

Oracle® Database

Client Quick Installation Guide

12c Release 1 (12.1) for IBM AIX on POWER Systems (64-Bit)

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This guide describes how to quickly install Oracle Database Client 12c Release 1 (12.1) on IBM AIX on POWER Systems (64-bit). It includes information about the following:

- [Reviewing Information About This Guide](#)
- [Logging In to the System as root](#)
- [Configuring Servers for Oracle Database](#)
- [Reviewing Operating System Security Common Practices](#)
- [About Operating System Requirements](#)
- [Operating System Requirements for IBM AIX on POWER Systems \(64-Bit\)](#)
- [Additional Drivers and Software Packages for IBM AIX on POWER Systems \(64-Bit\)](#)
- [Checking the Software Requirements](#)
- [Separate 32-Bit Client Software for 64-Bit Platforms](#)
- [Creating Required Operating System Groups and Users](#)
- [Creating Required Directories](#)
- [Configuring Oracle Software Owner Environment](#)
- [Mounting the Product Disc](#)
- [Installing Oracle Database Client](#)
- [What to Do Next?](#)
- [Additional Information](#)
- [Documentation Accessibility](#)

1 Reviewing Information About This Guide

This guide describes how to complete a default installation of Oracle Database Client on a system that does not have any Oracle software installed on it. It describes how to install one of the following installation types:

- **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.

- **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 as compared to the other Oracle Database Client installation types.

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

This guide does not describe how to install the Custom installation type. It also does not describe how to perform an in-place client upgrade or how to enable I/O completion ports.

Where to Get Additional Installation Information

For more detailed information about installing Oracle Database Client, refer to *Oracle Database Client Installation Guide for IBM AIX on POWER Systems (64-Bit)*.

The product documentation for Oracle Database products is available in both HTML and PDF formats online:

<http://docs.oracle.com/>

2 Logging In to the System as root

Before you install the Oracle software, you must complete several tasks as the `root` user. To log in as the `root` user, complete one of the following procedures:

Note: Unless you intend to complete a silent-mode installation, you must install the software from an X Window System workstation, an X terminal, or a PC or other system with X server software installed.

- Following are the steps for installing the software from an X Window System workstation or X terminal:
 1. Start a local terminal session, for example, an X terminal (`xterm`).
 2. If you are not installing the software on the local system, then enter the following command to enable the remote host to display X applications on the local X server:

```
$ xhost fully_qualified_remote_host_name
```

For example:

```
$ xhost somehost.us.example.com
```

3. If you are not installing the software on the local system, then use the `ssh`, `rlogin`, or `telnet` command to connect to the system where you want to install the software:

```
$ telnet fully_qualified_remote_host_name
```

4. If you are not logged in as the `root` user, then enter the following command to switch user to `root`:

```
$ sudo sh
password:
#
```

- Following are the steps for installing the software from a PC or other system with X server software:

Note: If necessary, refer to your X server documentation for more information about completing this procedure. Depending on the X server software that you are using, you may have to complete the tasks in a different order.

1. Start the X server software.
2. Configure the security settings of the X server software to permit remote hosts to display X applications on the local system.
3. Connect to the remote system where you want to install the software and start a terminal session on that system, for example, an X terminal (`xterm`).
4. If you are not logged in as the `root` user on the remote system, then enter the following command to switch user to `root`:

```
$ sudo sh
password:
#
```

3 Configuring Servers for Oracle Database

This section describes the following operating system tasks you must complete before you install Oracle Database:

- [Checking Server Hardware and Memory Configuration](#)
- [General Server Minimum Requirements](#)
- [Server Storage Minimum Requirements](#)
- [Server Memory Minimum Requirements](#)

3.1 Checking Server Hardware and Memory Configuration

Run the following commands to check your current system information:

1. To determine the physical RAM size, enter the following command:

```
# /usr/sbin/lssattr -E -l sys0 -a realmem
```
2. To determine the available RAM and swap space, enter the following command:

```
# /usr/sbin/lssps -s
```

Note: Oracle recommends that you take multiple values for the available RAM and swap space before finalizing a value. This is because the available RAM and swap space keep changing depending on the user interactions with the computer.

3. To determine the size of the configured swap space, enter the following command:

```
# /usr/sbin/lssps -a
```

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

Note: Contact your operating system vendor for swap space allocation guidance for your server. The vendor guidelines supersede the swap space requirements listed in this guide

4. To determine the amount of space available in the `/tmp` directory, enter the following command:

```
# df -m /tmp
```

If the free space available in the `/tmp` directory is less than what is required, then complete one of the following steps:

- Delete unnecessary files from the `/tmp` directory to meet the disk space requirement.
- Set the `TMP` and `TMPDIR` environment variables when setting the `oracle` user's environment.

