

Database

Client Installation Guide

12c Release 2 (12.2) for Microsoft Windows

E50720-15

July 2017

Database Client Installation Guide, 12c Release 2 (12.2) for Microsoft Windows

E50720-15

Copyright © 1996, 2017, Oracle and/or its affiliates. All rights reserved.

Primary Author: Sunil Surabhi

Contributing Authors: Reema Khosla, Janet Stern, Prakash Jashnani

Contributors: Barb Glover, Eric Belden, Sudip Datta, David Friedman, Alex Keh, Peter LaQuerre, Rich Long, Matt McKerley, Sham Rao Pavan, Hanlin Qian, Janelle Simmons, Helen Slattery, Sujatha Tolstoy, Michael Verheij, Madhu Velukur, Sergiusz Wolicki, Sue Mavris, Mohammed Shahnawaz Quadri, Vishal Saxena, Krishna Itikarlapall, Santanu Datta, Alex Keh

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Contents

Preface	ix
Audience	ix
Documentation Accessibility	ix
Accessing Documentation	x
Platform-Specific Documentation	x
Product Documentation	x
Related Documentation	x
Conventions	xi
1 Oracle Database Client Installation Checklist	
1.1 Server Hardware Checklist for Oracle Database Client Installation	1-1
1.2 Operating System Checklist for Oracle Database Client Installation	1-2
1.3 Server Configuration Checklist for Oracle Database Client Installation	1-2
1.4 Oracle User Environment Configuration Checklist for Oracle Database Client Installation	1-3
1.5 Storage Checklist for Oracle Database Client Installation	1-4
1.6 Installer Planning Checklist for Oracle Database Client Installation	1-4
2 Overview of Oracle Database Client Installation	
2.1 Installation Overview	2-1
2.2 Oracle Database Client and Oracle Database Interoperability	2-3
2.3 Recommended File System	2-3
2.4 Managing User Accounts with User Account Control	2-3
2.5 Oracle Database Client Installation Types	2-4
2.6 Simplified Patching of Timestamp with Time Zone Data Type	2-4
2.7 Unsupported Oracle Database Client Components	2-5
3 Oracle Database Client Preinstallation Tasks	
3.1 Oracle Database Client Minimum Hardware Requirements	3-1
3.1.1 Hardware Component Requirements for Windows x64	3-2
3.1.2 Hard Disk Space Requirements	3-2
3.1.3 Verifying Hardware Requirements	3-3

3.2	Oracle Database Client Software Requirements	3-4
3.2.1	Oracle Database Client Software Requirements	3-4
3.2.2	Instant Client Light Language and Character Set Requirements	3-5
3.3	Creating Oracle Home User	3-7
3.4	Creating Users, Groups and Environments for Oracle Database Client	3-8
3.5	Oracle Database Client Network Topics	3-8
3.5.1	Installing Oracle Database Client on Computers with Multiple IP Addresses.....	3-9
3.5.2	Installing Oracle Database Client on Computers with Multiple Aliases	3-9
3.5.3	Installing Oracle Database on Nonnetworked Computers	3-9
3.5.4	Installing a Loopback Adapter	3-10
3.6	Oracle Database Client Hardware and Software Certification	3-14
3.6.1	Remote Desktop Services	3-15
3.6.2	Third-Party Database Certification for Oracle SQL Developer	3-15
3.6.3	Default Share Configuration Requirement.....	3-15
3.6.4	Installation Requirements for Web Browsers.....	3-15
3.6.5	Microsoft Hyper-V	3-16

4 Installing Oracle Database Client

4.1	Installation Considerations for Oracle Database Client.....	4-1
4.1.1	Installation Consideration.....	4-2
4.1.2	Installing Oracle Database Client Installations in Silent or Response File Mode	4-2
4.1.3	Creating the Oracle Base Directory.....	4-2
4.1.4	Installing Oracle Database Client into Multiple Oracle Homes	4-2
4.1.5	Installing Oracle Database Client on a System with an Existing Oracle Software	4-3
4.2	Accessing the Installation Software	4-3
4.2.1	Installing from a Remote DVD Drive.....	4-3
4.2.2	Installing on Remote Computers Through Remote Access Software.....	4-5
4.2.3	Downloading Oracle Software	4-6
4.2.4	Copying the Oracle Database Client Software to a Hard Disk.....	4-8
4.3	Installing Oracle Database Client	4-8
4.3.1	Guidelines for Installing Oracle Database Client	4-8
4.3.2	Procedure for Installing Oracle Database Client	4-10
4.4	Using Oracle Net Configuration Assistant	4-11

5 Oracle Database Client Postinstallation Tasks

5.1	Required Postinstallation Tasks	5-1
5.1.1	Downloading and Installing Patch Updates	5-2
5.1.2	Updating Instant Client.....	5-2
5.2	Recommended Postinstallation Tasks	5-3
5.2.1	Setting Language and Locale Preferences for Client Connections.....	5-3
5.2.2	Configuring Instant Client Light.....	5-4
5.2.3	Connecting Oracle Database Client to an Oracle Database	5-5
5.2.4	Connecting Instant Client or Instant Client Light to an Oracle Database.....	5-5

5.2.5	Setting Up User Accounts	5-8
5.2.6	Changing the Oracle Home User Password.....	5-8
5.2.7	Using Oracle9i Language and Definition Files with Oracle Database 12c	5-9
5.3	Required Product-Specific Postinstallation Task – Configuring Oracle Net Services.....	5-10
5.4	Postinstallation Tasks for SQL Developer.....	5-10
5.5	Creating the OraMTS Service for Microsoft Transaction Server	5-11
5.6	Creating the Scheduler Agent.....	5-11
6	Removing Oracle Database Client Software	
6.1	About Oracle Deinstallation Options	6-2
6.2	Deinstallation Examples for Oracle Database	6-5
6.3	Example of Running the Deinstallation Tool	6-6
6.4	Deinstallation Response File Example for Oracle Database.....	6-6
A	Installing Java Access Bridge	
A.1	Overview of Java Access Bridge 2.0.2.....	A-1
A.2	Setting Up Java Access Bridge 2.0.2.....	A-1
B	Installing and Configuring Oracle Database Using Response Files	
B.1	How Response Files Work.....	B-1
B.1.1	Reasons for Using Silent Mode or Response File Mode.....	B-2
B.1.2	Using Response Files	B-3
B.2	Preparing a Response File.....	B-3
B.2.1	Editing a Response File Template	B-3
B.2.2	Saving a Response File	B-5
B.3	Running Oracle Universal Installer Using the Response File.....	B-6
C	Configuring Oracle Database Globalization Support	
C.1	Installing and Using Oracle Components in Different Languages	C-1
C.1.1	Configuring Oracle Components to Run in Different Languages	C-1
C.1.2	Installing Translation Resources	C-5
C.2	Running Oracle Universal Installer in Different Languages	C-6
D	Troubleshooting the Oracle Database Installation	
D.1	Verifying Requirements.....	D-1
D.2	Encountering Installation Errors	D-2
D.3	Reviewing the Log of an Installation Session.....	D-2
D.4	Silent Mode Response File Error Handling	D-3
D.5	Troubleshooting Configuration Assistants.....	D-3
D.5.1	Configuration Assistant Failures	D-4
D.5.2	Irrecoverable Errors	D-4
D.6	Troubleshooting Inventory Issues.....	D-4
D.7	Cleaning Up After a Failed Installation.....	D-5

Index

List of Tables

1-1	Server Hardware Checklist for Oracle Database Client Installation.....	1-1
1-2	Operating System Checklist for Oracle Database Client Installation on Microsoft Windows	1-2
1-3	Server Configuration Checklist for Oracle Database Client Installation.....	1-2
1-4	Oracle User Environment Configuration Checklist for Oracle Database Client Installation	1-3
1-5	Storage Checklist for Oracle Database Client Installation.....	1-4
1-6	Installer Planning Checklist for Oracle Database Client Installation.....	1-4
3-1	Windows x64 Hardware Requirements.....	3-2
3-2	Windows x64 Disk Space Requirements on NTFS.....	3-2
3-3	Windows x64 Software Requirements.....	3-4
A-1	Copy Files to JDK Directory on Windows 64-Bit.....	A-2
B-1	Reasons for Using Silent Mode or Response File Mode.....	B-2
B-2	Response Files	B-4
C-1	Oracle Character Sets for Console Mode (OEM) Code Pages.....	C-4

Preface

This guide explains how to install and configure Oracle Database Client. This guide also provides information about postinstallation tasks and how to remove the database client software.

This preface contains these topics:

[Audience](#) (page ix)

[Documentation Accessibility](#) (page ix)

[Accessing Documentation](#) (page x)

[Related Documentation](#) (page x)

[Conventions](#) (page xi)

Audience

<http://docs.oracle.com/en/database/database.html>

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 the Oracle Database software
- Familiarity with object-relational database management concepts

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 that have purchased support 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.

Accessing Documentation

The documentation for this release includes platform-specific documentation and generic product documentation.

[Platform-Specific Documentation](#) (page x)

[Product Documentation](#) (page x)

Platform-Specific Documentation

Platform-specific documentation includes information about installing and using Oracle products on particular platforms.

The platform-specific documentation for this product is available in both Adobe portable document format (PDF) and HTML format on Oracle Help Center at:

<http://docs.oracle.com/en/database/database.html>

Product Documentation

Product documentation includes information about configuring, using, or administering Oracle products on any platform. The product documentation for Oracle Database 12c Release 2 (12.2) is available in both HTML and PDF formats at:

<http://docs.oracle.com/en/database/database.html>

Related Documentation

For more information, see these Oracle resources:

- *Oracle Database Concepts*
- *Oracle Database Examples Installation Guide*
- *Oracle Real Application Clusters Installation Guide*
- *Oracle Grid Infrastructure Installation Guide*
- *Oracle Enterprise Manager Cloud Control Basic Installation Guide*
- *Oracle Database Upgrade Guide*
- *Oracle Database 2 Day DBA*

For information about Oracle error messages, see *Oracle Database Error Messages*. Oracle error message documentation is available only in HTML. If you only have access to the Oracle Database 12c Release 2 (12.2) Online Documentation Library, you can browse the error messages by range. Once you find the specific range, use your browser's "find in page" feature to locate the specific message. When connected to the Internet, you can search for a specific error message using the error message search feature of the Oracle online documentation.

Many books in the documentation set use the sample schemas of the seed database, which is installed by default when you install Oracle. For information about how these schemas were created and how you can use them, see *Oracle Database Sample Schemas*.

To download free release notes, installation documentation, white papers, or other collateral, please visit the following website:

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<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 Checklist

Use checklists to review system requirements, and to plan and carry out Oracle Database Client installation. Oracle recommends that you use checklists as part of your installation planning process. Using checklists can help you to confirm that your server hardware and configuration meet minimum requirements for this release, and can help you to ensure you carry out a successful installation.

[Server Hardware Checklist for Oracle Database Client Installation](#) (page 1-1)

Use this checklist to check hardware requirements for Oracle Database Client.

[Operating System Checklist for Oracle Database Client Installation](#) (page 1-2)

Use this checklist to check minimum operating system requirements for Oracle Database Client.

