Oracle® Database

Client Quick Installation Guide

10*g* Release 2 (10.2) for AIX 5L Based Systems (64-Bit)

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This guide describes how to quickly install products available on the Oracle Database Client 10*g* for AIX 5L Based Systems (64-Bit). It contains the following sections:

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1 Reviewing Information About this Guide

> **Note:** This guide describes how to install Oracle Client on a system that does not have any Oracle software installed on it. If there is an existing Oracle software installation on this system, then refer to *Oracle Database Client Installation Guide for AIX 5L Based Systems (64-Bit)* for more detailed installation instructions.

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 the Instant Client feature

This guide does not describe how to install the Custom installation type.

Where to Get Additional Installation Information

For more detailed information about installing Oracle Database Client, refer to *Oracle Database Client Installation Guide for AIX 5L Based Systems (64-Bit)*.

This guide is available on the product disc. To access it, use a Web browser to open the `welcome.htm` file located in the top-level directory of the installation media, and then select the **Documentation** tab.

2 Logging In to the System as root

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

Note: 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.

- If you are installing the software from an X Window System workstation or X terminal, then:

  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.acme.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`:

     ```
     $ su - root
     password:
     #
     ```

- If you are installing the software from a PC or other system with X server software installed, then:

> **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 need 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`:

```
$ su - root
password:
#
```

3 Checking the Hardware Requirements

The system must meet the following minimum hardware requirements:

- At least 256 MB of physical RAM
- The following table describes the relationship between installed RAM and the configured swap space requirement.

RAM	Swap Space
Up to 256 MB	3 times the size of RAM
Between 257 MB and 512 MB	2 times the size of RAM
Between 513 MB and 726 MB	1.5 times the size of RAM
More than 726 MB	0.75 times the size of RAM

- The minimum client install `TEMP` space required is 115 MB. The minimum disk space requirement in the `/tmp` directory depends on the installation type you have selected. The following table lists the minimum disk space requirements for the `/tmp` directory in each type of installation.

Client Installation Type	Disk Space Required for the `/tmp` Directory (MB)
Instant	120
Admin	835
Runtime	470
Custom (all components selected)	765

- Between 34 MB and 1.9 GB of disk space for the Oracle software, depending on the installation type

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

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

   ```
   # /usr/sbin/lsattr -E -l sys0 -a realmem
   ```

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

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

   ```
   # /usr/sbin/lsps -a
   ```

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

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

   ```
   # df -k /tmp
   ```

   If there is less than 400 MB of disk space available in the `/tmp` directory, 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 (described later).
   - Extend the file system that contains the `/tmp` directory. If necessary, contact your system administrator for information about extending file systems.

4. To determine the amount of free disk space available on the system, enter the following command:

   ```
   # df -k
   ```

   This command displays the disk space usage on all mounted file systems. You must identify a file system with sufficient disk space.

   The following table shows the approximate disk space requirements for software files for each installation type:

Installation Type	Requirement for Software Files
Instant Client	130 MB
Administrator	2.7 GB
Runtime	1.8 GB
Custom (maximum)	3 GB

Note: If you want to configure only the Instant Client Light component of Instant Client, you need 34 MB of disk space to store the related files.

5. To determine whether the system architecture can run the software, enter the following command:

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

   This command should return the following output:

   ```
   64
   ```

   If you do not see the expected output, then you cannot install the software on this system.

4 Checking the Software Requirements

The system must meet the following minimum software requirements.

- The operating system versions and maintenance levels must be AIX 5L version 5.2, Maintenance Level 04 or later , or AIX 5L version 5.3, Maintenance Level 02 or later.
- The following operating system filesets are required:

  ```
  bos.adt.base
  bos.adt.lib
  bos.adt.libm
  bos.perf.libperfstat
  bos.perf.perfstat
  bos.perf.proctools
  xlC.aix50.rte:7.0.0.4 or later
  xlC.rte:7.0.0.1 or later
  ```

For the Oracle products that you want to install, the system must meet the following product-specific requirements:

- OC Systems PowerAda 5.3
- Oracle JDBC/OCI Drivers

  You can use the following optional IBM JDK versions with the Oracle JDBC/OCI drivers, however, they are not required for the installation:

  - JDK 1.4.2 (64-bit)
  - JDK 1.3.1.11 (32-bit)
  - JDK 1.2.2.18

  IBM JDK 1.4.2 (32-bit) is installed with this release.