See Also: "[Configuring Oracle Software Owner Environment](#)" for more information about setting `TMP` and `TMPDIR`

- Extend the file system that contains the `/tmp` directory.
5. To determine the amount of free disk space on the system, enter one of the following commands:

```
# df -g  
# df -m
```

6. To determine if the system architecture can run the Oracle software, enter the following command:

```
# /usr/bin/getconf HARDWARE_BITMODE
```

The expected output of this command is 64. If you do not see the expected output, then you cannot install the software on this system.

To determine if the system is started in 64-bit mode, enter the following command:

```
# /usr/sbin/bootinfo -K
```

The result of this command must be 64, indicating that the 64-bit kernel is enabled.

Verify that the processor architecture matches the Oracle software release to install. If you do not see the expected output, then you cannot install the software on this system.

Note: For AIX Based Systems, Oracle Database supports 64-bit kernel and does not provide support for 32-bit kernel applications

7. To determine the run level enter the following command:

```
/usr/bin/who -r
```

3.2 General Server Minimum Requirements

Ensure the following general minimum requirements on your system:

- Ensure that the system is started with runlevel 2.
- Ensure display cards provide at least 1024 x 768 display resolution, so that Oracle Universal Installer displays correctly while performing a system console-based installation

3.3 Server Storage Minimum Requirements

Ensure that your system meets the following minimum storage requirements:

- Ensure that your system meets the disk space requirements for software files as described in the following table:

Table 1 *Disk Space Requirements for Software Files on IBM AIX on POWER Systems (64-Bit)*

Installation Type	Disk Space
Instant Client	450 MB
Administrator	4.5 GB
Runtime	2.5 GB

- 130 MB of space in the /tmp directory.

If the free space available in the /tmp directory is less than what is required, then complete one of the following steps:

- Delete unnecessary files from the /tmp directory to meet the disk space requirement.
- Set the TMP and TMPDIR environment variables when setting the oracle user's environment.

See Also: [Configuring Oracle Software Owner Environment](#) for more information about setting TMP and TMPDIR

- Extend the file system that contains the /tmp directory.

3.4 Server Memory Minimum Requirements

Ensure that your system meets the following memory requirements:

At least 256 MB of RAM

[Table 2](#) describes the relationship between the installed RAM and the configured swap space recommendation:

Table 2 *Swap Space Requirement for IBM AIX on POWER Systems (64-Bit)*

RAM	Swap Space
256 MB	3 times the size of RAM

Table 2 (Cont.) Swap Space Requirement for IBM AIX on POWER Systems (64-Bit)

RAM	Swap Space
Between 256 MB and 512 MB	2 times the size of RAM
Between 512 MB and 2 GB	1.5 times the size of RAM
Between 2 GB and 16 GB	Equal to the size of RAM
More than 16 GB	16 GB

4 Reviewing Operating System Security Common Practices

Secure operating systems are an important basis for general system security. Ensure that your operating system deployment is in compliance with common security practices as described in your operating system vendor security guide.

5 About Operating System Requirements

Depending on the products that you intend to install, verify that you have the required operating system kernel and packages installed.

Requirements listed in this document are current as of the date listed on the title page. To obtain the most current information about kernel requirements, see the online version at the following URL:

<http://docs.oracle.com/>

Oracle Universal Installer performs checks your system to verify that it meets the listed operating system package requirements. To ensure that these checks complete successfully, verify the requirements before you start Oracle Universal Installer.

6 Operating System Requirements for IBM AIX on POWER Systems (64-Bit)

The filesets and Authorized Problem Analysis Reports (APARs) listed in this section are supported on IBM AIX on POWER Systems (64-Bit) systems for Oracle Database and Oracle Grid Infrastructure 12c:

- [Supported IBM AIX 6.1 Versions](#)
- [Supported IBM AIX 7.1 Versions](#)
- [Supported IBM AIX 7.2 Versions](#)

6.1 Supported IBM AIX 6.1 Versions

Use the following information to check the minimum supported IBM AIX 6.1 on POWER Systems (64-bit) versions:

Table 3 IBM AIX 6.1 on POWER Systems (64-Bit) Minimum Operating System Requirements