[Server Configuration Checklist for Oracle Database Client Installation](#) (page 1-2)

Use this checklist to check minimum server configuration requirements for Oracle Database Client installations.

[Oracle User Environment Configuration Checklist for Oracle Database Client Installation](#) (page 1-3)

Use this checklist to plan operating system users, groups, and environments for Oracle Database Client management.

[Storage Checklist for Oracle Database Client Installation](#) (page 1-4)

Use this checklist to review storage minimum requirements and assist with configuration planning.

[Installer Planning Checklist for Oracle Database Client Installation](#) (page 1-4)

Use this checklist to prepare yourself before starting Oracle Universal Installer.

1.1 Server Hardware Checklist for Oracle Database Client Installation

Use this checklist to check hardware requirements for Oracle Database Client.

Table 1-1 Server Hardware Checklist for Oracle Database Client Installation

Check	Task
Server Make and Architecture	Confirm that server make, model, core architecture, and host bus adaptors (HBA) or network interface controllers (NIC) are supported to run with Oracle Database and Oracle Grid Infrastructure. If you are installing from a DVD, then ensure the server has a DVD drive.

Table 1-1 (Cont.) Server Hardware Checklist for Oracle Database Client Installation

Check	Task
Minimum RAM	2 GB RAM recommended
Minimum network connectivity	Server is connected to a network
Video Adapter	256 colors
Server Display Cards	At least 1024 x 768 display resolution, which Oracle Universal Installer requires

1.2 Operating System Checklist for Oracle Database Client Installation

Use this checklist to check minimum operating system requirements for Oracle Database Client.

Table 1-2 Operating System Checklist for Oracle Database Client Installation on Microsoft Windows

Item	Task
Operating system general requirements	<p>Oracle Database Client for Windows x64 is supported on the following operating system versions:</p> <ul style="list-style-type: none"> Windows 7 x64 - Professional, Enterprise, and Ultimate editions Windows 8 x64 - Core, Pro, and Enterprise editions Windows 8.1 x64 - Pro and Enterprise editions Windows 10 x64 - Pro, Enterprise, and Education editions Windows Server 2012 x64 - Standard, Datacenter, Essentials, and Foundation editions Windows Server 2012 R2 x64 - Standard, Datacenter, Essentials, and Foundation editions

1.3 Server Configuration Checklist for Oracle Database Client Installation

Use this checklist to check minimum server configuration requirements for Oracle Database Client installations.

Table 1-3 Server Configuration Checklist for Oracle Database Client Installation

Check	Task
Disk space allocated to the temporary directory	At least 130 MB of space in the temporary directory
Swap space allocation relative to RAM	Double the amount of RAM
Groups and Users	Oracle recommends that you create groups and user accounts required for your security plans before starting installation. Installation owners have resource limits settings and other requirements. Group and user names must use only ASCII characters.

Table 1-3 (Cont.) Server Configuration Checklist for Oracle Database Client Installation

Check	Task
Mount point paths for the software binaries	Oracle recommends that you create an Optimal Flexible Architecture configuration as described in the appendix "Optimal Flexible Architecture" in <i>Oracle Database Installation Guide for Microsoft Windows</i> for your platform.
Ensure that the Oracle home (the Oracle home path that you select for Oracle Database) uses only ASCII characters.	The ASCII character restriction includes installation owner user names, which are used as a default for some home paths, as well as other directory names you may select for paths.
Set locale (if needed)	Specify the language and the territory, or locale, in which you want to use Oracle components. A locale is a linguistic and cultural environment in which a system or program is running. National Language Support (NLS) parameters determine the locale-specific behavior on both servers and clients. 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.

See Also: *Oracle Database Installation Guide for Microsoft Windows*

1.4 Oracle User Environment Configuration Checklist for Oracle Database Client Installation

Use this checklist to plan operating system users, groups, and environments for Oracle Database Client management.

Table 1-4 Oracle User Environment Configuration Checklist for Oracle Database Client Installation

Check	Task
Oracle Inventory and ORA_INSTALL Group Requirements	The Oracle Inventory directory is the central inventory of Oracle software installed on your system. You do not need to create the Oracle central inventory or the ORA_INSTALL group as Oracle Universal Installer creates it for you.
Create operating system groups and users for standard or role-allocated system privileges	Create operating system groups and users depending on your security requirements, as described in this install guide.
Unset Oracle Software Environment Variables	If you have an existing installation on your system, and use the same user account to install this installation, then unset the ORACLE_HOME, ORACLE_BASE, ORACLE_SID, TNS_ADMIN environment variables and any other environment variable set for the Oracle installation user that is connected with Oracle software homes.

1.5 Storage Checklist for Oracle Database Client Installation

Use this checklist to review storage minimum requirements and assist with configuration planning.

Table 1-5 Storage Checklist for Oracle Database Client Installation

Check	Task
Minimum local disk storage space for Oracle software	At least 485 MB for an Instant Client installation type At least 1635 MB for Administrator installation type At least 1235 MB for Runtime installation type At least 1635 MB for Custom installation type

1.6 Installer Planning Checklist for Oracle Database Client Installation

Use this checklist to prepare yourself before starting Oracle Universal Installer.

Table 1-6 Installer Planning Checklist for Oracle Database Client Installation

Check	Task
Read the Release Notes	Review release notes for your platform, which are available for your release at the following URL: http://docs.oracle.com/en/database/database.html
Reviewing the Licensing Information	You are permitted to use only those components in the Oracle Database media pack for which you have purchased licenses.
Decide the client installation type	You can choose one of the following installation types when installing Oracle Database Client: Instant Client: Enables you to install only the shared libraries required by Oracle Call Interface (OCI), Oracle C++ Call Interface (OCCI), Pro*C, or Java database connectivity (JDBC) OCI applications. This installation type requires much less disk space than the other Oracle Database Client installation types. For more information about Oracle Database Instant Client see the following URL: http://www.oracle.com/technetwork/database/features/instant-client/index.html Administrator: Enables applications to connect to an Oracle Database instance on the local system or on a remote system. It also provides tools that enable you to administer Oracle Database. Runtime: Enables applications to connect to an Oracle Database instance on the local system or on a remote system. Custom: Enables you to select individual components from the list of Administrator and Runtime components.

Table 1-6 (Cont.) Installer Planning Checklist for Oracle Database Client Installation

Check	Task
Decide if you need 32-bit client software	<p>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. For more information refer to 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:</p> <ul style="list-style-type: none"> • 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
Obtain your My Oracle Support account information.	<p>During installation, you require a My Oracle Support user name and password to configure security updates, download software updates, and other installation tasks. You can register for My Oracle Support at the following URL:</p> <p>https://support.oracle.com/</p>
Oracle Database Client and Oracle Database interoperability	<p>For information about interoperability between Oracle Database Client and Oracle Database releases, see My Oracle Support Note 207303.1:</p> <p>https://support.oracle.com/epmos/faces/DocContentDisplay?id=207303.1</p>

See Also: *Oracle Database Licensing Information*

Overview of Oracle Database Client Installation

Describes the different types of Oracle Database Client installations that you can perform and issues to consider before you install the software.

[Installation Overview](#) (page 2-1)

Review the Oracle Database Client installation process.

[Oracle Database Client and Oracle Database Interoperability](#) (page 2-3)

Learn about interoperability between different versions of Oracle Database Client and Oracle Database.

[Recommended File System](#) (page 2-3)

Oracle strongly recommends that you install the Oracle Database Client home (Oracle database binaries, trace files, and so on) on Oracle ACFS, NTFS, or ReFS; the database files themselves must be placed on Oracle ASM if using Oracle ACFS; otherwise they can be placed on NTFS, or ReFS.

[Managing User Accounts with User Account Control](#) (page 2-3)

To ensure that only trusted applications run on your computer, the Windows operating systems supported for Oracle Database Client provide User Account Control.

[Oracle Database Client Installation Types](#) (page 2-4)

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

[Simplified Patching of Timestamp with Time Zone Data Type](#) (page 2-4)

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

[Unsupported Oracle Database Client Components](#) (page 2-5)

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

2.1 Installation Overview

Review the Oracle Database Client installation process.

The Oracle Database Client installation process consists of the following steps:

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

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.
3. **Complete preinstallation tasks:** describes the preinstallation tasks that you must complete before installing Oracle Database Client.
4. **Install the software:** Use the following sections to install Oracle Database Client:
 - a. **Installing Oracle Database Client:** describes how to use the Oracle Universal Installer (OUI) GUI to install Oracle Database Client.
 - b. **Installing and Configuring Oracle Database Client Using Response Files:** describes how to perform a silent or response file installation.
 - c. **Installing and Using Oracle Components in Different Languages:** describes how to install and use Oracle components in different languages.
 - d. **Troubleshooting the Oracle Database Client Installation:** provides troubleshooting advice in case you encounter problems with the installation.
5. **Complete postinstallation tasks:** Use the following sections to complete the postinstallation tasks:
 - a. **Oracle Database Client Postinstallation Tasks:** describes recommended and required postinstallation tasks.
 - b. **Configuring Oracle Database Globalization Support:** provides information about globalization support.
6. **Remove Oracle Database Client:** describes how to remove Oracle Database Client.

Related Topics:

Oracle Database Installation Guide for Microsoft Windows

Related Topics:

[Oracle Database Client Preinstallation Tasks](#) (page 3-1)

Learn about the tasks that you must complete before you start Oracle Universal Installer.

Related Topics:

[Installing Oracle Database Client](#) (page 4-1)

Learn how to run the installer to install Oracle Database Client.

Related Topics:

[Installing and Configuring Oracle Database Client Using Response Files](#)

(page B-1)

Review how to install and configure Oracle products using response files.

Related Topics:

[Installing and Using Oracle Components in Different Languages](#) (page C-1)

Learn how to install and use Oracle components in other languages.

Related Topics:

[Troubleshooting the Oracle Database Client Installation](#) (page D-1)
Learn how to troubleshoot the Oracle Database installation.

Related Topics:

[Oracle Database Client Postinstallation Tasks](#) (page 5-1)
Complete configuration task after you install Oracle Database Client.

Related Topics:

[Configuring Oracle Database Globalization Support](#) (page C-1)
Learn how to configure Oracle Database Globalization Support.

Related Topics:

[Removing Oracle Database Client Software](#) (page 6-1)
Learn how to remove Oracle software and configuration files.

2.2 Oracle Database Client and Oracle Database Interoperability

Learn about interoperability between different versions of Oracle Database Client and Oracle Database.

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 the following URL:

<https://support.oracle.com>

2.3 Recommended File System

Oracle strongly recommends that you install the Oracle Database Client home (Oracle database binaries, trace files, and so on) on Oracle ACFS, NTFS, or ReFS; the database files themselves must be placed on Oracle ASM if using Oracle ACFS; otherwise they can be placed on NTFS, or ReFS.

Oracle recommends that you use Oracle ACFS, Oracle ASM, NTFS or ReFS to ensure security of these files.

2.4 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 Client 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 Client. Provide either the consent or your Windows Administrator credentials as appropriate.

If User Account Control is enabled, and you are logged in as the local Administrator, then you can successfully run each of these commands. However, if you are logged in as "a member of the Administrator group," then you must explicitly start these tasks with Windows Administrator privileges. All the Oracle shortcuts that require Administrator privileges start 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.

