Preface


The topics covered in this preface are:

- Audience
- Document Conventions
- Customer Support and Documentation Sales
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.

Additional Reading

For additional information on Developer/2000, see the product documentation for Oracle Book, Oracle Browser, Forms, Graphics, Procedure Builder, and Reports.

Document Conventions

Conventions used in this document differ somewhat from those used in other Oracle documentation. Because UNIX is case-sensitive, commands and filenames are shown in boldface type, rather than uppercase letters.

Type Conventions

Following are the type conventions:

- **bold** Boldface type indicates UNIX commands, directory names, pathnames, and filenames (for example, the *prefs.ora* file).
- **brackets [ ]** Words enclosed in brackets indicate key names (for example, press [Return]).
- **italics** Italic type indicates a variable and is used for emphasis. It also indicates variable portions of filenames (for example, *sgadefx.dbf*).
- **UPPERCASE** Uppercase letters indicate Oracle commands and environment variables (for example, *ORACLE_HOME*).

Command Syntax

Commands appear in monospace font. Enter information precisely as it appears. Following are the syntax conventions for commands:
backslash \  A backslash indicates a command line that is too long to fit on the printed page. Either 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.

```
.DEFINER { macro1 }
```

brackets [ ]  Brackets indicate optional items.

```
cvtcrt termname [outfile]
```

ellipsis ...  An ellipsis indicates 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]
```

**Icons**

The following icons appear in printed documentation. Icons do not appear in online documentation.

- **Attention:** The attention icon indicates important additional information.

- **See Also:** The book icon indicates a reference to another document, published either by Oracle Corporation or another organization. (The words “See Also” without an accompanying icon indicate a reference to another section of this document.)

- **Suggestion:** The suggestion icon indicates recommendations or hints.

- **Warning:** The warning icon indicates an action that could damage the system.
Other Conventions

The term “Oracle7 Server” refers to the database server product from Oracle Corporation.

The term “oracle” refers to an executable or account by that name.

The term “oracle” refers to the owner of the Oracle software.

Unless otherwise stated, examples use the Bourne shell (sh(1)) syntax.

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Please be prepared to supply the following information:

- your CSI number (This helps Oracle Corporation track problems for each customer.)
- the release numbers of the Oracle7 Server and associated products
- the operating system name and version number
- details of error numbers and descriptions (Write down the exact errors.)
- a description of the problem
- a description of changes made to the system

For installation-related problems please supply:

- a printout of the $ORACLE_HOME and $STAGE_HOME directories
- the directory pathnames of your installation staging area
- the $ORACLE_HOME directory

This information helps Oracle Worldwide Customer Support Services validate the information written to the installation log files.
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or

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Oracle Corporation
European Porting Centre
Maretimo Court
Temple Road
Blackrock
Co Dublin
Ireland
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This chapter provides an overview of Developer/2000. The following topics are covered in this chapter:

- Introduction
- Installation Checklist
- Client-Only and Server-Based Installation Options
- Online Documentation and Help
- Related Publications
- Supported Features
- Integrated Demonstrations
- Issues and Restrictions
Introduction

Developer/2000 is an integrated set of database tools supporting multiple platforms, user interfaces, and data sources. These tools are built on top of 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.

Developer/2000 tools are built using standard application programming interfaces (APIs), allowing organizations to supplement the Developer/2000 product set with tools from other vendors.

This section provides an overview of the Developer/2000 products supported in this release.

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Book release 2.2</td>
<td>Use Oracle Book to create and view online documents. Online help documents available in this release were developed using Oracle Book.</td>
</tr>
<tr>
<td>Oracle Browser release 2.0</td>
<td>Use Oracle Browser to query databases. Both non-programmers and experienced database users and programmers can use Oracle Browser.</td>
</tr>
<tr>
<td>Forms release 4.5</td>
<td>Use Forms to build interactive applications that access Oracle7 Server data.</td>
</tr>
<tr>
<td>Graphics release 2.5</td>
<td>Use Graphics to create multimedia graphical displays dynamically linked to a database.</td>
</tr>
<tr>
<td>Procedure Builder release 1.5</td>
<td>Use Procedure Builder to create, edit, and debug PL/SQL code.</td>
</tr>
<tr>
<td>Reports release 2.5</td>
<td>Use Reports to build and generate reports that access Oracle7 Server data.</td>
</tr>
</tbody>
</table>
The following checklist summarizes major steps involved in installing and configuring Developer/2000.

<table>
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<th>Chapter Reference</th>
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<td>Setting the Environment</td>
<td></td>
</tr>
<tr>
<td>Assemble your documentation set, including product and operating</td>
<td>Chapter 1: “Related Publications” section on page 1 – 9</td>
</tr>
<tr>
<td>system-specific documentation.</td>
<td></td>
</tr>
<tr>
<td>Note restrictions, if any, for this release.</td>
<td>Chapter 1: “Issues and Restrictions” section on page 1 – 12</td>
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<tr>
<td>Decide whether to conduct a client-only or server-based installation.</td>
<td>Chapter 1: “Client-Only and Server-Based Installation Options” section on page 1 – 4</td>
</tr>
<tr>
<td>Check your hardware, operating system, and user interface requirements.</td>
<td>Chapter 2: “System Requirements” section on page 2–2</td>
</tr>
<tr>
<td>Prepare for installation.</td>
<td>Chapter 3: “Setting the Environment”</td>
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<tr>
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<td>Select products to install or upgrade and reply to the prompts and</td>
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<td>messages on screen.</td>
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<tr>
<td>Completing Installation</td>
<td></td>
</tr>
<tr>
<td>Set up the user environment.</td>
<td>Chapter 5: “Set Up the Character Mode User Environment” section on page 5 – 18 and “Set Up the GUI User Environment” section on page 5–25</td>
</tr>
</tbody>
</table>

Table 1 – 1 Installation Checklist
Client-Only and Server-Based Installation Options

You need to decide the type of installation you will perform. Your installation type determines the installation tasks that you perform later in this manual.

**Suggestion:** Oracle Corporation recommends that you conduct a client-only installation whenever possible. Client-only installations simplify administration and upgrades.

Client-Only Installation

In a client-only installation, the tools are installed in an `$ORACLE_HOME` directory separate from the `$ORACLE_HOME` directory that contains the database server the tools access. You use SQL*Net to access your remote database server.


You must install the tools for each installation. You need to install the database objects only once for each server.
Client-Only Configuration

The following figure illustrates a configuration in which Developer/2000 is installed on client machines connecting to the database server with SQL*Net.

![Diagram of Client-Only Installation]

Figure 1 – 1 Client-Only Installation

Note: You can perform a client-only installation on the same machine as the Oracle7 Server, as long as you use a different $ORACLE_HOME.
Server-Based Installation

In a server-based installation, Developer/2000 and the Oracle7 Server are installed in the same $ORACLE_HOME directory. The Developer/2000 tools connect to the local database.

Server-Based Configuration

The following figure illustrates a configuration in which the Oracle7 Server and Developer/2000 are installed in the same $ORACLE_HOME directory.

Figure 1–2 Server-Based Installation
Server-Based Restriction

You must upgrade to Oracle7 Server release 7.3.2 to perform a server-based installation.

Warning: If you install Developer/2000 in the same $ORACLE_HOME directory where a release prior to 7.3.2 of the Oracle7 Server resides, you will overwrite common component product layers. You will be unable to relink the Oracle7 Server and you may be unable to use the database. Consequently, Oracle Corporation does not support this configuration. Relinking problems may also occur for server-based installations of Developer/2000 with any Oracle7 Server release subsequent to 7.3.2.

Client-Only and Server-Based Issues

This section presents issues to consider when you are deciding on a client-only or a server-based installation.

Client-Only Installations

Advantages of client-only configurations are:

- You do not need to upgrade the database and Developer/2000 simultaneously. There is no possibility of having an unsupported configuration.
- Performance is generally enhanced if Developer/2000 is running on local workstations. This reduces the load on the servers.

Server-Based Installations

Advantages of server-based configurations are:

- Server-based installations save disk space.
- Because Developer/2000 and the Oracle7 Server share some of the same libraries, the system administrator does not need to duplicate and maintain the shared configuration files.
Online Documentation and Help

Installation Guide

After installation, you can find the Oracle Book file for this document in the $ORACLE_DOC directory, which you will create before installation. See the “Create $ORACLE_DOC Directory” task on page 3 – 7. Depending on your UNIX platform, you may need to navigate within the $ORACLE_DOC subdirectories to find this document.

Context-Sensitive Online Help

Developer/2000 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

Beginning with Developer/2000 release 1.3.1 on UNIX, cue cards are available to provide step-by-step instructions on common tasks.

To access cue cards, select the Help pull-down menu, then select Cue Cards.
Related Publications

Oracle7 Server for UNIX Documentation
The following documents provide additional information:

- Oracle7 Installation Guide for Intel SVR4 UNIX
- Oracle7 Administrator’s Reference for UNIX
- Oracle7 Reference Addendum for Intel SVR4 UNIX

Developer/2000 Product Documentation
This document provides operating system-specific information for Developer/2000 on Intel SVR4 UNIX, and supplements the user guides and reference manuals for each product. For example, the documentation set for Oracle Forms includes the following:

- Getting Started with Oracle Forms
- Oracle Forms User’s Guide
- Oracle Forms Reference Manual Volume 1
- Oracle Forms Reference Manual Volume 2
- Oracle Forms Processing Manual

For information regarding general documentation for the corresponding product, see the “Product Documentation” section of each product chapter in this document.
Supported Features

Developer/2000 Implementations

This document includes information about character mode and GUI implementations of Developer/2000 on Intel SVR4 UNIX. Table 1 – 2 lists the tools and whether they support character mode and Motif:

<table>
<thead>
<tr>
<th>Oracle Product</th>
<th>Character Mode</th>
<th>Motif (v1.2.4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Book release 2.2</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Oracle Browser release 2.0</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Forms release 4.5</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Graphics release 2.5</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Procedure Builder release 1.5</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Reports release 2.5</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 1 – 2  Motif and Character Mode Developer/2000 Tools

Note: Developer/2000 does not have a character mode designer, and there is no character mode runtime component for Graphics or Oracle Browser. The designer component of all Developer/2000 products and the runtime component of Graphics and Oracle Browser support only the Motif graphical user interface.

Multimedia Features

The following Developer/2000 support Image:

<table>
<thead>
<tr>
<th>Oracle Product</th>
<th>Supported Multimedia Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms release 4.5</td>
<td>Image</td>
</tr>
<tr>
<td>Reports release 2.5</td>
<td>Image</td>
</tr>
<tr>
<td>Graphics release 2.5</td>
<td>Image</td>
</tr>
<tr>
<td>Oracle Book release 2.2</td>
<td>Image</td>
</tr>
</tbody>
</table>

Table 1 – 3  Supported Multimedia Features

See Also: See the Developer/2000 product documentation for detailed information about how a specific tool incorporates multimedia features.
Supported Image File Formats

Developer/2000 supports the following file formats:

- TIFF
- JFIF (JPEG file interchange format)
- PCX
- BMP
- PICT
- CALS
- CGM

Integrated Demonstrations

A set of integrated demonstrations for Developer/2000 is available. The runtime components of Forms, Graphics, and Reports must be installed to run the demonstrations.

See Also: When you are finished installing the Developer/2000 software, see the “Developer/2000 Integrated Demonstrations” section on page 5–44 for complete instructions on how to run the demonstrations on your system.
Issues and Restrictions

LD_LIBRARY_PATH Setting

On Solaris Intel:

$ORACLE_HOME/lib must be before /usr/dt/lib and /usr/openwin/lib
in your LD_LIBRARY_PATH setting.

On UnixWare, Unisys and Data General:

$ORACLE_HOME/lib must be in your LD_LIBRARY_PATH setting.

UnixWare Patch Notice

Users on UnixWare 2.0.3 with Motif 1.2.3 need to install two patches.
Refer to Appendix D for installation instructions.

Server-Based Installations

Oracle does not support server-based installations of Developer/2000 release 1.3.1 with Oracle7 Server releases earlier than 7.3.2.

NLS Support

On UNIX platforms, Developer/2000 release 1.3.1 does not include full NLS support. Only single-byte languages are supported. A patch release, Developer/2000 release 1.3.2, will offer full multi-byte functionality.
This chapter lists requirements for client-only and server-based Oracle Developer/2000 tool installations.

The following topics are covered in this chapter:

- System Requirements
- Disk Space and Memory Requirements
System Requirements

This section lists hardware and software requirements, which apply equally to server-based and client-only installations on Intel SVR4 UNIX.

Hardware Requirements for UnixWare:

<table>
<thead>
<tr>
<th>Hardware Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>An Intel–based system</td>
</tr>
<tr>
<td>Memory</td>
<td>A minimum of 64 MB internal memory (RAM)</td>
</tr>
<tr>
<td>Swap Space</td>
<td>3–4 times RAM</td>
</tr>
<tr>
<td>Media Device</td>
<td>A RockRidge format CD–ROM drive supported by UnixWare</td>
</tr>
<tr>
<td>Ethernet Controller</td>
<td>To run SQL*Net, an Ethernet card that supports UnixWare is required.</td>
</tr>
<tr>
<td>Display Device</td>
<td>X Terminal or Workstation</td>
</tr>
</tbody>
</table>

Table 2 – 1 Hardware Requirements for UnixWare

Hardware Requirements for Solaris Intel:

<table>
<thead>
<tr>
<th>Hardware Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>An Intel–based system</td>
</tr>
<tr>
<td>Memory</td>
<td>A minimum of 64 MB internal memory (RAM)</td>
</tr>
<tr>
<td>Swap Space</td>
<td>3–4 times RAM</td>
</tr>
<tr>
<td>Media Device</td>
<td>A RockRidge format CD–ROM drive supported by Solaris Intel</td>
</tr>
<tr>
<td>Ethernet Controller</td>
<td>To run SQL*Net, an Ethernet card that supports Solaris Intel is required.</td>
</tr>
<tr>
<td>Display Device</td>
<td>X Terminal or Workstation</td>
</tr>
</tbody>
</table>

Table 2 – 2 Hardware Requirements for Solaris Intel
Hardware Requirements for Unisys:

<table>
<thead>
<tr>
<th>Hardware Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>U6000/7x or U6000/8x systems</td>
</tr>
<tr>
<td>Memory</td>
<td>A minimum of 64 MB internal memory (RAM)</td>
</tr>
<tr>
<td>Swap Space</td>
<td>3–4 times RAM</td>
</tr>
<tr>
<td>Media Device</td>
<td>An ISO 9660 CD–ROM drive supported by Unisys</td>
</tr>
<tr>
<td>Ethernet Controller</td>
<td>To run SQL*Net drivers and adapters, an Ethernet card that supports Unisys operating system is required.</td>
</tr>
<tr>
<td>Display Device for GUI Tools</td>
<td>X Terminal or Workstation</td>
</tr>
</tbody>
</table>

Table 2 – 3 Hardware Requirements for Unisys

Hardware Requirements for Data General:

<table>
<thead>
<tr>
<th>Hardware Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>A DG AViiON Intel–based system</td>
</tr>
<tr>
<td>Memory</td>
<td>A minimum of 64 MB internal memory (RAM)</td>
</tr>
<tr>
<td>Swap Space</td>
<td>3–4 times RAM</td>
</tr>
<tr>
<td>Media Device</td>
<td>A RockRidge format CD–ROM drive supported by Data General</td>
</tr>
<tr>
<td>Ethernet Controller</td>
<td>To run SQL*Net drivers and adapters, an Ethernet card that supports Data General operating system is required.</td>
</tr>
<tr>
<td>Display Device for GUI Tools</td>
<td>X Terminal or Workstation</td>
</tr>
</tbody>
</table>

Table 2 – 4 Hardware Requirements for Data General
Software Requirements for UnixWare:

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>UnixWare 2.0.3 with Motif 1.2.3 For UnixWare 2.0.3, install patch TF2236 or latest UnixWare Motif patch. See Appendix D for patch installation instructions.</td>
</tr>
</tbody>
</table>

Table 2–5 Software Requirements for UnixWare

Software Requirements for Solaris Intel:

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Solaris Intel 2.5 with Motif 1.2.3 The Pro Compiler C is not required for installation, but is needed for compiling the C demo programs.</td>
</tr>
<tr>
<td>Intel Solaris x86 Packages:</td>
<td>You must install these Intel Solaris x86 packages prior to installing the Oracle7 Server.</td>
</tr>
<tr>
<td>SUNWbttool</td>
<td></td>
</tr>
<tr>
<td>SUNWsprot</td>
<td></td>
</tr>
<tr>
<td>SUNWtoo</td>
<td></td>
</tr>
<tr>
<td>SUNWarc</td>
<td></td>
</tr>
<tr>
<td>SUNWlibm</td>
<td></td>
</tr>
<tr>
<td>SUNWlibs</td>
<td></td>
</tr>
</tbody>
</table>

| Compiler Package    | ProCompiler C package 3.0.1 from SunSoft                                    |
| Networking Software | TCP/IP software as installed with your operating system                   |

Table 2–6 Software Requirements for Solaris Intel

Use the following command to determine whether the required software packages are installed:

```
# pkginfo -i SUNWbttool SUNWtoo SUNWsprot SUNWarc SUNWlibm SUNWlibs
```

Your output should be as follows:

```
system SUNWarc Archive Libraries
system SUNWbttool CCS tools bundled with SunOS
system SUNWlibm ProCompilers Bundled libm
system SUNWlibms ProCompilers Bundled shared libm
system SUNWsprot ProCompilers Bundled tools
system SUNWtoo Programming Tools
```

If no information is found for a certain package, it is not installed.
Software Requirements for Unisys:

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Unisys OS Release 4, revision 1.3. The Unisys Standard C Development Environment (SCDE) package, which includes a C compiler and other tools, is also required.</td>
</tr>
<tr>
<td>Networking Software</td>
<td>Unisys Net6000 v 2.1 or above</td>
</tr>
</tbody>
</table>

Table 2 – 7 Software Requirements for Unisys

Software Requirements for Data General:

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>DG/UX</td>
<td>DG/UX R4.11</td>
</tr>
<tr>
<td>Networking Software</td>
<td>TCP/IP software as installed with DG/UX R4.11 SPX/IPX NWServer software from Data General</td>
</tr>
</tbody>
</table>

Table 2 – 8 Software Requirements for Data General

Note: You can determine your operating system and processor type with the following command:

```bash
$ uname -a
```

Make sure you have sufficient space on the target disk to install Developer/2000 prior to starting the installation.

User Interface Requirements:

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window Manager</td>
<td>OSF Motif mwm Window Manager 1.2.3 (for UnixWare) OSF Motif mwm Window Manager 1.2.3 (for Solaris) OSF Motif 1.2.4 (for Unisys) Motif mwm Window Manager delivered with DG/UX R4.11 (for Data General)</td>
</tr>
<tr>
<td>X11 Server</td>
<td>X11 and Motif 1.2.4</td>
</tr>
</tbody>
</table>

Table 2 – 9 User Interface Requirements

Note: The X11R5 server is supported for remote display.
Server Requirements:

<table>
<thead>
<tr>
<th>Database Item</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle7 Server</td>
<td>7.3.2.2</td>
</tr>
<tr>
<td>SQL*Plus</td>
<td>3.3.2</td>
</tr>
</tbody>
</table>

Table 2 – 10  Server Requirements

Relinking Requirements

You can relink the Motif Developer/2000 tools using dynamic Motif and X11 libraries. Relinking is necessary if you want to add user exits and network drivers. The Developer/2000 distribution provides all necessary components for relinking the character mode Developer/2000 tools.

Relinking Requirements:

<table>
<thead>
<tr>
<th>Relinking Items</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle7 Server</td>
<td>7.3.2.2 bundled release</td>
</tr>
<tr>
<td>SQL*Net</td>
<td>SQL*Net V2 with tcp or at least one protocol adapter</td>
</tr>
<tr>
<td>Operating System</td>
<td>2.0.3 OS (for UnixWare)</td>
</tr>
<tr>
<td></td>
<td>2.5 OS (for Solaris Intel)</td>
</tr>
<tr>
<td></td>
<td>Release 4, revision 1.3 (for Unisys)</td>
</tr>
<tr>
<td></td>
<td>DG/UX R4.11 (for Data General)</td>
</tr>
<tr>
<td>User Interface</td>
<td>X and Motif libraries provided</td>
</tr>
<tr>
<td></td>
<td>(Motif Version 1.2.3 for UnixWare and Solaris Intel)</td>
</tr>
<tr>
<td></td>
<td>(Motif Version 1.2.4 for Unisys and Data General)</td>
</tr>
</tbody>
</table>

Table 2 – 11  Relinking Requirements
Disk Space and Memory Requirements

Calculating Space Requirements (Refer to Table 2–12):

The steps necessary to calculate space requirements are as follows:

1. Check the Use column of the products you want to install.
2. Calculate the distribution space by subtotaling the values for the selected products in A at the bottom of the column.
3. Calculate the database space by subtotaling the values for the selected products in B at the bottom of the column.
4. Calculate the first user memory space by subtotaling the values for the selected products in C at the bottom of the column.
5. Calculate the additional users memory space.

Enter the number of additional users you estimate for the product in the Users column and multiply by the KB per column to determine the total.

Subtotal these results and enter into the D category.

6. In the Summary section of the table, enter the A,B,C, and D subtotals.

Add the #1 User Memory (C=) and Additional Users Memory (D=) columns and enter the result in the Virtual Memory Total (E) column.

Calculating Total Disk Space Required:

Add the Total Distribution Space (A) columns from Table 2–12 to determine the total required disk space for your installation.

Disk Space and Memory Requirements:

The following table lists disk space, database space, and memory requirements for Developer/2000. These are minimal estimates rather than precise calculations.
## SPACE REQUIREMENTS
### Applications Development and Standalone Products

<table>
<thead>
<tr>
<th>Use</th>
<th>Product</th>
<th>Dist. MB</th>
<th>DB Sp MB</th>
<th>#1 User KB</th>
<th>Additional Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUI Common Area</td>
<td></td>
<td>20.0</td>
<td>0.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forms</td>
<td></td>
<td>39.0</td>
<td>0.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Run time (Char.)</td>
<td></td>
<td>12.3</td>
<td>0</td>
<td>8702</td>
<td>× 2155</td>
</tr>
<tr>
<td>Designer (Motif)</td>
<td></td>
<td>13.8</td>
<td>0</td>
<td>11312</td>
<td>× 1944</td>
</tr>
<tr>
<td>Run time (Motif)</td>
<td></td>
<td>17.0</td>
<td>0</td>
<td>12221</td>
<td>× 1941</td>
</tr>
<tr>
<td>Generator (Char.)</td>
<td></td>
<td>11.8</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generator (Motif)</td>
<td></td>
<td>12.8</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrations</td>
<td></td>
<td>8.0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports</td>
<td></td>
<td>64.0</td>
<td>0.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Run time (Char.)</td>
<td></td>
<td>12.8</td>
<td>0</td>
<td>8541</td>
<td>× 1878</td>
</tr>
<tr>
<td>Designer (Motif)</td>
<td></td>
<td>13.5</td>
<td>0</td>
<td>13037</td>
<td>× 2585</td>
</tr>
<tr>
<td>Run time (Motif)</td>
<td></td>
<td>13.5</td>
<td>0</td>
<td>13037</td>
<td>× 1941</td>
</tr>
<tr>
<td>Demonstrations</td>
<td></td>
<td>31.6</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphics v2</td>
<td></td>
<td>23.4</td>
<td>0.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Designer (Motif)</td>
<td></td>
<td>14.2</td>
<td>0</td>
<td>10942</td>
<td>× 2005</td>
</tr>
<tr>
<td>Run time (Motif)</td>
<td></td>
<td>14.2</td>
<td>0</td>
<td>10942</td>
<td>× 2005</td>
</tr>
<tr>
<td>Demonstrations</td>
<td></td>
<td>7.8</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oracle Book v2</td>
<td></td>
<td>34.5</td>
<td>1.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Designer (Motif)</td>
<td></td>
<td>6.8</td>
<td>0</td>
<td>6756</td>
<td>× 579</td>
</tr>
<tr>
<td>Run time (Motif)</td>
<td></td>
<td>7.1</td>
<td>0</td>
<td>6756</td>
<td>× 579</td>
</tr>
<tr>
<td>Converter</td>
<td></td>
<td>5.4</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrations</td>
<td></td>
<td>1.6</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oracle Browser v2</td>
<td></td>
<td>5.1</td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Run time (Motif)</td>
<td></td>
<td>9.0</td>
<td>0</td>
<td>6989</td>
<td>× 567</td>
</tr>
</tbody>
</table>

Table 2 – 12 Space Requirements for Developer/2000
### Oracle Product Installation Documentation

The Product Installation CD-ROM contains operating system–specific online documentation. The following table contains the disk space requirements for installing the operating system-specific online documentation.

**See Also:** See your Product Installation CD-ROM Insert if you want to view the operating system-specific online documentation directly from the CD-ROM without installing it.

---

### Oracle Product Installation Documentation for UnixWare, Solaris Intel and Unisys:

<table>
<thead>
<tr>
<th>Use</th>
<th>Product Installation Documentation</th>
<th>Dist. (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Total Distribution Space</td>
<td>A=</td>
</tr>
<tr>
<td>B</td>
<td>Total Database Space</td>
<td>B=</td>
</tr>
<tr>
<td>C</td>
<td>#1 User Memory</td>
<td>C=</td>
</tr>
<tr>
<td>D</td>
<td>Additional Users Memory</td>
<td>D=</td>
</tr>
<tr>
<td>E</td>
<td>Virtual Memory Total (C+D=)</td>
<td>(KB)</td>
</tr>
</tbody>
</table>

**Subtotals**

<table>
<thead>
<tr>
<th>Use</th>
<th>Product Installation Documentation</th>
<th>Dist. (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Total Distribution Space</td>
<td>A=</td>
</tr>
</tbody>
</table>

**Table 2 – 13** Space Requirements for Developer/2000

**Table 2 – 14** Requirements for Installing Oracle Product Installation Documentation for UnixWare, Solaris Intel and Unisys
### Oracle Product Installation Documentation for Data General:

<table>
<thead>
<tr>
<th>UNIX-Specific Documentation</th>
<th>Dist. (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle7 Installation Guide for DG AViiON Intel–Based Systems</td>
<td></td>
</tr>
<tr>
<td>Oracle7 Administrator’s Reference for UNIX</td>
<td></td>
</tr>
<tr>
<td>Oracle7 Reference Addendum for DG AViiON Intel–Based Systems</td>
<td></td>
</tr>
<tr>
<td>Oracle7 Server Release Update for DG AViiON Intel–Based Systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>18.0</td>
</tr>
</tbody>
</table>

*Table 2–15 Requirements for Installing Oracle Product Installation Documentation for Data General*

### Oracle Product Documentation Library

The Product Documentation Library CD-ROM contains online documentation for Oracle products. The following table contains the disk space requirements for installing the Oracle product online documentation.

**See Also:** The “Viewing Documentation Directly from CD-ROM” section on page 5–8 if you want to view the product documentation directly from the CD-ROM without installing it.
### SPACE REQUIREMENTS
Oracle Product Documentation Library

<table>
<thead>
<tr>
<th>Use</th>
<th>Product Documentation Set</th>
<th>Dist. (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oracle Book 2.2:</strong></td>
<td><em>Oracle Book Designer's Guide</em></td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td><em>Oracle Book Designer's Tutorial</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Oracle Book User’s Guide</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Oracle Book SGML Designer’s Guide</em></td>
<td></td>
</tr>
<tr>
<td><strong>Oracle Browser 2.0:</strong></td>
<td><em>Oracle Browser Reference Manual</em></td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td><em>Oracle Browser User’s Guide</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Oracle Browser System Administrator’s Guide</em></td>
<td></td>
</tr>
<tr>
<td><strong>Forms 4.5:</strong></td>
<td><em>Getting Started with Forms</em></td>
<td>19.0</td>
</tr>
<tr>
<td></td>
<td><em>Forms Developer’s Guide</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Forms Advanced Techniques</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Forms Reference Manual</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Forms Messages and Codes</em></td>
<td></td>
</tr>
<tr>
<td><strong>Graphics 2.5:</strong></td>
<td><em>Graphics Reference Manual</em></td>
<td>8.1</td>
</tr>
<tr>
<td></td>
<td><em>Graphics 2.5 Developer’s Guide</em></td>
<td></td>
</tr>
<tr>
<td><strong>Procedure Builder 1.5:</strong></td>
<td><em>Procedure Builder Developer’s Guide</em></td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Reports 2.5:</strong></td>
<td><em>Building Reports Manual</em></td>
<td>13.0</td>
</tr>
<tr>
<td></td>
<td><em>Reports Documentation Addendum</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Reports Enhancements Manual</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Reports Messages and Codes Manual</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Reports Migration Manual</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Reports Runtime Manual</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Reports Reference Manual</em></td>
<td></td>
</tr>
</tbody>
</table>

| Total Distribution Space | A=                                                                 |

Table 2 – 16 Requirements for Installing Oracle Product Documentation Library
To estimate your space needs for online documentation for Oracle products, perform these calculations:

1. Check the first column of the documents you want to install.

2. Calculate the distribution space by subtotaling the value for the selected products in A at the bottom of the column.

3. In the Summary section of the table, enter the A subtotal.

   **Note:** The amount of virtual memory required to view online documentation is negligible. Also, no database space is required for online documents.
This chapter describes the recommended tasks for setting up your Intel SVR4 UNIX environment for the Developer/2000 installation.

The following tasks are covered in this chapter:

- Task 1: Verify System Configuration Requirements
- Task 2: Decide Whether to Install or Upgrade Database Objects
- Task 3: Set Up the *tnsnames.ora* File (Client-Only)
- Task 4: Set Required Environment Variables
- Task 5: Create the $ORACLE_DOC Directory

**Attention:** Before proceeding further, you must decide whether to conduct a client-only or server-based installation. For more information, see the “Client-Only and Server-Based Installation Options” section on page 1 – 4.
Task 1: Verify System Configuration Requirements

Ensure that your system meets the operating system, user interface, and hardware requirements to install Developer/2000.

See Also: Chapter 2, “Requirements”, for a list of system requirements.

SQL*Net v1 is not available in Developer/2000 release 1.3.1. SQL*Net v2 is included in this release. If you are running SQL*Net v1, you must configure your network and migrate SQL*Net v1 applications to SQL*Net v2.

See Also: The “How to Migrate to SQL*Net V2” chapter in the SQL*Net V1 to V2 Migration Guide.

Task 2: Decide Whether to Install or Upgrade Database Objects

Note: This task applies to a client-only installation. Skip this task if you are not conducting a client-only installation, or if you decided not to install or upgrade the database objects.

Database objects are tables, views, and sequences that Developer/2000 uses to store Developer/2000 objects, such as Forms applications and Oracle Book documents, in the database.

You must create the database objects once on each database where you are storing Developer/2000 objects. If you are not storing Developer/2000 objects in your databases, you do not need to install the database objects. If you have already installed the database objects on your database, do not install them again.

If you are upgrading your Developer/2000 release, you may need to upgrade the database objects as well.

Enter the following to see if the database objects already exist for the products you want to install in the database on the Server:

```
$ sqlplus system/manager
SQL> SELECT table_name
    2 FROM dba_tables
    3 WHERE table_name LIKE 'table';
```
If these tables already exist, you can find them in the SYSTEM account in the database. The tables are as follows:

<table>
<thead>
<tr>
<th>Product</th>
<th>Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Book</td>
<td>HT%</td>
</tr>
<tr>
<td>Oracle Browser</td>
<td>BROWSER%</td>
</tr>
<tr>
<td>Forms</td>
<td>FRM45%</td>
</tr>
<tr>
<td>Graphics</td>
<td>GO%</td>
</tr>
<tr>
<td>Reports</td>
<td>SRW2%</td>
</tr>
</tbody>
</table>

Table 3–1 Database Tables

If these tables do not exist, you need to create them. See the “Create or Upgrade Database Objects” task on page 4–13.

Task 3: Set Up the tnsnames.ora File (Client-Only)

If you are conducting a client-only installation, 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 Developer/2000 products installed in a client-only configuration.

The template tnsnames.ora file contains the following:

```sql
alias =
(DISCRIPTION =
  (ADDRESS =
    (PROTOCOL = tcp
     (HOST = hostname
     (PORT = service_number
    )
   )
  )
 )

(CONNECT_DATA =
  (SID = ORACLE_SID)
 )
)
```

If you have the Oracle Network Manager, you can use it to update the file. Otherwise, you need to update the file with the following information:
Variable | Replace with:
--- | ---
alias | The aliased name of the service being described.
hostname | The name of the remote host where the database resides.
service_number | The port number on which the SQL*NET v2 listener process listens for data packets on the remote host where the database resides.
ORACLE_SID | The value of the system identifier (sid).

Table 3–2  tnsnames.ora File Values

Place your tnsnames.ora file under your $ORACLE_HOME/tns directory.

Task 4: Set Required Environment Variables

Oracle Corporation recommends that you set environment variables in a startup file of the user who will own the Developer/2000 installation.

Log into Your Account

Log into your system as the user who will own this Developer/2000 installation:

```
login: oracle
password: $
```

⚠️ Warning: Make sure you are not logged in as the root user.

Set ORACLE_HOME

Determine if the ORACLE_HOME environment variable is set by entering the following:

```
$ echo $ORACLE_HOME
```

The system displays ORACLE_HOME if it was previously set.

If ORACLE_HOME is not set or is set to the wrong value, the system responds that ORACLE_HOME has not been defined, and you must set ORACLE_HOME to the directory in which you are installing Developer/2000.
For the Bourne shell, enter the following:

```
$ ORACLE_HOME=tools_dir; export ORACLE_HOME
```

For the C shell, enter the following:

```
% setenv ORACLE_HOME tools_dir
```

Set TNS_ADMIN (Client-Only)

If you are conducting a client-only installation, you need to set the TNS_ADMIN environment variable to point to the directory where your tnsnames.ora file resides (see the “Set Up the tnsnames.ora File” task on page 3 – 3).

Ensure that you have placed the tnsnames.ora file under your $ORACLE_HOME/tns directory.

For the Bourne shell:

```
$ TNS_ADMIN=$ORACLE_HOME/tns; export TNS_ADMIN
```

For the C shell:

```
% setenv TNS_ADMIN $ORACLE_HOME/tns
```

Set TWO_TASK (Client-Only)

If you are conducting a client-only installation and are installing database objects, you need to set the TWO_TASK environment variable.

For the Bourne shell:

```
$ TWO_TASK=alias; export TWO_TASK
```

For the C shell:

```
% setenv TWO_TASK alias
```

where alias is the aliased name of the service you want to use from the tnsnames.ora file.

You must set TWO_TASK for client-only installations. Be sure TWO_TASK is not set for server installations.
Set ORACLE_TERM

You can run the Installer in either Motif or character mode. If you want to run the Installer in character mode, you must set the ORACLE_TERM environment variable to the correct terminal type before installing Developer/2000.

For the Bourne shell, enter the following:

```bash
$ ORACLE_TERM=device_name; export ORACLE_TERM
```

For the C shell, enter the following:

```bash
% setenv ORACLE_TERM device_name
```

If ORACLE_TERM is not set, the Installer uses the value of the UNIX environment variable TERM and searches for an equivalent ORACLE_TERM resource file.

Table 3 – 3 lists common ORACLE_TERM settings.

<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>IBM High Function Terminal and aix-term</td>
<td>hft</td>
</tr>
<tr>
<td>(monochrome)</td>
<td>hftc</td>
</tr>
<tr>
<td>IBM High Function Terminal and aix-term</td>
<td>hftc</td>
</tr>
<tr>
<td>(color)</td>
<td>hpterm</td>
</tr>
<tr>
<td>hpterm terminal emulator and HP 700/9x</td>
<td>hpterm</td>
</tr>
<tr>
<td>terminal</td>
<td></td>
</tr>
<tr>
<td>IBM 3151 terminal</td>
<td>3151 (for IBM)</td>
</tr>
<tr>
<td>SGI IRIS console</td>
<td>iris</td>
</tr>
<tr>
<td>NCD X Terminal with vt220 style keyboard</td>
<td>ncd220</td>
</tr>
<tr>
<td>cmdtool/shelltool using a type 4 keyboard</td>
<td>sun</td>
</tr>
<tr>
<td>ANSI terminal for Tandem</td>
<td>tandem</td>
</tr>
<tr>
<td>vt1100 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>
</tbody>
</table>
Task 5: Create the $ORACLE_DOC Directory

   Note: This applies to CD-ROM distributions only.

1. Create an $ORACLE_DOC directory for your installation if it does not already exist.

   Oracle online documentation for the current release will be installed in this directory. You can install the online documentation in a central location where all the users on a network can share it. Choose a location that is easily accessible by all users.

   If you are performing a server-based installation, the $ORACLE_DOC directory should have been created during the installation of the Oracle7 Server.

   Make sure there is enough disk space on your system for the online documentation you plan to install.

2. Give the directory owner oracle, group owner dba, and mode 755.

---

<table>
<thead>
<tr>
<th>To Run:</th>
<th>Set ORACLE_TERM to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>xterm using a type 4 keyboard</td>
<td>xsun</td>
</tr>
<tr>
<td>xterm using a type 5 keyboard</td>
<td>xsun5</td>
</tr>
<tr>
<td>AViiON Terminal</td>
<td>avx3</td>
</tr>
<tr>
<td>Data General 200</td>
<td>dgd2</td>
</tr>
<tr>
<td>Data General 400</td>
<td>dgd4</td>
</tr>
</tbody>
</table>

Table 3–3 Supported Terminals for the Installer
Installation Tasks

This chapter describes the installation of Developer/2000. The following topics are covered:

- Oracle Installer Version 4
- Starting the Installer

Attention: Before beginning this chapter, complete the tasks described in Chapter 3, “Setting the Environment”.

Oracle Installer Version 4

Release 4.0 of the Installer is bundled with Developer/2000 release 1.3.1. Be sure to install the Developer/2000 release 1.3.1 products using the Oracle Installer that comes bundled with this release of the Developer/2000 products.

This release of the Oracle Installer includes a Motif interface, in addition to the character-mode interface.

The Installer’s default software installation produces a configuration that complies with the Optimal Flexible Architecture (OFA) rules and guidelines.
Starting the Installer

The following tasks are covered:

- Task 1: Set Up the Oracle Link Directory
- Task 2: Load the Installer Software
- Task 3: Install the UnixWare Configuration Package (for UnixWare only)
- Task 4: Start the Installer
- Task 5: Respond to Installer Prompts
- Task 6: Create or Upgrade Database Objects

Task 1: Set Up the Oracle Link Directory:

If you have a CD-ROM distribution, you must set up the Oracle link directory. This section provides instructions for creating the Oracle link directory. Skip this section if you have already set up the Oracle link directory, or if you are not installing from a CD-ROM.

1. Log in as root user.
   
   $ su root
   
   Password:

2. Create the CD-ROM directory for the mount point, and make sure it is accessible to all users.
   
   # mkdir /mount_point
   # chmod 777 /mount_point

3. Create the Oracle link directory, and make sure it is accessible to all users.
   
   # mkdir /oracle_link
   # chmod 777 /oracle_link

See Also: Appendix B, “Summary of the OFA Standard”, in the Oracle7 Administrator’s Reference for UNIX manual for more information on OFA.
Task 2: Load the Installer Software

This section explains how to load the Installer software from the medium to the target disk.

Attention: To install Developer/2000 from CD-ROM, you must use the version of the Installer supplied on the Oracle Developer/2000 CD-ROM.

1. As the root user, mount the CD-ROM.
   
   For Solaris Intel (to mount manually):
   
   ```bash
   # mount -F hsfs -r cdrom_dev_name /mount_point
   ```
   
   where `cdrom_dev_name` is the block device name of your CD-ROM drive, for example `/dev/dsk/c0t6d0p0`.
   
   For Unisys:
   
   ```bash
   # mount -F cdfs -r /dev/sc0 /mount_point
   # cdmntsuppl -c -F ugo+rx /mount_point
   ```
   
   For UnixWare:
   
   ```bash
   # mount -F cdfs -r -o fperm=777 /dev/cdrom/dev_name /cdrom
   ```
   
   For Data General:
   
   ```bash
   # mount -t cdrom -o ro, noversion cdrom_dev_name /mount_point
   ```
   
2. Exit the root account:
   
   ```bash
   # exit
   $ 
   ```
   
   Your CD-ROM is now mounted on `/mount_point`.
   
   Note: You must have root privileges to mount or unmount the CD-ROM. Be sure to unmount the CD-ROM before removing it from the drive.

3. Change directories to the CD-ROM orainst directory and run the start-up script.

   For Unisys:
   
   ```bash
   $ cd /mount_point/ORAINST
   $ ./START*
   ```
For Solaris Intel, UnixWare and Data General:

```
$ cd /mount_point/orainst
$ ./start*
```

When prompted for the name of the directory to which you want to link, enter `/oracle_link`.

**Note:** You must have the CD-ROM mounted during installation of all the products. Do not remove the CD-ROM from the CD-ROM drive while you are installing the products.

---

**Task 3: Install the UnixWare Configuration Package (for UnixWare only):**

If you plan to install Oracle Developer/2000 on UnixWare, install the UnixWare Configuration package with the following steps:

1. Log in as the `root` user.
   ```
   $ su root
   ```
2. Go to the `$ORACLE_HOME/orainst` directory.
   - For CD-ROM installations, enter:
     ```
     # cd cdlink_directory/orainst
     ```
3. Use the SVR4 `pkgadd` utility to install the package.
   ```
   # pkgadd -d `pwd` oraconf
   ```
   Press [Return] to install the package.
4. After you install the package you must shut down and reboot your system.
   When the system comes back up, you are ready to install Developer/2000 with the Oracle Installer.
Task 4: Start the Installer

This section explains the start-up process for the Oracle Installer.

Perform the following steps to start the Oracle Installer.

1. Log in as *oracle* software owner.

   **Warning:** When you are installing Oracle products, make sure you are *not* logged in as *root* when you start the Oracle Installer *orainst*. If you install as *root*, all of your files will be owned by *root*. Make sure you are logged in as the *oracle* software owner before you start *orainst*.

2. Change to the *orainst* directory on the CD-ROM.

   $ cd /oracle_link/orainst

3. Execute the following command to invoke the Installer:

   In Motif mode:
   $ ./orainst /m

   In character mode:
   $ ./orainst /c

Task 5: Respond to Installer Prompts

This section describes the main Installer prompts you see when installing Developer/2000 tools and the options you select to perform the installation. Depending on your installation, the prompts described in this section may not be an exact representation of what you see on the screen.
New Installation

Installation Activity Choice

The Installer prompts you with three options:

- **Install, Upgrade, or De-Install Software**
  Select this option to install or upgrade Developer/2000 software. When you select this option, you have the choice to create or upgrade database objects during this session.

- **Create/Upgrade Database Objects**
  Select this option if you want to create or upgrade database objects only. You cannot install or upgrade software when you select this option.

- **Perform Administrative Tasks**
  Select this option to perform tasks such as redefining the terminal or relinking executables.

![Installation Activity Choice Screen](image)

Figure 5–1 Installation Activity Choice Screen
Installation Options

For new server-based installations, select the Install New Product option.

To upgrade server-based installations, select the Add/Upgrade Software option.

For client-only installations, select the Add/Upgrade Software option.

You also have the option to build a staging area for installation, install online documentation only, or de-install software. The Migrate from Oracle v6 to Oracle7 option is not applicable to Developer/2000. For more information on these options, select Help from the Installation Options screen or see Chapter 2 of the Oracle7 Installation Guide for Intel SVR4 UNIX.

Select the Install New Product option to install Developer/2000 tools in a new $ORACLE_HOME.

Figure 5 – 2 Installation Options Screen
Installation Options: Mount Point

Enter the mount point (root) of your Oracle product directory structure. The Installer derives the value of ORACLE_BASE from your answer, assigning it the value `mount_point/app/oracle`.

This screen does not display if you set ORACLE_BASE before starting the Installer.

Installation Options: Home Locator

The Installer prompts you to complete the pathname of the `$ORACLE_HOME` directory. The Installer provides you with `$ORACLE_BASE/product/`. If you set ORACLE_BASE before installation, its value is used. If you did not set ORACLE_BASE before installation, 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, 1.3.1).

This screen does not display if you set ORACLE_BASE and ORACLE_HOME before running the Installer.

Oracle Directories

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

The values shown are either the values you set before running the Installer or the OFA-compliant values computed by the Installer.

Database Objects

Specify whether to create a database or database objects for the products you are installing.

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 asks whether to rename the existing files or to create logs with new names for the current session.

**README.FIRST File**

The Installer automatically displays last-minute product updates included in the `README.FIRST` file.

**Skip README File**

You can instruct the Installer to skip the `README.FIRST` in subsequent Installer sessions. The Installer will skip the `README.FIRST` file until it encounters a newer one; for example, when it is installing a patch.

**Oracle `sid`**

If you selected **Yes** when prompted to create or upgrade database objects, the Installer prompts you to enter your Oracle system identifier (`sid`).

**Install Source**

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

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

If you install from a staging area you must choose between temporary and permanent staging areas.

With a temporary staging area, you load the software into a staging area and the Installer converts the contents into the installed distribution during the Installer session.

A permanent staging area is neither removed nor converted during installation. It is a software distribution, distinct from `$ORACLE_HOME`, from which you can perform multiple installations.

**Note:** Installing from a permanent staging area requires approximately twice the disk space of installing from a temporary staging area or distribution medium.
National Language Support (NLS)

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. Installer prompts and messages are always displayed in American English.

Relink Executables

Relinking regenerates a program from its component parts. Even if you decline relinking, the Installer automatically relinks products that require relinking.

Specify relinking if you:

- install a new Oracle protocol adapter
- link Oracle products together
- install user exits
- install patches or bug fixes

When you relink, the Installer renames and saves some of the old executables. Once the new executables are in place, you can remove the old ones to save disk space. The old executables are in the $ORACLE_HOME/bin directory with an O appended to their original names (for example, exp is renamed expO).

Root Install Script File

If an earlier root.sh file exists, the Installer asks whether to append root-related activities to that file, or save the old file as root.shO 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.

Online Help Load

Accept or decline online help for the products you are installing.

UNIX-Specific Online Documentation

Accept or decline UNIX-specific documentation.

Online Documentation for Oracle Products

Accept or decline operating system-independent online documentation for the Oracle products you are installing. This documentation is the generic user documentation for Oracle products.
Note: Online documentation is available only with CD-ROM distributions. Its installation is not completed by the Installer because it exists on two CD-ROMs. The `startdoc.sh` script you run during post-installation completes the installation of online documentation.

See Also: “Completing the Online Documentation Installation” on page 5–2.

Software Asset Manager

![Software Asset Manager Screen](image)

**Figure 5 – 3 Software Asset Manager Screen**

The Software Asset Manager tracks the size of the distribution you selected and the space available in the destination directory (`$ORACLE_HOME`).

Note: Do not specify the Log Installer Actions option (under the **Options** button) unless requested to do so by an Oracle Worldwide Support 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.

**Attention:** Install the Oracle UNIX Installer and Documentation Viewer if you are installing online documentation or if you want to view online documentation from the Product Documentation Library CD-ROM.

**Demonstrations**

Decide whether to install the demonstrations for each Developer/2000 product. A separate screen appears for each Developer/2000 product you install.

**GUI Choice**

Decide whether you will use Motif or character mode for Oracle Book, Forms, or Reports. A separate screen appears for each product.

**Software Upgrade**

This section describes upgrading from Developer/2000 release 1.0 to release 1.3.1. It is assumed that Developer/2000 release 1.0 and Oracle7 release 7.3.2 are installed in your `$ORACLE_HOME` before you begin upgrading.

1. Start the Installer as described in the “Start the Installer” task on page 4 – 5.
2. At the Installation Activity Choice screen, select the Install, Upgrade, or De-Install Software option. Refer to the “Installation Activity Choice” section on page 4 – 6.
3. At the Installation Options screen, select the Add/Upgrade Software option. Refer to the “Installation Options” section on page 4 – 7.
4. Continue answering the Installer prompts.
5. At the Software Asset Manager screen, select the products you want to upgrade. For each product you are upgrading, the Installer will prompt you to confirm that you want to delete the old version.

**Note:** Because the Installer prompts you to delete old products, you do not need to de-install Developer/2000 release 1.0 before upgrading to release 1.3.1.
Task 6: Create or Upgrade Database Objects

To upgrade server-based installations, restart the Installer and choose the Create/Upgrade Database Objects option from the Installation Activity Choice screen.

For client-installations, see the “Decide Whether to Install Database Objects” task on page 3 – 2.

Restart the Installer. Then, from the Installation Activity Choice screen, choose the Create/Upgrade Database Objects option to create new database objects for Developer/2000 or to upgrade database objects from a previous release.
This chapter describes post-installation and configuration tasks for client-only and server-based installations.

The following topics are covered in this chapter:

- Completing the Online Documentation Installation
- Verify Your Installation
- Set Printer Configuration Files
- Set Up the Character Mode User Environment
- Set Up the GUI Environment
- Construct the Resource Database
- Enable Use of Other Languages
- Developer/2000 Integrated Demonstration
- Create User Exits
Completing the Online Documentation Installation

This section describes the tasks you must perform to complete the installation of online documentation.

The following tasks are covered in this section:

- Task 1: Complete the Installation of Online Documentation
- Task 2: Prepare Online Documentation for Viewing
- Task 3: View Online Documentation

Task 1: Complete the Installation of Online Documentation

If you chose not to install any online documentation during your Installer session but want to view it from CD-ROM, see the Viewing Documentation Directly from CD-ROM” section on page 5 – 8. If you did not install online documentation and do not want to view it from CD-ROM, proceed to the Create or Upgrade Database Objects” section on page 4 – 13.

During your Installer session, you chose the online documentation you want to install. You must now exit the Installer and run a separate script that installs the online documentation.

It is important to remember that the online documents reside on two different CD-ROMs:

- The operating system-specific online documentation is on the Product Installation CD-ROM.
- The online documentation for Oracle products is on the Product Documentation Library CD-ROM.

This section guides you through installing online documents from both CD-ROMs.

Note: In the following instructions, it is assumed that your mount point is /cdrom. If your mount point is different, replace all occurrences of /cdrom with your mount point.

Perform the following steps to complete the installation of your online documentation:
1. Install the Oracle UNIX Installer and Documentation Viewer if it is not installed.

   **See Also:** See the instructions earlier in this chapter for more information about installing Oracle products.

2. If the Installer is still running, select **Exit**.

3. Change to the `$ORACLE_HOME/orainst` directory by entering the following:

   ```
   $ cd $ORACLE_HOME/orainst
   ```

4. Run the `startdoc.sh` script. The Product Installation CD-ROM must still be in the CD-ROM drive. Enter the following:

   ```
   $ ./startdoc.sh
   ```

   If you chose to install operating system-specific online documentation during your Installer session, the script installs it now. When this is complete, the script prompts you to mount the Product Documentation Library CD-ROM:

   Please mount the Product Documentation Library CD-ROM.

   --Press enter when done--

   **Note:** If you chose to install only operating system-specific documentation, the script automatically exits, and you can now proceed to the, “Prepare Your Online Documentation for Viewing” section on page 5 – 5.

5. Open a new terminal window.


   If you are using the Solaris Volume Management software, enter the following command in the new window:

   ```
   $ eject /cdrom
   ```

   If you are not using the Solaris Volume Management software, in the new window, unmount the Product Installation CD-ROM by entering the following commands:

   ```
   $ su root
   passwd:  password
   # umount /cdrom
   ```

7. Place the Product Documentation Library CD-ROM in the CD-ROM drive.

8. Mount the Product Documentation Library CD-ROM.
Under Intel SVR4 UNIX, the Solaris Volume Management software is installed and on by default. If you are using the Solaris Volume Management software, the CD-ROM is automatically mounted onto /cdrom/oracle, and you can proceed to Step 2. If you are not using the Solaris Volume Management software, you must mount the CD-ROM manually.

Enter the following as root user to mount the CD-ROM manually:

1. As the root user, mount the CD-ROM.
   
   For Solaris Intel (to mount manually):
   
   ```
   # mount -F hsfs -r cdrom_dev_name /mount_point
   ```
   
   where cdrom_dev_name is the block device name of your CD-ROM drive, for example /dev/dsk/c0t6d0p0.

   For Unisys:
   
   ```
   # mount -F cdfs -r cdrom_dev_name /mount_point
   # cdmntsuppl -c -F ugo+rx /mount_point
   ```

   For UnixWare:
   
   ```
   # mount -F cdfs -r -o fperm=777
   cdrom_dev_name /mount_point
   ```

   For Data General:
   
   ```
   # mount -t cdrom -o ro, noversion
   cdrom_dev_name /mount_point
   ```

   Your CD-ROM is now mounted.

2. Go back to the “Press enter when done” prompt and press [Return].

3. Answer the following prompt.
   
   Enter the CD-ROM mount point: /cdrom

   The startdoc.sh script automatically installs the online product documentation you chose during your Installer session.
Task 2: Prepare Online Documentation for Viewing

Perform the following steps to prepare your online documentation for viewing:

1. Change to the $ORACLE_HOME/orainst directory.
   
   $ cd $ORACLE_HOME/orainst

2. Run the fixshelf.sh script.
   
   $ ./fixshelf.sh –d oracle_doc_dir –m operating_system

   where:
   
   oracle_doc_dir is the directory you specified as $ORACLE_DOC in your Installer session
   
   operating_system is your operating system (solaris2_x86)

   The following is an example of a valid entry to run the fixshelf.sh script where the oracle_doc_dir is/oradoc and where the operating_system is Intel Solaris x86 (solaris2_x86):

   $ ./fixshelf.sh –d /oradoc –m solaris2_x86

3. Set your ORACLE_HOME environment variable.

   See Also: For information on setting environment variables, see the “Set Required Environment Variables” task on page 3 – 4.

Task 3: View Online Documentation

This section describes how to view online documentation. The following topics are covered:

- Viewing Installed Online Documentation
- Viewing Documentation Directly from CD-ROM

Viewing Installed Online Documentation

Complete the following steps to view installed online documentation:

1. Change to the $ORACLE_HOME/orainst directory.
   
   $ cd $ORACLE_HOME/orainst

2. Run the Oracle Documentation Viewer.
You can run the Oracle Documentation Viewer in Motif or character mode. Follow the instructions in the appropriate section.

**Motif**

Before running the Oracle Documentation Viewer under Motif or OpenWindows, first set the DISPLAY environment variable:

For the Bourne shell, enter the following:

```bash
DISPLAY=display_name; export DISPLAY
```

For example:

```bash
DISPLAY=unix1:0.0; export DISPLAY
```

For the C shell, enter the following:

```bash
setenv DISPLAY display_name
```

For example:

```bash
setenv DISPLAY unix1:0.0
```

To run the Oracle Documentation Viewer in Motif or OpenWindows, enter the following:

```bash
$ ./oradocm
```

When you run the Oracle Documentation Viewer, the *CD Contents Directory* opens listing the titles of Oracle online documents.

**Character Mode**

If you are using the Oracle Documentation Viewer in character mode, set your ORACLE_TERM environment variable, if necessary, to support your terminal and keyboard type.

Set the ORACLE_TERM environment variable according to Table 5–1. This determines the key you use to access the Oracle Documentation Viewer menu.

<table>
<thead>
<tr>
<th>Terminal/Keyboard</th>
<th>ORACLE TERM Value</th>
<th>Access Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>In AT386 console mode</td>
<td>386</td>
<td>[F5] or [Esc] 1</td>
</tr>
<tr>
<td>An xterm on the Intel Solaris x86 console</td>
<td>xsun5</td>
<td>[F5] or [Esc] 1</td>
</tr>
<tr>
<td>From a VT100 terminal</td>
<td>vt100</td>
<td>Keypad 0</td>
</tr>
<tr>
<td>An xterm on the DG AViiON console</td>
<td>avx3</td>
<td>KP-0</td>
</tr>
</tbody>
</table>
From a DG D2xx terminal  dgd2  KP–0  
From a DG D4xx terminal  dgd4  KP–0

Table 5–1 Setting the ORACLE_TERM Environment Variable

For the Bourne shell, enter the following:

```bash
$ ORACLE_TERM=oracle_term_variable; export ORACLE_TERM
```

For example:

```bash
$ ORACLE_TERM=386s; export ORACLE_TERM
```

For the C shell, enter the following:

```bash
% setenv ORACLE_TERM oracle_term_variable
```

For example:

```bash
% setenv ORACLE_TERM 386s
```

To run the Oracle Documentation Viewer in character mode, enter the following:

```bash
$ ./oradoc
```

When you run the Oracle Documentation Viewer, the CD Contents Directory will be opened listing the titles of Oracle online documents.

3. Select and open the documents you want to view.

**Motif:** Double-click the Select button on the document title.

**Character Mode:** Use the arrow keys to move the cursor to the document title. Press [F5], [Esc]+[1], or keypad 0, depending upon your terminal type, to access the menu. Press N to bring down the Navigate menu. Press F to issue the Follow link command.

If you attempt to open a document you did not install, you receive the following error message:

**OBV-1081:** The file for document Document-ID is not on any bookshelf. Please add this document to a bookshelf and try again.

Select OK and choose a document that is installed.

When viewing documents, links exist to other available online documents. These links are always specified by the document title in bold italic font. A document title that is italic but not bold is only text, not a link to another document.
Viewing Documentation Directly from CD-ROM

If you have not installed online documentation, you can still access it in various ways:

- You can view your operating system-specific installation guides, including this document, the *Oracle7 Installation Guide for Intel SVR4 UNIX*, and the *Oracle7 Administrator’s Reference for UNIX*, using the runtime Oracle Documentation Viewer. Instructions for viewing operating system-specific documentation from the Product Installation CD-ROM are in your Product Installation CD-ROM Insert.

- You can view the product documentation on the Product Documentation Library CD-ROM via the *CD Contents Directory*, using the installed Oracle UNIX Installer and Documentation Viewer. To do this, complete the following steps:

1. Install the Oracle UNIX Installer and Documentation Viewer from the Product Installation CD-ROM if it is not already installed. The Oracle UNIX Installer and Documentation Viewer includes the Oracle Documentation Viewer that you use to view online documentation.

   **See Also:** See the instructions earlier in this chapter for more information about installing Oracle products.

2. Mount the Product Documentation Library CD-ROM.

   When using Intel SVR4 UNIX, the Solaris Volume Management software is automatically installed. If you are using the Solaris Volume Management software, the CD-ROM is automatically mounted onto /cdrom/oracle, and you can proceed to Step 3. If you are not using the Solaris Volume Management software, you must mount the CD-ROM manually.

   Enter the following to mount the CD-ROM manually:

   For Solaris Intel:

   ```
   # mount -F hsfs -r cdrom_dev_name  /mount_point
   ```

   where `cdrom_dev_name` is the block device name of your CD-ROM drive, for example /dev/dsk/c0t6d0p0.

   For Unisys:

   ```
   # mount -F cdfs -r cdrom_dev_name  /mount_point
   # cdmntsuppl -c -F ugo+rx /mount_point
   ```
For UnixWare:

```bash
# mount -F cdfs -r -o fperm=777
cdrom_dev_name  /mount_point
```

For Data General:

```bash
# mount -t cdrom -o ro, noversion
cdrom_dev_name  /mount_point
```

Your CD-ROM is now mounted.

3. Change to the CD-ROM directory where the `prefs.ora` file is located:

   ```bash
   $ cd /cdrom/oracle/unix
   ```

4. Customize the `prefs.ora` file in your `$HOME` directory by running the `setprefs.sh` script:

   ```bash
   $ $ORACLE_HOME/orainst/setprefs.sh -m /cdrom
   ```

   **Warning:** The `setprefs.sh` script will add a new `prefs.ora` file to your `$HOME` directory. Any existing `prefs.ora` file in this directory is copied to `prefs.oraO`. You may want to save the existing `prefs.ora` file in your `$HOME` directory before running the `setprefs.sh` script. It is possible to permanently lose an existing `prefs.ora` file if you run the `setprefs.sh` script more than once without saving the original file.

5. Make the `prefs.ora` file writable.

   ```bash
   $ chmod u+w $HOME/prefs.ora
   ```

6. Set your `ORACLE_HOME` environment variable.

7. Change to the `$ORACLE_HOME/orainst` directory.

   ```bash
   $ cd $ORACLE_HOME/orainst
   ```

8. Run the Oracle Documentation Viewer. See Steps 2–3 in the previous section for instructions.

   If you attempt to open an operating system-specific document that is not installed, you will receive the following error message:

   **OBV-1081:** The file for document Document-ID is not on any bookshelf. Please add this document to a bookshelf and try again.
The Product Documentation Library CD-ROM only contains documentation for Oracle products, not operating system-specific installation documentation. Select OK and choose a product document. For information about viewing operating system-specific online documentation from CD-ROM, see your Product Installation CD-ROM Insert.

### Verify Your Installation

If you cannot start up Developer/2000, try using DEBUG_SLFIND to direct error messages to a file of your choice. To do this, set DEBUG_SLFIND to stdout, stderr, or another filename.

For the Bourne shell, enter the following:

```bash
$ DEBUG_SLFIND=filename; export DEBUG_SLFIND
```

For the C shell, enter the following:

```bash
% setenv DEBUG_SLFIND filename
```

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

### Set 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:

- Task 1: Locate and Install PPD and AFM Files for Your Printers
- Task 2: Update the `uiprint.txt` File
- Task 3: Update the `uifont.ali` File
- Task 4: Set Printer Commands
- Task 5: Specify a Default Printer
- Task 6: Test Printing Capabilities and Fix Errors
Task 1: 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 different fonts available on a PostScript printer, since the Toolkit cannot communicate directly with a printer on UNIX networks. 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/guicommon2/tk23/admin/AFM directory since that file is used by the Toolkit to calculate font metrics.

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/guicommon2/tk23/admin/PPD
   $ grep printer_model_name *.ppd | more

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 the $ORACLE_HOME/guicommon2/tk23/admin/AFM directory, enter:

   $ cd $ORACLE_HOME/guicommon2/tk23/admin/AFM
   $ ls | more

   **See Also:** 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, for example when an incorrect file is specified 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.

Task 2: Update the uiprint.txt File

To set up default printers for Developer/2000 products, you need to update the `$ORACLE_HOME/guicommon2.tk23/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/guicommon2.tk23/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:printer_descr:printer_descr_file`

where:

- `printer` contains the name of the printer, as used with `lpr` or `lp` commands. This parameter also specifies the default printer if both the ORACLE_PRINTER and PRINTER environment variables are not set on your UNIX system.
Completing Developer/2000 Installation

specifies the type of print driver used for the printer. The Toolkit currently supports the PostScript and ASCII selections for the printer 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 or 2 for Level 2 PostScript printers.

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.

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 only supports the Adobe PPD file format. See the “Locate and Install PPD and AFM Files for Your Printers” task on page 5 – 11 for complete instructions.

Attention: The first entry in this file must be valid.

Task 3: Update the uifont.ali File

Perform this task if you need to update the uifont.ali file.

Overview of the uifont.ali 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 UNIX.

The uifont.ali file resides in the $ORACLE_HOME/guicommon2/tk23/admin directory. If you want to use another directory, see the following section.

See Also: See the comments in the uifont.ali file for more information. This file is updated for each new release.
Set the TK23_FONTALIAS Environment Variable

Oracle Toolkit first looks for \texttt{uifont.ali} in the location specified by TK23_FONTALIAS. If TK23_FONTALIAS is not set, or if \texttt{uifont.ali} is not found in the specified location, the Toolkit looks for \texttt{uifont.ali} in the \texttt{SORACLE_HOME/guicommom2/tk23/admin} directory.

For the Bourne shell, enter the following:

\$ TK23_FONTALIAS=\texttt{uifont.ali\_pathname}; export TK23_FONTALIAS

For the C shell, enter the following:

\% setenv TK23_FONTALIAS \texttt{uifont.ali\_pathname}

Modify the \texttt{uifont.ali} File

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

\texttt{new\_font=existing\_font}

\texttt{new\_font} is a font you want to add.

\texttt{existing\_font} is a font that already exists on your printer.

The specific format of each line in \texttt{uifont.ali} is as follows:

\texttt{face.size.style.weight.width.charset = face.size.style.weight.width.charset}

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

\texttt{face} specifies the name of the font the Toolkit uses for printing. Commonly used fonts include Palatino, Helvetica, Courier, and Times.

\texttt{size} specifies the size of the font in points.

\texttt{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).

\texttt{weight} specifies the choice of weight options, which are ultralight, extralight, light, demilight, medium, demibold, bold, extrabold, and ultrabold.

\texttt{width} specifies the choice of width options, which are ultradense, extradense, dense, semidense, normal, semiexpand, expand, extraexpand, and ultraexpand.
specifies the name of a character set. This option is not supported in the current release.

The following rules apply:

- 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:

```plaintext
```

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:

```plaintext
```

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:

```plaintext
Arial..Italic+Overstrike = \nHelvetica.12.Italic.Bold
```

Either one maps any Arial that has both italic and overstrike styles to a 12-point, bold, italic Helvetica font.

- Each font line may be continued to the next line by using the backslash (\).
Task 4: Set Printer Commands

Note: This task is optional.

You can set TK23_PRINT to store the print command and TK23_PRINT_STATUS to store the printer status command. The print string is similar to `printf()` in the C programming language, because you can embed the following strings:

where:

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

If you do not set TK23_PRINT, the value defaults to:

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

If you do not set TK23_PRINT_STATUS, the value defaults to:

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

Use the following instructions to set TK23_PRINT and TK23_PRINT_STATUS:

For the Bourne shell, enter the following:

```
$ TK23_PRINT=your_print_string; export TK23_PRINT
$ TK23_PRINT_STATUS=your_print_string; export \n        TK23_PRINT_STATUS
```

For the C shell, enter the following:

```
% setenv TK23_PRINT your_print_string
% setenv TK23_PRINT_STATUS your_print_string
```
Task 5: Specify a Default Printer

Developer/2000 determines your default printer by searching for values of the following variables in the given order:

- TK23_PRINTER
- ORACLE_PRINTER
- PRINTER
- the first entry in your uiprint.txt file

To specify a default printer, set TK23_PRINTER to the applicable printer.

For the Bourne shell, enter the following:

```
$ TK23_PRINTER=your_printer; export TK23_PRINTER
```

For the C shell, enter the following:

```
% setenv TK23_PRINTER your_printer
```

**Attention:** The default printer must be specified in one of the ways listed above, or printing is disabled.

Task 6: Test Printing Capabilities and Fix Errors

1. Test printing capability.
   
   Start up any Developer/2000 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/guicommon2/tk23/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`. 

Set Up the Character Mode User Environment

This section explains how to set up the character mode user environment for Developer/2000.

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

- Task 1: Determine Your Terminal Resources
- Task 2: Set ORACLE_TERM
- Task 3: Set LD_LIBRARY_PATH for Each User
- Task 4: Create and Edit Terminal Files

Task 1: Determine Your Terminal Resources

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

⚠️ **Warning:** 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 Developer/2000 character mode tools cannot start up.

Check the value of TERM by entering the following:

```
$ echo $TERM
```

Refer to the “Supported Terminals” section on page 5 – 19 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, do not reset TERM.

If you are using a supported terminal, set ORACLE_TERM to the corresponding device name before using any of the Developer/2000 character mode tools. See the “Set ORACLE_TERM” task on page 5 – 19 for instructions.
If you are using an unsupported terminal or you want to alter your key mappings, see the “Create and Edit Terminal Files” task on page 5 – 21.

**Task 2: Set ORACLE_TERM**

Set the ORACLE_TERM environment variable to point to the appropriate terminal file before you begin using Developer/2000. This should be done for each user after installation.

Before setting ORACLE_TERM, determine the device name for ORACLE_TERM using the list of device names provided in Table 5 – 2.

Use the following procedure to set ORACLE_TERM:

For the Bourne shell, enter the following:

```
$ ORACLE_TERM=terminal; export ORACLE_TERM
```

For the C shell, enter the following:

```
% setenv ORACLE_TERM terminal
```

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

If ORACLE_TERM is set to an invalid or non-existent device, the function keys cannot perform the appropriate operations and Developer/2000 may not start up at all.

**Supported Terminals**

The following table lists device names to which you can set ORACLE_TERM and the corresponding terminal filenames that the character mode Developer/2000 tools use. Oracle Toolkit v2 terminal files are located in the `$ORACLE_HOME/guicommon2/tk23/admin/terminal/US` directory.

Many of the tools also require their own terminal files, such as `fmransi.res` to be used with `tk2cansi.res` for Forms. Check the tool-specific chapters for a list of these files. For these Developer/2000 tools to work, both files must exist.
<table>
<thead>
<tr>
<th>Device Name</th>
<th>Terminal</th>
<th>Terminal File Names Used by Oracle Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>3151</td>
<td>IBM 3151 terminal</td>
<td>tk2c3151.res</td>
</tr>
<tr>
<td>386</td>
<td>AT386 console</td>
<td>tk2c386.res</td>
</tr>
<tr>
<td>386u</td>
<td>AT386 UnixWare Terminal (xterm with line-drawing support)</td>
<td>tk2c386u.res</td>
</tr>
<tr>
<td>386x</td>
<td>AT386 xterm</td>
<td>tk2c386x.res</td>
</tr>
<tr>
<td>386s</td>
<td>Solaris x86 xterm</td>
<td>tk2c386s.res</td>
</tr>
<tr>
<td>ansi</td>
<td>ANSI terminals for SCO</td>
<td>tk2cansi.res</td>
</tr>
<tr>
<td>hft</td>
<td>IBM High Function Terminal and aixterm (monochrome)</td>
<td>tk2chft.res</td>
</tr>
<tr>
<td>hftc</td>
<td>IBM High Function Terminal and aixterm (color)</td>
<td>tk2chftc.res</td>
</tr>
<tr>
<td>hp</td>
<td>hpterm terminal emulator and HP 700/9x terminals</td>
<td>tk2chp.res</td>
</tr>
<tr>
<td>iris</td>
<td>SGI IRIS console</td>
<td>tk2ciris.res</td>
</tr>
<tr>
<td>ncd</td>
<td>NCD X Terminal with vt220-style keyboard</td>
<td>tk2cncd.res</td>
</tr>
<tr>
<td>sun</td>
<td>Sun cmdtool Type 4 keyboard</td>
<td>tk2csun.res</td>
</tr>
<tr>
<td>tandem</td>
<td>Tandem ANSI terminal</td>
<td>tk2ctandm.res</td>
</tr>
<tr>
<td>vt100</td>
<td>DEC vt100 terminal (or emulator, including xterm)</td>
<td>tk2cvt100.res</td>
</tr>
<tr>
<td>vt220</td>
<td>DEC vt220 terminal (or emulator, including xterm)</td>
<td>tk2cvt220.res</td>
</tr>
<tr>
<td>wy150</td>
<td>Wyse 150 terminal</td>
<td>tk2cwy150.res</td>
</tr>
<tr>
<td>wy50</td>
<td>Wyse 50 or 60 terminals</td>
<td>tk2cwy50.res</td>
</tr>
<tr>
<td>xhft</td>
<td>IBM High Function Terminal xterm</td>
<td>tk2cxhft.res</td>
</tr>
<tr>
<td>xsun</td>
<td>Sun xterm Type 4 keyboard</td>
<td>tk2cxsun.res</td>
</tr>
<tr>
<td>xsun5</td>
<td>Sun xterm Type 5 keyboard</td>
<td>tk2cxsun5.res</td>
</tr>
<tr>
<td>avx3</td>
<td>AViiON terminal</td>
<td>tk2cavx3.res</td>
</tr>
<tr>
<td>dgd2</td>
<td>Data General 200 Series vt emulation</td>
<td>tk2cdgd2.res</td>
</tr>
<tr>
<td>dgd4</td>
<td>Data General 400 Series vt emulation</td>
<td>tk2cdgd4.res</td>
</tr>
</tbody>
</table>

Table 5-2 Supported Terminals for Character Mode Developer/2000 Tools
Task 3: Set LD_LIBRARY_PATH for Each User

To run the Developer/2000 products, you must set the LD_LIBRARY_PATH environment variable. Developer/2000 products use dynamic, or shared, libraries. Therefore, you must set LD_LIBRARY_PATH so the dynamic linker can find the libraries.

For the Bourne shell, enter the following:

```
$ LD_LIBRARY_PATH=$ORACLE_HOME/lib:${LD_LIBRARY_PATH}
$ export LD_LIBRARY_PATH
```

For the C shell, enter the following:

```
$ setenv LD_LIBRARY_PATH \
   $ORACLE_HOME/lib:${LD_LIBRARY_PATH}
```

**Attention:** If you have not previously set LD_LIBRARY_PATH, this command will fail. To set the LD_LIBRARY_PATH for the first time in the Bourne shell, enter:

```
$ LD_LIBRARY_PATH=$ORACLE_HOME/lib
$ export LD_LIBRARY_PATH
```

To set the LD_LIBRARY_PATH for the first time in the C shell, enter:

```
$ setenv LD_LIBRARY_PATH $ORACLE_HOME/lib
```

**Note:** If you set LD_LIBRARY_PATH in a previous Developer/2000 installation, and you are now setting it for the current installation, be sure to remove the old $ORACLE_HOME/lib entry from the path.

Task 4: Create and Edit Terminal Files

This section describes how to create and edit terminal files. The following topics are covered:

- Overview of Terminal Files
- Format of Terminal Filenames
- Creating and Editing Terminal Files With Oracle Terminal
- Creating and Editing Terminal Files With `resprint23`, `resparse23`, and `otgen23`
Overview of Terminal Files

The character mode Developer/2000 tools specify their resources, which are collections of related data, in Oracle Terminal files. These terminal files describe the interaction between a specific terminal, or class of terminals, and Developer/2000. For example, the character mode implementations of Forms, Reports, and Oracle Terminal use the following terminal files for a vt100 terminal type:

<table>
<thead>
<tr>
<th>Oracle Product</th>
<th>Terminal File</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms version 4</td>
<td>$ORACLE_HOME/forms45/admin/terminal/US/fmrcvt100.res</td>
</tr>
<tr>
<td>Reports version 2</td>
<td>$ORACLE_HOME/reports25/admin/terminal/US/rwcvt100.res</td>
</tr>
<tr>
<td>Oracle Terminal version 2</td>
<td>$ORACLE_HOME/guicommon2/tk23/admin/terminal/US/tk2cvt100.res</td>
</tr>
</tbody>
</table>

Table 5-3 Terminal Files for Developer/2000

Format of Terminal Filenames

The format of terminal filenames is as follows:

`product user_interface ORACLE_TERM.res`

where:

- `product` specifies the product name (such as `tk2` for Toolkit v2, `fmr` for Forms, `rw` for Reports).
- `user_interface` specifies the Toolkit user interface name (such as `c` for character mode, `m` for Motif).
- `ORACLE_TERM` specifies the device name that is specified by `ORACLE_TERM` (such as, `sun`, `tandm`, `vt100`). Device names for all supported terminals are listed in Table 5-2.

For example, `fmrcvt100.res` is the name of the character mode Forms terminal file using a `vt100` terminal.

Creating and Editing Terminal Files With Oracle Terminal

Oracle Terminal is the suggested method for creating and editing terminal files. Use the following instructions to modify terminal files using Oracle Terminal.
1. Choose a terminal file from the list provided in Table 5–2.
   Try to choose one that is as similar as possible to the one you want to create.

2. Make a copy of the terminal file that you chose.
   
   $ cp supported_terminal_file new_terminal_file

3. Invoke Oracle Terminal.
   
   The following command invokes the character mode version of Oracle Terminal, which you can use to create and edit character mode terminal files:
   
   $ tk23des

4. Once inside Oracle Terminal, you need to edit the device and key binding sections of the terminal file.

   See Also: For more information on editing terminal files using Oracle Terminal, see the Oracle Terminal User’s Guide.

5. Set ORACLE_TERM to the terminal file you just created.
   
   Go to the “Set ORACLE_TERM” task on page 5–19 for complete instructions.

Creating and Editing Terminal Files With resprint23, resparse23, and otgen23

Use the following instructions to modify an existing terminal file using resprint23, resparse23, and otgen23. Together, these programs represent an unsupported alternative to Oracle Terminal.

Following each step are example commands you can enter if myterm were the unsupported terminal and you chose the ansi terminal file tk2cansi.res to copy and modify.

1. Choose a terminal file from the list provided in Table 5–2 that is as similar as possible to the one you want to create.

2. Make a copy of the terminal file that you chose.

   In the example that follows these instructions, myterm is the unsupported terminal for which you are creating a terminal file. Assume that the supported terminal file with which you start is tk2cansi.res. This means that you would enter the following command for the example:

   $ cp tk2cansi.res tk2cmyterm.res
   $ cp prodkansi.res prodcmymterm.res
You also need to create \texttt{fmrcmyterm.res}, \texttt{rwcmyterm.res}, and \texttt{dbacmyterm.res} terminal files. The Toolkit terminal file, \texttt{tk2cmyterm.res} is used along with each corresponding product terminal file to specify the resources.

3. Using \texttt{resprint23}, convert your binary terminal file to ASCII.

$$\$\texttt{resprint23} \texttt{tk2cmyterm.res}$$
$$\$\texttt{resprint23} \texttt{prodcvmyterm.res}$$

The resulting ASCII files are \texttt{tk2cmyterm.prn} and \texttt{prodcvmyterm.prn}.

4. Edit your terminal files as appropriate for your terminal.

Look at the \texttt{termdef} and \texttt{bindings} sections of the terminal files and edit as necessary. In addition, all references to \texttt{ansi} should be changed to \texttt{myterm}.

5. Using \texttt{resparse23}, convert your ASCII terminal file back to binary.

$$\$\texttt{resparse23} \texttt{tk2cmyterm.prn}$$
$$\$\texttt{resparse23} \texttt{prodcvmyterm.prn}$$

The resulting binary files are \texttt{tk2cmyterm.res} and \texttt{prodcvmyterm.res}.

6. Run \texttt{otgen23} on the edited binary terminal files.

For Forms terminal files enter:

$$\$\texttt{cd} \$\texttt{ORACLE_HOME/forms45/admin/terminal/US}$$
$$\$\texttt{otgen23} \texttt{fmrcmyterm.res myterm sqlforms runform}$$
$$\$\texttt{otgen23} -l \texttt{fmrcmyterm.res myterm tk2 tk2}$$

For Reports terminal files enter:

$$\$\texttt{cd} \$\texttt{ORACLE_HOME/reports25/admin/terminal/US}$$
$$\$\texttt{otgen23} -l \texttt{rwcmyterm.res myterm tk2 tk2}$$
$$\$\texttt{otgen23} \texttt{rwcmyterm.res myterm OR OR}$$

For Oracle Terminal terminal files enter:

$$\$\texttt{cd} \$\texttt{ORACLE_HOME/guicommon2/tk23/admin/terminal/US}$$
$$\$\texttt{otgen23} -l \texttt{tk2cmyterm.res myterm tk2 tk2}$$

Running \texttt{otgen23} creates the key binding data, btlist or bindtable, that tells Developer/2000 applications what function, such as \texttt{cancel} or \texttt{next_screen}, is associated with a particular key on your terminal keyboard.
Set Up the GUI Environment

This section explains how to prepare the GUI environment for Developer/2000.

Perform the following tasks to set up the GUI environment:

- Task 1: Relocate Key Definition File
- Task 2: Set LD_LIBRARY_PATH for Each User
- Task 3: Set Up the X Window System and Motif Environments
- Task 4: Configure Your Environment for Motif

Get Help with X and OSF Motif

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.

Note: Oracle customers can contact Oracle Technical Support 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.

Task 1: Relocate Key Definition File

When installation is complete, the X11 key symbol file XKeysymDB is in the \$ORACLE_HOME/guicommon2/tk23/admin directory. You must move the XKeysymDB file to the /usr/lib/X11 directory on every machine on which Developer/2000 is running. To move the file, perform the following steps:

1. As root user, change to the \$ORACLE_HOME/guicommon2/tk23/admin directory.
   
   # cd \$ORACLE_HOME/guicommon2/tk23/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 to merge it with the old file. If you decide to use the new file, you may want to rename the old file to preserve it.

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

```bash
# mkdir /usr/lib/X11
```

- To preserve the old file, enter the following (this step is optional):

  ```bash
  # cd /usr/lib/X11
  # mv XKeysymDB XKeysymDB.OLD
  # cd $ORACLE_HOME/guicommon2/tk23/admin
  
  Note: For Solaris:
  
  # cd /usr/openwin/lib/X11
  # mv XKeysymDB XKeysymDB.OLD
  # cd $ORACLE_HOME/guicommon2/tk23/admin
  
  # cd /usr/lib/X11
  # mv XKeysymDB XKeysymDB.OLD
  # cd $ORACLE_HOME/guicommon2/tk23/admin
  
  Note: For Solaris:
  
  # cd /usr/openwin/lib/X11
  # mv XKeysymDB XKeysymDB.OLD
  # cd $ORACLE_HOME/guicommon2/tk23/admin
  
- To install only the new file, enter the following:

  ```bash
  # cp XKeysymDB /usr/lib/X11
  
  Note: The XKeysymDB file is read by the application code at startup time. If the file cannot be found or if the file is found and 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.
Task 2: Set LD_LIBRARY_PATH for Each User

Each user must set the LD_LIBRARY_PATH environment variable to run Developer/2000. Because Developer/2000 makes use of dynamic (shared) libraries, LD_LIBRARY_PATH must be set so that the dynamic linker can find the libraries.

For the Bourne shell, enter the following:

$ LD_LIBRARY_PATH=$ORACLE_HOME/lib:${LD_LIBRARY_PATH}
$ export LD_LIBRARY_PATH

For the C shell, enter the following:

% setenv LD_LIBRARY_PATH "
$ORACLE_HOME/lib:${LD_LIBRARY_PATH}

Attention: If you have not previously set LD_LIBRARY_PATH, the commands in the previous example will fail.

To set the LD_LIBRARY_PATH for the first time in the Bourne shell, enter the following:

$ LD_LIBRARY_PATH=$ORACLE_HOME/lib;
$ export LD_LIBRARY_PATH

To set the LD_LIBRARY_PATH for the first time in the C shell, enter the following:

% setenv LD_LIBRARY_PATH $ORACLE_HOME/lib

Note: If you set LD_LIBRARY_PATH in a previous Developer/2000 installation, and you are now setting it for the current installation, be sure to remove the old $ORACLE_HOME/lib entry from the path.

Task 3: 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 Font Search Path with the xset Utility
- Manage Resources with the xrdb Utility
- Control Windows with a Window Manager
Set the DISPLAY Environment Variable

If you run Developer/2000 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 communicates to the application on 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 Forms from a larger machine called godzilla. From godzilla:

For the Bourne shell, enter the following:

$ DISPLAY=bambi:0.0; export DISPLAY

For the C shell, enter the following:

% 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/X11/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:

```
$ xhost +godzilla
```

**Attention:** When you grant another machine access, all users of that machine have access to your machine’s X server. For example, if you grant machine `godzilla` access to `bambi`, all users of `godzilla` have access to the `bambi` X server.

**Set the Font Search Path with the `xset` Utility**

Use the `xset` utility to specify a number of preferences for the display and keyboard. One preference you can set with the `xset` utility is the server’s font path.

**Font Directories:** On a workstation, fonts are loaded into the server from files stored in different directories, usually in subdirectories of `/usr/lib/X11/fonts`. For Solaris, these files will be located in `/usr/openwin/lib/X11/fonts`. When an application requests a particular font, the server searches a subset of these directories in a certain order. The font path determines which directories are searched, and in what order.

Font paths are system-dependent. Later in this section you will see how to query your current setting.

Each font directory contains font files, a `fonts.dir` file, and a `fonts.alias` file. When the X server searches directories in the font path, it uses these two files to find the fonts it needs.

**fonts.dir**

This file contains a list of all fonts in the directory with their associated font names, in two-column format. The first column gives font file names; the second gives actual font names.

**fonts.alias**

This file lists available aliases for fonts in the directory in a two-column format. The first column gives the aliases, the second gives actual font names.
Screen Resolution: Many vendors provide different sets of fonts for different screen resolutions. These are kept in directories with names that indicate different resolutions, such as 75dpi and 100dpi. The order of these two directories in the search path is important. For example, if your screen has 75 dots per inch, but the 100dpi directory of a given font is in front of its 75dpi directory in the font path, there may be unexpected results when you use this font.

To query current settings, enter:

```bash
$ xset q
```

If you discover that your paths are in the wrong order, you can use `xset` to correct them. Use the following syntax to override the current font path and set it to new directories:

```bash
xset fp directory[, directory...]
```

Use the `fp` option to specify the font path. There must be at least one directory. Multiple directories are separated by commas.

To restore the font path to the server’s default setting, enter:

```bash
$ xset fp default
```

The simplest way to find available font names for font specification is to use the `xfontsel` utility, which is an interactive program that lists names of all the fonts and displays them. This utility is not available on all systems.

Manage Resources with the `xrdb` Utility

The appearance and behavior of most X and Motif applications can be customized to an almost limitless degree. Many users maintain a file called `.Xdefaults` in their home directory for default settings of colors, fonts, and other aspects of application behavior. You can use the `xrdb` utility to load the contents of this file into the X server’s memory, which is called the X resource database.

The advantage of using `xrdb` is that these resource settings are used by tools running on all the different client machines you use, not just on the one containing the `.Xdefaults` file.

Control Windows with a Window Manager

The window manager is a utility that gives you control over windows on your display. It provides an interface for moving, resizing, iconifying, de-iconifying, and changing the stacking order of windows. All windows at all times are movable under Motif. Use the Motif Window Manager, `mwm` version 1.2 or greater with Oracle Motif tools.
Task 4: Configure Your Environment for Motif

This section is organized as follows:

- Overview of Resource Files
- X Resource Files
- Oracle Toolkit Resource Files
- Oracle Terminal Files
- Set Oracle Toolkit/Motif Resources in the Tk2Motif File
- Key Mapping Customization

Overview of Resource Files

Oracle tools using the Motif interface employ two types of resource files: X resource files and Oracle Toolkit resource files. Resource files:

- simplify customization of applications designed on one platform (such as Microsoft Windows) to run on another platform (such as Motif)
- can adapt applications for different screens and keyboards
- allow users to set preferences such as fonts and colors

Oracle tools are built on top of a layer called Oracle Toolkit, which provides a uniform programming interface to objects in the underlying user interface such as Motif, Microsoft Windows, or the Macintosh Toolbox. In Motif, Oracle Toolkit presents an interface to the Oracle Motif application user, made up of familiar Motif widgets.

Resources in the Tk2Motif files are directed at actual Motif widgets. There are dozens of resources that may be set for each type of Motif widget. Most of these resources should not be modified. You may want to experiment, however, with color and font resources.

Resources in the .res files describe attributes of Oracle Toolkit objects. In many cases, but not always, there is a direct correspondence between an attribute of a Toolkit object, and a resource of an underlying Motif widget. In these cases, the Toolkit attribute takes precedence. For example, most Toolkit controls, or views, have an attribute, bgcolor, which determines background color of the control. If this is set in the .res file, the value set overrides any setting of the background resource for the corresponding widget class in the Tk2Motif file.

In some cases, a widget resource may have no Toolkit counterpart. For example, Oracle Toolkit provides no means of setting the font in an alert dialog box. Therefore, if you want to draw extra attention to your alerts,
you can display their warning messages in a 24-point boldface font by entering the following into your **Tk2Motif** file:

```
Tk2Motif*alert*fontList: -**-medium-b-normal-*--240-*
```

**X Resource Files**

The X resource files contain resource settings for all Developer/2000 tools using Oracle Toolkit. The relevant X resource files are as follows:

```
$ORACLE_HOME/guicommon2/tk23/admin/Tk2Motif.[bw | gs | rgb]
```

Each of these files contains one of the following filename extensions:

- **bw**: The *bw* extension is for monochrome (black and white) display.
- **gs**: The *gs* extension is for grayscale displays.
- **rgb**: The *rgb* extension is for color displays and the color scheme defaults to sky blue. The alternate color displays are as follows:
  - **rose**: The *rose* extension sets windows to a rose color.
  - **steel**: The *steel* extension sets windows to steel blue.
  - **gray**: The *gray* extension sets windows to gray.

**Note**: Oracle Corporation recommends gray for Oracle Browser.

The file **Tk2Motif.rgb**, which sets your Developer/2000 windows to sky blue, is opened by Oracle Terminal to initialize color display resources. If you want to set your Developer/2000 windows to something other than sky blue, then you must rename the **gray**, **rose**, or **steel** files to be **Tk2Motif.rgb**. For example, if you would like to have rose-colored Developer/2000 windows, enter the following:

```
$ cd $ORACLE_HOME/guicommon2/tk23/admin
$ mv Tk2Motif.rgb Tk2Motif.skyblue
$ cp Tk2Motif.rose Tk2Motif.rgb
```

When you restart the application, Developer/2000 windows will be rose-colored.

If you would like to change a single user’s environment to rose-colored enter the following:

```
$ cp Tk2Motif.rose $HOME/Tk2Motif
```
Oracle Toolkit Resource Files

The Oracle Toolkit resource file $HOME/Tk2Motif contains resource settings customized for the individual user ($HOME is a user’s home directory).

The files under $ORACLE_HOME are provided by Oracle. These files usually are modified only by a system administrator, because these resource settings affect all users of the system. Users who want to customize these resources should copy one of these files to a file named Tk2Motif in their home directory, and edit it there.

Oracle Terminal Files

Oracle Terminal files are a special type of Toolkit resource file having names ending with the suffix .res. The name and location of Oracle Terminal file depends on the application. For example, for Motif Forms v4, the Oracle Terminal file is $ORACLE_HOME/forms45/admin/resource/US/fmrm.res.

Set Oracle Toolkit/Motif Resources in the Tk2Motif File

This section explains briefly how to set resources in the Tk2Motif file. The Tk2Motif file contains important information and comments. Read these comments carefully before modifying the file. You should also have a thorough understanding of X and OSF/Motif resources before you attempt to modify this file.

See Also: See Appendix A, “Oracle Toolkit Objects and Motif Widgets”, for a list of Toolkit objects that you can change by modifying the Tk2Motif file. This appendix also includes a table with a description of various Oracle Toolkit objects and the Motif widgets from which they are built.

Example 1

The following example shows how the specifications in a user’s $HOME/Tk2Motif file override specifications in the file $ORACLE_HOME/guicommon2/tk23/admin/Tk2Motif.rgb.

In this scenario, the file $ORACLE_HOME/guicommon2/tk23/admin/Tk2Motif.rgb contains the following:

Tk2Motif*fontList: -*-helvetica-medium-r-normal-*-120*
Tk2Motif*drawn.background: lightblue
Tk2Motif*pushb.background: salmon
A user’s $HOME/Tk2Motif file contains:

```
browserm*pushb.background: steelblue
browserm*fontList: -*times-medium-r-normal-*120-*31
```

In this example, buttons in an Oracle Browser window would be drawn in Times font with a steel blue background, surrounded by a light blue drawn view. The Helvetica font setting and salmon pushbutton background for the Tk2Motif application class would be ignored.

**Example 2**

To set the font for labels in all top menus to 12-point Helvetica, make sure that this font is supplied on your system (using xlsfonts or xfontsel). Make an entry similar to the following in the Tk2Motif file:

```
Tk2Motif*menubar*fontList:
-*helvetica-medium-r-normal-*120-*1
```

**Note:** The previous example should be entered on one line in the Tk2Motif file.

**Example 3**

To set the background and foreground colors in all Alert boxes, first check the rgb.txt file for the list of possible colors. If you prefer orange and yellow, and these colors are available, enter the following lines in your Tk2Motif file:

```
Tk2Motif>alert*background: orange
Tk2Motif>alert*foreground: yellow
```

**Example 4**

With any X resource, you can restrict values to apply only to widgets belonging to a particular hierarchy. For example, you can set the scroll bar trough color to red when the scroll bar is part of a file dialog window, but black anywhere else, by entering the following lines in your Tk2Motif file:

```
Tk2Motif>scrollBar*troughColor: black
Tk2Motif>filedialog>scrollBar*troughColor: red
```

**Key Mapping Customization**

The Oracle Toolkit/Motif key mappings are stored in the .res Oracle Terminal file. You can customize a key map with the Oracle Terminal interactive interface.

If you want to change any of the default key definitions, you must take into consideration two important factors:

- Motif and Oracle key definitions may overlap.
Many OSF/Motif widgets have internal translation tables that map particular function keys to particular widget actions. For example, the [Tab] key is mapped to the Next Field action.

When these actions overlap with the functions of Oracle Toolkit Motif tools (as is the case with the [Tab] key), both mappings must agree. Do not override such mappings.

- Motif has reserved key mappings.

There are some key mappings that are reserved for OSF/Motif. Do not override these key mappings. Reserved key mappings and restrictions are listed in Appendix B.

Construct the Resource Database

The resource database is automatically constructed by the function `XtDisplayInitialize()`. You do not need to take any steps, because the function `XtDisplayInitialize()` is called by the execution of the Motif products, rather than by the user. The following information is provided as an explanation of the process that takes place when the resource database is constructed. This database is loaded from several sources, in the following order.

1. The tool-specific user resource file, `Tk2Motif`, is loaded first.

   Oracle Toolkit searches for this file in a number of places including `/usr/lib/X11/app–defaults` or `/usr/openwin/lib/X11/app–defaults` for Solaris. However, do not move the `Tk2Motif` file to the `/usr/lib/X11/app–defaults` directory or `/usr/openwin/lib/X11/app–defaults` directory for Solaris, as this may override critical internal Oracle Toolkit resources.

   By convention, keep the per-user settings in the `$HOME/Tk2Motif` file.

2. The resource database is loaded with resources that were loaded into the Resource_Manager property of the root window of the X display using `xrdb`.

   If this property is not set, the resources are loaded from the file `.Xdefaults` in the user’s home directory.

3. Any file named in the XENVIRONMENT environment variable is loaded if the variable is set and the file exists.
It is also loaded with any file named $HOME/.Xdefaults-hostname, where hostname is the name of the machine where the client application is running.

4. The resource database is loaded with any resources corresponding to standard X command line arguments such as -fg, -bg, and so on.

5. After the resource database is created by XtDisplayInitialize(), Tk2Motif.disptype files are read and merged nondestructively into the database, that is, values already in the database take precedence.

Resources specified in these files begin with the application class name rather than the application name. The naming convention for the filenames is as follows:

$ORACLE_HOME/guicommon2/tk23/admin/Tk2Motif.disptype

where disptype is the display type suffix (.rgb, .gs, or .bw.)

These files are the only ones that have the display type suffix. Although they are read last, their resource values are merged in as if they were loaded first, because the display type is unknown until after XtDisplayInitialize() is called. Setting color resources when running applications on some monochrome displays can crash the application. The XtDisplayInitialize() function does not provide a means of automatically selecting resource files based on the display type.

For more information about X resource usage, read Section 9.2 in the X Toolkit Intrinsics Programming Manual. This is Volume 4 of the X Window System series.

See Also: Section 2.2 of the X Window System Toolkit book for a more detailed description of how the resource database is constructed by XtDisplayInitialize().

Enable 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 Developer/2000 to run in languages other than the default language (English):

- Task 1: Set NLS_LANG
- Task 2: Set Tk2Motif*fontMapCs
Task 1: Set NLS_LANG

Developer/2000 applications 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 shell, enter the following:

$ NLS_LANG=language_territory.character_set
$ export NLS_LANG

For the C shell, enter the following:

% 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.

Table 5–4 provides values supported by Developer/2000 products for NLS_LANG:

<table>
<thead>
<tr>
<th>Language Name</th>
<th>language Value</th>
<th>Territory Name</th>
<th>territory Value</th>
<th>character Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>American</td>
<td>american</td>
<td>United States</td>
<td>america</td>
<td>us7ascii</td>
</tr>
<tr>
<td>Arabic</td>
<td>arabic</td>
<td>United Arab Emirates</td>
<td>&quot;united arab emirates&quot;</td>
<td>ar8iso8859p6</td>
</tr>
<tr>
<td>Brazilian Portuguese</td>
<td>&quot;brazilian portuguese&quot;</td>
<td>Brazil</td>
<td>brazil</td>
<td>we8dec</td>
</tr>
<tr>
<td>Canadian French</td>
<td>frc</td>
<td>Canada (Quebec)</td>
<td>frc</td>
<td>we8dec</td>
</tr>
<tr>
<td>Czech</td>
<td>czech</td>
<td>Czech Republic</td>
<td>czechoslovakia</td>
<td>ee8iso8859p2</td>
</tr>
<tr>
<td>Danish</td>
<td>danish</td>
<td>Denmark</td>
<td>denmark</td>
<td>we8dec</td>
</tr>
<tr>
<td>Dutch</td>
<td>dutch</td>
<td>The Netherlands</td>
<td>“the netherlands”</td>
<td>we8dec</td>
</tr>
<tr>
<td>Finnish</td>
<td>finnish</td>
<td>Finland</td>
<td>finland</td>
<td>we8dec</td>
</tr>
<tr>
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<td>we8dec</td>
</tr>
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<td>we8dec</td>
</tr>
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<td>ei8dec</td>
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<td>Italy</td>
<td>italy</td>
<td>we8dec</td>
</tr>
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<td>Japanese</td>
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<td>Japan</td>
<td>japan</td>
<td>ja16euc</td>
</tr>
<tr>
<td>Korean</td>
<td>korean</td>
<td>Korea</td>
<td>korea</td>
<td>ko16ksc5601</td>
</tr>
</tbody>
</table>
Table 5 – 4 Settings for NLS_LANG

<table>
<thead>
<tr>
<th>Language</th>
<th>From</th>
<th>Country</th>
<th>To</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithuanian</td>
<td>lt</td>
<td>Lithuania</td>
<td>lt</td>
<td>nee8iso8859p4</td>
</tr>
<tr>
<td>Mexican Spanish</td>
<td>esm</td>
<td>Mexico</td>
<td>esm</td>
<td>we8dec</td>
</tr>
<tr>
<td>Norwegian</td>
<td>norwegian</td>
<td>Norway</td>
<td>norway</td>
<td>we8dec</td>
</tr>
<tr>
<td>Polish</td>
<td>polish</td>
<td>Poland</td>
<td>poland</td>
<td>ee8iso8859p2</td>
</tr>
<tr>
<td>Portuguese</td>
<td>portuguese</td>
<td>Portugal</td>
<td>portugal</td>
<td>we8dec</td>
</tr>
<tr>
<td>Russian</td>
<td>russian</td>
<td>CIS</td>
<td>cis</td>
<td>cl8iso8859p5</td>
</tr>
<tr>
<td>Simplified Chinese</td>
<td>&quot;simplified chinese&quot;</td>
<td>China</td>
<td>china</td>
<td>zhs16cgb231280</td>
</tr>
<tr>
<td>Slovak</td>
<td>slovak</td>
<td>Slovakia</td>
<td>slovak</td>
<td>ee8iso8859p2</td>
</tr>
<tr>
<td>Spanish</td>
<td>spanish</td>
<td>Spain</td>
<td>spain</td>
<td>we8dec</td>
</tr>
<tr>
<td>Swedish</td>
<td>swedish</td>
<td>Sweden</td>
<td>sweden</td>
<td>we8dec</td>
</tr>
<tr>
<td>Thai</td>
<td>th</td>
<td>Thailand</td>
<td>th</td>
<td>th8tisasclii</td>
</tr>
<tr>
<td>Traditional Chinese</td>
<td>&quot;traditional chinese&quot;</td>
<td>China</td>
<td>zhp</td>
<td>zht32euc</td>
</tr>
<tr>
<td>Turkish</td>
<td>turkish</td>
<td>Turkey</td>
<td>turkey</td>
<td>we8iso8859p9</td>
</tr>
</tbody>
</table>

Task 2: Set Tk2Motif*fontMapCs

This section explains how to add an entry to the Tk2Motif file so that the Toolkit can match Oracle character sets with X character sets. The setting is called Tk2Motif*fontMapCs. Add the following line to the file to set Tk2Motif*fontMapCs:

Tk2Motif*fontMapCs: xset=ose

where:

xset is the name of an X character set.
ose 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

The Oracle character set is the last item in the NLS_LANG setting. For example, for the Swedish language, the Oracle character set name is we8dec. See Table 5 – 4 for other Oracle character set names.
The Motif Integrated Demonstration for Developer/2000 release 1.3.1 illustrates how Forms, Reports, and Graphics interact as an integrated product set. These three products must be installed for the demonstration to run.

To set up the demonstration:

1. Run the `demobld` SQL script under `$ORACLE_HOME/forms45/sql`. This script automatically runs during the installation of Forms if you elected to install the Forms demonstrations.

   To run the `demobld` script, enter the following:
   ```
   $ cd $ORACLE_HOME/forms45/sql
   $ sqlplus scott/tiger @demobld
   ```

2. Set the following environment variables as shown in Table 5–5:

<table>
<thead>
<tr>
<th>Environment Variable</th>
<th>Should Include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATH</td>
<td>The directory where the xedit executable resides.</td>
</tr>
<tr>
<td>FORMS45</td>
<td><code>$ORACLE_HOME/forms45</code></td>
</tr>
<tr>
<td>RW25</td>
<td><code>$ORACLE_HOME/reports25</code></td>
</tr>
<tr>
<td>GRAPHICS25</td>
<td><code>$ORACLE_HOME/graphics25</code></td>
</tr>
<tr>
<td>TK23_ICON</td>
<td><code>$FORMS45/demos/icons</code> &lt;br&gt; <code>$RW25/demo/reqfiles</code> &lt;br&gt; <code>$GRAPHICS25/demos/forms</code></td>
</tr>
<tr>
<td>FORMS45_PATH</td>
<td><code>$FORMS45/demos/start</code> &lt;br&gt; <code>$FORMS45/plsqllib</code> &lt;br&gt; <code>$GRAPHICS25/demos/forms</code> &lt;br&gt; <code>$RW25/demo/reqfiles</code></td>
</tr>
<tr>
<td>GRAPHICS25_PATH</td>
<td><code>$GRAPHICS25/demos/forms</code></td>
</tr>
<tr>
<td>REPORTS25_PATH</td>
<td><code>$RW25/demo/reqfiles</code></td>
</tr>
<tr>
<td>FORMS45_UNKNOWN</td>
<td>Points to the directory where your Tk2Motif.rgb file resides.</td>
</tr>
</tbody>
</table>

Table 5–5 Required Environment Variables
3. To ensure that the demonstration applications run correctly on Motif, modify your `Tk2Motif.rgb` file to include the following settings.

