remote DVD drive using the following format:  

```
\\remote_hostname\share_name
```

where:
    - `remote_hostname` is the name of the remote computer with the DVD drive.
    - `share_name` is the share name that you entered in step 4 of the previous procedure. For example  

```
\\computer2\dvd
```
  - e. If you need to connect to the remote computer as a different user, click **different user name**, and enter the username.
  - f. Click **Finish**.
2. Run Oracle Universal Installer from the mapped DVD drive.
3. Go to the ["Installing the Oracle Database Client Software"](#) section on page 3-7.

## 3.2.2 Installing on Remote Computers Through Remote Access Software

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

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

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



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

### 3.2.2.1 Installing on Remote Computers from a Hard Drive

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

The steps that must complete are:

1. Make sure that the remote access software is installed and running on the remote and local computers.
2. Share the hard drive that contains the Oracle Database Client DVD.
3. On the remote computer, map a drive letter to the shared hard drive. You would use the remote access software to do this on the remote computer.
4. Through the remote access software, run Oracle Universal Installer on the remote computer. You access Oracle Universal Installer from the shared hard drive.
5. Go to the ["Installing the Oracle Database Client Software"](#) section on page 3-7.

### 3.2.2.2 Installing on Remote Computers from a Remote DVD Drive

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

The steps that you need to complete are:

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

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

These steps are described in the ["Installing from a Remote DVD Drive"](#) section on page 3-3.

3. Through the remote access software, run Oracle Universal Installer on the remote computer. You access Oracle Universal Installer from the shared DVD drive.
4. Go to [Section 3.3, "Installing the Oracle Database Client Software."](#)

## 3.2.3 Downloading Oracle Software

You can download the trial version of the installation files from the Oracle Technology Network (OTN) or Oracle Software Delivery Cloud website and extract them on your hard disk. Make sure that you completely review and understand the terms of the license. Most downloads include the Development License. This section contains the following topics:

- [Downloading the Installation Archive Files from OTN](#)
- [Downloading the Software from Oracle Software Delivery Cloud](#)
- [Extracting the Installation Files](#)

### 3.2.3.1 Downloading the Installation Archive Files from OTN

To download the installation archive files from Oracle Technology Network:

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

<http://www.oracle.com/technetwork/indexes/downloads/index.html>

2. Navigate to the download page for the product that you want to install.
3. On the 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 archive files.  
In most cases, the available disk space must be at least twice the size of all the archive files.
5. On the file system that you selected in step 4, create a parent directory for each product, for example `OraDBClient12c`, to hold the installation directories.
6. Download all of the installation archive files to the directories that you created in step 5.
7. Verify that the files you downloaded are the same size as the corresponding files on Oracle Technology Network. Also verify the checksums are the same as noted on Oracle Technology Network.
8. Extract the files in each directory that you just created.
9. After you have extracted the required installation files, see the "[Installing the Oracle Database Client Software](#)" section on page 3-7.

### 3.2.3.2 Downloading the Software from Oracle Software Delivery Cloud

You can download the software from Oracle Software Delivery Cloud as Media Packs. A Media Pack is an electronic version of the software that is also available to Oracle customers on CD-ROM or DVD. To download the Media Pack:

1. Use any browser to access the Oracle Software Delivery Cloud website:  
<http://edelivery.oracle.com/>
2. Complete the Export Validation process by entering information (name, company, e-mail address, and country) in the online form.
3. In the Media Pack Search page, specify the Product Pack and Platform to identify the Media Pack you want to download. If you do not know the name of the Product Pack, you can search for it using the License List.
4. Optionally, select the relevant product to download from the **Results** list.
5. In the search results page, click **Readme** to download and review the Readme file for download instructions and product information.
6. After you review the Readme, choose the appropriate Media Pack from the search results to download the individual zip files. Follow the Download Notes instructions in this page. Once you download and extract the contents of the required zip files, proceed with the installation of the software.

---

---

**Note:** Print the page with the list of downloadable files. It contains a list of part numbers and their corresponding descriptions that you may need to refer during the installation process.

---

---

7. After you download the files, click **View Digest** to verify that the MD5 or SHA-1 checksum matches with what is listed in the media download page.

**See Also:**

- My Oracle Support note 549617.1 for information on how to verify the integrity of a software download at:  
<https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=549617.1>
- *Frequently Asked Questions* section on the Oracle Software Delivery Cloud website for more information about Media Packs

**3.2.3.3 Extracting the Installation Files**

To extract the installation archive files, perform the following steps:

1. If necessary, change to the directory that contains the downloaded installation archive files.
2. Oracle Database software is available as a zip file. Ensure that you extract the zip file to the same directory.

When you have extracted all of the required installation files, see "[Installing the Oracle Database Client Software](#)" section on page 3-7.

**3.2.4 Copying the Oracle Database Client Software to a Hard Disk**

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

1. Create a directory for the installation files on your hard drive. For example:  
`d:\install\client`
2. Copy the contents of the installation media to the directory that you just created.

When you have copied the required installation files, see the "[Installing the Oracle Database Client Software](#)" section on page 3-7.

**3.3 Installing the Oracle Database Client Software**

This section covers the following topics:

- [Guidelines for Installing Oracle Database Client](#)
- [Procedure for Installing Oracle Database Client](#)
- [Performing an In-place Oracle Database Client Upgrade](#)

**3.3.1 Guidelines for Installing Oracle Database Client**

In most cases, you use the graphical user interface (GUI) provided by Oracle Universal Installer to install Oracle Database Client. However, you can also use Oracle Universal Installer to complete silent or response file 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, "Installing Oracle Database Client Using Response Files"](#) for information about silent or response file installations

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

### 3.3.2 Procedure for Installing Oracle Database Client

Use Oracle Universal Installer to install the Oracle Database Client software.

To install Oracle Database Client perform the following steps:

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

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

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

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

3. Double-click `setup.exe` to start Oracle Universal Installer.
4. If you have an existing Oracle Database Client 12c Release 1 (12.1.0.1) or later installed on your system, the Select Installation Mode screen is displayed. Select **New Install** to install Oracle Database Client software in a new location, or select **Upgrade** and follow the instructions in "[Performing an In-place Oracle Database Client Upgrade](#)" to upgrade an earlier release of Oracle Database Client.
5. In the Select Installation Type screen, select the type of installation that you want: Instant Client, Administrator, Runtime, or Custom and click **Next**.
6. The Select Product Languages screen enables you to select the language in which you want to run the product.

Select the product language from the Available Languages list, transfer it to the Selected Languages list. Click **Next**.

This screen is not displayed if you select Instant Client as the type of installation in step 5.

7. Starting with Oracle Database 12c, during installation, you can specify an Oracle Home User associated with the Oracle Database home on the Specify Oracle Home User screen. The Oracle Home user owns all the Windows services run by the Oracle Database software. You can either specify an existing Windows user, or have the installer create the user for you. The Oracle Home user and several database services with the proper Access Control Lists (ACLs) are configured during installation.

Select **Use Windows Built-in Account** if you do not specify an Oracle Home User during installation. Then the services for the Oracle home run as the LocalService or LocalSystem user.