Note: You must have Administrator privileges to run some Oracle tools, such as Database Configuration Assistant, Net Configuration Assistant, and OPatch, or to run any tool or application that writes to any directory within the Oracle home.

OPatch does not have a shortcut and has to be run from an Administrator command prompt.

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.

See Also:

Oracle Database Platform Guide for Microsoft Windows

2.5 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 the 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.

2.6 Simplified Patching of Timestamp with Time Zone Data Type

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

2.7 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

Learn about the tasks that you must complete before you start Oracle Universal Installer.

[Oracle Database Client Minimum Hardware Requirements](#) (page 3-1)
Learn about the hardware component and hard disk space requirements.

[Oracle Database Client Software Requirements](#) (page 3-4)
Learn about the Oracle Database Client software requirements.

[Creating Oracle Home User](#) (page 3-7)
During Oracle Database Client installation, you can specify an optional Oracle Home User associated with the Oracle home.

[Creating Users, Groups and Environments for Oracle Database Client](#) (page 3-8)
Before installation, create operating system groups, users, and configure user environments.

[Oracle Database Client Network Topics](#) (page 3-8)
Describes how to install Oracle Database Client on computers that do not meet the typical scenario.

[Oracle Database Client Hardware and Software Certification](#) (page 3-14)
The platform-specific hardware and software requirements included in this installation guide were current at the time this guide was published.

3.1 Oracle Database Client Minimum Hardware Requirements

Learn about the hardware component and hard disk space requirements.

[Hardware Component Requirements for Windows x64](#) (page 3-2)
The following table lists the hardware components that are required for Oracle Database Client on Windows x64.

[Hard Disk Space Requirements](#) (page 3-2)
Oracle strongly recommends that you install the Oracle database home (Oracle database binaries, trace files, and so on) on Oracle Automatic Storage Management Cluster File System (Oracle ACFS) or New Technology File System (NTFS).

[Verifying Hardware Requirements](#) (page 3-3)
Use this procedure to verify your server configuration requirements.

3.1.1 Hardware Component Requirements for Windows x64

The following table lists the hardware components that are required for Oracle Database Client on Windows x64.

Table 3-1 Windows x64 Hardware Requirements

Requirement	Value
System Architecture	Processor: AMD64 and Intel EM64T
Physical memory (RAM)	2 GB minimum
Virtual memory (swap)	Double the amount of RAM
Disk space	Total ranges from 430 - 1570 MB
Video adapter	256 colors
Screen Resolution	1024 X 768 minimum

Note: Oracle provides 32-bit and 64-bit versions of Oracle Database Client for Windows. Oracle certifies 32-bit Oracle Database Client running on Windows x64 only.

3.1.2 Hard Disk Space Requirements

Oracle strongly recommends that you install the Oracle database home (Oracle database binaries, trace files, and so on) on Oracle Automatic Storage Management Cluster File System (Oracle ACFS) or New Technology File System (NTFS).

The database files must be placed on Oracle Automatic Storage Management (Oracle ASM) if using Oracle ACFS or on NTFS. Oracle recommends usage of Oracle ACFS and Oracle ASM or NTFS to ensure security of these files.

The NTFS system requirements listed 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 includes space to install Java Runtime Environment (JRE) and Oracle Universal Installer on the partition where the operating system is installed. If sufficient space is not available, the installation fails and an error message appears.

The following table lists the disk space requirements on NTFS. The values in this table include the starter database.

Table 3-2 Windows x64 Disk Space Requirements on NTFS

Installation Type	TEMP Space	Directory:\ Program Files \Oracle\Inventory	Oracle Home	Total
Instant Client	136 MB	166 KB	361 MB	485 MB
Administrator	140 MB	1.6 MB	1.85 GB	1635 MB

Table 3-2 (Cont.) Windows x64 Disk Space Requirements on NTFS

Installation Type	TEMP Space	Directory:\ Program Files \Oracle\Inventory	Oracle Home	Total
Runtime	130 MB	1.55 MB	1.35 GB	1235 MB
Custom (all components installed)	145 MB	2.0 MB *	1.86 GB *	1635 MB *

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

Note: If you want to configure only the Instant Client Light component of Instant Client, then you need 30–32 MB of disk space to store the related files.

Related Topics:

[Configuring Instant Client Light](#) (page 5-4)

See Also: *Oracle Database Platform Guide for Microsoft Windows*

3.1.3 Verifying Hardware Requirements

Use this procedure to verify your server configuration requirements.

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

1. Determine the physical RAM size.

For example, on a computer running Windows Server 2012 R2, click **System and Security**, 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 computer running Windows Server 2012 R2, 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 computer running Windows Server 2012 R2, right-click **My Computer** and click **Open**.

- Determine the amount of disk space available in the `temp` directory. This is equivalent to the total amount of free disk space, minus what is required for the Oracle software to be installed.

On Windows x64, if there is less than 130 MB of disk space available in the `temp` directory, then delete all unnecessary files. If the temp disk space is still less than 130 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 computer running Windows Server 2012 R2, click **System and Security**, then click **System**, click **Advanced System Settings**, click the **Advanced** tab on System Properties page, and then click **Environment Variables**.

3.2 Oracle Database Client Software Requirements

Learn about the Oracle Database Client software requirements.

[Oracle Database Client Software Requirements](#) (page 3-4)

Lists the software requirements for Oracle Database client.

[Instant Client Light Language and Character Set Requirements](#) (page 3-5)

Describes the requirements to use Instant Client Light.

3.2.1 Oracle Database Client Software Requirements

Lists the software requirements for Oracle Database client.

Table 3-3 Windows x64 Software Requirements

Requirement	Value
Operating System	<p>Oracle Database for Windows x64 is supported on the following operating systems:</p> <ul style="list-style-type: none"> Windows 7 x64 - Professional, Enterprise, and Ultimate editions Windows 8 x64 - Core, Pro, and Enterprise editions Windows 8.1 x64 - Pro and Enterprise editions Windows 10 x64 - Pro, Enterprise, and Education editions Windows Server 2012 x64 - Standard, Datacenter, Essentials, and Foundation editions Windows Server 2012 R2 x64 - Standard, Datacenter, Essentials, and Foundation editions <p>Note:</p> <ul style="list-style-type: none"> Windows Multilingual User Interface Pack is supported. The Server Core option is not supported. <p>See Also:</p> <p>Check My Oracle Support note 1563794.1 for more information about Hyper-V support at https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=1563794.1</p>

Table 3-3 (Cont.) Windows x64 Software Requirements

Requirement	Value
Compiler	<p>The following components are supported with the Microsoft Visual C++ 2013 Update 4, Microsoft Visual C++ 2015 Update 3, and Intel 14.0 C compilers:</p> <ul style="list-style-type: none"> • Oracle Call Interface • External callouts • Pro*C/C++ • Oracle XML Developer's Kit (XDK) <p>Oracle C++ Call Interface supports:</p> <ul style="list-style-type: none"> • Microsoft Visual C++ 2013 Update 4 • Microsoft Visual C++ 2015 Update 3 - OCCI libraries are installed under <code>ORACLE_HOME\oci\lib\msvc\vc14</code>. When developing OCCI applications with MSVC++ 2015, ensure that the OCCI libraries are correctly selected from this directory for linking and executing. • Intel 14.0 C compilers with Microsoft Visual Studio 2013 STLs <p>Pro*COBOL supports:</p> <ul style="list-style-type: none"> • Micro Focus Visual COBOL 2.2 - Update 2
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"> • TCP/IP • TCP/IP with SSL • Named Pipes
Oracle Database Client	<p>To connect to Oracle Database 12c Release 2 (12.2), the following are required:</p> <ul style="list-style-type: none"> • Oracle Database Client is version 10.2 or higher. • If the earlier Oracle Database Client is running on the same computer as Oracle Database 12c Release 2 (12.2), a bequeath connection cannot be used. <p>Oracle recommends upgrading Oracle Database Client to the latest patchset (10.2.0.5, or 11.2.0.4 or later). You can download the patchset from the Patches and Updates section of My Oracle Support at https://support.oracle.com</p>

3.2.2 Instant Client Light Language and Character Set Requirements

Describes the requirements to use Instant Client Light.

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

- **Language:** Any language that Oracle supports, but only US English error messages returns errors on the client side.
- **Territory:** Any territory that Oracle supports.
- **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. If a character set other than those in the list is used as the client or database character set, then an error is returned.

- * 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. The Registry setting is overridden by the `NLS_LANG` environment variable.

Note:

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

3.3 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\OraDb domain user as the Oracle Home User for this installation. The specified Oracle home domain user must exist before you install the Oracle Database Client software.

The Oracle Home User can be either the Windows Built-in Account (LocalService) or a Windows User Account. This account is used for running the Windows services for the Oracle home. Do not log in using this account to perform administrative tasks.

Windows User Account can be a Windows Local User, Windows Domain User, Managed Services Account (MSA), or Group Managed Services Account (gMSA). Starting with Oracle Database 12c Release 2 (12.2), Group Managed Services Account (gMSA) is introduced as an additional option.

Using Windows built-in account, MSA, or gMSA enables you to install Oracle Database Client, and create and manage Database services without passwords.

If you specify an existing user as the Oracle Home User, then the Windows User Account you specify can either be a Windows Domain User or a Windows Local User. If you specify a non-existing user as the Oracle Home User, then the Windows User Account you specify must be a Windows Local User. The new user is then created during installation and the created user is denied interactive logon privileges to the Windows computer. However, a Windows administrator can manage this account like any other Windows account.

For enhanced security, Oracle recommends that you use the standard Windows User Account or Windows Built-in Account (LocalService), which is not an administrator account, to install Oracle Database Client.

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.

When you specify an Oracle Home User, the installer configures that user as the Oracle Service user for all software services that run from the Oracle home. The Oracle Service user is the operating system user that the Oracle software services run as, or the user from which the services inherit privileges.

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

3.4 Creating Users, Groups and Environments for Oracle Database Client

Before installation, create operating system groups, users, and configure user environments.

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

The groups that are created are explained as follows:

- **ORA_INSTALL:** This is a system wide group for Oracle's internal use, which is automatically populated with Oracle Home users. If a database server is running on this system, it grants dupsocket privilege to the group's members to allow listeners to operate. If no database server is present, this group is not used.
- **ORA_CLIENT_LISTENERS:** This group is for internal Oracle use. It contains listeners installed on client homes through custom installs. If a database server is running on this system, it grants dupsocket privilege to the group's members to allow listeners to work. If no database server is present, this group is not used.
- **ORA_<HomeName>_SVCSIDS:** This group is for Oracle's internal use and is automatically populated. It contains Service SIDs for all Windows services (e.g. Oracle Services for MTS, Listener, and Connection Manager) on client homes installed through custom installs. This group is granted full control to the specific client Oracle Home and client Oracle Base.
- **ORA_DBA and ORA_<HomeName>_DBA:** If the system is only used for clients, membership provides start/stop privileges to Oracle Windows services running from client homes. `ORA_DBA` members are granted start/stop privileges for all Oracle Windows services on the system, while membership in `ORA_<HomeName>_DBA` gives start/stop privileges to Oracle Windows services running from the specific home.

