Oracle® Reports

Installation Guide

Release 6.0 for AIX-Based Systems

May 1999
Part No. A70120-01

Topics Include:
Features and Requirements
Setting the Environment
Installation Tasks
Completing Installation
Configuring Oracle Reports
Creating User Exits
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Part No.  A70120-01

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  Oracle Corporation
  500 Oracle Parkway, Mailstop 1op2
  Redwood Shores, CA 94065
  USA

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Preface

Purpose

The Oracle Reports Installation Guide for AIX-Based Systems provides AIX installation and configuration information for Oracle Reports Release 6.0. The topics covered in this preface are:

- Audience
- Typographic Conventions
- Command Syntax
- Related Documentation
- Oracle Services and Support

Audience

This document is for database administrators and others responsible for installing Oracle products on UNIX operating systems. While command examples are provided, this document does not attempt to teach Oracle or UNIX administration.
Typographic Conventions

monospace  Monospace type indicates UNIX commands, directory names, usernames, pathnames, and filenames.

brackets [ ]  Words enclosed in brackets indicate key names (for example, Press [Return]). Note that brackets have a different meaning when used in command syntax.

italics  Italic type indicates a variable, including variable portions of filenames. It is also used for emphasis.

UPPERCASE  Uppercase letters indicate Structured Query Language (SQL) reserved words, initialization parameters, and environment variables.

Because UNIX is case-sensitive, conventions in this document may differ from those used in other Oracle product documentation.

Command Syntax

Command syntax appears in monospace font. The following conventions apply to command syntax:

backslash \  A backslash indicates a command that is too long to fit on a single line. Enter the line as printed (with a backslash) or enter it as a single line without a backslash:
```
dd if=/dev/rdsk/c0t1d0s6 of=/dev/rst0 bs=10b \ count=10000
```

braces {}  Braces indicate required items: .DEFINE {macro1}

brackets []  Brackets indicate optional items: cvtcr ascending termname [outfile]

Note that brackets have a different meaning when used in regular text.

ellipses ...  Ellipses indicate an arbitrary number of similar items:

```
CHKVAL fieldname value1 value2 ... valueN
```

italics  Italic type indicates a variable. Substitute a value for the variable:
```
library_name
```

vertical line |  A vertical line indicates a choice within braces or brackets:
```
SIZE filesize [K|M]
```
Related Documentation

For additional information on Oracle Reports, see the product documentation for Oracle Browser, Oracle Forms, Oracle Graphics, Oracle Developer, Oracle Procedure Builder, and Oracle Project Builder available in *Oracle Developer: Guidelines for Building Applications*. Use your Web browser to view this document in $ORACLE_HOME/doc60/admin/manuals/US/guide60/gd60toc.htm.

Oracle Services and Support

A wide range of information about Oracle products and global services is available on the Internet, from http://www.oracle.com. The sections below provide URLs for selected services.

Oracle Support Services

Global Support Sales offices are listed at http://www.oracle.com/support. Templates are provided to help you prepare information before you call. You will also need your CSI number (if applicable) or complete contact details, including any special project information.

Products and Documentation

Oracle Store, for U.S.A. customers, is at http://oraclestore.oracle.com. Links to stores in other countries are provided from this site.

Customer Service

Global Customer Service contacts are listed at http://support.oracle.com/client_relations.

Education and Training

Training information and worldwide schedules are available from http://education.oracle.com.

Oracle Technology Network

Register with the Oracle Technology Network (OTN) at http://technet.oracle.com. OTN delivers technical papers, code samples, product documentation, self-service developer support, and Oracle’s key developer products, to enable rapid development and deployment of applications built on Oracle technology.
Completing a quick, successful installation depends on the local system satisfying the software dependencies and space requirements for Oracle software. This chapter describes the requirements for installing Oracle Reports Release 6.0 on AIX. Verify that the system meets these requirements before starting the installation.

The following topics are covered in this chapter:

- Introduction
- Installation Overview
- Online Documentation and Help
- System Requirements
- Disk Space and Database Space Requirements
- Issues and Restrictions
Introduction

Oracle Reports builds and generates reports that access Oracle8 Server data. Oracle Reports supports multiple platforms, user interfaces, and data sources. It is built on a layer called Oracle Toolkit, which provides a uniform programming interface to the underlying user interface. Oracle Toolkit makes it possible to create applications that run against multiple user interfaces, such as Motif or Windows, while retaining the full native look and feel of the interface.

Installing Oracle Reports involves the following steps:

1. **Satisfy Prerequisites:** make sure that the local system satisfies the hardware, software, memory, and disk space requirements for the products you want to install. These requirements and restrictions are described in this chapter.

2. **Check the UNIX Environment:** make sure that the UNIX environment is properly set up for the products you want to install. See Chapter 2, "Setting the Environment".

3. **Install:** use the Oracle Installer to install the Oracle software. See Chapter 3, "Installation Tasks".

4. **Post-Installation:** create database objects, establish the user environment, and configure the installed Oracle products for the local system. See Chapter 4, "Completing Installation" and Chapter 5, "Configuring Oracle Reports".

5. **Create User Exits:** this optional step is described in Chapter 6, "Creating User Exits".

Oracle Reports is built using standard application programming interfaces (APIs), allowing organizations to supplement Oracle Reports with tools from other vendors.

Installation Overview

Client-only and Server-based Installations

**Client-only installation**

You must install Oracle Reports tools in an ORACLE_HOME directory separate from the ORACLE_HOME directory containing the Oracle Server software that the tools access. A client-only installation consists of Oracle Reports software, database objects, and Oracle Net8. Although you need to install the database objects only
once for each server, Oracle Developer tools must be installed on each system used to access the server.

**Client-Only Configuration**

Figure 1–1, "Client-only Installation" illustrates a configuration in which Oracle Reports is installed on client machines connecting to the database server with Oracle Net8.

**Server-based installation**

In a server-based installation, Oracle Reports and the Oracle Server are installed in the same ORACLE_HOME directory and the Oracle Reports tools connect to the local database. This option is not available with this release. However, if you are installing Oracle Reports as part of an Oracle Applications installation, you may need to perform a server-based installation of Oracle Reports. Consult the Oracle Applications installation and configuration guidelines for information on the supported configurations of Oracle Applications.

*Figure 1–1  Client-only Installation*
Online Documentation and Help

Installation Guide

Oracle Reports for AIX-Based Systems documentation is included with this Oracle product distribution. To access the documentation, use your browser to open the /cdrom/unixdoc/index.htm file on the CD-ROM. The index.htm file contains links to the platform-specific documentation. The browser you use to view Oracle product documentation should support HTML level 3.

If you do not have a browser installed on the system, use an Oracle-supplied browser. Your Oracle distribution includes both character mode and Motif browsers, which you can install or run directly from the CD-ROM. The browsers are in the /cdrom/orainst directory.

To start a browser:

$ cd /cdrom/orainst
$ ./oraview

The oraview script invokes the appropriate browser for the system. If you want more information about the oraview script, enter:

$ ./oraview -h

Context-Sensitive Online Help

Oracle Reports provides a context-sensitive online help system. Access online help by selecting Contents from the Help menu. For example, if you are in a Reports property sheet and need information about a current setting, select Help-Contents. A window containing one or more pages of information about that setting is displayed. If the page shown extends beyond the window, use Scroll Down to display the rest of the page. When you have finished reading help files, select Quit.

Cue Cards

Cue cards provide step-by-step instructions on common tasks. To access cue cards, select the Help pull-down menu, then select Cue Cards.

System Requirements

This section describes the system requirements for installing Oracle Reports on AIX.
### Hardware Requirements

Table 1–1 lists hardware requirements for installing and running Oracle Reports on AIX.

**Table 1–1 AIX Hardware Requirements**

<table>
<thead>
<tr>
<th>Hardware Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>An AIX-based system.</td>
</tr>
<tr>
<td>Memory</td>
<td>A minimum of 32 MB internal memory (RAM).</td>
</tr>
<tr>
<td>Swap Space</td>
<td>Free swap space should be twice the amount of physical RAM for systems with 128MB or more of RAM, three times the amount of physical RAM for systems with less than 128 MB RAM.</td>
</tr>
<tr>
<td>Media Device</td>
<td>A CD-ROM drive, supported by AIX, that can read ISO 9660 format CD-ROM disks with RockRidge extensions.</td>
</tr>
<tr>
<td>Display Device for GUI Tools</td>
<td>X11 Server.</td>
</tr>
</tbody>
</table>

### Operating System Requirements

Table 1–2 lists operating system requirements for installing and running Oracle Reports on AIX.

**Table 1–2 Operating System Requirements**

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>AIX 4.2.1 or AIX 4.3.1</td>
</tr>
<tr>
<td></td>
<td>In addition, please ensure that the pthreads library has been installed from your AIX distribution CD-ROM.</td>
</tr>
<tr>
<td>These packages must be installed prior to installing the Oracle Server.</td>
<td>AIX 4.2 packages:</td>
</tr>
<tr>
<td></td>
<td>IX62429 socket ioctl</td>
</tr>
<tr>
<td></td>
<td>IX67174 async i/o</td>
</tr>
<tr>
<td></td>
<td>IX67978 O_SYNC writes slow in AIX 4.2.1</td>
</tr>
<tr>
<td></td>
<td>IX70737 dbx should ignore C_INFO symbols</td>
</tr>
</tbody>
</table>
Disk Space and Database Space Requirements

User Interface Requirements

Table 1–3 lists user interface requirements for installing and running Oracle Reports products on AIX.