**See Also:** "Supporting Oracle Home User on Windows" in *Oracle Database Platform Guide for Microsoft Windows*

The Oracle Home User is not available if you select Instant Client as the type of installation in step 5.

8. In the Specify Installation Location screen, enter the following details:

**Oracle Base:** This path appears by default. You can change the path based on your requirement.

The Oracle Base section is not displayed if you select Instant Client as the type of installation in step 5.

In the **Software Location** section, accept the default value or enter the Oracle home directory path in which you want to install Oracle components. The directory path should not contain spaces. Click **Next**.

9. If you selected Custom as the type of installation in step 5, then the Available Product Components screen is displayed. Select the products that you want to install and click **Next**.

---



---

**Note:** Starting with Oracle Database 11g Release 2 (11.2), you can install Oracle Connection Manager, Oracle Net Listener, and Oracle Scheduler Agent using the Custom install option.

---



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10. In step 9, if you select Oracle Scheduler Agent as one of the components to install, then the Oracle Database Scheduler Agent screen is displayed with the default host name and default port number. Enter the Scheduler Agent Hostname and the Scheduler Agent Port Number. Click **Next**.
11. The Perform Prerequisite Checks screen verifies if your computer meets the minimum system requirements to install the desired product. Click **Next**.

---



---

**Note:** Oracle recommends that you use caution in checking the **Ignore All** option. If you check this option, then Oracle Universal Installer may not confirm that your system is able to install Oracle Database successfully.

---



---

12. Review the information displayed in the Summary screen, and click **Install**.

---

---

**Note:** Starting with Oracle Database 11g Release 2 (11.2), you can save all the installation steps into a response file by clicking **Save Response File**. Later, this file can be used for a silent installation.

---

---

13. The Install Product screen shows the progress of a client installation. After Oracle Database Client is installed, click **OK**.
14. If you are performing a Custom installation, and selected Oracle Net Listener from the list of components to install in step 9, then go to "[Using Oracle Net Configuration Assistant](#)" for instructions.
15. In the Finish screen, click **Close** to exit Oracle Universal Installer.

### Using Oracle Net Configuration Assistant

During a Custom Oracle Database Client installation, if you select Oracle Net Listener from the list of components to install in step 9, then Oracle Universal Installer automatically starts Oracle Net Configuration Assistant as part of the Oracle Database Client installation. Perform the following to configure the listener and naming methods using Oracle Net Configuration Assistant:

1. In the Welcome screen, click **Next**.

---

---

**Note:** If you do not select Oracle Home User for installation or Oracle Net Listener as a component, then you can select **Perform typical configuration** for default network configuration.

---

---

2. In the Listener Configuration, Listener Name screen, enter a **Listener name** or accept the default value.  
  
The **Oracle Home User Password** field appears if you choose to install Oracle home using Oracle Home User. You must provide a password to run Windows services for the listener under the Oracle Home User account. Click **Next**.
3. In the Listener Configuration, Select Protocol screen, select one or more protocols from the Available Protocols list, and move it to the Selected Protocols list. Click **Next**.
4. In the Listener Configuration, TCP/IP Protocol screen, select the standard port number, or enter a different port number. Click **Next**.
5. In the Listener Configuration, More Listeners? screen, select **No** if you do not want to configure an additional listener, and click **Next**.
6. The listener configuration is now complete, click **Next** to proceed.

---

---

**Note:** If you have more than one listener, then you can select and start a listener from the list provided in the Listener Configuration, Select Listener screen.

---

---

7. In the Naming Methods Configuration screen, select **Yes** to configure naming methods. Click **Next**.
8. In the Naming Methods Configuration, Select Naming Methods screen, select the naming method you want from the Available Naming Methods list, and move it to the Selected Naming Methods list. Click **Next**.

Typically, Local Naming is sufficient.

9. In the Net Service Name Configuration, Service Name screen, enter **Service Name**, and click **Next**.
10. In the Net Service Name Configuration, Select Protocols screen, select the protocol for the database you want to access, and click **Next**.
11. In the Net Service Name Configuration, TCP/IP Protocol screen, enter the **Host name** of the computer where the Oracle database is installed. Use the standard port number, or specify a different port number, and click **Next**.
12. In the Net Service Name Configuration, Test screen, click **Yes, perform a test** to test the database connection. Click **Next**.
13. In the Net Service Name Configuration, Connecting screen, click **Next**.  
In most cases, the test fails only because the default user name and password Oracle Universal Installer supplies in the dialog box do not match the user name and password for the target database. Click **Change Login**, reenter the user name and password, and then click **OK**.
14. In the Net Service Name Configuration, Net Service Name screen, enter the name of the **Net Service Name**, and click **Next**.
15. Answer the remaining prompts to complete the configuration.
16. In the Finish screen, click **Close**, to exit from Oracle Universal Installer.

You can also run Oracle Net Configuration Assistant after the installation in standalone mode to configure the listener, naming methods, net service names, and directory server usage.

To start Oracle Net Configuration Assistant in standalone mode, select **Programs** from the Start menu, and then select **Oracle - HOME\_NAME**. Next, select **Configuration and Migration Tools**, and then **Oracle Net Configuration Assistant**.

**See Also:** "Using Oracle Net Configuration Assistant to Configure Network Components" in *Oracle Database Net Services Administrator's Guide*

### 3.3.3 Performing an In-place Oracle Database Client Upgrade

You can perform an in-place upgrade of Oracle Database Client 12c Release 1 (12.1) using the following instructions:

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**Note:** You can perform an in-place Oracle Database Client upgrade only if you have an existing Oracle Database Client 12c Release 1 (12.1.0.1) or later client home installed on your system.

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1. Perform Steps 1 through 3 listed in ["Procedure for Installing Oracle Database Client"](#).
2. The Select Installation Mode screen is displayed only if you have an existing Oracle Database Client 12c Release 1 (12.1.0.1) or later installed on your system. Select **Upgrade** to upgrade the existing Oracle Database Client software to the latest version.
3. Starting with Oracle Database 12c, during installation, you can specify an Oracle Home User associated with the Oracle Database home on the Specify Oracle Home User screen. The Oracle Home user owns all the Windows services run by the

Oracle Database software. You can either specify an existing Windows user, or have the installer create the user for you. The Oracle Home user and several database services with the proper Access Control Lists (ACLs) are configured during installation.

Select **Use Windows Built-in Account** if you do not specify an Oracle Home User during installation. Then the services for the Oracle home run as the LocalService or LocalSystem user.

**See Also:** "Supporting Oracle Home User on Windows" in *Oracle Database Platform Guide for Microsoft Windows*

The Oracle Home User is not available if you select Instant Client as the type of installation.

4. In the Specify Installation Location screen, accept the default Software Location value. If multiple client installations exist on your system, then select the client Oracle home directory path from which you want to upgrade to the latest version. Click **Next**.
5. The Select Product Languages screen enables you to select the language in which you want to run the product.  
Select the product language from the Available Languages list, transfer it to the Selected Languages list. Click **Next**.
6. The Perform Prerequisite Checks screen verifies if your computer meets the minimum system requirements to install the desired product. Click **Next**.
7. Review the information displayed in the Summary screen, and click **Install**.
8. The Install Product screen displays the progress of the client upgrade. When the installation completes, click **OK**.
9. Review the information in the Finish screen and click **Close** to exit Oracle Universal Installer.