3.5 Oracle Database Client Network Topics

Describes how to install Oracle Database Client on computers that do not meet the typical scenario.

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.

[Installing Oracle Database Client on Computers with Multiple IP Addresses](#)
(page 3-9)

Clients must be able to access the computer using its host name, or using aliases for its host name.

[Installing Oracle Database Client on Computers with Multiple Aliases](#) (page 3-9)

A computer with multiple aliases is registered with the naming service under a single IP address but with multiple aliases.

[Installing Oracle Database on Nonnetworked Computers](#) (page 3-9)

Use this procedure to install Oracle Database on a non-networked computer such as a laptop.

[Installing a Loopback Adapter](#) (page 3-10)

A loopback adapter is required if you are installing on a non-networked computer to connect the computer to a network after the installation.

3.5.1 Installing Oracle Database Client on Computers with Multiple IP Addresses

Clients must be able to access the computer using its host name, or using aliases for its host name.

To check access, ping the host name from the client computers using the short name (host name only) and the fully qualified domain name (FQDN, host name and domain name). Both must work.

Use the following procedure to set the `ORACLE_HOSTNAME` environment variable:

1. Open **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**.

3.5.2 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.

3.5.3 Installing Oracle Database on Nonnetworked Computers

Use this procedure to install Oracle Database on a non-networked computer such as a laptop.

You can install Oracle Database 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 installation, perform these steps before you install Oracle Database 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.

2. Ping the computer from itself, using only the host name and using the fully qualified name, which is located 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 must return the local IP address (the IP address of the loopback adapter).

If the `ping` command fails, contact your network administrator.

If you connect the computer to a network after installation, then 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.

Related Topics:

[Installing a Loopback Adapter](#) (page 3-10)

3.5.4 Installing a Loopback Adapter

A loopback adapter is required if you are installing on a non-networked computer to connect the computer to a network after the installation.

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 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. Applications that use a different Ethernet segment are routed to the network card.

[Checking if a Loopback Adapter is Installed on Your Computer](#) (page 3-11)

Review this section to verify if a loopback adapter is installed on your computer by running the `ipconfig /all` command.

[Installing Microsoft KM-TEST Loopback Adapter on Windows 8, Windows 8.1, Windows Server 2012, and Windows Server 2012 R2](#) (page 3-11)

Use this procedure to install Microsoft KM-TEST loopback adapter on different Windows versions.

[Installing a Loopback Adapter on Windows 7](#) (page 3-12)

Learn how to install a loopback adapter on Windows 7.

[Removing a Loopback Adapter](#) (page 3-13)

Use the following procedure to remove a loopback adapter.

Related Topics:[Installing Oracle Database on Nonnetworked Computers](#) (page 3-9)**3.5.4.1 Checking if a Loopback Adapter is Installed on Your Computer**

Review this section to verify if a loopback adapter is installed on your computer by running the `ipconfig /all` command.

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 must be the Primary Network Adapter.

If there is a loopback adapter installed, you 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
```

3.5.4.2 Installing Microsoft KM-TEST Loopback Adapter on Windows 8, Windows 8.1, Windows Server 2012, and Windows Server 2012 R2

Use this procedure to install Microsoft KM-TEST loopback adapter on different Windows versions.

To install a loopback adapter on Windows 8, Windows 8.1, Windows Server 2012, or Windows Server 2012 R2, perform the following steps:

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, select **Network adapters**, and click **Next**.
6. 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.

3.5.4.3 Installing a Loopback Adapter on Windows 7

Learn how to install a loopback adapter on Windows 7.

To install a loopback adapter on Windows 7:

1. Click **Start** and enter `hdwwiz` in the Search box.
2. Click `hdwwiz` 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, 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. Click **Manage Network Connections**. This displays the Network Connections Control Panel item.
11. Right-click the connection that was just created. This is usually named "Local Area Connection 2". Choose **Properties**.
12. On the **General** tab, select **Internet Protocol (TCP/IP)**, and click **Properties**.
13. 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. Record the values you entered, which you need later in this procedure.
 - d. Leave all other fields empty.
 - e. Click **OK**.
14. Click **Close**.
 15. Close **Network Connections**.
 16. Restart the computer.
 17. 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.
- *hostname* is the name of the computer.
- *domainname* is the name of the domain.

For example:

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

18. Check the network configuration:
 - a. Open **System** in the Control Panel, and verify that **Full computer name** displays the host name and the domain name, for example, `sales.us.example.com`.
 - b. Click **Change**. In **Computer name**, you must see the host name, and in **Full computer name**, you must see the host name and domain name. Using the previous example, the host name must be `sales` and the domain must be `us.example.com`.
 - c. Click **More**. In **Primary DNS suffix of this computer**, you must see the domain name, for example, `us.example.com`.

3.5.4.4 Removing a Loopback Adapter

Use the following procedure to remove 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 must see **Microsoft Loopback Adapter**.
4. Right-click **Microsoft Loopback Adapter** and select **Uninstall**.

In Windows 8, Windows 8.1, Windows Server 2012, or Windows Server 2012 R2, 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.

3.6 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.

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 can be certified after this guide is published, review the certification matrix on the My Oracle Support website. The website provides 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:

<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 **Software eDelivery Cloud**, and **Lifetime Support**.

[Remote Desktop Services](#) (page 3-15)

Oracle supports installing, configuring, and running Oracle Database Client through Remote Desktop Services.

[Third-Party Database Certification for Oracle SQL Developer](#) (page 3-15)

You can use Oracle SQL Developer to view metadata and data of several non-Oracle databases.

[Default Share Configuration Requirement](#) (page 3-15)

The prerequisite checks during Oracle Database Client installation require that the system drive on your computer has default share configured on it.

[Installation Requirements for Web Browsers](#) (page 3-15)

Web browsers are required to use Oracle Enterprise Manager Database Express and Oracle Enterprise Manager Cloud Control.

[Microsoft Hyper-V](#) (page 3-16)

Microsoft Hyper-V enables you to create and manage a virtualized computing environment by running multiple operating systems simultaneously on a single computer and isolate operating systems from each other.

3.6.1 Remote Desktop Services

Oracle supports installing, configuring, and running Oracle Database Client through Remote Desktop Services.

To install Oracle Database Client, Oracle recommends that you start all configuration tools from the Remote Desktop 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 information
<https://support.oracle.com/>
-
-

3.6.2 Third-Party Database Certification for Oracle SQL Developer

You can use Oracle SQL Developer to view metadata and data of several non-Oracle databases.

See Also: *Oracle SQL Developer Installation Guide* for more information about "Database Certification for SQL Developer (Oracle and Third-Party)"

3.6.3 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.

3.6.4 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/CSP/main/article?cmd=show&type>

See Also:

Oracle Enterprise Manager Cloud Control Basic Installation Guide

3.6.5 Microsoft Hyper-V

Microsoft Hyper-V enables you to create and manage a virtualized computing environment by running multiple operating systems simultaneously on a single computer and isolate operating systems from each other.

Microsoft Hyper-V enables built-in integration services for supported guest operating systems to improve the integration between a computer and a virtual machine.

See Also:

[Microsoft Hyper-V](#) for more information about Microsoft Hyper-V support

Installing Oracle Database Client

Learn how to run the installer to install Oracle Database Client.

[Installation Considerations for Oracle Database Client](#) (page 4-1)

The Oracle Database Client software is available on the Oracle Technology Network (OTN) website. In most cases, Oracle Universal Installer provides a graphical user interface (GUI) to install the software.

[Accessing the Installation Software](#) (page 4-3)

The Oracle Database Client software is available on an installation media or you can download it from the Oracle Technology Network website or Oracle Software Delivery Cloud website.

[Installing Oracle Database Client](#) (page 4-8)

Explains how to run Oracle Universal Installer to perform most database client installations.

[Using Oracle Net Configuration Assistant](#) (page 4-11)

Learn how to use Oracle Net Configuration Assistant.

4.1 Installation Considerations for Oracle Database Client

The Oracle Database Client software is available on the Oracle Technology Network (OTN) website. In most cases, Oracle Universal Installer provides a graphical user interface (GUI) to install the software.

However, you can also use the Oracle Universal Installer to complete silent or response file installations, without using the GUI.

[Installation Consideration](#) (page 4-2)

Review the installation consideration on Windows.

[Installing Oracle Database Client Installations in Silent or Response File Mode](#) (page 4-2)

If you need to perform multiple installations of Oracle Database Client, then you can use silent or a response file installation.

[Creating the Oracle Base Directory](#) (page 4-2)

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.

[Installing Oracle Database Client into Multiple Oracle Homes](#) (page 4-2)

You can install all Oracle components in multiple Oracle homes on the same computer.

[Installing Oracle Database Client on a System with an Existing Oracle Software](#)
(page 4-3)

Oracle Database Client can be installed in the same Oracle Database home if both products are at the same release level.

4.1.1 Installation Consideration

Review the installation consideration on Windows.

Open the command prompt with Administrator privileges.

4.1.2 Installing Oracle Database Client Installations in Silent or Response File Mode

If you need to perform multiple installations of Oracle Database Client, then you can use silent or a 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.

4.1.3 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 the Oracle Home User, it can only share an Oracle base with other Oracle homes with the same Windows user account. If Windows Built-in Account is specified as the Oracle Home User, it can only share an Oracle base with other client Oracle homes using a Windows Built-in Account.

Oracle Database Client 12c Release 2 (12.2) cannot share an Oracle base with Oracle homes from earlier database versions, such as Oracle Database 11g Release 2 (11.2) and earlier.

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

4.1.4 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

4.1.5 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 12.2.0.1 into an existing Oracle Database 12.2.0.1 home. If you apply a patch set before installing the client, then you must apply the patch set again.

If you perform the installation on a separate Oracle home directory, then you can install this release more than once on the same system.

4.2 Accessing the Installation Software

The Oracle Database Client software is available on an installation media or you can download it from the Oracle Technology Network website or Oracle Software Delivery Cloud website.

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.

[Installing from a Remote DVD Drive](#) (page 4-3)

If the computer where you want to install Oracle Database Client does not have a DVD drive, then you can perform the installation from a remote DVD drive.

[Installing on Remote Computers Through Remote Access Software](#) (page 4-5)

If you want to install and run Oracle Database Client on a remote computer (that is, the remote computer has the hard drive and runs Oracle Database Client components), but you do not have physical access to the computer, you still can perform the installation on the remote computer.

[Downloading Oracle Software](#) (page 4-6)

Select the method you want to use to download the software.

[Copying the Oracle Database Client Software to a Hard Disk](#) (page 4-8)

Oracle recommends that you copy the installation software to the hard disk to enable the installation to run faster.

4.2.1 Installing from a Remote DVD Drive

If the computer where you want to install Oracle Database Client does not have a DVD drive, then you can perform the installation from a remote DVD drive.

[Step 1: On the Remote Computer, Share the DVD Drive](#) (page 4-3)

The remote DVD drive must allow shared access.

[Step 2: On the Local Computer, Map the DVD Drive](#) (page 4-4)

Use this procedure to map the DVD drive on the local computer.

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

The remote DVD drive 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 select **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 use this name when you map the DVD drive on the local computer.
 - c. Click **Permissions**. You need at least read permission for the user who accesses the drive to install Oracle Database.
 - d. Click **OK** when you are finished.
5. Insert the Oracle Database installation media into the DVD drive.

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

Use this procedure to map the DVD drive on the local computer.

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 box.
 - 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 use when you map the DVD drive on the local computer. For example:

```
\\computer2\dvd
```
 - e. If you must connect to the remote computer as a different user, click **different user name**, and enter the user name.
 - f. Click **Finish**.
2. Run Oracle Universal Installer from the mapped DVD drive.

Related Topics:

[Installing Oracle Database Client](#) (page 4-8)

Explains how to run Oracle Universal Installer to perform most database client installations.

4.2.2 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 runs Oracle Database Client components), but you do not have physical access to the computer, you still can perform the installation on the remote computer.

Use 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 the following ways:

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

[Installing on Remote Computers from a Hard Drive](#) (page 4-5)

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

[Installing on Remote Computers from a Remote DVD Drive](#) (page 4-5)

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

4.2.2.1 Installing on Remote Computers from a Hard Drive

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

To install the software on a remote computer from a hard drive:

1. Ensure 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 DVD.
3. On the remote computer, map a drive letter to the shared hard drive. You 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.

Related Topics:

[Installing Oracle Database Client](#) (page 4-8)

4.2.2.2 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.

To install the software on a remote computer from a remote DVD drive:

1. Ensure 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. Use the remote access software to do this on the remote computer.

3. Through the remote access software, run Oracle Universal Installer on the remote computer. Access Oracle Universal Installer from the shared DVD drive.

Related Topics:

[Installing from a Remote DVD Drive](#) (page 4-3)

[Installing Oracle Database Client](#) (page 4-8)

4.2.3 Downloading Oracle Software

Select the method you want to use to download the software.

Download the trial version of the installation files from either the Oracle Technology Network (OTN) or the Oracle Software Delivery Cloud portal and extract them on your hard disk. Ensure that you review and understand the terms of the license. Most downloads include the development license.

[Downloading the Installation Archive Files from Oracle Technology Network](#) (page 4-6)

Download installation archive files from Oracle Technology Network.

[Downloading the Software from Oracle Software Delivery Cloud](#) (page 4-7)

You can download the software from Oracle Software Delivery Cloud as Media Packs.

[Extracting the Installation Files](#) (page 4-7)

Review this procedure to extract the installation files.

4.2.3.1 Downloading the Installation Archive Files from Oracle Technology Network

Download installation archive files from Oracle Technology Network.

To download the installation archive files from Oracle Technology Network:

1. Use any browser to access the software download page from OTN at:
<http://www.oracle.com/technetwork/indexes/downloads/index.html>
2. Navigate to the download page for the product 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 file names.

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 of the archive files.

5. On the file system that you selected in step 4, create a parent directory for each product, for example `OraDB12c`, to hold the installation directories.
6. Download all of the installation archive files to the directory 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.

Related Topics:[Installing Oracle Database Client](#) (page 4-8)

Explains how to run Oracle Universal Installer to perform most database client installations.

4.2.3.2 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.

Tip:

Print the page with the list of downloadable files. It contains a list of part numbers and their corresponding descriptions 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 about 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
-
-

4.2.3.3 Extracting the Installation Files

Review this procedure to extract 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 two zip files. Ensure that you extract both the zip files to the same directory.

Related Topics:

[Installing Oracle Database Client](#) (page 4-8)

Explains how to run Oracle Universal Installer to perform most database client installations.

4.2.4 Copying the Oracle Database Client Software to a Hard Disk

Oracle recommends that you copy the installation software to the hard disk to enable the installation to run faster.

To copy the contents of the installation media to a hard disk, perform the following steps:

1. Create a directory on your hard drive. For example:

```
C:\> mkdir \install  
C:\> mkdir \install\database
```

2. Copy the contents of the installation media to the directory that you just created.

Related Topics:

[Installing Oracle Database Client](#) (page 4-8)

Explains how to run Oracle Universal Installer to perform most database client installations.

4.3 Installing Oracle Database Client

Explains how to run Oracle Universal Installer to perform most database client installations.

[Guidelines for Installing Oracle Database Client](#) (page 4-8)

In most cases, Oracle Universal Installer provides a graphical user interface (GUI) to install 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.

[Procedure for Installing Oracle Database Client](#) (page 4-10)

Review the procedure in this topic for installing Oracle Database Client.

4.3.1 Guidelines for Installing Oracle Database Client

In most cases, Oracle Universal Installer provides a graphical user interface (GUI) to install 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:

- 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, then 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**.
- Products not installed by default, in case of Custom installation:
 - Oracle SQLJ
 - Oracle Database Utilities
 - Oracle Java Client
 - SQL *Plus
 - Oracle JDBC/THIN Interfaces
 - Oracle Internet Directory Client
 - Oracle Call Interface (OCI)
 - Oracle Programmer
 - Oracle XML Development Kit
 - Oracle Advanced Security
 - OLAP Analytic Workspace Manager and Worksheet
 - Oracle Net
 - Oracle Connection Manager
 - Oracle Net Listener
 - Oracle Multimedia Client Option
 - Oracle ODBC Driver
 - Oracle Clusterware High Availability API
 - Oracle SQL Developer
 - Oracle Scheduler Agent
 - Oracle Services for Microsoft Transaction Server
 - Oracle Administration Assistant for Windows
 - Oracle Provider for OLE DB

- Oracle Data Provider for .NET
- Oracle Providers for ASP .NET

4.3.2 Procedure for Installing Oracle Database Client

Review the procedure in this topic 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 in to Windows as an Administrator user. 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. Navigate to the location of the installation media for Oracle Database Client, open a command prompt with administrator privileges, and run the `setup.exe` command. Use the same installation media to install Oracle Database on all supported Windows platforms.
3. In the Select Installation Type screen, select the type of installation that you want: Instant Client, Administrator, Runtime, or Custom and click **Next**.
4. Starting with Oracle Database 12c Release 1 (12.1), 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. The Oracle Home User is not available if you select Instant Client as the type of installation.
5. 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 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 must not contain spaces. Click **Next**.
6. If you selected Custom as the type of installation, 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, Oracle Scheduler Agent, and Oracle Services for Microsoft Transaction Server using the Custom install option.

7. If you selected 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**.
8. 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.

9. 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.

10. The Install Product screen shows the progress of a client installation. After Oracle Database Client is installed, click **OK**.
11. If you perform a Custom installation, then select Oracle Net Listener from the list of components.
12. In the Finish screen, click **Close** to exit Oracle Universal Installer.

Related Topics:

[Using Oracle Net Configuration Assistant](#) (page 4-11)

Learn how to use Oracle Net Configuration Assistant.

4.4 Using Oracle Net Configuration Assistant

Learn how to use Oracle Net Configuration Assistant.

During a Custom Oracle Database Client installation, if you select Oracle Net Listener from the list of components to install, 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: *Oracle Database Net Services Administrator's Guide*

Oracle Database Client Postinstallation Tasks

Complete configuration task after you install Oracle Database Client.

You must complete some configuration tasks after Oracle Database Client is installed. In addition, Oracle recommends that you complete additional tasks immediately after installation. You must also complete product-specific configuration tasks before you use those products.

[Required Postinstallation Tasks](#) (page 5-1)

Download and apply required patches for your software release after completing your initial installation.

[Recommended Postinstallation Tasks](#) (page 5-3)

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

[Required Product-Specific Postinstallation Task – Configuring Oracle Net Services](#) (page 5-10)

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.

[Postinstallation Tasks for SQL Developer](#) (page 5-10)

Review the postinstallation tasks for SQL Developer.

[Creating the OraMTS Service for Microsoft Transaction Server](#) (page 5-11)

Oracle Services for Microsoft Transaction Server (OraMTS) permit Oracle databases to be used as resource managers in Microsoft application coordinated transactions.

[Creating the Scheduler Agent](#) (page 5-11)

The Oracle Scheduler Execution Agent permits Oracle Database clients to run Scheduler jobs at the request of an Oracle instance which can be located on a remote host.

5.1 Required Postinstallation Tasks

Download and apply required patches for your software release after completing your initial installation.

[Downloading and Installing Patch Updates](#) (page 5-2)

Download and install patch dates for your Oracle software after you complete installation.

[Updating Instant Client](#) (page 5-2)

Review this procedure to update Instant Client.

5.1.1 Downloading and Installing Patch Updates

Download and install patch dates for your Oracle software after you complete installation.

Check the My Oracle Support website for required patch updates for your installation.

To download required 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, click **Register here** and follow the registration instructions.

3. On the main My Oracle Support page, click **Patches and Updates** tab.
4. In the Patch Search group, select **Product or Family (Advanced)**.
5. In the Product field, select **Oracle Database Client**.
6. In the Release field select the release number. For example, Oracle 12.2.0.1.0.
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 Client 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.

5.1.2 Updating Instant Client

Review this procedure to update Instant Client.

To update Instant Client, perform the following steps:

1. Download Instant Client from Oracle Help Center at <http://docs.oracle.com>.
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.

5.2 Recommended Postinstallation Tasks

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

[Setting Language and Locale Preferences for Client Connections](#) (page 5-3)

Configure client applications connecting to an Oracle Database according to your locale preferences and your I/O device character set.

[Configuring Instant Client Light](#) (page 5-4)

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

[Connecting Oracle Database Client to an Oracle Database](#) (page 5-5)

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.

[Connecting Instant Client or Instant Client Light to an Oracle Database](#) (page 5-5)

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.

[Setting Up User Accounts](#) (page 5-8)

Learn how to setup user accounts.

[Changing the Oracle Home User Password](#) (page 5-8)

Oracle Home User Control is a command-line utility that allows an administrator to update the password for an Oracle Home User.

[Using Oracle9i Language and Definition Files with Oracle Database 12c](#) (page 5-9)

Changes are made to the content of some of the language and territory definition files in Oracle Database 10g and later releases.

5.2.1 Setting Language and Locale Preferences for Client Connections

Configure client applications connecting to an Oracle Database according to your locale preferences and your I/O device character set.

You must configure client applications connecting to an Oracle Database according to your locale preferences and your I/O device character set. If your applications do not have their own specific methods to configure locale preferences, then the method you use to configure an Oracle database client connection depends on the access API you use to connect to the database. Check your application documentation, before you configure locale preferences for your applications.

For applications that connect to Oracle Databases using Oracle Call Interface (OCI) use NLS_LANG and other client settings with names that start with NLS_ to set the locale conventions and client character set for Oracle Database sessions. It is important that you set the character set part of the NLS_LANG value properly. The character set you set must correspond to the character set used by your I/O devices, which in case of Microsoft Windows is either the ANSI Code Page (for GUI applications), such as WE8MSWIN1252, or the OEM Code Page (for Console mode applications), such as US8PC437. By doing this, the OCI API is notified about the character set of data that it

receives from the application. OCI can then convert this data correctly to and from the database character set.

NLS_LANG and the other NLS settings can be specified either as environment variables or as Windows Registry settings. Environment variable values take precedence over Registry values.

Oracle Universal Installer sets a default value for the NLS_LANG setting in Registry when it creates a new Oracle home. The NLS_LANG value is based on the language of the Windows user interface, which is the language of Windows menu items and dialog box labels.

Caution: Failure to set the client character set correctly can cause data loss.

Java applications that connect to Oracle Databases by using Oracle JDBC do not use NLS_LANG. Instead, Oracle JDBC maps the default locale of the Java VM in which the application runs to the Oracle Database language and territory settings. Oracle JDBC then configures the connected database session using these settings. Because Java works internally in Unicode, the client character set is always set to Unicode. Unless an application explicitly changes it, the default locale of the Java VM is set based on the locale of the user operating system on which the Java VM runs. Check your Java VM documentation for information about configuring the Java VM default locale.

Note: In 3-tier architecture deployments, application servers that are database clients can have settings in their configuration files that specify the NLS_LANG value or the Java VM locale. Check the documentation accompanying these servers.

See Also:

- *Oracle Database Platform Guide for Microsoft Windows*
 - *Oracle Database Globalization Support Guide* for more information about configuring user locale preferences
-
-

5.2.2 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 `oraociicus12.dll` file to the `ORACLE_BASE\ORACLE_CLIENT_HOME` directory. .

The `oraociicus12.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, then the applications attempt to load the regular Instant Client libraries first. If the applications cannot find these, then they attempt to load the Instant Client Light library next.

5.2.3 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 the 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.

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
```

5.2.4 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.