- Pro*C/C++, Oracle Call Interface, Oracle C++ Call Interface, Oracle XML Developer's Kit (XDK), GNU Compiler Collection (GCC):

  - May 2005 XL C/C++ Enterprise Edition V7.0 for AIX PTF (7.0.0.2)

    You can download this software from the following link:

    http://www-1.ibm.com/support/docview.wss?uid=swg24009787

  - gcc 3.3.2

Note: **Note:** If you do not install install the IBM XL C/C++ Enterprise Edition V7.0 compiler, you need to install the IBM XL C/C++ Enterprise Edition V7.0 for AIX Runtime Environment Component. The runtime environment file sets can be downloaded with no license requirements from the following link:

http://www-1.ibm.com/support/docview.wss?uid=swg24009788

- Pro*COBOL
  - Micro Focus Server Express 4.0 SP1
  - AcuCobol 6.1
- Pro*FORTRAN

  IBM XL Fortran V9.1
- SQL*Module for Ada

  OC Systems PowerAda 5.3 or later

Note: For more information about OC Systems and PowerAda 5.3, refer to the following Web site:

http://www.ocsystems.com/contact.html

To ensure that the system meets these requirements:

1. To determine which version of the operating system is installed, enter the following command:

   ```
   # oslevel -r
   ```

   If the operating system version is lower than AIX 5.2.0.0 Maintenance Level 04 (5200-04), then upgrade your operating system to this level. AIX 5L version 5.2 maintenance packages are available from the following Web site:

   http://www-912.ibm.com/eserver/support/fixes/

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

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

   If a fileset is not installed and committed, then install it. Refer to your operating system or software documentation for information about installing filesets.

In addition, you need to verify that the following patches are installed on the system. The procedure following the table describes how to check these requirements.

Note: There may be more recent versions of the patches listed installed on the system. If a listed patch is not installed, then determine whether a more recent version is installed before installing the version listed.

- For all installations on AIX, the following patches are required:

  Authorized Problem Analysis Reports (APARs) for AIX 5L v5.2 ML 04:

  - IY63133: large percentage of CPU time spent in `ldata_balance` routine
  - IY64978: deadlock with concurrent renaming and unlinking under JFS
  - IY63366: `dlsym` returns null even for valid symbol in AIX520 ML-4
  - IY64691: `chvg -b` can cause corruption and crash
  - IY64737: AIO can hang in `knotunlock`
  - IY65001: `mklvcopy` on a striped lv is failing to update lvcb

- For Pro*C/C++, Oracle Call Interface, Oracle C++ Call Interface, or Oracle XML Developer's Kit (XDK)

  May 2005 XL C/C++ Enterprise Edition V7.0 for AIX PTF (7.0.0.2):

  - IY64361: Exception in `putdiag_no_handler()` when `-O` is specified
  - IY65361: May 2005 XL C Enterprise Edition V7.0 for AIX PTF
  - IY65362: MAY 2005 XL C/C++ Enterprise Edition V7 for AIX

- Oracle JDBC/OCI Drivers

  Note: These APARs are required only if you are using the associated JDK version.

  APAR required for JDK 1.4.2 (64-bit):

  IY63533: DK 1.4.2 64-bit SR1 caix64142-20040917

  APARs required for JDK 1.3.1.11 (32-bit):

  IY58350: SDK 1.3.1 32-BIT SR7P : CA131IFX-20040721A

  IY65305: JAVA142 32-BIT PTF : CA142IFX-20041203

  APAR required for JDK 1.2.2.18:

  IY40034: SDK 1.2.2 PTF: CA122-20030115

To ensure that the system meets these requirements:

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

   ```
   # /usr/sbin/instfix -i -k "IY63133 IY64978 IY63366 IY64691 IY65001 \
     IY64361 IY65305"
   ```

   If an APAR is not installed, then download it from the following Web site and install it:

   http://www-912.ibm.com/eserver/support/fixes/

2. If you require a CSD for WebSphere MQ, then refer to the following Web site for download and installation information:

http://www.ibm.com/software/integration/mqfamily/support/summary/aix.html

5 Creating Required Operating System Group and User

The following local operating system group and user must exist on the system:

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

To determine if this group and user already exist, and if required, to create them, follow these steps:

1. To determine if 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 already exists.

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

   ```
   inventory_loc=/u01/app/oracle/oraInventory
   inst_group=oinstall
   ```

   The inst_group parameter shows the name of the Oracle Inventory group (oinstall).