**See Also:**

- ["Updating the Existing Software with the Current Version"](#) on page 3-3
- ["Performing an In-place Oracle Database Client Upgrade Using the Response File"](#) on page B-6



# 4

## Oracle Database Client Postinstallation Tasks

This chapter describes the following postinstallation tasks:

- [Required Postinstallation Tasks](#)
- [Recommended Postinstallation Tasks](#)
- [Required Product-Specific Postinstallation Task – Configuring Oracle Net Services](#)
- [Postinstallation Tasks for SQL Developer](#)
- [Creating the OraMTS Service for Microsoft Transaction Server](#)
- [Creating the Scheduler Agent](#)

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

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### 4.1 Required Postinstallation Tasks

This section covers the following topics:

- [Downloading and Installing Patches](#)
- [Updating Instant Client](#)

#### 4.1.1 Downloading and Installing Patches

To download required patches, check the My Oracle Support website for required patches for your installation. Doing so ensures that you have the latest update of Oracle Database Client.

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

---

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To find and download patches:

1. Use a web browser to view the My Oracle Support website:  
<https://support.oracle.com/>
2. Log in to My Oracle Support.

---

---

**Note:** If you are not a My Oracle Support registered user, then click **Register here** and follow the registration instructions.

---

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3. On the main page of My Oracle Support, click **Patches and Updates** tab.
4. In the Patch Search group, select **Product or Family (Advanced)**.
5. In the Product field, select **Oracle Database**.
6. In the Release field select the release number. For example, Oracle 12.1.0.1.0.
7. Click **Search**.
8. Any available patch updates are displayed in the Patch Search page.
9. Select the patch number and click **ReadMe**. The README page is displayed and contains information about the patch set and how to apply the patches to your installation.
10. Return to the Patch Search page, click **Download**, and save the file on your system.
11. Use the unzip utility provided with Oracle Database 12c to uncompress the Oracle patch updates that you downloaded from My Oracle Support. The unzip utility is located in the ORACLE\_BASE\ORACLE\_HOME\bin directory.

### 4.1.2 Updating Instant Client

To update Instant Client:

1. Download Instant Client from Oracle Technology Network  
<http://www.oracle.com/technetwork/database/features/instant-client/index-097480.html>.
2. Place the new files directly on top of the previous files.

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

## 4.2 Recommended Postinstallation Tasks

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

- [Configuring Instant Client Light](#)
- [Connecting Oracle Database Client to an Oracle Database](#)
- [Connecting Instant Client or Instant Client Light to an Oracle Database](#)
- [Setting Up User Accounts](#)
- [Changing the Oracle Home User Password](#)
- [Using Oracle9i Language and Definition Files with Oracle Database 12c](#)

### 4.2.1 Configuring Instant Client Light

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

To configure Instant Client Light:

1. In the `ORACLE_BASE\ORACLE_CLIENT_HOME` directory, either rename or delete the `oraoci12.dll` file.

The `oraoci12.dll` file is the main binary for Instant Client.

2. From the `ORACLE_BASE\ORACLE_CLIENT_HOME\install\instantclient\light` directory, copy the `oraoci12.dll` file to the `ORACLE_BASE\ORACLE_CLIENT_HOME` directory.

The `oraoci12.dll` file is the binary for Instant Client Light.

3. Ensure that the `PATH` environment variable points to the `ORACLE_BASE\ORACLE_CLIENT_HOME` directory.

---

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

---

## 4.2.2 Connecting Oracle Database Client to an Oracle Database

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

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

To connect Oracle Database Client to an Oracle Database:

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

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

```
ORACLE_HOME\network\admin\tnsnames.ora
```

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

## 4.2.3 Connecting Instant Client or Instant Client Light to an Oracle Database

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

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

```
C:\app\username\product\12.1.0\client_1
```

For Instant Client Light, it is in:

```
C:\app\username\product\12.1.0\client_1\light
```

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

- [Specifying a Connection by Using the Easy Connect Naming Method](#)
- [Specifying a Connection by Configuring a `tnsnames.ora` File](#)
- [Specifying a Connection by Using an Empty Connect String and the `LOCAL` Variable](#)

### 4.2.3.1 Specifying a Connection by Using the Easy Connect Naming Method

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

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

```
sqlplus system/admin@//shobeen:1521/sales_us
```

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

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

```
//host[:port][//service_name]
```

For example:

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

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

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

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

#### 4.2.3.2 Specifying a Connection by Configuring a tnsnames.ora File

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

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

To install Oracle Net Configuration Assistant:

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

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

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

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

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

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

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

- A direct address, as described under "[Specifying a Connection by Using the Easy Connect Naming Method](#)" on page 4-4
- Oracle Net keyword-value pair
- A `tnsnames.ora` entry and `TNS_ADMIN` is set to the location of `tnsnames.ora`
- A `tnsnames.ora` entry and the following:
  - `tnsnames.ora` file located in `ORACLE_HOME/network/admin`
  - The `ORACLE_HOME` environment variable set to this Oracle home

This method allows your applications to specify internally a connection string if the application code itself uses an empty connection string. The benefit of an empty connect string is that the application itself does not need to specify the `tnsnames.ora`

entry. Instead, when a user invokes the application, the location of the database is determined by a script or the environment, depending on where you have set the `LOCAL` environment variable. The disadvantage of using empty strings is that you must configure this additional information in order for your application to connect to the database.

## 4.2.4 Setting Up User Accounts

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

## 4.2.5 Changing the Oracle Home User Password

Oracle Home User Control is a command-line tool that allows an administrator to update the password for Windows services in the Oracle home. The input password must match the password for the Windows User Account used as the Oracle Home User. So, first use Windows operating system tools to change the Windows password and then use this tool to update the Windows services in the Oracle Home to use the same password.

---



---

**Note:** You must have administrator privileges to run this Oracle Home User Control utility.

---



---

### Syntax Overview:

The following is the command syntax:

```
orahomeuserctl list | updpwd [-user username] [-host hostname1, hostname2, . . .]
[-log logfile]
```

where:

- `orahomeuserctl` is used to display the Oracle Home User name associated with the current Oracle Home or to update the Oracle Home User password.
- `list` displays the Oracle Home User name associated with the current Oracle Home.
- `updpwd` prompts for the new password and updates the password for the named Oracle Service User. The following are the options for `updpwd`:

– `-user username`

This option determines the Oracle Home User name. If this option is not present, then the user name associated with the current Oracle Home is used. If the named user, be it the `username` or user of the current Oracle Home, is an MSA or Windows Built-in Account, then an error message is displayed and the command is terminated.

– `-host hostname1, hostname2, . . .`

When this option is present, the utility updates the passwords for all services belonging to the named Oracle Home User on the specified hosts. Otherwise, the Oracle Home User Control utility updates the passwords for all the services belonging to the named Oracle Home User on a specified host with single instance installation, or updates the passwords for all services belonging to the named Oracle Home User on all the specified hosts.

When the update completes, the utility displays the number of successful updates and any services that failed to update with the new password.