Item	Minimum Requirements
AIX 6.1 Operating System	<p>AIX 6.1 Technology Level 7 Service Pack 3 ("6100-07-03-1207") or later, 64-bit kernel</p> <p>Note: You can install on AIX 6.1 Technology Level 7 but Oracle recommends that you install on AIX 6.1 Technology Level 9 Service Pack 3 (6100-09-03-1415) or later. The latter includes all the APARs and operating system fixes listed in this table.</p>
AIX 6.1 Operating System Filesets	<p>The following operating system filesets are required:</p> <ul style="list-style-type: none">■ bos.adt.base■ bos.adt.lib■ bos.adt.libm■ bos.perf.libperfstat■ bos.perf.perfstat■ bos.perf.proctools■ x1C.aix61.rte:11.1.0.4 or later■ x1C.rte.11.1.0.4 or later

Table 3 (Cont.) IBM AIX 6.1 on POWER Systems (64-Bit) Minimum Operating System Requirements

Item	Minimum Requirements
AIX 6.1 APARs and Other Operating System Fixes	<p>The following, or later, patches are required:</p> <p>If you are using the minimum operating system TL level for AIX 6.1 listed above, then install all the following AIX APAR fixes:</p> <ul style="list-style-type: none"> ■ IV16716 - java won't instantiate if <code>prot_none</code> used for shared <code>mmap</code> region ■ IV20880 - system hangs or crashes when app uses shared <code>symtab</code> capability ■ IV21128 - system crash due to freed socket when <code>socketpair()</code> call used ■ IV28319 - <code>shlap</code> process fails when shared symbol table feature is used ■ IV30712 - <code>thread_cputime()</code> reports incorrect stime ■ IV31203 - <code>chmod -r</code> fails with eoverflow error ■ IV31603 - <code>chown -r</code> fails with eoverflow error ■ IV33433 - runtime linking failed to bind the <code>bss</code> symbol exported from main ■ IV34685 - loading 5.3 tls enabled libs by 5.2 apps caused core dump in 32b ■ IV39104 - link fails with undocumented compiler flag and <code>thread-local stg</code> ■ IV45072 - a special-purpose linker flag works incorrectly ■ IV45073 - add ability to reorder toc symbols in limited circumstances <p>Note:</p> <ul style="list-style-type: none"> ■ If you are using a later TL level than the minimum level listed for this release, then contact IBM to determine if the required APARs listed in this section are included in the TL level that you have on your system. If they are included, then you do not have to install them. If they are not included, then you must install the equivalent APAR for the appropriate TL level. ■ AIX APAR numbers are tied to AIX versions and technology levels. Download and install the APAR that matches your AIX versions and Technology Levels from the IBM fix central website: http://www.ibm.com

6.2 Supported IBM AIX 7.1 Versions

Use the following information to check the minimum supported IBM AIX 7.1 on POWER Systems (64-bit) versions:

Table 4 IBM AIX 7.1 on POWER Systems (64-Bit) Minimum Operating System Requirements

Item	Minimum Requirements
AIX 7.1 Operating System	<p>AIX 7.1 Technology Level 1 Service Pack 3 ("7100-01-03-1207") or later, 64-bit kernel</p> <p>Note: You can install on AIX 7.1 Technology Level 1 but Oracle recommends that you install on AIX 7.1 Technology Level 3 Service Pack 3 (7100-03-03-1415) or later. The latter includes all the APARs and operating system fixes listed in this table.</p>
AIX 7.1 Operating System Filesets	<p>The following operating system filesets are required:</p> <ul style="list-style-type: none"><li data-bbox="792 543 987 567">■ bos.adt.base<li data-bbox="792 583 976 606">■ bos.adt.lib<li data-bbox="792 623 987 646">■ bos.adt.libm<li data-bbox="792 663 1084 686">■ bos.perf.libperfstat<li data-bbox="792 703 1047 726">■ bos.perf.perfstat<li data-bbox="792 743 1058 766">■ bos.perf.proctools<li data-bbox="792 783 1190 806">■ xlc.aix61.rte.11.1.0.4 or later<li data-bbox="792 823 1117 846">■ xlc.rte.11.1.0.4 or later

Table 4 (Cont.) IBM AIX 7.1 on POWER Systems (64-Bit) Minimum Operating System Requirements