[Specifying a Connection by Using the Easy Connect Naming Method](#) (page 5-6)

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.

[Specifying a Connection by Configuring a `tnsnames.ora` File](#) (page 5-6)

By default, when you install an 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.

[Specifying a Connection by Using an Empty Connect String and the LOCAL Variable](#) (page 5-7)

Describes how to specify a connection to an empty connect string and set the LOCAL environment variable.

5.2.4.1 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, then 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 `OCI ServerAttach()` 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, 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)))"
```

5.2.4.2 Specifying a Connection by Configuring a `tnsnames.ora` File

By default, when you install an 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.

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.

Related Topics:

[Connecting Oracle Database Client to an Oracle Database](#) (page 5-5)

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.

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

Describes how to specify a connection to an empty connect string and set the `LOCAL` environment 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
- 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 uses an empty connection string. The benefit of an empty connect string is that the application 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 for your application to connect to the database.

Related Topics:

[Specifying a Connection by Using the Easy Connect Naming Method](#) (page 5-6)

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.

5.2.5 Setting Up User Accounts

Learn how to setup user accounts.

5.2.6 Changing the Oracle Home User Password

Oracle Home User Control is a command-line utility that allows an administrator to update the password for an Oracle Home User.

This tool updates 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 logfile`

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 `logfile` specifies only a file name, then the log is stored in the named file in the default directory. However, if the `logfile` contains a path, then that path is used without modification.

5.2.7 Using Oracle9i Language and Definition Files with Oracle Database 12c

Changes are made to the content of some of the language and territory definition files in Oracle Database 10g and later releases.

Changes are 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 must 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 are not 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, perform the following steps:

1. Run the `cr9idata.pl` script, which by default is in the following location:

```
ORACLE_HOME\nls\data\old
```

If the 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 Client installation.

2. Set the `ORA_NLS10` environment variable to point to the directory `ORACLE_HOME\nls\data\9idata`, into which `cr9idata.pl` copies the new language and territory definition files. `ORA_NLS10` must have this value each time the affected client programs are started. Therefore, set the variable permanently in a startup script or, on the Microsoft Windows platform, set it in the Windows Registry.

5.3 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 of 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.

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.

See Also: *Oracle Database Net Services Administrator's Guide*

5.4 Postinstallation Tasks for SQL Developer

Review the postinstallation tasks for SQL Developer.

Learn about the recommended postinstallation tasks for SQL Developer.

See Also: *Oracle SQL Developer Installation Guide*

5.5 Creating the OraMTS Service for Microsoft Transaction Server

Oracle Services for Microsoft Transaction Server (OraMTS) permit Oracle databases to be used as resource managers in Microsoft application coordinated transactions.

OraMTS acts as a proxy for the Oracle database 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 databases 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 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, 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

5.6 Creating the Scheduler Agent

The Oracle Scheduler Execution Agent permits Oracle Database clients to run Scheduler jobs at the 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.

The Oracle Scheduler Execution Agent permits Oracle Database clients to run Scheduler jobs at the 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.

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

Learn how to remove Oracle software and configuration files.

You can remove Oracle software either by using Oracle Universal Installer with the `deinstall` option, or by using the deinstallation tool (`deinstall`) that is included in Oracle homes. Oracle does not support the removal of individual products or components related to the specified Oracle home. It includes information about removing Oracle software using the deinstallation tool.

The deinstallation tool removes standalone Oracle Database installations, Oracle Clusterware and Oracle Automatic Storage Management (Oracle ASM) from your server, as well as Oracle Real Application Clusters (Oracle RAC) and 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.

Caution:

If you have a standalone database on a node in a cluster and you have multiple databases with the same global database name (GDN), then you cannot use the deinstallation tool to remove one database only.

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 12.2.0.1 installation media to remove Oracle software from an existing 11.2.0.4 Oracle home.

[About Oracle Deinstallation Options](#) (page 6-2)

You can stop and remove Oracle Database software and components in an Oracle Database home with Oracle Universal Installer.

[Deinstallation Examples for Oracle Database](#) (page 6-5)

Use these examples to learn how to run deinstallation using OUI (`runinstaller`) or as a standalone tool (`deinstall`).

[Example of Running the Deinstallation Tool](#) (page 6-6)

Review the examples to help you understand how to run the deinstallation tool.

[Deinstallation Response File Example for Oracle Database](#) (page 6-6)

You can run the deinstallation tool with the `-paramfile` option to use the values you specify in the response file.

See Also:

- *Oracle Grid Infrastructure Installation and Upgrade Guide for Microsoft Windows x64 (64-Bit)*
 - *Oracle Real Application Clusters Installation Guide for Microsoft Windows x64 (64-Bit)*
 - *Oracle Automatic Storage Management Administrator's Guide*
-
-

6.1 About Oracle Deinstallation Options

You can stop and remove Oracle Database software and components in an Oracle Database home with Oracle Universal Installer.

Using Oracle Universal Installer with the `deinstall` option, or running the deinstallation tool from the Oracle home, stops and removes Oracle software and its components, such as database client and configuration files for a specific Oracle home.

You can remove the following software using Oracle Universal Installer or the Oracle deinstallation tool:

- Oracle Database
- Oracle Grid Infrastructure, which includes Oracle Clusterware and Oracle Automatic Storage Management (Oracle ASM)
- Oracle Real Application Clusters (Oracle RAC)
- Oracle Database Client

Starting with Oracle Database 12c, the deinstallation tool is integrated with the database client installation media. You can run the deinstallation tool using the `runInstaller` 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` directory.

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

Using Oracle Universal Installer with the `deinstall` option, or running the deinstallation tool from the Oracle home, stops and removes Oracle software and its components, such as database and configuration files 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 install Oracle Database, 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 [-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] [-
local]
```

```
[-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.

Note:

If User Account Control is enabled, then you must create a desktop shortcut to a DOS command window. Open the command window through the **Run as administrator**, right-click context menu, and start the deinstallation tool.

In addition, you can run the deinstallation tool from other locations, or with a response file, or select other 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 identifies the location of the home where it is 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 a 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: `\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.

Related Topics:

[Managing User Accounts with User Account Control](#) (page 2-3)

To ensure that only trusted applications run on your computer, the Windows operating systems supported for Oracle Database Client provide User Account Control.

See Also:

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

6.2 Deinstallation Examples for Oracle Database

Use these examples to learn how to run deinstallation using OUI (`runinstaller`) or as a standalone tool (`deinstall`).

If you run the deinstallation tool using `runinstaller -deinstall` 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 `deinstall` command is in the path `C:\app\oracle\product\12.2.0\dbhome_1\deinstall`, and it uses a response file in the software owner location `C:\Documents and Settings\oracle\`:

```
DRIVE_LETTER:\> cd \app\oracle\product\12.2.0\dbhome_1\deinstall\  
DRIVE_LETTER:\> deinstall.bat -paramfile %HOMEPATH%\my_db_paramfile.tmpl
```

For the grid infrastructure home, use the deinstallation script (`deinstall.bat`) in the Oracle Grid Infrastructure for a standalone server home, which in this example is `C:\app\oracle\product\12.2.0\grid`:

```
DRIVE_LETTER:\> cd \app\oracle\product\12.2.0\grid\deinstall\  
DRIVE_LETTER:\> deinstall.bat -paramfile %HOMEPATH%\my_grid_paramfile.tmpl
```

6.3 Example of Running the Deinstallation Tool

Review the examples to help you understand how to run the deinstallation tool.

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\12.2.0\dbhome_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\12.2.0\dbhome_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
```

6.4 Deinstallation Response File Example for Oracle Database

You can run the deinstallation tool 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 `C:\app\oracle\product\12.2.0\dbhome_1`, the Oracle base (where other Oracle software is installed) is `C:\app\oracle`, the Oracle Inventory home is `C:\Program Files\Oracle\Inventory`, and the local node (the node where you run the deinstallation session from) is `myserver`:

```
#Copyright (c) 1998, 2015 Oracle Corporation. All rights reserved.  
ORACLE_HOME=C:\app\oracle\product\12.2.0\dbhome_1  
ORACLE_BASE.orcl=C:\app\oracle  
FLASH_RECOVERY_LOCL.ocl=C:\app\oracle\flash_recovery_area\ORCL
```



```
STORAGE_TYPE.orcl=FS
DB_TYPE.orcl=SI_DB
NETCA_LOCAL_LISTENERS=LISTENER
LOGDIR=C:\app\oracle\product\12.2.0\dbhome_1\deinstall\logs\
NODE_LIST.orcl=myserver
ObaseCleanupPtrLoc=\tmp\deinstall2012-06-12_09-14-11AM\orabase_cleanup.lst
ARCHIVE_LOG_DESTINATION_LOC.orcl=
ORACLE_BASE=C:\app\oracle
DUMP_DESTINATION_LOC.orcl=C:\app\oracle\admin\orcl
LOCAL_SID.orcl=orcl
INVENTORY_LOCATION=C:\Program Files\Oracle\Inventory
RAW_MAPPING_FILE.orcl=
SID_LIST.orcl=orcl
DB_UNIQUE_NAME_LIST=orcl
DATAFILE_LOC.orcl=C:\app\oracle\oradata\orcl, C:\app\oracle\fast_recovery_area\orcl
HOME_TYPE=SIDB
CRS_HOME=false
CREATION_MODE.orcl=y
CONFIGFILE_LOC.orcl=
ORACLE_BINARY_OK=true
DIAG_DEST.orcl=C:\app\oracle\diag\rdbms\orcl
LOCAL_NODE=myserver
local=false
SPFILE_LOC.orcl=C:\app\oracle\product\12.2.0\dbhome_1\dbs\spfileorcl.ora
inventory_loc=C:\Program Files\Oracle\Inventory
MinimumSupportedVersion=11.2.0.1.0
silent=false
DBCA_LOG.orcl=C:\app\oracle\cfgtoollogs\dbca\orcl
ORACLE_HOME=C:\app\oracle\product\12.2.0\dbhome_1
CCR_CONFIG_STATUS=CCR_DEL_HOME
EMCA_LOG.orcl=C:\app\oracle\cfgtoollogs\emca\orcl
ORACLE_HOME_VERSION_VALID=true
```

Installing Java Access Bridge

Learn how to install Java Access Bridge 2.0.2.