- `-log logfilename`

This option adds the password update operation results to a log file for every service name receiving the new password. By default, the log files are located in the `ORACLE_HOME\log` directory. If `logfilename` specifies only a file name, then the log is stored in the named file in the default directory. However, if the `logfilename` contains a path, then that path is used without modification.

**See Also:** "Using the Oracle Home User Control Tool" in *Oracle Database Platform Guide for Microsoft Windows* for detailed description of this utility

## 4.2.6 Using Oracle9i Language and Definition Files with Oracle Database 12c

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

Oracle Database 12c customers should review their existing application code to ensure that the correct cultural conventions, which were introduced and defined in Oracle Database 10g, are being used. For customers who may not be able to make the necessary code changes to support their applications, Oracle Database offers Oracle9i locale definition files with this release of Oracle Database. If the Oracle Database server installation has been configured to use the Oracle9i files, then you must enable this functionality in each client installation as well.

To enable this functionality:

1. Run the `cr9idata.pl` script, by default located in `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_HOME\nls\data`.
3. Restart Oracle Database.

**See Also:**

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

## 4.3 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_HOME\network\admin` directory.

---

To create Oracle Connection Manager (CMAN) services, create a CMAN alias entry in `cman.ora` under `ORACLE_HOME\network\admin`. For example:

```
cman_proxy=
  (CONFIGURATION=
  (ADDRESS= (PROTOCOL=tcp) (HOST=host_name) (PORT=1521))
  (RULE_LIST=
    (RULE= (SRC=*) (DST=*) (SRV=*) (ACT=accept)))
  (PARAMETER_LIST=
    (MIN_GATEWAY_PROCESSES=1)
    (MAX_GATEWAY_PROCESSES=2)))
```

This accepts connection from all clients as mentioned in the rule.

**See Also:** "Configuring Oracle Connection Manager" in *Oracle Database Net Services Administrator's Guide*

CMAN services are created when CMAN is started for the first time using `cmctl` command-line tool. When creating services, `cmctl` prompts for a password if Windows User Account is specified as Oracle Home User during installation. If Windows Built-in Account is specified as Oracle Home User during installation, then `cmctl` does not prompt for password.

Listener can be configured by adding an alias entry in `listener.ora`. Listener service is created when the listener is started for the first time. The listener control utility, `lsnrctl` prompts for a password if Windows User Account is specified as Oracle Home User during installation. If Windows Built-in Account is specified as Oracle Home User during installation, then it does not prompt for password.

## 4.4 Postinstallation Tasks for SQL Developer

See the following sections in *Oracle SQL Developer Installation Guide* for recommended postinstallation tasks for SQL Developer:

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

## 4.5 Creating the OraMTS Service for Microsoft Transaction Server

Oracle Services for Microsoft Transaction Server (OraMTS) permit Oracle database clients to be used as resource managers in Microsoft application coordinated



transactions. OraMTS acts as a proxy for the Oracle database client to the Microsoft Distributed Transaction Coordinator (MSDTC). As a result, OraMTS provides client-side connection pooling and allows client components that leverage Oracle to participate in promotable and distributed transactions. In addition, OraMTS can operate with Oracle database clients running on any operating system, given that the services themselves are run on Windows.

On releases before Oracle Database 12c, the OraMTS service was created as part of a software-only installation. Starting with Oracle Database Client 12c, you must use a configuration tool to create this service.

To create the OraMTS service after performing a software-only installation for Oracle Database Client, perform the following steps:

1. Open a command window.
2. Change directories to `ORACLE_HOME\bin`.
3. Run the `OraMTSctl` utility to create the OraMTS Service:

```
C:\ORACLE_HOME\bin> oramtsctl.exe -new
```

**See Also:** *Oracle Services for Microsoft Transaction Server Developer's Guide for Microsoft Windows* for more information about OraMTS, which allows Oracle database clients to be used as resource managers in distributed transactions

## 4.6 Creating the Scheduler Agent

The Oracle Scheduler Execution Agent permits Oracle Database clients to run Scheduler jobs at request of an Oracle instance which can be located on a remote host. This allows for centralized control over several hosts using Oracle Scheduler and can perform jobs at the operating system level and jobs that run on another Oracle Database.

The Oracle Scheduler Execution Agent is installed with the Oracle Database Client software.

**See Also:**

- "Installing and Configuring the Scheduler Agent on a Remote Host" in *Oracle Database Administrator's Guide* for more information about the Scheduler Agent installation process
- "Using the Scheduler Agent on Windows" in *Oracle Database Administrator's Guide* for more information about registering the agent with an Oracle Database and to execute management tasks like starting and stopping the agent

To create the Scheduler Agent service after performing a software-only installation for Oracle Database Client, perform the following steps:

1. Open a command window.
2. Change directories to `ORACLE_HOME\bin`.
3. Run the executable utility, `schagent` to create the Scheduler Agent service:

```
C:\ORACLE_HOME\bin> schagent.exe -new
```



# Removing Oracle Database Client Software

This chapter describes how to completely remove Oracle software and configuration files related to the specified Oracle home using the Deinstallation Tool.

The deinstallation tool removes the Oracle Database Client installations.

Oracle recommends that you use the deinstallation tool to remove the entire Oracle home associated with the Oracle Database, Oracle Clusterware, Oracle ASM, Oracle RAC, or Oracle Database client installation. Oracle does not support the removal of individual products or components.

It includes information about the following topics:

- [About the Deinstallation Tool](#)
- [Oracle Database Deinstallation Example](#)
- [Example of Running the Deinstallation Command](#)
- [Example of a Deinstallation Response File for an Oracle Database Client](#)

---

---

**Caution:** You must use the deinstallation tool from the same release to remove Oracle software. Do not run the deinstallation tool from a later release to remove Oracle software from an earlier release. For example, do not run the deinstallation tool from the 12.1.0.1 installation media to remove Oracle software from an existing 11.2.0.4 Oracle home.

---

---

## 5.1 About the Deinstallation Tool

Starting with Oracle Database 12c Release 1 (12.1), the deinstallation tool is integrated with Oracle Universal Installer (OUI). You can run the deinstallation tool using the `setup.exe` command with the `-deinstall` and `-home` options from the base directory of the Oracle Database, Oracle Database Client, or Oracle Grid Infrastructure installation media.

The Deinstallation Tool is also available as a separate command (`deinstall`) in Oracle home directories after installation. It is located in `ORACLE_HOME\deinstall`.

The `deinstall` command uses the information you provide and the information gathered from the software home to create a response file. Alternatively, you can supply a response file generated previously by the `deinstall` command using the `-checkonly` option, or by editing the response file template.

The deinstallation tool stops Oracle software, and removes Oracle software and configuration files on the operating system for a specific Oracle home.

If the software in the Oracle home is not running (for example, after an unsuccessful installation), then the deinstallation tool cannot determine the configuration, and you must provide all the configuration details either interactively or in a response file.