Item	Minimum Requirements
AIX 7.1 APARs and Other Operating System Fixes	<p>The following, or later, patches are required:</p> <p>If you are using the minimum operating system TL level for AIX 7.1 listed above, then install all the following AIX APAR fixes:</p> <ul style="list-style-type: none"> ■ IV16737 - java won't instantiate if prot_none used for shared mmap region ■ IV21116 - system hangs or crashes when app uses shared symtab capability ■ IV21235 - system crash due to freed socket when socketpair() call used ■ IV28925 - shlap process fails when shared symbol table feature is used ■ IV34869 - thread_cputime() returns incorrect values ■ IV35057 - loading 5.3 tls enabled libs by 5.2 apps caused core dump in 32b ■ IV37790 - chmod -r fails with eoverflow error ■ IV39136 - link fails with undocumented compiler flag and thread-local stg ■ IV41380 - chown -r fails with eoverflow error ■ IV41415 - runtime linking failed to bind the bss symbol exported from main ■ IV45072 - a special-purpose linker flag works incorrectly ■ IV45073 - add ability to reorder toc symbols in limited circumstances <p>Note:</p> <ul style="list-style-type: none"> ■ If you are using a later TL level than the minimum level listed for this release, then contact IBM to determine if the required APARs listed in this section are included in the TL level that you have on your system. If they are included, then you do not have to install them. If they are not included, then you must install the equivalent APAR for the appropriate TL level. ■ AIX APAR numbers are tied to AIX versions and technology levels. Download and install the APAR that matches your AIX versions and Technology Levels from the IBM fix central website: http://www.ibm.com

6.3 Supported IBM AIX 7.2 Versions

Use the following information to check the minimum supported IBM AIX 7.2 on POWER Systems (64-bit) versions:

Table 5 IBM AIX 7.2 on POWER Systems (64-Bit) Minimum Operating System Requirements

Item	Minimum Requirements
AIX 7.2 Operating System	<p>AIX 7.2 Technology Level 0 Service Pack 1 ("7200-00-01") or later, 64-bit kernel</p> <p>Note: Service Pack 1 is mandatory.</p>
AIX 7.2 Operating System Filesets	<p>The following operating system filesets are required:</p> <ul style="list-style-type: none"> ■ bos.adt.base ■ bos.adt.lib ■ bos.adt.libm ■ bos.perf.libperfstat ■ bos.perf.perfstat ■ bos.perf.proctools ■ xlc.aix61.rte.13.1.2.0 or later ■ xlc.rte.13.1.2.0 or later
AIX 7.2 APARs and Other Operating System Fixes	<p>The following, or later, patches are required:</p> <p>If you are using the minimum operating system TL level for AIX 7.2 listed above, then install all the following AIX APAR fixes:</p> <ul style="list-style-type: none"> ■ IV79639 - after live update ifix state may be left as Q; reboot required ■ IV79848 - mirrorvg/syncvg on minimal and migration install fails ■ IV80412 - system crash application sets signal mask <p>Note: Install IV80412m1a as it includes the required fix for IV79441 - possible system crash using procs to read 32bit process map fil.</p> <p>Note:</p> <ul style="list-style-type: none"> ■ If you are using a later TL level than the minimum level listed for this release, then contact IBM to determine if the required APARs listed in this section are included in the TL level that you have on your system. If they are included, then you do not have to install them. If they are not included, then you must install the equivalent APAR for the appropriate TL level. ■ AIX APAR numbers are tied to AIX versions and technology levels. Download and install the APAR that matches your AIX versions and Technology Levels from the IBM fix central website at the following URL: <p>http://www.ibm.com</p>

7 Additional Drivers and Software Packages for IBM AIX on POWER Systems (64-Bit)

- [Installation Requirements for Open Database Connectivity](#)
- [Installation Requirements for Oracle Messaging Gateway](#)
- [Installation Requirements for Programming Environments](#)
- [Installation Requirements for Web Browsers](#)

You are not required to install additional drivers and packages, but you may choose to install or configure drivers and packages in the following list:

See Also: "Oracle Application Express Installation Requirements" and "Recommended Pre-installation Tasks" in *Oracle Application Express Installation Guide*

7.1 Installation Requirements for Open Database Connectivity

Review the following sections if you plan to install Open Database Connectivity (ODBC):

- [About ODBC Drivers and Oracle Database](#)
- [Installing ODBC Drivers for IBM AIX](#)

7.1.1 About ODBC Drivers and Oracle Database

Open Database Connectivity (ODBC) is a set of database access APIs that connect to the database, prepare, and then run SQL statements on the database. An application that uses an ODBC driver can access non-uniform data sources, such as spreadsheets and comma-delimited files.