Table 1–3  User Interface Requirements

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window Manager</td>
<td>Motif Window Manager mwm, delivered with AIX 4.2.1 or 4.3.1.</td>
</tr>
<tr>
<td>XII Server</td>
<td>XII R5 and Motif 1.2.3 delivered with AIX 4.1.5 or 4.2.1.</td>
</tr>
</tbody>
</table>

Motif Versions Compatibility

On AIX 4.3, both Motif 2.1 and Motif 1.2 are available. Oracle Developer Release 6.0 is compatible to work only with Motif 1.2 and XII Rel5. The default paths of /usr/1pp/x11/lib/R5 and /usr/1pp/x11/lib/R5/Motif1.2 are set to LIBPATH on install. If your installation does not have Motif and X Toolkit installed at these locations, please modify the LIBPATH settings accordingly in $ORACLE_Home/developer.(c)sh.

Mandatory Motif Patch

To be able to run any of the Forms or Reports Motif Client applications, please install a mandatory patch corresponding to PTF No. U464605. Please contact your IBM Customer Support for the patch corresponding to this PTF number and install it on your system.

Relinking Requirements

You can relink the Motif Oracle Reports tools using dynamic Motif and X11 libraries.

The Oracle Reports distribution provides all necessary components for relinking the character mode Oracle Reports tools.

Disk Space and Database Space Requirements

Table 1–4 lists disk space and database space requirements for Oracle Reports. These are minimum, not approximate, estimates.
Calculating Total Disk Space Required

Decide which products and options are required for your installation. Total the Distribution and Database Space columns (adding only those products and options that are required for your installation). Combine the totals from the two columns to determine the total required disk space for your installation.

<table>
<thead>
<tr>
<th>Disk Storage Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products and Options</td>
</tr>
<tr>
<td>GUI Common Area</td>
</tr>
<tr>
<td>Oracle Reports</td>
</tr>
<tr>
<td>Builder</td>
</tr>
<tr>
<td>Converter</td>
</tr>
<tr>
<td>Runtime (Char.)</td>
</tr>
<tr>
<td>Runtime (Motif)</td>
</tr>
<tr>
<td>Oracle Installer</td>
</tr>
<tr>
<td>Oracle Common</td>
</tr>
<tr>
<td>Online Documentation Library</td>
</tr>
</tbody>
</table>

Total Distribution Space =

Total Database Space =

Total Required Disk Space = (Distribution Space + Database Space)

Issues and Restrictions

National Language Support for Oracle Reports

Translations are available in the following languages for Oracle Reports Runtime components. Languages marked with an asterisk also support the Builder components:

- American English
Issues and Restrictions

- Brazilian Portuguese
- Traditional Chinese*
- Simplified Chinese
- Czech
- Danish
- Dutch
- Finnish
- French*
- German*
- Greek
- Hungarian
- Italian*
- Japanese*
- Korean
- Latin American Spanish
- Norwegian*
- Polish
- Portuguese
- Romanian
- Russian
- Spanish*
- Turkish

**Arabic Language Support**

The current Oracle Reports products do not support Arabic languages on Motif.
Use this chapter to prepare your environment for installing Oracle Reports after you have verified the system meets the requirements described in Chapter 1, "Features and Requirements".

The following topic is covered in this chapter:

- Pre-Installation Tasks
Pre-Installation Tasks

- Create a UNIX Account to Own Oracle Software
- Decide Whether to Install or Upgrade Database Objects
- Set Up the tnsnames.ora File
- Set Required Environment Variables

Create a UNIX Account to Own Oracle Software

Note: You must have root access to your system to complete this step.

The `oracle` account is the UNIX account that owns the Oracle Reports software after installation. You must run the Installer from this account.

On AIX, login as `root` and use the operating system administration utility `useradd` to create an `oracle` account with the following properties:

- **Login Name**: Any name, but this document refers to it as the `oracle` account.
- **Default GID**: Corresponding to the OSDBA group.
- **Home Directory**: Choose a home directory consistent with other user home directories. The home directory of the `oracle` account does not have to be the same as the ORACLE_HOME directory.
- **Login Shell**: The default shell can be `/bin/sh`, `/bin/csh`, or `/bin/ksh`, but the examples in this document assume the Bourne shell (`/bin/sh`).

Note: Use the `oracle` account only for installing and maintaining Oracle software. Never use it for purposes unrelated to Oracle Software. Do not log in to the database when using the `oracle` (UNIX) account. Do not use `root` as the `oracle` account.

Decide Whether to Install or Upgrade Database Objects

Database objects are tables, views, and sequences that Oracle Reports uses to store Oracle Reports objects, such as Oracle Forms applications, in the database.
Database objects must exist in each database where you are storing Oracle Reports objects. If you have already installed the database objects on your database, do not install them again.

If you are upgrading to Oracle Reports Release 6.0, you may need to upgrade the database objects to Release 8.0.5.1.

Enter the following to determine if the database objects already exist for the products you want to install in the database on the server.

```sql
$ sqlplus system/manager
SQL> SELECT table_name
2 FROM dba_tables
3 WHERE table_name LIKE 'table_name';
```

If these tables already exist, you can find them in the SYSTEM account in the database. If these tables do not exist, then you must create them with the Installer. Table 2–1 lists the tables.

<table>
<thead>
<tr>
<th>Product</th>
<th>Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Browser</td>
<td>BROWSER%</td>
</tr>
<tr>
<td>Oracle Forms</td>
<td>FRM60%</td>
</tr>
<tr>
<td>Oracle Graphics</td>
<td>GO%</td>
</tr>
<tr>
<td>Oracle Reports</td>
<td>SRW2%</td>
</tr>
</tbody>
</table>

**Set Up the tnsnames.ora File**

If you are installing database objects, you must set up the tnsnames.ora file before you run the Installer. The tnsnames.ora file contains details of the remote databases available to the Oracle Reports products installed in a client-only configuration.

A tnsnames.ora file contains the following:

```sql
alias =
    (DESCRIPTION =
      (ADDRESS =
        (PROTOCOL = tcp)
        (HOST = hostname)
        (PORT = service_number)
      )
    )
    (CONNECT_DATA =
```
If you have the Oracle Network Manager, you can use it to update the file. Otherwise, you need to use a text editor to update the file with the information in Table 2–2.

Table 2–2  tnsnames.ora File Values

<table>
<thead>
<tr>
<th>Variable</th>
<th>Replace with:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>alias</td>
<td>The aliased name of the service being described. This is the name that you will use to connect to the database.</td>
<td></td>
</tr>
<tr>
<td>hostname</td>
<td>The name of the remote host (server) where the database resides.</td>
<td></td>
</tr>
<tr>
<td>service_number</td>
<td>The port number on which the Oracle Net8 listener process listens for data packets on the remote host where the database resides. This is typically defined in the /etc/services file.</td>
<td></td>
</tr>
<tr>
<td>ORACLE_SID</td>
<td>The value of the system identifier (sid). This is the name of the instance on the hostname above to which you want to connect.</td>
<td></td>
</tr>
</tbody>
</table>

Oracle products will look for the tnsnames.ora file in the following order:

1. .tnsnames.ora file in the user’s home directory (Note the dot before the file name).
2. $TNS_ADMIN/tnsnames.ora
3. /var/opt/oracle/tnsnames.ora for AIX
4. $ORACLE_HOME/network/admin/tnsnames.ora

Make sure you put the tnsnames.ora file in one of these locations; otherwise, you cannot connect to the database through Net8.

**TNS_ADMIN**

To place the tnsnames.ora file in a location other than the default locations ($ORACLE_HOME/network/admin or /var/opt/oracle), set the TNS_ADMIN environment variable to the directory where tnsnames.ora is located. For example, if tnsnames.ora resides in the /tns directory, set TNS_ADMIN to /tns.
Set Required Environment Variables

Oracle Corporation recommends that you set environment variables in the startup file of the user who will own the Oracle Reports installation. Log into the oracle account and set environment variables according to the instructions in this section. The startup file, normally located in your UNIX login home directory, will vary depending upon the shell used. Typically, .profile is used for the Bourne and Korn shells, and .cshrc is used for the C shell.

Syntax of Environment Variables
The syntax for setting an environment variable for the Bourne or Korn shell is:

```
$ variable_name = value ; export variable_name
```

The syntax for setting an environment variable for the C shell is:

```
% setenv variable_name value
```

DISPLAY
Set to the machine name or IP address, X server, and screen being used by your workstation to connect to the system where the software will be installed. Do not use the machine name or IP address of the system where the software is being installed. Use the machine name or IP of your own workstation. If you are not sure what the X server and screen should be set to, use 0 (zero) for both. If you get an Xlib error similar to "Failed to connect to server" or "Connection refused by server" when starting the Installer, run one of the following commands:

For the Bourne or Korn shells:

```
$ DISPLAY=machine name:0.0
$ export DISPLAY
$ xhost +
```

For the C shell:

```
% setenv DISPLAY machinename:0.0
% xhost +
```

Note: Oracle does not support PC Xwindows emulators. If you are having a problem with an emulator on a PC, see if you can duplicate the problem on your server's console.
For more information, see "Set the DISPLAY Environment Variable" on page 4-14.

**LIBPATH**
LIBPATH should be set to include directories where shared libraries are located. This variable should include $ORACLE_HOME/lib. See "Set LIBPATH for Each User" on page 4-10.