---

**Caution:** When you run the deinstallation tool, if the central inventory contains no other registered homes besides the home that you are deconfiguring and removing, then the Deinstallation tool removes the following files and directory contents in the Oracle base directory of the Oracle Database installation owner:

- admin
- cfgtoollogs
- checkpoints
- diag
- oradata
- flash\_recovery\_area

Oracle strongly recommends that you configure your installations using an Optimal Flexible Architecture (OFA) configuration, and that you reserve Oracle base and Oracle home paths for exclusive use of Oracle software. If you have any user data in these locations in the Oracle base that is owned by the user account that owns the Oracle software, then the deinstallation tool deletes this data.

In addition, for Oracle Grid Infrastructure installations:

- Oracle Automatic Storage Management Cluster File System (Oracle ACFS) must be dismounted and Oracle Automatic Storage Management Dynamic Volume Manager (Oracle ADVM) must be disabled.
  - If Grid Naming Service (GNS) is in use, then the entry for the subdomain needs to be deleted from DNS by your DNS administrator.
- 

Oracle recommends that you run the deinstallation tool as the Oracle software installation owner. The default method for running the deinstallation tool is from the deinstall directory in the Oracle home as the installation owner:

```
%ORACLE_HOME%\deinstall
DRIVE_LETTER:\> deinstall\deinstall.bat
```

The command uses the following syntax, where variable content is indicated by italics:

```
deinstall.bat -home complete path of Oracle home [-silent] [-checkonly]
[-paramfile complete path of input parameter property file] [-params name1=value
name2=value . . .]
[-o complete path of directory for saving files] [-help]
[-tmpdir complete path of temporary directory to use]
[-logdir complete path of log directory to use] [-help]
```

To run the deinstallation tool from the database installation media, use the `setup.exe` command with the `-deinstall` option, followed by the `-home` option to specify the path of the Oracle home you want to remove using the following syntax, where variable content is indicated in italics:

```

setup.exe -deinstall -home complete path of Oracle home [-silent] [-checkonly]
[-paramfile complete path of input parameter property file] [-params name1=value
name2=value . . .] [-o complete path of directory for saving files] [-help]
[-tmpdir complete path of temporary directory to use]
[-logdir complete path of log directory to use] [-help]

```

Provide information about your servers as prompted or accept the defaults.

In addition, you can run the deinstallation tool from other locations, or with a response file, or select the following options to run the tool:

- -home

Use this flag to indicate the home path of the Oracle home to check or deinstall. To deinstall Oracle software using the `deinstall` command, located in the Oracle home you plan to deinstall, provide a response file in a location outside the Oracle home, and do not use the `-home` flag.

If you run the deinstallation tool from the `ORACLE_HOME\deinstall` path, then the `-home` flag is not required because the tool knows from which home it is being run. If you run the tool using `setup.exe -deinstall` from the installation media, then `-home` is mandatory.

- -silent

Use this flag to run the deinstallation tool in noninteractive mode. This option requires one of the following:

- A working system that it can access to determine the installation and configuration information. The `-silent` flag does not work with failed installations.
- A response file that contains the configuration values for the Oracle home that is being deinstalled or deconfigured.

You can generate a response file to use or modify by running the tool with the `-checkonly` flag. The tool then discovers information from the Oracle home to deinstall and deconfigure. It generates the response file that you can then use with the `-silent` option.

You can also modify the template file `deinstall.rsp.tmpl`, located in the `ORACLE_HOME\deinstall\response` directory.

- -checkonly

Use this flag to check the status of the Oracle software home configuration. Running the deinstallation tool with the `-checkonly` flag does not remove the Oracle configuration. The `-checkonly` flag generates a response file that you can then use with the deinstallation tool and `-silent` option.

- -paramfile *complete path of input parameter property file*

Use this flag to run the deinstallation tool with a response file in a location other than the default. When you use this flag, provide the complete path where the response file is located.

The default location of the response file depends on the location of the deinstallation tool:

- From the installation media or stage location: `\response`
- After installation from the installed Oracle home: `ORACLE_HOME\deinstall\response`.

- -params ["name1=value" "name2=value" "name3=value" . . .]

Use this flag with a response file to override one or more values to change it in a response file you have created.

- `-o` *complete path of directory for saving response file*

Use this flag to provide a path other than the default location where the response file is saved. The default location is `\response\deinstall.rsp.tmpl`.

The default location of the response file depends on the location of deinstallation tool:

- From the installation media or stage location before installation: `\response`
- After installation from the installed Oracle home: `ORACLE_HOME/deinstall/response`.

- `-tmpdir` *complete path of temporary directory*

Specifies a non-default location where Oracle Deinstallation Tool writes the temporary files for the deinstallation.

- `-logdir` *complete path of log directory*

Specifies a non-default location where Oracle Deinstallation Tool writes the log files for the deinstallation.

- `-help`

Use the help option (`-help`) to obtain additional information about the command optional flags.

---



---

**Note:** Oracle Real Application Clusters Installation Guide for Microsoft Windows x64 (64-Bit) for information about the `-local` option

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## 5.2 Oracle Database Deinstallation Example

If you perform a deinstallation by running the `setup.exe` command with the `-deinstall` option from the installation media, then help is displayed unless you enter a `-home` flag and provide a path to the home directory of the Oracle software to remove from your system.

Use the optional flag `-paramfile` to provide a path to a response file.

In the following example, the `setup.exe` command is in the path `\directory_path`, where `directory_path` is the path to the database directory on the installation media, and `C:\app\oracle\product\12.1.0\client_1` is the path to the Oracle home which is removed:

```
DRIVE_LETTER:\> cd \directory_path
DRIVE_LETTER:\> setup.exe -deinstall -home C:\app\oracle\product\12.1.0\client_1
```

The following example uses a response file in the software owner location

`C:\Documents and Settings\oracle\`:

```
DRIVE_LETTER:\> cd \directory_path
DRIVE_LETTER:\> setup.exe -deinstall -paramfile C:\Documents and
Settings\oracle\my_db_paramfile.tmpl
```

## 5.3 Example of Running the Deinstallation Command

If you perform a deinstallation by using the `deinstall` command from the `ORACLE_HOME\deinstall` folder, then the deinstallation starts without prompting you for an `ORACLE_HOME`.

Use the optional flag `-paramfile` to provide a path to a response file.

In the following example, the `deinstall` command is in the path

`C:\app\oracle\product\12.1.0\client_1\deinstall`, and it uses a response file in the software owner location `C:\Documents and Settings\oracle\`:

```
DRIVE_LETTER:> cd \app\oracle\product\12.1.0\client_1\deinstall\
DRIVE_LETTER:> deinstall.bat -paramfile %HOMEPATH%\my_db_paramfile.tmp1
```

## 5.4 Example of a Deinstallation Response File for an Oracle Database Client

You can perform a deinstallation on a standalone Oracle Database with the `-paramfile` option to use the values you specify in the response file. The following is an example of a response file, in which the Oracle Database binary owner is `oracle`, the Oracle Database home (Oracle home) is in the path `D:\app\oracle\product\12.1.0\client_1`, the Oracle base (where other Oracle software is installed) is `D:\app\oracle`, the Oracle Inventory home is `C:\Program Files\Oracle\Inventory`, and the local node (the node where you are running the deinstallation session from) is `client1`:

```
ORACLE_BASE=D:\app\oracle
INVENTORY_LOCATION=C:\Program Files\Oracle\Inventory
CRS_HOME=false
HOME_TYPE=CLIENT
silent=false
local=false
LOCAL_NODE=client1
ObaseCleanupPtrLoc=\tmp\install\orabase_cleanup.lst.
LOGDIR=D:\app\oracle\product\12.1.0\client_1\deinstall\logs\
ORACLE_HOME=D:\app\oracle\product\12.1.0\client_1
```





# A

## Installing Java Access Bridge

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

- [Overview of Java Access Bridge 2.0.2](#)
- [Setting Up Java Access Bridge 2.0.2](#)

### A.1 Overview of Java Access Bridge 2.0.2

Java Access Bridge 2.0.2 enables assistive technologies 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 Express.