7.1.2 Installing ODBC Drivers for IBM AIX

Oracle ODBC driver on IBM AIX is certified with ODBC Driver Manager 2.3.1. To use ODBC with Oracle Database, you must also install `gcc 4.2.1` or later.

You do not require ODBC drivers for Oracle Clusterware or Oracle Database.

Download and install the ODBC Driver from the following website:

<http://www.unixodbc.org/>

7.2 Installation Requirements for Oracle Messaging Gateway

Review the following sections to install Oracle Messaging Gateway:

- [About Oracle Messaging Gateway](#)
- [Installing Oracle Messaging Gateway](#)

7.2.1 About Oracle Messaging Gateway

Oracle Messaging Gateway is a feature of the Oracle database. It enables communication between applications based on non-Oracle messaging systems and Oracle Streams Advanced Queuing.

Oracle Messaging Gateway supports the integration of Oracle Streams Advanced Queuing (AQ) with applications based on WebSphere and TIBCO Rendezvous. For information on supported versions see *Oracle Database Advanced Queuing User's Guide*.

7.2.2 Installing Oracle Messaging Gateway

Oracle Messaging Gateway is installed with the Enterprise Edition of Oracle Database.

For AIX7.1, check My Oracle Support Certification for current requirements:

<https://support.oracle.com>

If you require a CSD for IBM WebSphere MQ, then see the following website for download and installation information:

7.3 Installation Requirements for Programming Environments

Review the following sections to install programming environments:

- [About Programming Environments and Oracle Database](#)
- [Configuring Support for Programming Environments](#)

7.3.1 About Programming Environments and Oracle Database

Oracle Database supports multiple programming languages for application development in different environments. Some languages require that you install additional compiler packages for the operating system.

Programming environments are options. They are not required for Oracle Database.

See Also: *Oracle Database Development Guide* for an overview of programming environments

7.3.2 Configuring Support for Programming Environments

Ensure that your system meets the requirements for the programming environment you want to configure:

Table 6 Requirements for Programming Environments for IBM AIX on POWER Systems (64-Bit)

Programming Environments	Support Requirements
Java Database Connectivity (JDBC) / Oracle Call Interface (OCI)	JDK 6 (Java 6 64-bit 6.0.0.325 SR10 or later) with the JNDI extension with Oracle Java Database Connectivity and Oracle Call Interface drivers. JDK 7 (Java 7 64-bit 7.0.0.0 or later) with the JNDI extension with Oracle Java Database Connectivity and Oracle Call Interface drivers. JDK 1.6 is installed with this release. Note: These are not mandatory for the database installation.
Oracle C++ Oracle C++ Call Interface Pro*C/C++ Oracle XML Developer's Kit (XDK)	IBM XL C/C++ Enterprise Edition for AIX, V11.1 (11.1.0.9) January 2012 PTF. IBM XL C++ Runtime for AIX, V11.1 (11.1.0.4) November 2011. Download this software from the following URL: http://www-01.ibm.com/support/docview.wss?uid=swg24031864 http://www-01.ibm.com/support/docview.wss?uid=swg24031426 Note: Even if you do not install the IBM XL C/C++ compiler, you require the compiler for the AIX Runtime Environment component. The runtime environment file sets can be downloaded with no license requirements. The minimum recommended runtime environment for IBM AIX is IBM XL C/C++ for AIX V11.1.0.4 Runtime Environment. It is available at the following URL: http://www-01.ibm.com/support/docview.wss?uid=swg24031426

Table 6 (Cont.) Requirements for Programming Environments for IBM AIX on POWER Systems (64-Bit)

Programming Environments	Support Requirements
Pro*COBOL	IBM COBOL for AIX Version 4.1.1 (March 2012 PTF) Micro Focus Server Express 5.1
Pro*FORTRAN	IBM XL Fortran Runtime for AIX, Version 13.1, January 2012 PTF
ADA	OC Systems PowerAda 5.5 For more information about OC Systems and PowerAda, go to: http://www.ocsystems.com/prod_powerada.html

7.4 Installation Requirements for Web Browsers

Web browsers are required only if you intend to use Oracle Enterprise Manager Database Express and Oracle Enterprise Manager Cloud Control. Web browsers must support JavaScript, and the HTML 4.0 and CSS 1.0 standards. For a list of browsers that meet these requirements see the Enterprise Manager certification matrix on My Oracle Support:

<https://support.oracle.com>

See Also: *Oracle Enterprise Manager Cloud Control Basic Installation Guide* for steps on how to access the Enterprise Manager certification matrix

8 Checking the Software Requirements

To ensure that the system meets these requirements, perform the following steps:

1. To determine the distribution and version of AIX installed, enter the following command:

```
# oslevel -s
```

If the operating system version is lower than what is listed in "[Operating System Requirements for IBM AIX on POWER Systems \(64-Bit\)](#)", then upgrade your operating system accordingly to the currently supported or later version and level.