2. If the oraInst.loc file does not exist, then create the Oracle Inventory group by using the following procedure:

   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:

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

4. To modify or create the Oracle software owner user:

   a. Enter the following command:

      ```
      # smit security
      ```

   b. Choose the appropriate menu items to modify or create the oracle user.

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

   d. In the **Group SET** field, specify any required secondary groups.

e. Press F10 to exit.

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

```
# passwd oracle
```

6 Creating an Oracle Base Directory

Create an Oracle base directory with a name similar to the following, and specify the correct owner, group, and permissions for it:

```
/u01/app/oracle
```

The Optimal Flexible Architecture (OFA) guidelines recommend that you use a path similar to the following for the Oracle base directory:

```
/mount_point/app/oracle_sw_owner
```

To determine where to create this directory:

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

   ```
   # df -h
   ```

   This command displays information about all of 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 a file system that has sufficient disk space.
3. Note the name of the mount point directory for the file system that you identified.

To create the required directory and specify the correct owner, group, and permissions for it, follow these steps:

> **Note:** In the following procedure, replace /u01 with the appropriate mount point directory that you identified in Step 3 previously.

1. Enter the following command to create subdirectories in the mount point directory that you identified for the Oracle base directory:

   ```
   # mkdir -p /u01/app/oracle
   ```

2. Change the owner and group of the directory that you created to the `oracle` user and the `oinstall` group:

   ```
   # chown -R oracle:oinstall /u01/app/oracle
   ```

3. Change the permissions on the directory that you created to 775:

   ```
   # chmod -R 775 /u01/app/oracle
   ```

When you configure the oracle user's environment later during the installation, set the ORACLE_BASE environment variable to specify the Oracle base directory that you have created.

7 Configuring the oracle User's 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.

To set the oracle user's environment:

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

   ```
   $ xhost fully_qualified_remote_host_name
   ```

3. Complete one of the following steps:
   - If the terminal session is not connected to the system where you want to install the software, then log in to that system as the oracle user.
   - If the terminal session is connected to the system where you want to install the software, then switch user to oracle:

     ```
     $ su - oracle
     ```

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

   ```
   $ echo $SHELL
   ```

5. Open the oracle user's shell startup file in any text editor:
   - C shell (csh or tcsh):

     ```
     % vi .login
     ```

6. Enter or edit the following line in the shell startup file, specifying a value of 022 for the default file mode creation mask:

   ```
   umask 022
   ```

7. If the ORACLE_SID, ORACLE_HOME, or ORACLE_BASE environment variable is set in the file, then remove the corresponding lines from the file.
8. Save the file, and exit from the editor.
9. Add one of the following lines to the file to set the AIXTHREAD_SCOPE environment variable to S (system-wide thread scope):
   - Bourne shell (sh), Bash shell (bash), or Korn shell (ksh):

     ```
     AIXTHREAD_SCOPE=S; export AIXTHREAD_SCOPE
     ```

   - C shell (csh or tcsh):

```
setenv AIXTHREAD_SCOPE S
```

10. To run the shell startup script, enter the following command:

    - Bash shell:

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

    - Bourne shell or Korn shell:

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

    - C shell:

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

11. 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. Use the `df -k` command to identify a suitable file system with sufficient free space.

    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:

    ```
    $ su - root
    # mkdir /mount_point/tmp
    # 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
      ```

12. 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 ; export DISPLAY
      ```

    - C shell:

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

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

13. Enter commands similar to the following to set the ORACLE_BASEand ORACLE_SID environment variables:

    - Bourne, Bash, or Korn shell:

      ```
      $ ORACLE_BASE=/u01/app/oracle
      $ ORACLE_SID=sales
      $ export ORACLE_BASE ORACLE_SID
      ```

    - C shell:

      ```
      % setenv ORACLE_BASE /u01/app/oracle
      % setenv ORACLE_SID sales
      ```

    In these examples, /u01/app/oracle is the Oracle base directory that you created earlier.