**ORACLE_BASE**
ORACLE_BASE is required for OFA-compliant installations. This variable defines the base of the directory structure for your Oracle installation. The oracle operating system user must have read, write, and execute privileges on this directory.

When ORACLE_BASE is undefined, the Oracle Installer derives the value of ORACLE_BASE from the mount point you provide: mount_point/app/oracle. If you set ORACLE_BASE before starting the Installer session, the Installer takes its value from the environment.

**ORACLE_HOME**
ORACLE_HOME should be set to the directory where the Oracle software will be installed. If performing a client-only installation, this directory should not contain any Oracle Server software.

**ORACLE_TERM**
You can run the Installer in either Motif or character mode. If you want to run the Installer in character mode, then set the ORACLE_TERM environment variable to the correct terminal type before installing Oracle Reports.

For example, to use a vt220 terminal, set ORACLE_TERM as follows:

For the Bourne shell or Korn shell:

```
$ ORACLE_TERM=vt220; export ORACLE_TERM
```

For the C shell:

```
% setenv ORACLE_TERM vt220
```

If ORACLE_TERM is not set, then the Installer uses the value of the UNIX environment variable TERM and searches for an equivalent ORACLE_TERM resource file.
Table 2–3 lists common ORACLE_TERM settings.

Table 2–3  Supported Terminals for the Oracle Installer

<table>
<thead>
<tr>
<th>To Run:</th>
<th>Set ORACLE_TERM to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSI terminal for SCO</td>
<td>ansi</td>
</tr>
<tr>
<td>AT386 console</td>
<td>386</td>
</tr>
<tr>
<td>AT386 xterm</td>
<td>386x</td>
</tr>
<tr>
<td>UnixWare Terminal</td>
<td>386u</td>
</tr>
<tr>
<td>Solaris Intel xterm</td>
<td>386s</td>
</tr>
<tr>
<td>Data General 200</td>
<td>dgd2</td>
</tr>
<tr>
<td>Data General 400</td>
<td>dgd4</td>
</tr>
<tr>
<td>IBM High Function Terminal and aixterm (monochrome)</td>
<td>hft</td>
</tr>
<tr>
<td>IBM High Function Terminal and aixterm (color)</td>
<td>hftc</td>
</tr>
<tr>
<td>hpterm terminal emulator and HP 700/9x terminal</td>
<td>hpterm</td>
</tr>
<tr>
<td>IBM 3151 terminal</td>
<td>3151 (for IBM)</td>
</tr>
<tr>
<td>NCD X Terminal with vt220 style keyboard</td>
<td>ncd</td>
</tr>
<tr>
<td>Sun cmdtool/shelltool using a type 4 keyboard</td>
<td>sun</td>
</tr>
<tr>
<td>Sun cmdtool/shelltool using a type 5 keyboard</td>
<td>sun5</td>
</tr>
<tr>
<td>vt100 terminal</td>
<td>vt100</td>
</tr>
<tr>
<td>vt220 terminal</td>
<td>vt220</td>
</tr>
<tr>
<td>Wyse 50 or 60 terminal</td>
<td>wy50</td>
</tr>
<tr>
<td>Wyse 150 terminal</td>
<td>wy150</td>
</tr>
<tr>
<td>Sun xterm using a type 4 keyboard</td>
<td>xsun</td>
</tr>
<tr>
<td>Sun xterm using a type 5 keyboard</td>
<td>xsun5</td>
</tr>
</tbody>
</table>

**TWO_TASK**

When installing database objects, set the TWO_TASK environment variable to the correct alias for the database where you want to create the database objects.

**ORA_NLS33**

For the Installer to function properly, the ORA_NLS33 environment variable, used in earlier releases, cannot be set. Check to see if the variable is set.
$ echo $ORA_NLS33

If the variable is set to any value, remove it.
For the Bourne and Korn shell:
$ unset ORA_NLS33

For the C shell:
% unsetenv ORA_NLS33
This chapter describes the installation of Oracle Reports. Before beginning this chapter, complete the tasks described in Chapter 2, “Setting the Environment”.

The following topics are covered in this chapter:

- Using the Oracle Installer
- Software Upgrade
- Creating or Upgrading Database Objects
Using the Oracle Installer

The following tasks are covered in this section:

- Mount the Product Installation CD-ROM
- Start the Installer
- Respond to Installer Prompts

Mount the Product Installation CD-ROM

To install Oracle Reports, you must use the version of the Installer that is supplied on the Oracle Reports CD-ROM.

**Note:** In the following instructions, the CD-ROM mount point is referred to as /cdrom. If your mount point is different, substitute the correct mount name point for all references to /cdrom.

Mount your CD-ROM manually as follows:

1. Log in as root:
   ```
   $ su root
   passwd: password
   #
   ```

2. Create the mount point directory for mounting the CD-ROM by entering:
   ```
   # mkdir /cdrom
   ```

3. Mount the CD-ROM to the mount point by entering:
   ```
   # mount -r -v cdrfs /dev/cd0 /cdrom
   ```
**Note:** You must have root privileges to mount or unmount the CD-ROM. Be sure to unmount the CD-ROM before removing the CD-ROM from the drive using the `umount` command.