AIX maintenance packages are available from the IBM fix central website:

<http://www.ibm.com>

2. To determine if the required filesets are installed and committed, enter a command similar to the following:

```
# lspp -l bos.adt.base bos.adt.lib bos.adt.libm bos.perf.perfstat \  
bos.perf.libperfstat bos.perf.proctools
```

3. To determine the supported kernel mode, enter a command similar to the following:

```
# getconf KERNEL_BITMODE
```

Note:

- The expected output of this command is 64. If you do not see the expected output, then you cannot install the software on this system.
 - Oracle Database supports 64-bit kernel and does not provide support for 32-bit kernel applications.
-
-

4. To determine if an APAR is installed, enter a command similar to the following:

```
# /usr/sbin/instfix -i -k "IV16716 IV20880 IV21128 IV28319"
```

If an APAR is not installed, then download it from the IBM fix central website and install it:

<http://www.ibm.com>

5. If you require a CSD for WebSphere MQ, then refer to the IBM website for download and installation information:

<http://www.ibm.com>

9 Separate 32-Bit Client Software for 64-Bit Platforms

The 64-bit Oracle Database 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 into a separate Oracle home.

The 64-bit Oracle Database Client preinstallation requirements apply to 32-bit Oracle Database Client also.

See Also: My Oracle Support note 883702.1 for more information:

<https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=883702.1>

10 Creating Required Operating System Groups and Users

The following local operating system groups and users are required if you are installing Oracle Database Client:

- The Oracle Inventory group (oinstall)
- The Oracle software owner (oracle)

To determine whether these groups and users exist, and if necessary, to create them, follow these steps:

1. To determine whether the oinstall group exists, enter the following command:

```
# more /etc/oraInst.loc
```

If the output of this command shows the oinstall group name, then the group exists.

If the oraInst.loc file exists, then the output from this command is similar to the following:

```
inventory_loc=/u01/app/oraInventory
```

```
inst_group=oinstall
```

The `inst_group` parameter shows the name of the Oracle Inventory group, `oinstall`.

2. If necessary, use the following procedure to create the `oinstall` group:

- a. Enter the following command:

```
# smit security
```

- b. Choose the appropriate menu items to create the `oinstall` group.

- c. Press **F10** to exit.

3. To determine whether the `oracle` user exists and belongs to the correct groups, enter the following command:

```
# id oracle
```

If the `oracle` user exists, then this command displays information about the groups to which the user belongs. The output should be similar to the following, indicating that `oinstall` is the primary group and `dba` is a secondary group:

```
uid=440(oracle) gid=200(oinstall) groups=201(dba),202(oper)
```

4. If the `oracle` user does not exist or if you want to create the `oracle` user, then use the following procedure:

- a. Enter the following command:

```
# smit security
```

- b. Choose the appropriate menu items to create the `oracle` user, specifying the following information:

In the **Primary GROUP** field, specify the Oracle Inventory group, for example `oinstall`.

In the **Group SET** field, specify the OSDBA group and if required, the OSOPER group. For example `dba`.

- c. Press **F10** to exit.

5. If the `oracle` user exists, but its primary group is not `oinstall` or it is not a member of the `dba` group, then use the following procedure to modify the `oracle` user:

- a. Enter the following command:

```
# smit security
```

- b. Choose the appropriate menu items to modify the `oracle` user, specifying the following information:

In the **Primary GROUP** field, specify the Oracle Inventory group, for example `oinstall`.

In the **Group SET** field, specify the OSDBA group and if required, the OSOPER group. For example `dba`.

- c. Press **F10** to exit.

6. Enter the following command to set the password of the `oracle` user:


```
# passwd oracle
```

11 Creating Required Directories

Note: If you do not want to create a separate Oracle data file directory, then you can install the data files in a subdirectory of the Oracle base directory. However, this is not recommended for production databases.