Java Access Bridge 2.0.2 is supported on Windows Server 2008 (32-bit), Windows Server 2008 x64, Windows Server 2008 R2 x64, Windows 7 (32-bit), Windows 7 x64, Windows 8 (32-bit), Windows 8 x64, Windows 8.1 x64, and Windows Server 2012 R2 x64 for 64-bit database installations. For a list of supported system configurations, including supported versions of Microsoft Windows and Java SE, see section "Supported System Configuration" available at the following link location:

<http://www.oracle.com/technetwork/java/javase/tech/index-jsp-136191.html>

During installation, Oracle Universal Installer uses Java Runtime Environment (JRE) 1.6 contained in Oracle Database, Oracle Database Client, and Oracle Database installation media. The JRE enables use of Java Access Bridge 2.0.2 during installation. See "[Setting Up Java Access Bridge 2.0.2](#)" on page A-1 for information about installing and configuring Java Access Bridge after you install Oracle components.

### A.2 Setting Up Java Access Bridge 2.0.2

This section describes how to install and configure Java Access Bridge 2.0.2 for Windows after installing Oracle components.

To set up Java Access Bridge 2.0.2 on Windows 32-bit and Windows 64-bit operating systems, follow these steps:

1. Go to Java Standard Edition (Java SE) Downloads page to download the latest build of JDK 7:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

2. Install JDK 7 after accepting the Oracle license agreement

---



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**Note:** You must have administrator privileges to install JDK on Windows

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---

3. Download and install screen reader, JAWS:  
<http://www.freedomscientific.com/downloads/jaws/JAWS-downloads.asp>
4. Press Windows key+U to open Ease of Access Center, and select **Use the computer without a display**
5. Select the **Enable Accessbridge** check box. Click **Save** to save the changes
6. Download Java Access Bridge 2.0.2:  
<http://www.oracle.com/technetwork/java/javase/downloads/jab-2-0-2-download-354311.html>  
 Download the accessbridge-2\_0\_2-fcs-bin-b06.zip file after accepting the Oracle license agreement
7. Extract accessbridge-2.0.2 to a directory on your system where you plan to install Java Access Bridge. For example, name the directory as follows:  
*AB\_HOME*
8. Copy *AB\_HOME\WindowsAccessBridge-64.dll* to *c:\windows\system32* and start the screen reader.
9. Open the command prompt and navigate to *setup.exe* file.
10. Run the following command once you are in the *Disk1* directory:  

```
setup.exe -jreLoc path-to-jdk7\jre
```

 Oracle Universal Installer starts and JAWS is able to read all prompts and controls on the screen.
11. Once you click the **Install** button, you must open Windows Explorer to see the directory where the database is installed (*DRIVE\_LETTER:\app\username\product\12.1.0\db\_home1*), until the JDK folder is created. Once the JDK folder is created, you must copy the files listed in [Table A-1](#) from the Java Access Bridge source location to the JDK destination folder. Copying these files will enable accessibility for both Oracle Database Configuration Assistant and Oracle Net Configuration Assistant

**Table A-1 Copy Files to JDK Directory on Windows 32-Bit<sup>1</sup>**

Copy	To
<i>AB_HOME\JavaAccessBridge-32.dll</i>	<i>db_home1\jdk\jre\bin</i>
<i>AB_HOME\JAWTAccessBridge-32.dll</i>	<i>db_home1\jdk\jre\bin</i>
<i>AB_HOME\Accessibility.properties</i>	<i>db_home1\jdk\jre\lib</i>
<i>AB_HOME\Access-bridge-32.jar</i>	<i>db_home1\jdk\jre\lib\ext</i>
<i>AB_HOME\jaccess.jar</i>	<i>db_home1\jdk\jre\lib\ext</i>

<sup>1</sup> Substitute -32 with -64 for setting up Java Access Bridge on Windows 64-bit operating system

# B

## Installing Oracle Database Client Using Response Files

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

- [How Response Files Work](#)
- [Preparing a Response File](#)
- [Running Oracle Universal Installer Using the Response File](#)
- [Performing an In-place Oracle Database Client Upgrade Using the Response File](#)

### B.1 How Response Files Work

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

- [Reasons for Using Silent Mode or Response File Mode](#)
- [General Procedure for Using Response Files](#)

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

- **Silent mode:** Oracle Universal Installer does not display any screens. Instead it displays progress information in the command window where you started it. To use silent mode, you run `setup.exe` with the `-silent` parameter and include a response file, which contains responses to the Oracle Universal Installer prompts.
- **Response File mode:** During a response file mode installation, Oracle Universal Installer displays all the screens, screens for which you specify information in the response file and also screens for which you did not specify the required information in the response file. The advantage is that you can validate the values in the screens for which you have provided the information in the response file and continue with the installation. To use response file mode, run `setup.exe` without the `-silent` parameter, but include the response file or any other parameters that apply.

You define the settings for a silent or response file installation by entering values for the variables listed in the response file. For instance, to specify the Oracle home, you

would supply the appropriate value for the `ORACLE_HOME` variable, as in the following example:

```
ORACLE_HOME="C:\app\product"
```

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

```
DRIVE_LETTER:\setup.exe_location> setup -silent "ORACLE_HOME=C:\app\product" ...
```

This method is particularly useful if you do not want to embed sensitive information, such as passwords, in the response file. For example:

```
DRIVE_LETTER:\setup.exe_location> setup -silent "s_dlgRBOPassword=password" ...
```

Use the `-promptForPassword` flag if you do not want to embed the password in the response file and also do not want to pass them on command-line argument. For example:

```
DRIVE_LETTER:\setup.exe_location> setup -silent -promptForPassword "ORACLE_HOME=C:\app\product" ...
```

This method supports only the Oracle Home User passwords.

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

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

### B.1.1 Reasons for Using Silent Mode or Response File Mode

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

**Table B-1** *Reasons for Using Silent Mode or Response File Mode*

Mode	Uses
Silent	<p>Use silent mode to:</p> <ul style="list-style-type: none"> <li>■ Complete an unattended installation</li> <li>■ Complete several similar installations on multiple systems without user interaction</li> </ul> <p>Oracle Universal Installer displays progress information in the window that you used to start it, but it does not display the Oracle Universal Installer screens.</p>
Response File	<p>Use response file mode to complete similar Oracle software installations on multiple systems, providing default answers to some, but not all, of Oracle Universal Installer prompts.</p> <p>In response file mode, all the installer screens are displayed, but defaults for the fields in these screens are provided by the response file. You have to provide information for the fields in screens where you have not provided values in the response file.</p>

### B.1.2 General Procedure for Using Response Files

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

1. Customize or create a response file for the installation settings that you need.
  - You can create the response file by using either of the following methods:
    - Modify one of the sample response files that is provided with the installation.