4. Exit the root account by entering:
   ```bash
   # exit
   $```

**Start the Installer**

**Warning:** Do not run the Installer as the root user.

The Installer can be run in either Motif mode or character mode. To start the Installer:

1. Log in as oracle user.
2. Change to the /cdrom/orainst directory by entering:
   ```bash
   $ cd /cdrom/orainst
   ```
3. To start the Installer, enter the following command.
   For Motif mode:
   ```bash
   $ ./orainst /m
   ```
   If you are using Motif mode, make sure you set the DISPLAY to your current workstation.
   For character mode:
   ```bash
   $ ./orainst /c
   ```

**Oracle Installation**

The Oracle Installer installs Oracle executables (programs or software) on the system’s hard disk. Certain Oracle products also require database objects which are stored in the database itself. For example, with the Oracle Reports product, the
database objects include those necessary to create a database, such as the system tables and views.

**Respond to Installer Prompts**

The following section describes the main Installer prompts you see when installing Oracle Reports. Depending on your installation type, the prompts described in this section may not be an exact representation of what you see on the screen.

**Install Type**

- **Default Install**
  
  Select this option if the Installer defaults are appropriate for your installation. The Installer uses default answers to most questions, simplifying the installation process considerably.

  If, after selecting Default Install, you decide that it is not adequate for your installation, you can select the Back button and return to this screen.

- **Custom Install**
  
  If you select this option, the Installer displays screens prompting you for all of the information it requires. Selecting this option allows you much more control over your installation.

  **Note:** If you will be using National Language Support, you must choose Custom Install. You will be prompted to choose a language during installation.

**Readme Files**

The Installer displays the readme files included with this release. Read the file for additional product information.

**Installation Activity Choice**

The Installer prompts you with three options:

- **Install, Upgrade, or De-Install Software**

  Select this option to install or upgrade Oracle Reports software. When you select this option, you have the choice to create or upgrade database objects during this session.

- **Create/Upgrade Database Objects**
This option creates or upgrades database objects in an existing database without installing any new products.

- **Perform Administrative Tasks**
  This option relinks product executables in an existing Oracle Reports installation.

**Installation Options**

- **Install New Product - Create DB Objects**
  Select this option for a new installation and to create database objects during the installation.

  **Note:** If you wish to create DB Objects, you must set TWO_TASK and TNS_ADMIN before starting the installer. See Chapter 2, "Setting the Environment".

- **Install New Product - Do Not Create DB Objects**
  If you have an existing Oracle database or plan to create database objects later, select this option for a new installation.

- **Add/Upgrade Software**
  Select this option to install or upgrade software in an existing $ORACLE_HOME.

- **Build Oracle Developer Staging Area**
  Select this option if you want to create a staging area. For example, you will be performing multiple or repeated installations of the product.
  A staging area allows you to load your software into a designated directory, independent of the actual installation. You can complete the installation at a later time.

- **Install Documentation Only**
  Select this option to install online documentation. You cannot install software when you select this option.

- **De-Install Software**
  Select this option to de-install old products before upgrading products using the existing $ORACLE_HOME.
Depending upon the Installation Option that you chose for your Installation type, you will be prompted, at some point, for Environment Variables, Installation Log Files, and Install Source described in the following sections.

Environment Variables
For a list of environment variables used by the Installer, see "Set Required Environment Variables" on page 2-5.

Confirm or change the directory pathnames shown for ORACLE_HOME and ORACLE_BASE.

Enter the ORACLE_BASE for your Oracle product directory structure. This directory will contain the Oracle Reports software as well as associated administration files. If you set ORACLE_BASE before starting the Installer, this field defaults to the value you chose.

The Installer prompts you to complete the pathname of the ORACLE_HOME directory. If you set ORACLE_HOME before installation, its value is used. Otherwise, the value shown is the OFA-compliant value computed by the Installer. The OFA-compliant path is $ORACLE_BASE/product/release_number. Enter the release number of the distribution (for example, 6.0).

Installation Log Files
The Installer writes installation log information to the following content-specific files in the $ORACLE_HOME/orainst directory:

■ install.log
■ sql.log
■ make.log
■ os.log

If log files already exist in the default location, the Installer renames the existing files. Storing log information from multiple installations in the same files hinders any subsequent debugging.

Install Source
Specify whether you are installing from a CD-ROM or from a staging area.

When installing directly from the CD-ROM, you load and install the Oracle distribution in one session. Select this option if you are performing a single installation, or if you have insufficient disk space to support a staging area.
If you install from a staging area, you can load and install the distribution in distinct phases. You must choose between temporary and permanent staging areas.

If you choose a temporary staging area, the Installer converts the contents of the staging area into the installed distribution during the Installer session.

A permanent staging area is neither removed nor converted during installation. You can, therefore, use it to perform multiple installations.

---

**Attention:** Do not attempt to add files to an existing staging area. If it is necessary to recreate a staging area, then you must delete all existing files before using the Installer to create the new one. If you install a software patch from a staging area, then you must create a staging area for just the patch release.

---

**Note:** Installing from a permanent staging area requires approximately twice the disk space of installing from a temporary staging area or distribution medium. See Chapter 1, "Features and Requirements" for space requirements.

---

**National Language Support (NLS)**

This screen only appears if you select a Custom install.

Use the Installer to specify a language for screen messages from Oracle products with NLS support. Select either "All Languages" or a language from the displayed list. The Installer prompts and messages are always displayed in American English.

**Relink Executables**

Relinking regenerates a program from its component parts. The Installer automatically relinks products that require relinking. You can also relink products by using the Installer’s "Perform Administrative Tasks" Installation Activity.

You can relink products with the Installer for any of the following reasons:

- installing a new Oracle protocol adapter
- linking Oracle products
- installing patches or bug fixes
Root Install Script File
If an earlier root.sh file exists, then the Installer asks whether to append root-related activities to that file or save the old file as root.sh0 and overwrite root.sh.

Unless you want to run old root.sh activities with the present installation, rename the old file rather than appending the new one.

Software Asset Manager
In this dialog, select the products you wish to install. The Software Asset Manager tracks the size of the distribution you selected and the space available in the destination directory (ORACLE_HOME). When choosing "Create/Upgrade Database Objects" from the "Installation Activity Choice" dialog, the "Software Asset Manager" screen is used to choose products on which to perform database actions. In this case, ignore the space calculations and select Install to create/upgrade the database options.

The Options button brings up a dialog window that allows you to choose which dialogs you will see during installation and whether you want to log the Installer’s actions.

**Note:** Because the Log Installer Action option (under Options) generates a lot of data, you should not select this option unless requested to do so by an Oracle Support Services analyst.

If you chose the Install Documentation Only option in the Installation Options screen, select the products corresponding to the documentation you are installing. Only the documentation is installed; the products themselves are not installed.

Remaining Installation Dialogs
The Installer may prompt you for additional installation information with further dialogs after you have clicked the Install button in the "Software Asset Manager" Dialog.

Software Upgrade
This section describes upgrading from Oracle Reports Release 3.0 to Release 6.0. It is assumed that Oracle Reports Release 3.0 is installed in your ORACLE_HOME
before you begin upgrading Oracle Reports to Release 6.0. You must de-install older versions of Oracle Reports products.

**Note:** Upgrading Oracle Reports Release 3.0 to Release 6.0 does not require a Database Object upgrade.

1. Start the Release 3.0 Installer as described in “Start the Installer” on page 3-3.

**Note:** Use the old Installer provided with Oracle Reports Release 3.0 to de-install the old version of Oracle Reports. You must de-install all Oracle Reports Release 3.0 products, not just those products you want to upgrade. Use only the new Installer to install the new version.

2. At the Installation Activity Choice screen, select the Install, Upgrade, or De-Install Software option. Refer to "Install Type" on page 3-4.

3. At the Installation Options screen, select the De-Install Software option. Refer to "Installation Options" on page 3-5.

4. Continue answering the Installer prompts.

5. At the Software Asset Manager screen, select the products you want to upgrade, and confirm that you want to delete the old products.

6. After the Oracle Reports Release 3.0 products are deleted, start the new Installer and install the Oracle Reports Release 6.0 products as described in the previous sections.

### Creating or Upgrading Database Objects

To create or upgrade database objects, follow these steps:

1. Make sure your environment is correctly set. If you wish to create DB Objects, you must set TWO_TASK and TNS_ADMIN before starting the Installer. See Chapter 2, "Setting the Environment".

2. Run the script `$ORACLE_HOME/bin/install_tables.sh`.

3. The Software Asset Manager screen is used to choose products on which to perform database actions. Ignore the space calculations and select Install to create/upgrade the database options.
This chapter describes post-installation and configuration tasks.

The following topics are covered in this chapter:

- Verifying Your Installation
- Setting Printer Configuration Files
- Setting Up the Oracle Reports Environment
- Setting Up the Character Mode User Environment
- Setting Up the GUI Environment
- Enabling Use of Other Languages
Verifying Your Installation

If you have startup problems, use DEBUG_SLFIND to direct error messages to a file of your choice.

For the Korn or Bourne shell:

$ DEBUG_SLFIND=outfile; export DEBUG_SLFIND

For the C shell:

% setenv DEBUG_SLFIND outfile

Re-run the tool. Check for error messages in the file that indicate a necessary resource file may be missing.

Verify Audio

Ensure that the permissions for /dev/audio and /dev/audioctl are set to allow read-write access. To check permissions, enter:

$ ls -l /dev/audio*

Setting Printer Configuration Files

After running the Oracle Installer, you must set your printer configuration files to prepare your system for printing. To do this, perform the following tasks:

- Locate and Install PPD and AFM Files for Your Printers
- Set Up the Default Printers
- Update the Toolkit Font Mapping File
- Set Printer Commands (Optional)
- Specify a Default Printer
- Information on Printing to HP PCL Printers
- Test Printing Capabilities and Fix Errors

Locate and Install PPD and AFM Files for Your Printers

This task provides instructions for choosing an appropriate PostScript Printer Definition (PPD) file for your printer. Oracle Toolkit uses the PPD files to determine which fonts are available on a specific PostScript printer, since UNIX does not allow the Toolkit to obtain this information from the printer directly.
Each PPD file provides paper sizes, available fonts, and default resolution for a particular printer. If this file lists a PostScript font, a corresponding Adobe Font Metrics (AFM) file must exist in the
$ORACLE_HOME/guicommon6/tk60/admin/AFM directory since that file is used by the Toolkit to calculate font metrics.

An AFM file specifies font metric information for Type 1 font programs. Each AFM file lists the following information about one font: font attributes such as style, weight, width, and character set; whether the font is fixed pitch or proportional; and the size of each character.

Oracle provides PPD and AFM files for some common printers and fonts. If you cannot find the appropriate file for your printer, you can obtain PPD and AFM files from your printer vendor or from Adobe. You can also use the default printer definition file, default.ppd.

1. To find the PPD file for your printer, enter:

   $ cd $ORACLE_HOME/guicommon6/tk60/admin/PPD
   $ ls *.ppd | more

   This will list all of the PPD files which are included with the Oracle distribution.

2. To determine the fonts that are listed in the PPD file, enter:

   $ grep Font PPD_filename | more

3. To check whether all the necessary fonts are in $ORACLE_HOME/guicommon6/tk60/admin/AFM, enter:

   $ cd $ORACLE_HOME/guicommon6/tk60/admin/AFM
   $ ls | more

   See your printer documentation to determine the fonts you need for your printer.

**Changing the Default PPD File**

You can also specify a PPD file by creating a default.ppd that is a copy of another PPD file to better reflect the local default printer. When an invalid PPD file is specified for the current printer or no file is specified, the Oracle Toolkit uses default.ppd.

$ mv default.ppd default.ppd.old
$ cp another_PPD_file default.ppd
**Modifying the PPD Files**

Do not modify the PPD files unless you want to add fonts to the printer and you want these changes reflected in Oracle applications. If you add fonts to your printer, you should also add entries for these fonts to the printer’s PPD file.

The format for a font entry is as follows:

```
*Font  font_name: encoding "version" charset
```

Where:

- **font_name** specifies the Adobe font name as specified in PostScript
- **encoding** specifies the PostScript encoding name
- **version** specifies the font’s version number
- **charset** specifies the Adobe character set name

**Set Up the Default Printers**

To set up default printers for Oracle Reports products, you need to update the `$ORACLE_HOME/guicommon6/tk60/admin/uiprint.txt` file with entries for each of your printers. Using this file enables you to obtain correct paper sizes and correct printer resolution. Toolkit application users can now set their print jobs to use various paper sizes available on the selected printer.

Oracle Toolkit uses the `uiprint.txt` file, located in the `$ORACLE_HOME/guicommon6/tk60/admin` directory, to display the list of printers available on your system. Each printer is defined by a line in the `uiprint.txt` file containing five fields separated by colons.

For each of your printers, enter the following line into the `uiprint.txt` file:

```
printer:printer_driver:Toolkit_driver:printerdescr:printer_descr_file:
```

Where:

- **printer** contains the name of the printer, as used with `lpr` or `lp` commands.
- **printer_driver** specifies the type of print driver used for the printer. The Toolkit currently supports the PostScript, ASCII, and PCL selections for the printer driver.
- **Toolkit_driver** specifies the type of print driver used for the printer. The Toolkit currently supports the PostScript, ASCII, and PCL selections for the printer driver.
Setting Printer Configuration Files

4-5

• Update the Toolkit Font Mapping File

The uifont.ali file contains alias mappings from one Toolkit font to another, and is used to map unavailable fonts to substitutes. For example, the Arial font is found only on Microsoft Windows and is mapped to Helvetica on AIX.

The uifont.ali file resides in the $ORACLE_HOME/guicommon6/tk60/admin directory. If you want to use another directory, see the following section.

See Also: Comments in the uifont.ali file. This file is updated for each new release.

Set the TK60_FONTALIAS Environment Variable

Oracle Toolkit first looks for uifont.ali in the location specified by TK60_FONTALIAS. If TK60_FONTALIAS is not set, or if uifont.ali is not in the specified location, the Toolkit looks for uifont.ali in the $ORACLE_HOME/guicommon6/tk60/admin directory.

Modify the uifont.ali File

If you want to modify the uifont.ali file, make sure that the general structure of each line is as follows:

Toolkit_driver specifies the version of the printer driver that should be used by the Toolkit. Currently, the Toolkit supports 1 for ASCII or Level 1 PostScript, 2 for Level 2 PostScript printers, and 5 for HP PCL printers.

printer_descr contains a free-format description of the printer. It can show, for example, the location and speed of the printer to make the user’s choice easier.

printer_descr_file specifies the printer definition file to be used with the printer. The format of this file is dependent on the driver specified for the printer. At present, the Toolkit supports the Adobe PPD and the HP HPD file formats. See “Locate and Install PPD and AFM Files for Your Printers” on page 4-2 for complete instructions.

Attention: The first non-commented line (line without a number in column one) must define a valid printer. Printing services and saving output to file may not work properly unless the uiprint.txt file is configured properly.
new_font=existing_font

Where:
new_font is a font you want to add.
existing_font is a font that already exists on your printer.

The specific format of each line in uifont.ali is as follows:

face.size.style.weight.width.charset = face.size.style.weight.width.charset

Where the values are separated by periods (.) and:

face specifies the name of the font the Toolkit uses for printing. Common fonts include Palatino, Helvetica, Courier, and Times.
size specifies the size of the font in points.
style specifies the choice of style options, which are plain, italic, oblique, underline, outline, shadow, inverted, and overstrike. If there is more than one style, the list must be enclosed in parentheses, for example, (plain italic).
weight specifies the choice of weight options, which are ultralight, extralight, light, demilight, medium, demibold, bold, extrabold, and ultrabold.
width specifies the choice of width options, which are ultradense, extradense, dense, semidense, normal, semiexpand, expand, extraexpand, and ultraexpand.
charset specifies the name of a character set. This option is not supported in the current release.

The following rules apply:

- Any Arial that has both italic and overstrike styles maps to a 12-point font. Each font line may be continued to the next line by using the backslash (\).
- Separate each element from the next by a period (\).
- Combine styles, if necessary, using the plus sign (+) to delimit parts of a style. For example:


  maps any Helvetica 12-point font that has both italic and overstrike styles to a 12-point, bold, italic Helvetica font.
Use quotes to enclose element names that contain a space. For example:


maps any Avant Garde font that has both italic and overstrike styles to a 12-point, bold, italic Helvetica font.

Use the correct number of periods as placeholders if you choose not to define certain elements. Trailing periods may be truncated. For example, in the following statement the two sides are equivalent even though the size is not specified on the left side:

Arial..Italic+Overstrike = Helvetica.12.Italic.Bold

Set Printer Commands (Optional)

You can set TK6_PRINT to store the print command and TK6_PRINT_STATUS to store the printer status command. You must supply a print_string. For example:

lp -s -d'%n' -n%c
lpstat -p '%n'

which allows you to embed the following strings:

%n the name of the printer.
%c the number of copies (printed as a decimal number).

If you do not set TK6_PRINT, the value defaults to:

lp -s -d'%n' -n%c

If you do not set TK6_PRINT_STATUS, the value defaults to:

/usr/bin/lpstat -p '%n'

To set TK6_PRINT and TK6_PRINT_STATUS for the Bourne shell, enter:

$ TK6_PRINT="print_string"; export TK6_PRINT
$ TK6_PRINT_STATUS="print_string"; export TK6_PRINT_STATUS

For the C shell, enter:

% setenv TK6_PRINT "print_string"
% setenv TK6_PRINT_STATUS "print_string"
Specify a Default Printer
Oracle Reports determines your default printer by searching for values of the following variables in the given order:

- TK6_PRINTER
- ORACLE_PRINTER
- PRINTER
- the first entry in your uiprint.txt file

To specify a default printer, set TK6_PRINTER to the applicable printer.

Note: The default printer must be specified in one of the ways listed above; otherwise, printing services and saving output to file may be disabled.

Information on Printing to HP PCL Printers
With Oracle Reports, printing to HP PCL printers is fully supported, in addition to PostScript and ASCII. Similar to PPD files for PostScript printers, HPD or HP glue files provide information on what fonts are available for an HP PCL printer. Many HP glue files are provided under $ORACLE_HOME/guicommon6/tk60/admin/HPD. HP’s AutoFont Support Installer (available on PCs) generates these files automatically. Documentation for their file format is available in HP’s PCL5 Developer’s Guide.

As with PostScript’s AFM files, every HP font must have an associated TFM file; TFM files should be provided by the font vendor, and new fonts should be added to the glue file for your printer when installed. The TFM files are located under $ORACLE_HOME/guicommon6/tk60/admin/TFM.

For any new font, you must specify these fields in the glue file:

```
FONT={ fontname }
```

{fontname} is a descriptive name for the font.

```
/tfm={ tfm-filename }
```

{tfm-filename} is the base filename for TFM file.

You can also specify these fields in the glue file, after the "FONT=" field, if the TFM file isn't specific enough:

```
/ptsize={size {size ...}}
```

Note: The default printer must be specified in one of the ways listed above; otherwise, printing services and saving output to file may be disabled.
If the font is a bitmapped font, but is listed in the TFM file as a scalable font, you can limit the point sizes used by listing all acceptable sizes.

\[ /\text{symset} = \{ \text{symset} \; \{ \text{symset} \; \ldots \} \} \]

This field limits the supported symbol sets to those listed on the field. See the HP PCL documentation for a list of recognized symbol sets.

Oracle Reports now also supports the defaultpaper field for printing to PCL format. This field can be used to set the defaultpaper to be used by the Toolkit. The format of this field is:

\[ <\text{defaultpaper} = \{ \text{papername} \} \]

For example, \( <\text{defaultpaper} = \text{A4} \) will set the default paper to A4.

The \text{papername} value is case insensitive. If the user specifies this field in more than one place, then the final defaultpaper field’s papername will be used as the defaultpaper. If the user has specified a defaultpaper and the papername is not supported by the printer, then the defaultpaper setting will be ignored and the defaultpaper will be set to LETTER. Also, if the papername specified in this field is incorrect, then the defaultpaper will be set to LETTER.

\\n
\textbf{Test Printing Capabilities and Fix Errors}

1. Test printing capability.

   Start up any Oracle Reports tool and print to the default printer.

2. Select a printer from the Choose Printer dialog.

   The Choose Printer dialog lists printers available on your system, giving the type and a full description of each. Oracle Toolkit obtains this list from the \$ORACLE_HOME/guicommon6/tk60/admin/uiprint.txt file. Users can choose a printer from the list of available printers.

   Users can also specify a new printer and its type. To choose a new printer, enter its name, or choose a corresponding type from the Choose Printer dialog containing the different drivers supported by Oracle Toolkit. The Toolkit checks to see if the name corresponds to a valid printer. If the printer is valid, Oracle Toolkit allows the user to associate a PPD file with the printer through a file dialog. If the user does not want to associate a PPD file, the Toolkit uses default.ppd.
Setting Up the Oracle Reports Environment

This section describes how to set up the generic user environment for Oracle Reports. The environment variables below are required to run Oracle Reports, regardless of the chosen user interface (character mode, Motif, or Web).

Configure the developer60 Shell Scripts

Using a text editor, configure the scripts in the ORACLE_HOME directory named developer60.sh and developer60.csh. These files allow you to designate values for environment variables used by Oracle Reports. Once you have updated the contents of these files with information specific to your system, you will be able to quickly set your environment for Oracle Reports products.

After configuring the developer60.sh script, run it in the Bourne or Korn shell by entering:

```
$ . developer60.sh
```

After configuring the developer60.csh script, run it in the C shell by entering:

```
% source developer60.csh
```

Set LIBPATH for Each User

To run Oracle Reports, you must set the LIBPATH environment variable. Oracle Reports products use dynamic, or shared, libraries. Therefore, you must set LIBPATH so that the dynamic linker can find the libraries. To determine if your LIBPATH is set, enter:

```
$ echo $LIBPATH
```

Set the LIBPATH environment variable to $ORACLE_HOME/lib.

For the Bourne shell:

```
$ LIBPATH=$ORACLE_HOME/lib:$LIBPATH
$ export LIBPATH
```

For the C shell:

```
% setenv LIBPATH \$ORACLE_HOME/lib:$LIBPATH
```
Setting Up the Character Mode User Environment

This section explains how to set up the character mode user environment for Oracle Reports.

Perform the following tasks to set up the character mode user environment:

- Determine Your Terminal Resources
- Set ORACLE_TERM

▶ Determine Your Terminal Resources

This section helps you decide whether you need to set the ORACLE_TERM environment variable.

Note: You must set ORACLE_TERM if TERM is not already set to the device name of a supported terminal. If you do not properly set either TERM or ORACLE_TERM, the Oracle Reports character mode tools cannot start up.

Check the value of TERM by entering:

```
$ echo $TERM
```

Refer to "Supported Terminals" on page 4-12 to determine whether TERM is already set to the device name of one of the supported terminals.

TERM Set

If TERM is already set to a supported device, you do not need to set ORACLE_TERM, and you are finished setting your terminal resources.

TERM Not Set

If TERM is not already set, set ORACLE_TERM to a supported device name before using any of the Oracle Reports character mode tools. See "Set ORACLE_TERM" on page 4-12 for instructions.
Set **ORACLE_TERM**

Select the device name for ORACLE_TERM from the list of device names provided in Table 4–1, "Supported Terminals for Character Mode Oracle Reports Tools".

Set the ORACLE_TERM environment variable for each user.

Setting ORACLE_TERM overrides the default AIX environment variable TERM for Oracle tools. The value of TERM, however, remains the same.

**Supported Terminals**

The following table lists device names to which you can set ORACLE_TERM and the corresponding terminal filenames that the character mode Oracle Reports tools use. Oracle Toolkit terminal files are located in the $ORACLE_HOME/guicommon6/tk60/admin/terminal/US directory.

Many of the tools also require their own terminal files. Check the product-specific chapters for a list of these files.

**Table 4–1 Supported Terminals for Character Mode Oracle Reports Tools**

<table>
<thead>
<tr>
<th>Device Name</th>
<th>Terminal</th>
<th>Terminal File Names Used by Oracle Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>sun5</td>
<td>Sun cmdtool Type 5 keyboard</td>
<td>tk6csun5.res</td>
</tr>
<tr>
<td>vt100</td>
<td>DEC vt100 terminal (or emulator, including xterm)</td>
<td>tk6cvt100.res</td>
</tr>
<tr>
<td>vt220</td>
<td>DEC vt220 terminal (or emulator, including xterm)</td>
<td>tk6cvt220.res</td>
</tr>
<tr>
<td>xsun5</td>
<td>Sun xterm Type 5 keyboard</td>
<td>tk6cxsun5.res</td>
</tr>
</tbody>
</table>

**Setting Up the GUI Environment**

This section explains how to prepare the GUI environment for Oracle Reports:

- Getting Help with X and OSF/Motif
- Relocate Key Definition File
- Set Up the X Window System and Motif Environments

In this section, it is assumed you have a working knowledge of X Window and OSF/Motif setup and administration, including an understanding of the client/server architecture of the X Window System and Motif
Getting Help with X and OSF/Motif

Oracle customers can contact Oracle Support Services regarding any problems with Oracle products. However, Oracle Corporation does not offer technical support for the X Window System or Motif provided by your operating system vendor. Refer your questions about the X Window System or Motif to your on-site expert, or to your operating system vendor or Motif vendor.

Note: Oracle does not support PC Xserver emulators. If you are having a problem with an emulator on a PC, see if you can duplicate the problem on your server’s console.

Relocate Key Definition File

When installation is complete, the X11 key symbol file XKeysymDB is in the $ORACLE_HOME/guicommon6/tk60/admin directory. You must move the XKeysymDB file to the /usr/openwin/lib/X11 directory on every machine on which Oracle Reports is running. To move the file, perform the following steps:

1. As the root user, change to the $ORACLE_HOME/guicommon6/tk60/admin directory:

   # cd $ORACLE_HOME/guicommon6/tk60/admin

2. Set up the XKeysymDB file of your choice.

   If you already have this file, decide whether to use the new file as is or merge it with the old file. If you decide to use the new file, then you may want to rename the old file to preserve it.

   If the directory /usr/openwin/lib/X11 does not exist, create it by entering:

   # mkdir /usr/openwin/lib/X11

   To preserve the original file, enter:

   # cd /usr/openwin/lib/X11
   # mv XKeysymDB XKeysymDB.OLD
   # cd $ORACLE_HOME/guicommon6/tk60/admin

   To install only the new file, enter:

   # cp XKeysymDB /usr/openwin/lib/X11
To merge the new file with the existing file, add the old material you want to keep into the new file using your system editor.

**Note:** The application code reads the XKeysymDB file at startup time. If the application code cannot find the file, or if it does not contain all of the relevant OSF keysym values, some function keys may not function properly. In this case you may receive warning messages similar to the following:

```
Warning: translation table syntax error: Unknown keysym
name: osfUp
Warning: ...found while parsing ' <Key>osfUp:
ManagerGadgetTraverseUp ()'
```

3. Exit the root user account.

Oracle Motif applications running in an X11R4 environment do not have the capability of locating National Language Support (NLS) data files. Except for this limitation, Oracle Motif applications running in an X11R4 environment have the same capability as applications running in an X11R5 environment.

**Set Up the X Window System and Motif Environments**

This section describes the following topics:

- **Set the DISPLAY Environment Variable**
- **Control Display Access with the xhost Utility**

**Set the DISPLAY Environment Variable**

If you run Oracle Reports on a machine that is not your local workstation, set the DISPLAY environment variable on the remote machine to the name of your X Windows screen. This tells the application which machine, server, and screen to display its windows.

The format for the name of the X Windows screen is:

```
machine_name : server.screen
```
Where:
- **machine_name** specifies the name of the machine you will be using
- **server** specifies the sequential code number for the server
- **screen** specifies the sequential code number for the screen (optional)

For example, your workstation is named **bambi**, and you want to run Motif Reports from a larger machine named **godzilla**. From **godzilla**:

For the Bourne and Korn shell, enter:

```bash
$ DISPLAY=bambi:0.0; export DISPLAY
```

For the C shell, enter:

```bash
% setenv DISPLAY bambi:0.0
```

The first zero in this example refers to the first server running on **bambi**. The second zero refers to the first screen managed by that server. Typically, there is just one server and one screen per workstation or X terminal. In such cases you can omit the screen specification.

**Control Display Access with the xhost Utility**

Most X servers prevent users on other machines from displaying windows on your screen, unless you explicitly give them permission. This is done by means of an access file `/etc/Xn.hosts`, where `n` is the number of the display. The `xhost` utility allows you to interactively grant or deny systems access to the server.

To grant access to a remote system, run `xhost` and specify the name with an optional leading plus sign (+). To deny access, use a leading minus sign (-). A plus sign without a host name gives access to all available systems, whether they are listed in `/etc/Xn.hosts` or not. A minus sign without a host name restricts access to systems listed in the `/etc/Xn.hosts` file.

Running `xhost` without arguments prints the list of hosts in the `/etc/Xn.hosts` file, and tells you whether they have current access to your display.

For example, your workstation is named **bambi** and you want to grant access to **godzilla**, a remote machine. On **bambi**, enter:

```bash
$ xhost +godzilla
```

To allow unlimited, unspecified access, enter:

```bash
$ xhost +
```
Enabling Use of Other Languages

This section explains how to set up your environment so that you can run the tools using various languages.

Perform the following tasks to enable Oracle Reports to run in languages other than the default language (English):

- Set NLS_LANG
- Set the Tk6Motif*fontMapCs File

### Set NLS_LANG

Oracle Reports products use the NLS_LANG environment variable to determine which language territory and terminal character set to use. To set NLS_LANG, use the following procedure.

For the Bourne and Korn shell, enter:

```bash
$ NLS_LANG= language_territory.character_set
$ export NLS_LANG
```

For the C shell, enter:

```bash
% setenv NLS_LANG language_territory.character_set
```

Where:

- `language` is a supported language
- `territory` is a supported territory
- `character_set` is a character set supported by the user’s terminal

**Note:** If NLS_LANG is not set, the default setting is us7ascii.
Table 4–2 provides values supported by Oracle Reports products for NLS_LANG.

<table>
<thead>
<tr>
<th>Language Name</th>
<th>language Value</th>
<th>territory Value</th>
<th>character_set Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croatian</td>
<td>croatian</td>
<td>croatia</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Czech</td>
<td>czech</td>
<td>&quot;czech republic&quot;</td>
<td>ee8iso</td>
</tr>
<tr>
<td>English</td>
<td>american</td>
<td>america</td>
<td>us7ascii</td>
</tr>
<tr>
<td>Danish</td>
<td>danish</td>
<td>denmark</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Dutch</td>
<td>dutch</td>
<td>“the netherlands”</td>
<td>we8dec</td>
</tr>
<tr>
<td>Finnish</td>
<td>finish</td>
<td>finland</td>
<td>we8dec</td>
</tr>
<tr>
<td>French</td>
<td>french</td>
<td>france</td>
<td>we8dec</td>
</tr>
<tr>
<td>German</td>
<td>german</td>
<td>germany</td>
<td>we8dec</td>
</tr>
<tr>
<td>Greek</td>
<td>greek</td>
<td>greece</td>
<td>el8iso</td>
</tr>
<tr>
<td>Hungarian</td>
<td>hungarian</td>
<td>hungary</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Italian</td>
<td>italian</td>
<td>italy</td>
<td>we8dec</td>
</tr>
<tr>
<td>Japanese</td>
<td>japanese</td>
<td>japan</td>
<td>ja16euc</td>
</tr>
<tr>
<td>Korean</td>
<td>korean</td>
<td>korea</td>
<td>ko16ksc5601</td>
</tr>
<tr>
<td>Norwegian</td>
<td>norwegian</td>
<td>norway</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Portuguese</td>
<td>portuguese</td>
<td>portugal</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Portuguese</td>
<td>&quot;brazilian portuguese&quot;</td>
<td>brazil</td>
<td>we8iso</td>
</tr>
<tr>
<td>Romanian</td>
<td>romanian</td>
<td>romania</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Russian</td>
<td>russian</td>
<td>cis</td>
<td>cl8iso</td>
</tr>
<tr>
<td>Slovak</td>
<td>slovak</td>
<td>slovakia</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Slovenian</td>
<td>slovenian</td>
<td>slovenia</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Spanish</td>
<td>spanish</td>
<td>spain</td>
<td>we8dec</td>
</tr>
<tr>
<td>Spanish</td>
<td>&quot;latin american spanish&quot;</td>
<td>america</td>
<td>web8iso</td>
</tr>
<tr>
<td>Simplified Chinese</td>
<td>&quot;simplified chinese&quot;</td>
<td>china</td>
<td>zhs16cb</td>
</tr>
</tbody>
</table>
Enabling Use of Other Languages

Set the Tk6Motif*fontMapCs File

This section explains how to add an entry to the Tk6Motif file so that the Toolkit can match Oracle character sets with X character sets. The setting is called Tk6Motif*fontMapCs. To set Tk6Motif*fontMapCs add the following line to the file:

Tk6Motif*fontMapCs: xset=character_set

Where:

- xset
- character_set

is the name of an X character set
is the name of an Oracle character set

To get a list of all character sets available on your X Server, enter:

$ xlsfonts | awk -F '-' '{print $14 "=" $15}' | sort -u

Table 4-2 Settings for NLS_LANG

<table>
<thead>
<tr>
<th>Language Name</th>
<th>language Value</th>
<th>territory Value</th>
<th>character_set Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Chinese</td>
<td>&quot;traditional chinese&quot;</td>
<td>taiwan</td>
<td>zht16b165</td>
</tr>
<tr>
<td>Turkish</td>
<td>turkish</td>
<td>turkey</td>
<td>we8iso</td>
</tr>
</tbody>
</table>
This chapter explains how to configure and use the character mode and Motif versions of Oracle Reports Release 6.0 on your AIX system.

The following topics are covered in this chapter:

- Product Documentation
- Administering Reports
- Using Reports
Product Documentation

For information on the general use of Reports, see the following documents:

- Reports Enhancements Manual
- Building Reports Manual
- Reports Reference Manual
- Reports Messages and Codes Manual
- Reports Runtime Manual
- Reports Migration Manual
- Reports Documentation Addendum

Release Notes File

The relnotes.txt file is located in the $ORACLE_HOME/tools/doc directory. This document notes differences between Oracle Reports Release 6.0 and its documented functionality. This includes changes that were made too late to be included in the documentation, as well as any known limitations.

Administering Reports

Executables

The Reports executables, listed in the following table, are installed in the $ORACLE_HOME/bin subdirectory.

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convert Reports</td>
<td>rwcon60</td>
</tr>
<tr>
<td>Runtime</td>
<td>rwrun60</td>
</tr>
<tr>
<td></td>
<td>rwrun60c</td>
</tr>
<tr>
<td>Builder</td>
<td>rwbl60</td>
</tr>
</tbody>
</table>
Relinking Reports

In Oracle Reports Release 6.0, Graphics is linked into the Reports executables automatically. There is no longer an option to relink Reports without Graphics.

To relink Oracle Reports, enter:

```
$ cd $ORACLE_HOME/reports60/lib
$ make -f ins_reports60d.mk crinstall mrinstall dinstall
```

If you have Oracle Developer Server, use `ins_report60w.mk` instead of `ins_reports60d.mk`.

Edit Preferences

Tools Options is a menu item on the Tools menu. This menu item sets options for your Reports session. It displays the Tools Options dialog box, in which you specify, design, and run preferences.

Use `Save Preferences` to store the user preferences you defined using Tools Options. The preferences are merged with those that existed when you started Reports. They are stored in the `$ORACLE_HOME/tools/admin/prefs.ora`.

Text Format Filename Extension

When a report definition is saved in text format, a `.rex` filename extension is appended to the filename. For example, if you saved the report definition `emp.rdf` in ASCII format, the file would be named `emp.rex`.

Call Interface

Using the information in the `Reports Reference Manual`, and the supplied makefile, `$ORACLE_HOME/reports60/lib/ins_reports60d.mk`, you can generate executable programs that contain Reports calls. Perform the following steps:
1. Create a program that contains a call to a function in the Reports call interface, such as `rwccon()`, `rw2con()`, `rwcmov()`, `rw2mov()`, `rwccrb()`, `rw2rrb()`, `rwcrun()`, `rw2run()`, `rwcsrb()`, `rw2srb()`. 

2. Compile the program and generate object code.

3. To link the call interface demonstrations for Reports, enter the following commands:
   
   cd $ORACLE_HOME/reports60/lib
   
   - For character mode runtime, enter:
     
     $ make -f ins_reports60d.mk rwrun60co
   
   - For bitmap runtime, enter:
     
     $ make -f ins_reports60d.mk rwrun60o
   
   - For bitmap designer, enter:
     
     $ make -f ins_reports60d.mk rwbld60o

4. To link your own call interface executables, enter the following commands:

   - For character mode runtime, enter:
     
     $ make -f ins_reports60d.mk rwrun60co RXOCIQA="ociobj1.o ociobj2.o..."
   
   - For bitmap runtime, enter:
     
     $ make -f ins_reports60d.mk rwrun60o RXOCIQA="ociobj1.o ociobj2.o..."
   
   - For bitmap designer, enter:
     
     $ make -f ins_reports60d.mk rwbld60o RXOCIQA="ociobj1.o ociobj2.o..."

Filename Extensions

The files you create with Reports have the following extensions:

- `.pl1`: a PL/SQL library
- `.rex`: contains an ASCII readable report definition which cannot be executed
- `.rdf`: contains a complete report definition which can be executed
.rep contains a binary, non-editable report definition
.prt a printer definition file

These file extensions are case-sensitive and, therefore, must be specified in lowercase.

See Also: The Reports online help for a description of each file extension.

Online Tools for Administration

Reports is shipped with several SQL scripts with which you can quickly perform certain database administration tasks, such as adding reports tables to your database and controlling privileges.

See Also: The Reports online help for a complete list.

Printer Definitions

These printer and terminal definitions are used for character mode reports.

The printer definition files are in the $ORACLE_HOME/reports60/admin/printer directory. The following set of printer definitions is shipped for your AIX system:

<table>
<thead>
<tr>
<th>Definition File</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>bold.prt</td>
<td>a generic printer file that supports bold attributes and 66x80 page size</td>
</tr>
<tr>
<td>dec.prt</td>
<td>a generic printer file for most DEC printers; it supports 66x80 page sizes for the LN03, LPS40, LP05, and LA50 printers</td>
</tr>
<tr>
<td>decland.prt</td>
<td>same as decwide.prt, but supports 66x132 page size</td>
</tr>
<tr>
<td>decwide.prt</td>
<td>a generic printer file that prints in landscape mode and supports 66x132 page sizes</td>
</tr>
<tr>
<td>dfilt.prt</td>
<td>a generic printer file that ignores highlighting attributes and supports 66x80 page size</td>
</tr>
</tbody>
</table>
Modifying the Tk2Motif.rgb File

Enter the following in your Tk2Motif.rgb file to ensure proper font sizing regardless of the display resolution setting. The default location of the Tk2Motif.rgb is $ORACLE_HOME/guicommon6/tk60/admin/:

Oracle Reports Designer*fontUseDpi: True
Oracle Reports Runtime*fontUseDpi: True

Setting Environment Variables

This section describes the environment variables you need to use Reports:

- ORACLE_TERM
- REPORTS60_PATH

Table 5–2  Printer Definition Files

<table>
<thead>
<tr>
<th>Definition File</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>hpl.prt</td>
<td>a generic printer file for the HP LaserJet printer that supports 66x80 page size</td>
</tr>
<tr>
<td>hplwide.prt</td>
<td>same as hpl.prt, but supports 66x80 page sizes</td>
</tr>
<tr>
<td>no_ff.prt</td>
<td>a generic printer file with no formfeed between pages and supports 66x80 page size</td>
</tr>
<tr>
<td>psl132.prt</td>
<td>character mode PostScript printer file that prints in landscape mode and supports 66x132 page size</td>
</tr>
<tr>
<td>psl180.prt</td>
<td>character mode PostScript printer file that prints in landscape mode and supports 66x180 page size</td>
</tr>
<tr>
<td>pslan.prt</td>
<td>PostScript printer file that prints in a landscape mode and supports 110x51 page sizes</td>
</tr>
<tr>
<td>ps2page.prt</td>
<td>character mode PostScript printer file that prints two 66x80 portrait pages on one landscape page</td>
</tr>
<tr>
<td>psport.prt</td>
<td>PostScript printer file that prints in portrait mode and supports 85x66 page sizes</td>
</tr>
<tr>
<td>psp132.prt</td>
<td>PostScript printer file that prints in a portrait mode and supports 132x120 page sizes</td>
</tr>
<tr>
<td>wide.prt</td>
<td>a generic printer file that ignores highlighting attributes and supports 66x132 page sizes</td>
</tr>
<tr>
<td>wide180.prt</td>
<td>same as wide.prt, but supports 66x180 page sizes</td>
</tr>
</tbody>
</table>
A *directory* specifies the directory where a file resides. A *path* specifies the colon-delimited list of directories where a file can reside.

**ORACLE_TERM**

To use the character mode implementation, you must set ORACLE_TERM before logging into Reports.

You can also override the ORACLE_TERM environment variable setting from the command line by entering:

```
$ rwrun60 TERM=device
```

You can find the Reports terminal file for your UNIX-based system in the `$ORACLE_HOME/reports60/admin/terminal/US` directory. The Reports terminal file you need is used with the Toolkit terminal file.

For example, if your terminal is a vt100, the Reports terminal file, `rwcvt100.res`, works together with the corresponding Toolkit terminal file, `tk6cvt100.res`.

Set the ORACLE_TERM environment variable to the appropriate terminal type. See Table 5-3 for a list of device names to which you can set the ORACLE_TERM environment variable and the files located in the `reports60/admin/terminal` directory.

### Table 5-3  Supported Terminals for Character Mode Reports

<table>
<thead>
<tr>
<th>ORACLE_TERM (Device)</th>
<th>Terminal</th>
<th>Terminal File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>sun10</td>
<td>Sun Type 10 console</td>
<td>rwcsun10.res</td>
</tr>
<tr>
<td>sun4</td>
<td>Sun Type 4 console (cmdtool)</td>
<td>rwcsun4.res</td>
</tr>
<tr>
<td>sun5</td>
<td>Sun Type 5 console (cmdtool)</td>
<td>rwcsun5.res</td>
</tr>
<tr>
<td>vt100</td>
<td>vt100 (or emulator, including xterm)</td>
<td>rwcvt100.res</td>
</tr>
</tbody>
</table>
Administering Reports

Table 5–3  Supported Terminals for Character Mode Reports

<table>
<thead>
<tr>
<th>ORACLE_TERM (Device)</th>
<th>Terminal</th>
<th>Terminal File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>vt220</td>
<td>vt220 (or emulator, including xterm)</td>
<td>rwcvt220.res</td>
</tr>
<tr>
<td>xsun</td>
<td>Sun Type 4 xterm (xterm using SUN keyboard)</td>
<td>rwcxsun.res</td>
</tr>
<tr>
<td>xsun5</td>
<td>Sun Type 5 xterm (xterm using SUN keyboard)</td>
<td>rwcxsun5.res</td>
</tr>
</tbody>
</table>

REPORTS60_PATH
REPORTS60_PATH locates external objects that you use in your reports.

REPORTS60_TERMINAL
FORMS60_TERMINAL points to the directory where the terminal files for Forms reside.

REPORTS60_TMP
REPORTS60_TMP establishes the directory where Reports will store Reports temporary files. The default directory is /tmp.

TK60_TERMINAL
TK60_TERMINAL points to the directory where the terminal definition file for the terminal type you are using resides.

TK60_ICON
TK60_ICON points to the path where icons which you use in your Reports reside.

Specifying Printers and Queues

The script $ORACLE_HOME/reports60/admin/printer/spoolcmd.sh is called when you send a file to the printer. By default, the script uses lpr to print if /usr/ucb/lpr has been installed on your system; otherwise, the script uses lp. If your printer setup is different, or if you want to always use lp, you may need to modify this file.
Using Reports

Starting Reports Runtime
Reports Runtime allows you to run reports created with the Reports Builder.
To start the Motif mode version of Reports Runtime, enter:

$ rwrun60 filename

Where filename is the name of your report. If you do not enter the name of a file, you can specify a report name and database connect string.
To start the character mode version of Reports Runtime, enter:

$ rwrun60c filename

Where filename is the name of your report.

Starting Reports Builder
To start Reports Builder, enter:

$ rwbld60

Printing Reports

Choosing a Printer
To choose a printer from Reports:

1. Select File—>Choose Printer to display the Printer Chooser dialog box.
2. Select the printer and specify any other desired options by choosing File—>Page Setup. Your specifications here override any DESNAME parameter used when invoking reports from the command line.

See Also: “Setting Printer Configuration Files” on page 4-2.

Sending Reports to Printers
Before printing your report, you should select the appropriate printer and any applicable options.
To send reports to a printer:
1. Choose File—>Run. The Runtime Parameter Form is displayed. Now set the DESTYPE to Printer.

2. Choose Run Report. The Print dialog box is displayed.

3. Specify the print range and the number of copies and select OK.

   **Note:** No bit-mapped printer definition files are shipped with Reports. Printer definition files are used with character-mode reports only.

---

**Sending Reports to Files**

Before printing your report to a file, you should select the appropriate printer driver and any applicable options.

To print to a file, complete the steps below:

1. Select the applicable printer driver via File—>Print Setup.

2. Select File—>Run or File—>Print. The Runtime Parameter Form is displayed.

3. Select File for DESTYPE.

4. Specify the complete path and filename in the DESNAME field, then select Run Report.

   If you do not specify a value for DESNAME, Reports uses the default name `reportname.LIS`. If you do not specify a directory path, Reports saves the report output to the current directory.

5. The Print dialog box is displayed with Print to File checked. Select OK.

---

**Sending Reports through Mail**

To send reports through mail:

1. Select Mail from the Destination Type pop-up menu.

2. Enter the user ID of the recipient in the text field.


The default mail type is UNIX mail. You can send reports through a different mail system, such as Oracle InterOffice, by editing the `r60mail.sh` file, located in `$ORACLE_HOME/reports60/admin/mail`. The `r60mail.sh` file provides instructions and examples of how to set up Reports to send reports through different mail systems.
Creating ASCII Output

You can print reports to an ASCII file or a non-PostScript printer. To create ASCII output, complete the following steps:

1. Select File—>Choose Printer to display the Printer Chooser dialog box, select the Reports ASCII Driver, and select OK. If MODE=CHARACTER for the report, you can skip this step.

2. Select File—>Print.

3. To print to a file, change the DESTYPE to File, specify the name of the ASCII file in the DESNAME field, and select Run Report.

**Note:** To send the report output directly to the printer, go to the Printers dialog in the File menu. Select the Reports ASCII Driver, then select Connect. Select the correct printer port for your machine and accept the dialogs. When running the report, change the DESTYPE to Printer and select Run Report. Then, select OK from the Print dialog box.

Motif Compliance

All menu elements in the GUI mode version of Reports are Motif-compliant on all UNIX-based systems.

Escape to Host

To specify the UNIX shell which is used when Escaping to a Host prompt, make certain your UNIX SHELL environment variable is set to the name of the appropriate shell command interpreter.

Set SHELL for the Bourne shell, enter:

```
$ SHELL=/bin/sh
$ export SHELL
```

To set SHELL for the C shell, enter:

```
% setenv SHELL /bin/csh
```

User Exits

See Chapter 6, "Creating User Exits" for information on creating user exits in Reports.
User exits are subroutines that contain embedded SQL commands. You can create user exits by modifying the sample source file.

The following topic is covered in this chapter:

- User Exits

**Note:** For using User Exits with COBOL, the following two shared libraries are included:

- libiffw.so.COBOL
- libiff.so.COBOL

Rename these to libiffw.so and libiff.so, respectively, before proceeding further.
User Exits

The sample files, `iapxtb.c` and `ue_xtb.c`, each declare a user exit array called `iapxtb[]`. The files below describe which files are used to define exit tables:

- Reports uses `$ORACLE_HOME/reports60/demo/ue/rweiap.c`
- Graphics uses `$ORACLE_HOME/graphics60/demos/sample/iapxtb.c`

To create user exits:

1. Add entries to the sample source file for each user exit. Following is a sample source file:

   ```c
   /* Define the user exit table */
   extern exitr iapxtb[] = { /* Holds exit routine pointers */
     "UE_OK",       ue_ok, XITCC,
     "UE_ERR",      ue_err, XITCC,
     "UE_MB",       ue_mb, XITCC,
     "UE_EMP_PLAN", ue_emp_plan, XITCC,
     (char *) 0, 0, 0   /* zero entry marks the end */};
   /* end iapxtb */
   ```

   The first item in the entry is the name (inside double quotes) used by the tool to reference the user exit. The second item is the actual name of the user exit routine. Names of user exits cannot be more than 30 alphanumeric characters in length, and must begin with a letter. The last item (XITCC) indicates that the user exit is called using C calling conventions. For other languages, you would use one of the following:

   - XITCOB /* COBOL */
   - XITFOR /* FORTRAN */
   - XITPLI /* PL/I */
   - XITPAS /* Pascal */
   - XITAda /* Ada */

2. After modifying the source file, compile it along with your user exit program. Next, link the resulting IAPXTB object file with the product executable(s).
Reports

To link the user exit sample for Reports, enter the following:

For Motif:

$ cd $ORACLE_HOME/reports60/lib
$ make -f ins_reports60d.mk rwrun60x

For character mode:

$ cd $ORACLE_HOME/reports60/lib
$ make -f ins_reports60d.mk rwrun60cx

Graphics

To link the user exit sample for Graphics, enter the following:

$ cd $ORACLE_HOME/graphics60/lib
$ make -f ins_graphics60d.mk g60runmx

Linking in Your User Exits

To link in your own user exits, override the EXITS make file macro on the command line with the user exit table file and user exits you created. For example:

$ cd $ORACLE_HOME/reports60/lib
$ make -f ins_reports60d.mk \
EXITS="my_iapxtb.o userexit1.o userexit2.o ..." rwrun60x

Now replace the default Reports Runtime engine with your newly relinked executable:

$ mv rwrun60x $ORACLE_HOME/bin/rwrun60
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