To create the Oracle base directory:

1. Enter the following command to display information about all mounted file systems:

```
# df -k
```

This command displays information about all the file systems mounted on the system, including:

- The physical device name
 - The total amount, used amount, and available amount of disk space
 - The mount point directory for that file system
2. From the display, identify either one or two file systems that meet the disk space requirements mentioned earlier in this section.
 3. Note the name of the mount point directory for each file system that you identified.
 4. Enter commands similar to the following to create the recommended subdirectories in the mount point directory that you identified and set the appropriate owner, group, and permissions on them:

```
# mkdir -p /mount_point/app/  
# chown -R oracle:oinstall /mount_point/app/  
# chmod -R 775 /mount_point/app/
```

For example:

```
# mkdir -p /u01/app/  
# chown -R oracle:oinstall /u01/app/  
# chmod -R 775 /u01/app/
```

12 Configuring Oracle Software Owner Environment

You run Oracle Universal Installer from the `oracle` account. However, before you start Oracle Universal Installer you must configure the environment of the `oracle` user. To configure the environment, you must:

- Set the default file mode creation mask (`umask`) to `022` in the shell startup file.
- Set the `DISPLAY` environment variable.

Caution: Use shell programs supported by your operating system vendor. If you use a shell program that is not supported by your operating system, then you can encounter errors during installation.

To set the oracle user's environment:

1. Start a new X terminal session (`xterm`).
2. Enter the following command to ensure that X Window applications can display on this system:

```
$ xhost + RemoteHost
```

where *RemoteHost* is the fully qualified remote host name. For example:

```
$ xhost + somehost.example.com
```

3. If you are not logged in to the system where you want to install the software, then log in to that system as the oracle user.
4. If you are not logged in as the oracle user, then switch user to oracle:

```
$ su - oracle
```

5. To determine the default shell for the oracle user, enter the following command:

```
$ echo $SHELL
```

6. To run the shell startup script, enter one of the following commands:

- Bash shell:

```
$ . ~/.bash_profile
```

- Bourne or Korn shell:

```
$ . ~/.profile
```

- C shell:

```
% source ~/.login
```

7. If you are not installing the software on the local system, then enter a command similar to the following to direct X applications to display on the local system:

- Bourne, Bash, or Korn shell:

```
$ DISPLAY=local_host:0.0
```

- C shell:

```
% setenv DISPLAY local_host:0.0
```

In this example, *local_host* is the host name or IP address of the system to use to display Oracle Universal Installer (your workstation or PC).

8. If you determined that the `/tmp` directory has less than 400 MB of free disk space, then identify a file system with at least 400 MB of free space and set the `TMP` and `TMPDIR` environment variables to specify a temporary directory on this file system:

- a. To determine the free disk space on each mounted file system, use the following command:

```
# df -k
```

- b.** If necessary, enter commands similar to the following to create a temporary directory on the file system that you identified, and set the appropriate permissions on the directory:

```
$ sudo mkdir /mount_point/tmp
$ sudo chmod a+wr /mount_point/tmp
# exit
```

- c.** Enter commands similar to the following to set the TMP and TMPDIR environment variables:

- * Bourne, Bash, or Korn shell:

```
$ TMP=/mount_point/tmp
$ TMPDIR=/mount_point/tmp
$ export TMP TMPDIR
```

- * C shell:

```
% setenv TMP /mount_point/tmp
% setenv TMPDIR /mount_point/tmp
```

- 9.** If you have had an existing installation on your system, and you are using 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.

Enter the following commands to ensure that the ORACLE_HOME, ORACLE_BASE, ORACLE_SID and TNS_ADMIN environment variables are not set:

- Bourne, Bash, or Korn shell:

```
$ unset ORACLE_HOME
$ unset ORACLE_BASE
$ unset ORACLE_SID
$ unset TNS_ADMIN
```

- C shell:

```
% unsetenv ORACLE_HOME
% unsetenv ORACLE_BASE
% unsetenv ORACLE_SID
% unsetenv TNS_ADMIN
```

Use the following command to check the PATH environment variable:

```
$ echo $PATH
```

Ensure that the \$ORACLE_HOME/bin path is removed from your PATH environment variable.

Note: If the ORACLE_HOME environment variable is set, then Oracle Universal Installer uses the value that it specifies as the default path for the Oracle home directory. If you set the ORACLE_BASE environment variable, then Oracle recommends that you unset the ORACLE_HOME environment variable and choose the default path suggested by Oracle Universal Installer.