Java Access Bridge 2.0.2 enables use of a screen reader with Oracle components.

[Overview of Java Access Bridge 2.0.2](#) (page A-1)

Java Access Bridge 2.0.2 enables assistive technologies to read Java applications running on the Windows platform.

[Setting Up Java Access Bridge 2.0.2](#) (page A-1)

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

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.

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://docs.oracle.com>

During installation, Oracle Universal Installer uses the Java Runtime Environment (JRE) 1.8 contained in an Oracle Database Client installation media. The JRE enables the use of Java Access Bridge during installation.

Related Topics:

[Setting Up Java Access Bridge 2.0.2](#) (page A-1)

A.2 Setting Up Java Access Bridge 2.0.2

Learn 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 a Windows 64-bit operating system, perform the following steps:

1. Go to Java Standard Edition 2 (Java SE) Downloads page to download the latest build of JDK 8:

<http://docs.oracle.com>

2. Install JDK 8 after accepting the Oracle license agreement.

Note:

You must have administrator privileges to install JDK on Windows.

3. Download and install screen reader, JAWS:

<http://www.freedomscientific.com/downloads/jaws/JAWS-downloads.asp>

4. Press Windows key+U to open the Ease of Access Center, and select **Use the computer without a display**.

5. Select **Enable Accessbridge** check box. Click **Save** to save the changes.

6. Download Java Access Bridge 2.0.2:

<http://docs.oracle.com>

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`

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\12.2.0\dbhome_1`), until the JDK folder is created. Once the JDK folder is created, you must copy the files listed in the following table from the Java Access Bridge source location to the JDK destination folder. Copying these files enable accessibility for both the Oracle Database Configuration Assistant and Oracle Net Configuration Assistant.

Table A-1 Copy Files to JDK Directory on Windows 64-Bit

Copy	To
<code>AB_HOME\JavaAccessBridge-64.dll</code>	<code>dbhome_1\jdk\jre\bin</code>
<code>AB_HOME\JAWTAccessBridge-64.dll</code>	<code>dbhome_1\jdk\jre\bin</code>
<code>AB_HOME\Accessibility.properties</code>	<code>dbhome_1\jdk\jre\lib</code>
<code>AB_HOME\Access-bridge-64.jar</code>	<code>dbhome_1\jdk\jre\lib\ext</code>
<code>AB_HOME\jaccess.jar</code>	<code>dbhome_1\jdk\jre\lib\ext</code>

Installing and Configuring Oracle Database Using Response Files

Review how to install and configure Oracle products using response files.

Learn how to install and configure Oracle Database Using Response Files:

[How Response Files Work](#) (page B-1)

Response files can assist you with installing an Oracle product multiple times on multiple computers.

[Preparing a Response File](#) (page B-3)

Describe the methods that you can use to prepare a response file for use during silent-mode or response file-mode installations.

[Running Oracle Universal Installer Using the Response File](#) (page B-6)

After creating the response file, run Oracle Universal Installer at the command line, specifying the response file you created, to perform the installation.

B.1 How Response Files Work

Response files can assist you with installing an Oracle product multiple times on multiple computers.

When you start Oracle Universal Installer (OUI), you can use a response file to automate the installation and configuration of Oracle software, either fully or partially. OUI uses the values contained in the response file to provide answers to some or all installation prompts.

Typically, the 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:** If you include responses for all of the prompts in the response file and specify the `-silent` option when starting the installer, then it runs in silent mode. During a silent mode installation, the installer does not display any screens. Instead, it displays progress information in the terminal that you used to start it.
- **Response file mode:** If you include responses for some or all of the prompts in the response file and omit the `-silent` option, then the installer runs in response file mode. During a response file mode installation, the 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. To use the response file mode, run `setup.exe` without the `-silent` parameter, but include the response file or any other parameters that apply.

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, provide 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 supports only the Oracle Home User passwords.

[Reasons for Using Silent Mode or Response File Mode](#) (page B-2)

Review this section for use cases for running the installer in silent mode or response file mode.

[Using Response Files](#) (page B-3)

Review this information to use response files.

See Also:

- *Oracle Universal Installer and OPatch User's Guide for Windows and UNIX*
 - My Oracle Support website for more information about response files:
<https://support.oracle.com/>
-
-

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

Review this section for use cases for running the 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"> • Complete an unattended installation, which you schedule using operating system utilities such as at. • Complete several similar installations on multiple systems without user interaction. • Install the software on a system that does not have X Window System software installed on it. <p>The installer displays progress information on the terminal that you used to start it, but it does not display any of the installer screens.</p>
Response file	<p>Use response file mode to complete similar Oracle software installations on more than one system, providing default answers to some, but not all of the installer prompts.</p> <p>If you do not specify information required for a particular installer screen in the response file, then the installer displays that screen. It suppresses screens for which you have provided all of the required information.</p>

B.1.2 Using Response Files

Review this information to use response files.

Use the following general steps to install and configure Oracle products using the installer in silent or response file mode:

1. If you plan to use Oracle Automatic Storage Management and configure new disks, then you must perform the following steps:

- a. Create partitions for DAS or SAN disks.
- b. Manually configure the disks using the `asmtoolg` or `asmtool` utility.

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

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

- Modify one of the sample response files that is provided with the installation.
 - Run Oracle Universal Installer at a command prompt and save the inputs by selecting the **Save Response File** option.
3. 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.

Related Topics:

[Running Oracle Universal Installer Using the Response File](#) (page B-6)

[Preparing a Response File](#) (page B-3)

B.2 Preparing a Response File

Describe 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](#) (page B-3)

[Saving a Response File](#) (page B-5)

B.2.1 Editing a Response File Template

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

Note:

If you copied the software to a hard disk, the response files are located in the `stage_area\database\response` directory.

All response file templates contain comment entries, sample formats, examples, and other useful instructions. Read the response file instructions to understand how to specify values for the response file variables, so that you can customize your installation.

The following table lists the available sample response files:

Table B-2 Response Files

Response File Name	Description
<code>client_install.rsp</code>	Oracle Database Client installation
<code>netca.rsp</code>	Silent installation of Oracle Net Configuration Assistant

Caution:

When you modify a response file template and save a file for use, the response file may contain plain text passwords. Ownership of the response file must be given to the Oracle software installation owner only. Oracle strongly recommends that database administrators or other administrators delete or secure response files when they are not in use.

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.
3. Run the response file by following the instructions in the “Running Oracle Universal Installer Using the Response file” section.

See Also:

Oracle Universal Installer and OPatch User’s Guide for Windows and UNIX

Related Topics:

[Running Oracle Universal Installer Using the Response File](#) (page B-6)

After creating the response file, run Oracle Universal Installer at the command line, specifying the response file you created, to perform the installation.

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 Oracle Universal Installer on the Summary page, before it starts to copy the software to the system.

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. .

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:
 - a. 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.
 - b. Click **Finish** to continue with the installation.

Click **Cancel** if you do not want to continue with the installation. The installation stops, but the saved response file is retained.

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.

Related Topics:

[Oracle Database Client Preinstallation Tasks](#) (page 3-1)

B.3 Running Oracle Universal Installer Using the Response File

After creating the response file, 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 the 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 command prompt with the Administrator privileges. For example:

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

where:

- *filename*: Identifies the full path of the response file.
- *setup.exe_location*: Indicates the location of `setup.exe`.
- `-silent`: Runs Oracle Universal Installer in silent mode and suppresses the Welcome window.
- `"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.
- `-noconfig`: Suppresses running the configuration assistants during installation, performing a software-only installation instead.
- `-nowait`: Closes the console window when the silent installation completes.

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.

See Also:

Oracle Universal Installer and OPatch User's Guide for Windows and UNIX

Configuring Oracle Database Globalization Support

Learn how to configure Oracle Database Globalization Support.

[Installing and Using Oracle Components in Different Languages](#) (page C-1)
Learn how to install and use Oracle components in other languages.

[Running Oracle Universal Installer in Different Languages](#) (page C-6)
Learn how to run Oracle Universal Installer in other languages.

See Also:

Oracle Database Globalization Support Guide for an overview of globalization support for Oracle Database

C.1 Installing and Using Oracle Components in Different Languages

Learn how to install and use Oracle components in other languages.

[Configuring Oracle Components to Run in Different Languages](#) (page C-1)
You can specify the language and the territory, or locale, in which you want to use Oracle components.

[Installing Translation Resources](#) (page C-5)
Learn how to install the appropriate language 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 is displayed in a selected language only if the appropriate translation is available and has been installed. Otherwise, the user interface is displayed in English.

[Determining the Operating System Locale](#) (page C-2)

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.

[Configuring Locale and Character Sets Using the NLS_LANG Environment Variable](#) (page C-3)

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.

[NLS_LANG Settings in Console Mode and Batch Mode](#) (page C-4)

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

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 are unavailable until you install the 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 Using 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 Oracle messages, sorting, day names, and month names
- *territory* specifies the conventions for default date, monetary and numeric formats
- *characterset* specifies the encoding used by the client application

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

The NLS_LANG parameter on Windows can be set

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

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

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

Note:

Oracle Database Globalization Support Guide for information about the NLS_LANG parameter and Globalization Support initialization parameters

C.1.1.3 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, 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 are not required 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 the following table.

The following table 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

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

OEM Code Page	Oracle Character Set for Console Mode
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

Learn how to install the appropriate language translation resources.

To view the user interface of Oracle components in different languages, you must install the appropriate language translations along with the component.

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.

To install translation resources:

1. Start Oracle Universal Installer.
2. In the Configure Security Updates screen enter the relevant information and click **Next**.
3. In the Select Installation Option screen, select the installation option and click **Next**.
4. In the System Class screen, select the type of system class for installing the database, and click **Next**.
5. In the Grid Installation Options screen, select the type of database installation you want to perform, and click **Next**.
6. In 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 **Next**.

Note:

Oracle Universal Installer ignores languages in the Selected Languages field for which no translation is available.

See Also: *Oracle Database Vault Administrator's Guide*

C.2 Running Oracle Universal Installer in Different Languages

Learn how to run Oracle Universal Installer in other languages.

Your operating system locale determines the language in which Oracle Universal Installer runs. You can run Oracle Universal Installer in one of these languages:

- Brazilian Portuguese (pt_BR)
- French (fr)
- German (de)
- Italian (it)
- Japanese (ja)
- Korean (ko)
- Simplified Chinese (zh_CN)
- Spanish (es)
- Traditional Chinese (zh_TW)

To run Oracle Universal Installer in a supported language, change the locale in which your operating system session is running before you start Oracle Universal Installer. If the selected language is not one of the supported languages, then Oracle Universal Installer runs in English.

1. Change the locale for the operating system user and the System Locale as described in the section "Determining the Operating System Locale" "Determining the Operating System Locale"
2. Run Oracle Universal Installer by following the instructions in the section "Installing Oracle Database" in Chapter 6.