14. Enter the following commands to ensure that the ORACLE_HOME and TNS_ADMIN environment variables are not set:

    - Bourne, Bash, or Korn shell:

      ```
      $ unset ORACLE_HOME
      $ unset TNS_ADMIN
      ```

    - C shell:

      ```
      % unsetenv ORACLE_HOME
      % unsetenv TNS_ADMIN
      ```

15. 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.

8 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, follow these steps to mount it:

1. Switch user to root:

   ```
   $ su - root
   ```

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

   ```
   # umount /dvd
   ```
   In this example, /dvd is the mount point directory for the disc drive.

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
   ```

9 Installing Oracle Database Client

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

1. To start Oracle Universal Installer, complete one of the following steps depending on the location of the installation files:

   - If the installation files are on disc, enter commands similar to the following, where `directory_path` is the path of the `db` directory on the DVD:

     ```
     $ cd /tmp
     $ /directory_path/runInstaller
     ```

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

     ```
     $ ./runInstaller
     ```

   If Oracle Universal Installer does not start, then refer to *Oracle Database Client Installation Guide for AIX 5L Based Systems (64-Bit)* for information about how to troubleshoot X display problems.

2. 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 if you want to choose an option that is not a default, then click **Help** for additional information.
   - If you encounter errors while installing or linking the software, then refer to ***Oracle Database Client Installation Guide for AIX 5L Based Systems (64-Bit)*** 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.

Screen	Recommended Action
Select Installation Method	The Basic Installation option is selected by default. Specify the directory path of the Oracle home. Ensure that the UNIX DBA group `oinstall` is selected. If you want to create a starter database, then specify a name and password for it. Then, click **Next**.
Specify Inventory Directory and Credentials	This screen is displayed only during the first installation of Oracle products on a system. Specify the full path of the Oracle Inventory directory. Ensure that the operating system group selected is `oinstall`. Then, click **Next**.

Screen	Recommended Action
Product-Specific Prerequisite Checks	Verify that all of the prerequisite checks succeed, then click **Next**. Oracle Universal Installer checks the system to verify that it is configured correctly to run Oracle software. If you have completed all of the preinstallation steps in this guide, all of the checks should pass. If a check fails, then review the cause of the failure listed for that check on the screen. If possible, rectify the problem and rerun the check. Alternatively, if you are satisfied that your system meets the requirements, then you can select the check box for the failed check to manually verify the requirement.
Summary	Review the information displayed on this screen, and then click **Install**.
Install	This screen displays status information while the product is being installed.
Configuration Assistants	This screen displays status information for the configuration assistants that configure the software and create a database. When the message is displayed at the end of this process, click **OK** to continue.
Execute Configuration Scripts	When prompted, read the instructions and then run the scripts mentioned on this screen. Click **OK** to continue.
End of Installation	The configuration assistants configure several Web-based applications, including Oracle Enterprise Manager Database Control. This screen displays the URLs configured for these applications. Make a note of the URLs used. The port numbers used in these URLs are also recorded in the following file: *oracle_home*/install/portlist.ini To exit from Oracle Universal Installer, click **Exit** and then click **Yes**.

- If you select Advanced Installation, then you will be prompted for the SYS, SYSTEM, SYSMAN, and DBSNMP passwords. Oracle recommends that you specify passwords that:
  - Are at least four characters long
  - Are not the same as the user names
  - Have at least one alphabetic, one numeric, and one punctuation mark character
  - Are not simple or obvious words, such as welcome, account, database, or user
- If you chose an installation type that runs Database Configuration Assistant and Oracle Net Configuration Assistant (NetCA) in interactive mode, you must provide detailed information about configuring the database and network.

10 What to Do Next?

After you have successfully installed Oracle Client, refer to ***Oracle Database Client Installation Guide for AIX 5L Based Systems (64-Bit)*** for information about required and optional postnstallation steps.

11 Documentation Accessibility

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