10. To verify that the environment has been set correctly, enter the following commands:

```
$ umask
$ env | more
```

Verify that the `umask` command displays a value of 22, 022, or 0022 and the environment variables that you set in this section have the correct values.

13 Mounting the Product Disc

On most AIX systems, the product disc mounts automatically when you insert it into the drive. If the disc does not mount automatically, then follow these steps to mount it:

1. Switch user to root:

```
$ su -
password:
```

2. If necessary, enter a command similar to the following to eject the currently mounted disc, then remove it from the drive:

```
# umount /dvd
```

3. Insert the disc into the disc drive, then enter a command similar to the following to mount it:

```
# /usr/sbin/mount -rv cdrfs /dev/cd0 /dvd
```

In this example, `/dev/cd0` is the device name of the disc drive and `/dvd` is the mount point directory.

4. If Oracle Universal Installer displays the Disk Location dialog box, enter the disc mount point directory path, for example:

```
/dvd
```

14 Installing Oracle Database Client

After configuring the `oracle` user's environment, start Oracle Universal Installer and install Oracle Database Client as follows:

- Log on as the Oracle software owner user (typically, `oracle`) to the computer on which to install Oracle components.
- If you are installing the software from installation media, then mount the disk if it is not mounted.
- To start Oracle Universal Installer, enter the following command:

```
$ /directory_path/runInstaller
```

If the installation files are on the hard disk, change to the `client` directory and enter the following command:

```
$ ./runInstaller
```

If Oracle Universal Installer is not displayed, then refer to *Oracle Database Client Installation Guide for IBM AIX on POWER Systems (64-Bit)* for information about how to troubleshoot X Window display problems.

- The following table describes the recommended action for each Oracle Universal Installer screen. Use the following guidelines to complete the installation:

- If you need more assistance, or to choose an option that is not a default, click **Help** for additional information.
- If you encounter errors while installing or linking the software, then refer to *Oracle Database Installation Guide* for information about troubleshooting.

Note: If you have completed the tasks listed previously, then you can complete the installation by choosing the default values on most screens.

1. If you have an existing Oracle Database Client 12c Release 1 (12.1.0.1) or later installed on your system, the Select Installation Mode screen is displayed. Select **New Install** to install Oracle Database Client software in a new location, or select **Upgrade** and follow the instructions in the "Performing an In-place Oracle Database Client Upgrade" section in *Oracle Database Client Installation Guide for IBM AIX on POWER Systems (64-Bit)* to upgrade an earlier release of Oracle Database Client.
2. In the Select Installation Type screen, select the type of installation: Instant Client, Administrator, or Runtime and click **Next**.
3. The Select Product Languages screen enables you to select the language in which you want to run the product.

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

This screen is not displayed if you select Instant Client as the type of installation in Step 2.

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

Oracle Base: This path appears by default. You can change the path based on your requirement. The Oracle Base section is not displayed if you select Instant Client as the type of installation in Step 2.

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

5. In the Create Inventory screen, you are prompted by the installer to specify the directory path for central inventory the first time you install Oracle software on your computer. Select the **oraInventory Group Name of the operating system group that should own the Oracle Inventory directory (the Oracle Inventory group)**, and click **Next**.

Note: By default, the Oracle Inventory directory is not installed under the Oracle Base directory. This is because all Oracle software installations share a common Oracle Inventory, so there is only one Oracle Inventory for all users, whereas there is a separate Oracle Base for each user.

6. 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 if your system can install Oracle Database successfully.

7. Review the information displayed in the Summary screen, and click **Finish**.

Note: 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.

8. The Install Product screen states the progress of a client installation. After Oracle Database Client is installed, execute the `root.sh` script as a `root` user to complete the installation, and click **OK**.
9. In the Finish screen, click **Close** to exit from Oracle Universal Installer.

15 What to Do Next?

After you have successfully installed Oracle Database Client, refer to *Oracle Database Client Installation Guide for IBM AIX on POWER Systems (64-Bit)* for information about required and optional postinstallation steps.

16 Additional Information

This section contains information about the following:

- [Product Licenses](#)
- [Purchasing Licenses and Version Updates](#)
- [Contacting Oracle Support Services](#)
- [Locating Product Documentation](#)

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Product documentation includes information about configuring, using, or administering Oracle products on any platform. The product documentation for Oracle Database products is available in both HTML and PDF formats online:

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17 Documentation Accessibility

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Oracle Database Client Quick Installation Guide, 12c Release 1 (12.1) for IBM AIX on POWER Systems (64-Bit)
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