- Save response file option during run time.
- "[Preparing a Response File](#)" on page B-3 explains how to customize or create the response file.
2. Run Oracle Universal Installer from a command prompt, specifying the response file, using either silent or response file mode.

---

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

---

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

## B.2 Preparing a Response File

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

- [Editing a Response File Template](#)
- [Saving a Response File](#)

### B.2.1 Editing a Response File Template

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

[Table B-2](#) lists the available Oracle Database Client sample response files:

**Table B-2** Response Files

Response File Name	Purpose
<code>client_install.rsp</code>	Oracle Database Client installation
<code>netca.rsp</code>	Oracle Net Configuration Assistant to perform the configuration with the client installation types.

To copy and modify a response file:

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

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

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

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

## B.2.2 Saving a Response File

You can use the Oracle Universal Installer in interactive mode to save a response file, which you can edit and then use to complete silent mode or response file mode installations.

Starting with Oracle Database 11g Release 2 (11.2), you can save all the installation steps into a response file during installation by clicking **Save Response File** on the Summary page. You can use the generated response file for a silent installation later.

When you save the response file, you can either complete the installation, or you can exit from the installer on the Summary page, before it starts to copy the software to the system.

If you save a response file during a silent installation, then Oracle Universal Installer saves the variable values that were specified in the original source response file into the new response file.

---



---

**Note:** Oracle Universal Installer does not save passwords in the response file.

---



---

To save a response file:

1. Ensure that the computer on which you are creating the response file has met the requirements described in [Chapter 2](#).

When you run Oracle Universal Installer to save a response file, it checks the system to verify that it meets the requirements to install the software. For this reason, Oracle recommends that you complete all of the required preinstallation tasks and save the response file while completing an installation.

2. At the command prompt, use the `cd` command to change to the directory that contains the Oracle Universal Installer `setup.exe` executable.

---



---

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

---



---

On the installation DVD, `setup.exe` is located in the database directory. Alternatively, navigate to the directory where you downloaded or copied the installation files.

3. Run `setup.exe`.
4. After Oracle Universal Installer starts, enter the installation settings, to save the response file.
5. When the installer displays the Summary screen, perform the following:
  - Click **Save Response File** and specify a file name and location for the response file. Then, click **Save** to save the values to the file.
  - Click **Finish** to create the response file and continue with the installation.

Click **Cancel** if you only want to create the response file but not continue with the installation. The installation will stop, but the settings you have entered will be saved in the response file.
6. Before you use the saved response file on another system, edit the file and make any required changes.

Use the instructions in the file as a guide when editing it.

## B.3 Running Oracle Universal Installer Using the Response File

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

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

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

To run Oracle Universal Installer and specify a response file:

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

To start Oracle Universal Installer in silent or response file mode, enter a command similar to the following:

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

---



---

**Note:** Do not specify a relative path to the response file. If you specify a relative path, then Oracle Universal Installer fails.

---



---

In this example:

- `DRIVE_LETTER`: Path of the database directory on the DVD.
- `setup.exe_location`: Indicates the location of `setup.exe`.
- `-silent`: Indicates that you want to run Oracle Universal Installer in silent mode.
- `"variable=setting"` refers to a variable within the response file that you may prefer to run at the command line rather than set in the response file. Enclose the variable and its setting in quotes.
- `-nowelcome`: Suppresses the Welcome window that appears during installation.
- `-nowait`: Closes the console window when the silent installation completes.
- `-noconfig`: Suppresses running the configuration assistants during installation, performing a software-only installation instead.
- `filename`: The full path and file name of the installation response file that you configured.

## B.4 Performing an In-place Oracle Database Client Upgrade Using the Response File

You can perform an in-place Oracle Database Client upgrade using the response file:

1. Edit the `oracle.install.client.upgrading` entry in the `client_install.rsp` file and set it to `true`. By default, the `oracle.install.client.upgrading` entry is set to `false`.
2. Run Oracle Universal Installer in silent mode as described in "[Running Oracle Universal Installer Using the Response File](#)" on page B-5.

**See Also:** "[Performing an In-place Oracle Database Client Upgrade](#)" on page 3-11



# C

## Configuring Oracle Database Globalization Support

This appendix describes the following Globalization Support topics:

- [Installing and Using Oracle Components in Different Languages](#)
- [Running Oracle Universal Installer in Different Languages](#)

### C.1 Installing and Using Oracle Components in Different Languages

This section describes the following procedures:

- [Configuring Oracle Components to Run in Different Languages](#)
- [Installing Translation Resources](#)

#### C.1.1 Configuring Oracle Components to Run in Different Languages

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

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

---

---

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

---

---

##### C.1.1.1 Determining the Operating System Locale

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

Open the Control Panel from the Start menu to modify the operating system locale settings. In the classic view of the Control Panel on Windows, click **Regional and Language Options**. In the default view of the Control Panel on Windows, click **Change keyboards or other input methods**.

To set locale for the current operating system user on Windows, select the desired locale from the Current format pop-up list on the Formats tab.

Some of the locales may be unavailable until you install required operating system support files.

Some Oracle components, such as SQL\*Plus, require that the Windows System Locale is also set to the language in which the components are to be run. System Locale is called Language for non-Unicode programs on Windows. On Windows, click the **Change system locale...** button on the Administrative tab, accept the use of administrative privileges, if User Account Control is active, and select the locale from the pop-up list in the opened dialog box.

---

---

**Note:** The operating system must be restarted after the System Locale is changed. See the operating system documentation for further information about Windows locale settings.

---

---

### C.1.1.2 Configuring Locale and Character Sets with the NLS\_LANG Environment Variable

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

The NLS\_LANG environment variable uses the following format:

```
NLS_LANG=language_territory.characterset
```

In this format:

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

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

The NLS\_LANG parameter on Windows can be set

- in Registry under the subkey corresponding to a given Oracle home,
- as an environment variable.

When you install Oracle Database components and the NLS\_LANG parameter is not yet set in the Registry subkey of the target Oracle home, Oracle Universal Installer sets the NLS\_LANG parameter to a default value derived from the operating system locale for the current user.

---

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

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

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

---

**See Also:**

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

For example:

- Arabic (U.A.E.) - ARABIC\_UNITED ARAB EMIRATES.AR8MSWIN1256
- Chinese (PRC) - SIMPLIFIED CHINESE\_CHINA.ZHS16GBK
- Chinese (Taiwan) - TRADITIONAL CHINESE\_TAIWAN.ZHT16MSWIN950
- English (United Kingdom) - ENGLISH\_UNITED KINGDOM.WE8MSWIN1252
- English (United States) - AMERICAN\_AMERICA.WE8MSWIN1252
- French (Canada) - CANADIAN FRENCH\_CANADA.WE8MSWIN1252
- French (France) - FRENCH\_FRANCE.WE8MSWIN1252
- German (Germany) - GERMAN\_GERMANY.WE8MSWIN1252
- Hebrew - HEBREW\_ISRAEL.IW8MSWIN1255
- Japanese - JAPANESE\_JAPAN.JA16SJISTILDE
- Russian - RUSSIAN\_RUSSIA.CL8MSWIN1251
- Spanish (Spain) - SPANISH\_SPAIN.WE8MSWIN1252
- Spanish (Mexico) - MEXICAN SPANISH\_MEXICO.WE8MSWIN1252
- Spanish (Venezuela) - LATIN AMERICAN SPANISH\_VENEZUELA.WE8MSWIN1252

**C.1.1.2.1 NLS\_LANG Settings in Console Mode and Batch Mode** Before you can use Oracle utilities such as SQL\*Plus, SQL Loader, Import, and Export from the Command Prompt window, you may have to set the character set field of the NLS\_LANG parameter to a value different than the one set in Registry.