Troubleshooting the Oracle Database Installation

Learn how to troubleshoot the Oracle Database installation.

See Also: *Oracle Configuration Manager Installation and Administration Guide*

[Verifying Requirements](#) (page D-1)

Review the system requirements to ensure that you have met all the preinstallation tasks.

[Encountering Installation Errors](#) (page D-2)

Learn how to address installation errors.

[Reviewing the Log of an Installation Session](#) (page D-2)

Learn how to review the log file for information about the possible causes of the problem.

[Silent Mode Response File Error Handling](#) (page D-3)

Review this section about how to address silent mode response file errors.

[Troubleshooting Configuration Assistants](#) (page D-3)

Learn how to troubleshoot an installation error that occurs when a configuration assistant is running.

[Troubleshooting Inventory Issues](#) (page D-4)

Learn how to troubleshoot inventory issues.

[Cleaning Up After a Failed Installation](#) (page D-5)

If an installation fails, you must remove files that Oracle Universal Installer created during the attempted installation and remove the Oracle home directory.

D.1 Verifying Requirements

Review the system requirements to ensure that you have met all the preinstallation tasks.

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

- Check to ensure that the system meets the requirements and that you have completed all of the preinstallation tasks.
- Read the release notes for the product on your platform before installing it. You can find the latest version of the release notes on the Oracle Help Center website:

<http://docs.oracle.com>

D.2 Encountering Installation Errors

Learn how to address installation errors.

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, then click **Back** to return to the window and correct the information.

Related Topics:

[Reviewing the Log of an Installation Session](#) (page D-2)

Learn how to review the log file for information about the possible causes of the problem.

[Silent Mode Response File Error Handling](#) (page D-3)

Review this section about how to address silent mode response file errors.

[Troubleshooting Configuration Assistants](#) (page D-3)

Learn how to troubleshoot an installation error that occurs when a configuration assistant is running.

[Cleaning Up After a Failed Installation](#) (page D-5)

If an installation fails, you must remove files that Oracle Universal Installer created during the attempted installation and remove the Oracle home directory.

D.3 Reviewing the Log of an Installation Session

Learn how to review the log file for information about the possible causes of the problem.

During an installation, Oracle Universal Installer records all the actions that it performs in a log file. If you encounter problems during the installation, review the log file for information about the possible causes of the problem. By default, the log files are located in the following directory:

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

Log filenames from interactive installations take the form:

```
installActionsdate_time.log  
oraInstalldate_time.err  
oraInstalldate_time.out
```

For example, if an interactive installation occurred at 9:00:56 a.m. on October 14, 2005, then the log file is named:

```
installActions2005-10-14_09-00-56AM.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.

Related Topics:

[Silent Mode Response File Error Handling](#) (page D-3)

Review this section about how to address silent mode response file errors.

D.4 Silent Mode Response File Error Handling

Review this section about how to address silent mode response file errors.

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

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 silent-mode installation or configuration process ends.

Related Topics:

[Reviewing the Log of an Installation Session](#) (page D-2)

D.5 Troubleshooting Configuration Assistants

Learn how to troubleshoot an installation error that occurs when a configuration assistant is running.

To troubleshoot:

- Review the installation log files.
- Review the specific configuration assistant log file located in the following directory:

`ORACLE_BASE\cfgtoollogs`.

Try to fix the issue that caused the error.

Note:

Ensure that there is no space in the path.

- If you see the "Fatal Error. Reinstall message", look for the cause of the problem by reviewing the log files.

[Configuration Assistant Failures](#) (page D-4)

Oracle Configuration Assistant failures are noted at the bottom of the installation window.

[Irrecoverable Errors](#) (page D-4)

Review the procedure in this section about how to address irrecoverable errors while a configuration assistant is running.

Related Topics:

[Reviewing the Log of an Installation Session](#) (page D-2)

Learn how to review the log file for information about the possible causes of the problem.

[Irrecoverable Errors](#) (page D-4)

Review the procedure in this section about how to address irrecoverable errors while a configuration assistant is running.

D.5.1 Configuration Assistant Failures

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

Review the procedure in this section about how to address irrecoverable errors while a configuration assistant is running.

If you receive an irrecoverable error:

1. Remove the failed installation.
2. Correct the cause of the irrecoverable error.
3. Reinstall the Oracle software.

Related Topics:

[Cleaning Up After a Failed Installation](#) (page D-5)

D.6 Troubleshooting Inventory Issues

Learn how to troubleshoot 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.

- 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.

See Also:

Oracle Universal Installer and OPatch User's Guide for Windows and UNIX

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.

Index

A

accessibility software, Java Access Bridge, [A-1](#)
account control, [2-3](#)

B

bind order of the adapters
about, [3-10](#)

C

certification, hardware and software, [3-14](#)
computers, non-networked, [3-9](#)
configuration assistants
suppressing during silent or response file
installation, [B-6](#)
troubleshooting, [D-3](#)

D

Deinstallation Tool
about, [6-2](#)
disk space
checking, [3-3](#)
documentation
additional Oracle documentation, [x](#)
DVD drive, installing from, [4-3](#)

E

environment variables
NLS_LANG, [C-3](#)
TEMP and TMP
hardware requirements, [3-4](#)
errors
configuration assistants, [D-3](#)
installation, [D-2](#), [D-4](#)
silent mode, [D-3](#)

F

fatal errors, [D-4](#)

file systems
system requirements, [3-2](#)
files
Oracle Universal Installer log files, [D-2](#)

G

globalization
localization for client connections, [5-3](#)
NLS_LANG
and client connections, [5-3](#)
globalization support, [C-1](#)

H

hardware certification, [3-14](#)
host name, setting before installation, [3-9](#)

I

installActions.log file, [D-2](#)
installation
accessing installation software, [4-3](#)
DVD drive, [4-3](#)
errors
log session, [D-2](#)
while configuration assistant runs, [D-4](#)
Java Access Bridge, [A-2](#)
laptops, [3-9](#)
log files, [D-2](#)
overview, [2-1](#)
postinstallation tasks, [5-1](#)
remote installation with remote access software,
[4-5](#)
remote installation, DVD drive, [4-3](#)
response file mode error handling, [D-3](#)
response files
errors, [D-3](#)
reviewing a log of an installation session, [D-2](#)
silent mode error handling, [D-3](#)
troubleshooting, [D-1](#)
installation software, accessing, [4-3](#)

J

Java Access Bridge

- about, [A-1](#)
- installing, [A-2](#)

JRE (Java Runtime Environment)

- requirements, [3-2](#)

L

languages

- installing Oracle components in different languages, [C-6](#)
- using Oracle components in different languages, [C-5](#)

laptops, installing Oracle Database on, [3-9](#)

log files

- reviewing an installation session, [D-2](#)
- troubleshooting, [D-2](#)

loopback adapters

- about, [3-10](#)
- checking if installed, [3-11](#)
- installing, [3-10](#)
- installing on Windows Server 2008, [3-12](#)
- non-networked computers, [3-9](#)
- removing, [3-13](#)
 - See also* network adapters, primary network adapters

M

multihomed computers, installing on, [3-9](#)

multiple Oracle homes

- setting, [3-9](#)

My Oracle Support site

- about, [3-14](#)
- accessing, [3-14](#)

N

Net Configuration Assistant (NetCA)

- suppressing during silent or response file installation, [B-6](#)
- troubleshooting, [D-3](#)

netca.rsp file

- about, [B-4](#)

network adapters

- how primary adapter is determined, [3-10](#)
- non-networked computers, [3-9](#)

network cards, multiple, [3-9](#)

network protocols, supported, [3-5](#)

network topics

- laptops, [3-9](#)
- loopback adapters, [3-10](#)
- multiple network cards, [3-9](#)
- non-networked computers, [3-9](#)

NLS_LANG environment variable, [C-3](#)

non-networked computers, [3-9](#)

NTFS system requirements, [3-2](#)

O

operating systems, supported, [3-4](#)

Oracle Automatic Storage Management (Oracle ASM)

- silent or response file mode installations, [B-3](#)

Oracle components

- using in different languages, [C-5](#)

Oracle Database

- Windows Terminal Services support, [3-15](#)

Oracle Database Client

- requirements, [3-5](#)

Oracle Database Configuration Assistant (DBCA)

- suppressing during silent or response file installation, [B-6](#)
- troubleshooting, [D-3](#)

Oracle home directory

- multiple homes, network considerations, [3-9](#)

Oracle host name, setting before installation, [3-9](#)

Oracle Schemas, [x](#)

oracle service user, [3-8](#)

Oracle Universal Installer

- location of executable, [B-6](#)
- running in different languages, [C-6](#)

Oracle Universal Installer (OUI)

- log files, [D-2](#)
- response files, [B-1](#)
- running at command line, [B-6](#)

ORACLE_HOSTNAME environment variable

- setting before installation, [3-9](#)

P

patch set information, downloading, [5-2](#)

postinstallation tasks, [5-1](#)

primary network adapters

- how determined, [3-10](#)

See also loopback adapters, network adapters

R

remote access software, [4-5](#)

remote installations

- DVD drive, [4-3](#)
- remote access software, [4-5](#)

requirements

- for JRE, [3-2](#)
- hard disk space, [3-2](#)
- hardware, verifying, [3-3](#)
- Oracle Database Client, [3-5](#)
- software, [3-4](#)
- Web browser support, [3-15](#)
- Windows Terminal Services, [3-15](#)

response file mode

- about, [B-1](#)

response file mode (*continued*)
error handling, [D-3](#)
reasons for using, [B-2](#)
See also response file mode
See also response files, silent mode

response files
about, [B-1](#)
creating
with record mode, [B-5](#)
with template, [B-3](#)
error handling, [D-3](#)
general procedure, [B-3](#)
netca.rsp, [B-4](#)
passing values at command line, [B-2](#)
specifying with Oracle Universal Installer, [B-6](#)
using, [B-1](#)

response files installation
about, [B-1](#)

S

schemas
Oracle Schemas, about, [x](#)

setup.exe
See Oracle Universal Installer (OUI)

silent mode
about, [B-1](#)
error handling, [D-3](#)
errors, [D-3](#)
reasons for using, [B-2](#)
See also response file mode, response files

software certification, [3-14](#)

system requirements
on NTFS file systems, [3-2](#)

T

TEMP environment variable, hardware requirements,
[3-4](#)

temporary directory, [3-3](#)

temporary disk space
checking, [3-3](#)
freeing, [3-3](#)

tmp directory
checking space in, [3-3](#)
freeing space in, [3-3](#)

TMP environment variable
hardware requirements, [3-4](#)

troubleshooting
fatal errors, [D-4](#)
Inventory log files, [D-2](#)

U

unsupported components
on Windows Terminal Services, [3-15](#)

user account control, [2-3](#)

user accounts, managing, [2-3](#)

W

Web browser support, [3-15](#)

Windows
compilers, supported, [3-5](#)
network protocol, supported, [3-5](#)
operating systems, supported, [3-4](#)

Windows 7
user account control, [2-3](#)

Windows 8
user account control, [2-3](#)

Windows Server 2008
user account control, [2-3](#)

Windows Server 2008 R2
user account control, [2-3](#)

Windows Terminal Services
support, [3-15](#)
unsupported components, [3-15](#)