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

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

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

To find the current console code page, issue the `CHCP` command in the Command Prompt window. Use the reported code page number to look up the corresponding Oracle character set name in [Table C-1](#).

[Table C-1](#) lists the Oracle character sets that correspond to the console mode code pages.

**Table C-1 Oracle Character Sets for Console Mode (OEM) Code Pages**

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

## C.1.2 Installing Translation Resources

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

---



---

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

---



---

1. Start Oracle Universal Installer.
2. On the Select Installation Option screen, select the installation option and click **Next**.
3. On the System Class screen, select the type of system for installing the database, and click **Next**.
4. On the Grid Installation Options screen, select the type of database installation you want to perform, and click **Next**.
5. On the Select Install type screen, select the type of installation, and click **Next**.
6. On the Select Product Languages screen, select the language in which you want to run the product from the Available Languages field.

---



---

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

---



---

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

---



---

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

---



---

## C.2 Running Oracle Universal Installer in Different Languages

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

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

- Spanish
- Traditional Chinese

To run Oracle Universal Installer in a desired language:

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

If the selected language is not from the languages listed earlier, then Oracle Universal Installer runs in English.

# D

## Troubleshooting the Oracle Database Client Installation

This appendix contains the following information about troubleshooting:

- [Verifying Requirements](#)
- [What to Do if an Installation Error Occurs?](#)
- [Reviewing the Log of an Installation Session](#)
- [Silent or Response File Installation Error Handling](#)
- [Troubleshooting Configuration Assistants](#)
- [Troubleshooting Inventory Issues](#)
- [Cleaning Up After a Failed Installation](#)

### D.1 Verifying Requirements

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

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

<http://www.oracle.com/technetwork/indexes/documentation/index.html>

### D.2 What to Do if an Installation Error Occurs?

If you encounter an error during installation:

- Do not exit Oracle Universal Installer.
- If you clicked **Next** after you entered incorrect information about one of the installation windows, click **Back** to return to the window and correct the information.
- If you encounter an error while Oracle Universal Installer is copying or linking files, then see ["Reviewing the Log of an Installation Session"](#) on page D-2 for interactive installations or ["Silent or Response File Installation Error Handling"](#) on page D-2 for silent or response file installations.

- If you encounter an error while configuration assistant is running, then see [Section D.5, "Troubleshooting Configuration Assistants."](#)
- If you cannot resolve the problem, then remove the failed installation by following the steps listed in [Section D.7, "Cleaning Up After a Failed Installation."](#)

## D.3 Reviewing the Log of an Installation Session

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

```
DRIVE_LETTER:\Program Files\Oracle\Inventory\logs
```

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

Log filenames for interactive installations take the form:

```
installActionsdate_time.log
```

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

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

---

---

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

---

---

**See Also:** ["Silent or Response File Installation Error Handling"](#)

## D.4 Silent or Response File Installation Error Handling

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

A silent installation fails if:

- You do not specify a response file.
- You specify an incorrect or incomplete response file.
- Oracle Universal Installer encounters an error, such as insufficient disk space.

Oracle Universal Installer or a configuration assistant validates the response file at run time. If the validation fails, the installation or configuration process ends.

**See Also:** ["Reviewing the Log of an Installation Session"](#) on page D-2 for information about interactive installation log files

## D.5 Troubleshooting Configuration Assistants

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



- Review the installation log files listed in [Section D.3, "Reviewing the Log of an Installation Session."](#)
- Review the specific configuration assistant log file located in the `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 ["Irrecoverable Errors"](#) on page D-3 for further instructions.

## D.5.1 Configuration Assistant Failure

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

The execution status codes are listed in the following table:

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

## D.5.2 Irrecoverable Errors

If you receive an irrecoverable error while a configuration assistant is running:

1. Remove the failed installation as described in [Section D.7, "Cleaning Up After a Failed Installation."](#)
2. Correct the cause of the irrecoverable error.
3. Reinstall the Oracle software.

## D.6 Troubleshooting Inventory Issues

If you face any of the following situations for Oracle home, then run the `opatch lsinventory -detail` command to list the contents of the inventory and see section "Recovering from inventory corruption" in the *Oracle Universal Installer and OPatch User's Guide* for information about fixing the issue.

- Oracle home is cloned without completing the inventory steps.
- There is bad inventory.
- Inventory is not available but it is created when the Oracle Enterprise Manager Agent is installed in a separate Oracle home.

## D.7 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 the Deinstallation tool.



# Glossary

## **connect descriptor**

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

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

## **default domain**

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

## **easy connect naming**

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

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

## **installation type**

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

## **Interprocess Communication (IPC)**

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

## **ldap.ora file**

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

- Type of directory
- Location of directory

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

The `ldap.ora` file resides in `ORACLE_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_HOME\network\admin`.

An Oracle Database 12c Release 1 (12.1) does not require identification of the database service because of service registration. However, static service configuration is required for an Oracle Database 12c Release 1 (12.1) if you plan to use Oracle Enterprise Manager.

### local naming

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

### Naming method

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

- Local naming
- Directory naming
- Easy Connecting naming
- NIS External naming

### net service name

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

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

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

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

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

### **operating system authenticated connections**

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

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

### **OPSS**

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. 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, `OPSS` (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 multiple) Oracle Context in a directory. An Oracle Context can be associated with a directory naming context.

The Oracle Context can contain the following Oracle entries:

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

### **Oracle home**

The directory path to install Oracle components (for example, `c:\app\username\product\12.1.0\dbhome_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 schema**

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

### **Oracle Net foundation layer**

A networking communication layer that is responsible for establishing and maintaining the connection between the client application and server, and 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 about 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 LREG 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 databases on your computer. The SID automatically defaults to the database name portion of the global database name (`sales` in the example `sales.us.example.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_HOME\network\admin`.

**system identifier**

See [SID](#).

**Terminal Server**

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

**tnsnames.ora file**

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

**UNC**

See [Universal Naming Convention \(UNC\)](#)

**typical configuration**

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

- One net service name in the [tnsnames.ora file](#).
- [local naming](#) and [easy connect naming](#) methods in the [sqlnet.ora file](#).

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

**unqualified name**

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

**Universal Naming Convention (UNC)**

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

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

**User Account Control**

A Microsoft Windows feature that helps prevent unauthorized changes by asking for permission or administrator privileges to perform certain operations. Some Oracle administration tasks require Windows administrator privileges granted through User Account Control.





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