```plaintext
Tk2Motif*pushb.defaultButtonShadowThickness: 0
Tk2Motif*pushb.shadowThickness: 2
Tk2Motif*pushb.highlightThickness: 1
Tk2Motif*expandNonDefaultButtons: True
```
You may want to copy your default `Tk2Motif.rgb` file (located in `$ORACLE_HOME/guicommon2/tk23/admin`) to another directory, and use the FORMS45_UNKNOWN environment variable to point to the directory where the modified `Tk2Motif.rgb` file resides.

4. Generate the necessary forms and menus, after setting the above environment variables.

From `$ORACLE_HOME/forms45/demos/start`, enter the following:

```plaintext
genform45m Module=start Userid=scott/tiger Module_Type=form
genform45m Module=start Userid=scott/tiger Module_Type=menu
genform45m Module=aboutbox Userid=scott/tiger Module_Type=form
genform45m Module=demogref Userid=scott/tiger Module_Type=form
genform45m Module=demogref Userid=scott/tiger Module_Type=menu
genform45m Module=demooref Userid=scott/tiger Module_Type=form
genform45m Module=demooref Userid=scott/tiger Module_Type=menu
genform45m Module=getparam Userid=scott/tiger Module_Type=form
```

From `$ORACLE_HOME/reports25/demo/reqfiles`, enter the following:

```plaintext
genform45m Module=ordemos Userid=scott/tiger Module_Type=form
genform45m Module=ordemos Userid=scott/tiger Module_Type=menu
genform45m Module=ordemos2 Userid=scott/tiger Module_Type=form
genform45m Module=ordemos2 Userid=scott/tiger Module_Type=menu
```

From `$ORACLE_HOME/graphics25/demos/forms`, enter the following:

```plaintext
genform45m Module=ogdemos Userid=scott/tiger Module_Type=form
genform45m Module=ogdemos Userid=scott/tiger Module_Type=menu
genform45m Module=usa Userid=scott/tiger Module_Type=form
genform45m Module=usa Userid=scott/tiger Module_Type=menu
```

To run the demonstration, enter the following from `forms45/demos/start`:

```plaintext
runform45m start scott/tiger
```
Create User Exits

You can create user exits by modifying the sample source file.

The sample files, *iapxtb.c* and *ue_xtb.c*, each declare a user exit array called *iapxtb[].* The following describes which file is used to define your exit table:

- Forms uses `$ORACLE_HOME/forms45/demos/sample/ue_xtb.c`
- Reports uses `$ORACLE_HOME/reports25/demo/ue_xtb.c`
- Graphics uses `$ORACLE_HOME/graphics25/demos/sample/iapxtb.c`

Add entries to the sample source file for each user exit.

The following is the 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 the following for this last item:

```c
XITCOB /* COBOL */
XITFOR /* FORTRAN */
XITPLI /* PL/I */
XITPAS /* PASCAL */
XITAda /* ADA */
```

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).
Forms

To link the user exit sample file for Forms, enter the following.

For Motif mode, enter:

$ cd $ORACLE_HOME/forms45/lib
$ make -f ins_forms45.mk f45runmx

For character mode, enter:

$ cd $ORACLE_HOME/forms45/lib
$ make -f ins_forms45.mk f45runx

Reports

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

For Motif mode, enter:

$ cd $ORACLE_HOME/reports25/lib
$ make -f ins_reports25.mk r25runmx

For character mode, enter:

$ cd $ORACLE_HOME/reports25/lib
$ make -f ins_reports25.mk r25runx

For Motif mode with Graphics linked in

enter:

$ cd $ORACLE_HOME/reports25/lib
$ make -f ins_reports25.mk r25runmgx

Graphics

To link the user exit sample for Graphics, enter:

$ cd $ORACLE_HOME/graphics25/lib
$ make -f ins_graphics25.mk g25runmx

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:

$ make -f ins_reports.mk \
   EXITS="my_iapxtb.o userexit1.o userexit2.o ..." r25runmx
This chapter explains how to administer and use the character mode and Motif versions of Forms release 4.5 on your UNIX system.

**Note:** For Motif users, there may be more font choices available in release 4.5 than were available in previous releases.

The topics covered in this chapter are:

- Product Documentation
- Administering Forms
- Using Forms
Product Documentation

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

- Forms Developer’s Guide
- Forms Advanced Techniques
- Forms Reference Manual
- Getting Started with Forms
- Forms Messages and Codes

Online Help

This release provides the of45h.obd online help file for Forms. You can find this file in the $ORACLE_HOME/forms45/admin/help/US directory.

To access online help using Oracle Book Motif, enter:

$ runbook22m filename

README.doc File

The README.doc file is located in the $ORACLE_HOME/forms45/doc directory. This file, which outlines administrative procedures and describes the latest known restrictions, serves as an online supplement to the printed documentation.
Administering Forms

Executables

The following table contains the Forms executable names. The executables also appear in the $ORACLE_HOME/bin directory.

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name on UNIX</th>
<th>Platform-Independent Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Motif</td>
<td>Char Mode</td>
</tr>
<tr>
<td>Designer</td>
<td>f45desm</td>
<td>n/a</td>
</tr>
<tr>
<td>Generator</td>
<td>f45gen</td>
<td>f45gen</td>
</tr>
<tr>
<td></td>
<td>genform45m</td>
<td>genform45</td>
</tr>
<tr>
<td>Runform</td>
<td>f45runm</td>
<td>f45run</td>
</tr>
<tr>
<td></td>
<td>runform45m</td>
<td>runform45</td>
</tr>
<tr>
<td>Runform with debugger</td>
<td>f45runmd</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>runform45md</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Table 6 – 1 Forms Executables

Note: Forms Designer and the Runform with debugger are not available in character mode.

Edit Preferences

Options is a menu item on the Forms Designer Tools menu. The Options menu item sets options for your Forms session. It displays the Options dialog box, in which you specify Designer and Runtime options.

Source File Locations

If no directory is specified, Forms searches for its product files in the following locations in this order:

- the current directory
- directories specified by FORMS45_PATH
- directories specified by ORACLE_PATH
Setting the Environment Variables

This section describes how to set the FORMS45_PATH, FORMS45_TERMINAL, ORACLE_PATH, ORACLE_TERM, TMPDIR, TK23_ICON and ORASQLLOADPATH environment variables.

A directory specifies the directory where a file resides. For example:
/home/user

A path specifies the colon-delimited list of directories where a file can reside. For example:
/home/user:/home/user2

FORMS45_PATH

To set the FORMS45_PATH environment variable, enter the following.
For the Bourne shell, enter the following:
$ FORMS45_PATH=path; export FORMS45_PATH

For the C shell, enter the following:
% setenv FORMS45_PATH path

FORMS45_TERMINAL

If set, FORMS45_TERMINAL points to the directory where the terminal files for Forms reside.
For the Bourne shell, enter the following:
$ FORMS45_TERMINAL=directory; export FORMS45_TERMINAL

For the C shell, enter the following:
% setenv FORMS45_TERMINAL directory

ORACLE_PATH

To set the ORACLE_PATH environment variable, enter the following.
For the Bourne shell, enter the following:
$ ORACLE_PATH=path; \
   export ORACLE_PATH

For the C shell, enter the following:
% setenv ORACLE_PATH path
ORACLE_TERM

If the TERM environment variable is not already set to a supported device name, you must set ORACLE_TERM before logging into Forms to use the character mode implementation of the runform component. The ORACLE_TERM environment variable setting overrides the TERM environment variable setting.

See Table 6–2 for a list of device names to which you can set the ORACLE_TERM environment variable.

For the Bourne shell, enter the following:

$ ORACLE_TERM=device_name; export ORACLE_TERM

For the C shell, enter the following:

% setenv ORACLE_TERM device_name

You can also override the TERM and ORACLE_TERM environment variable settings from the command line by entering the following:

$ runform45 TERM=terminal:device

Table 6–2 provides information on the supported environment settings and the terminal files located in the forms45/admin/terminal/US directory.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Device Name</th>
<th>Terminal Description</th>
<th>Terminal File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>hft</td>
<td>hft</td>
<td>IBM hft mono console</td>
<td>fmrchft.res</td>
</tr>
<tr>
<td>hp</td>
<td>hp</td>
<td>hpterm terminal emulator and HP 700/9x terminals</td>
<td>fmrchp.res</td>
</tr>
<tr>
<td>iris</td>
<td>iris</td>
<td>SGI IRIS console (xterm using SGI keyboard)</td>
<td>fmrciris.res</td>
</tr>
<tr>
<td>vt100</td>
<td>vt100</td>
<td>vt100 terminal</td>
<td>fmrcvt100.res</td>
</tr>
<tr>
<td>vt220</td>
<td>vt220</td>
<td>vt220 terminal</td>
<td>fmrcvt220.res</td>
</tr>
<tr>
<td>xhft</td>
<td>xhft</td>
<td>IBM hft xterm (xterm using HFT keyboard)</td>
<td>fmrcxhft.res</td>
</tr>
<tr>
<td>xsun</td>
<td>xsun</td>
<td>Sun Type 4 xterm (xterm using SUN keyboard)</td>
<td>fmrcxsun.res</td>
</tr>
<tr>
<td>xsun5</td>
<td>xsun5</td>
<td>Sun Type 5 xterm (xterm using SUN keyboard)</td>
<td>fmrcxsun5.res</td>
</tr>
</tbody>
</table>

Table 6–2  Supported Terminals for Character Mode Forms
TMPDIR

This variable establishes the directory in which you store Forms temporary files. The default directory is /tmp. To override the default, enter the following to set TMPDIR:

For the Bourne shell, enter the following:

```
$ TMPDIR=directory; export TMPDIR
```

For the C shell, enter the following:

```
% setenv TMPDIR directory
```

TK23_ICON

If set, TK23_ICON points to the path where the icon buttons for the Oracle Toolkit reside.

For the Bourne shell, enter the following:

```
$ TK23_ICON=path; export TK23_ICON
```

For the C shell, enter the following:

```
% setenv TK23_ICON path
```

ORASQLLOADPATH

If set, ORASQLLOADPATH points to the path where the attached libraries reside.

For the Bourne shell, enter the following:

```
$ ORASQLLOADPATH=path; export ORASQLLOADPATH
```

For the C shell, enter the following:

```
% setenv ORASQLLOADPATH path
```
Using Forms

Starting Forms Runtime

Forms Runtime allows the user to run applications created in Forms Designer.

To start the Motif mode version of Forms Runtime, enter:

```
$ runform45m filename
```

To start the debug Motif version of Forms Runtime, enter:

```
$ runform45md filename
```

where `filename` is the name of your form. If you do not enter the name of a file, a main menu appears from which you can open a form.

See Also: Refer to the Forms Developer’s Guide for more information on the debug runtime.

To start the character mode version of Forms Runtime, enter:

```
$ runform45 filename
```

where `filename` is the name of your form.

Starting Forms Designer

Forms Designer allows the application developer to build dynamic forms applications using graphs, reports, images, and PL/SQL programs to interpret database information. To start Forms Designer, enter:

```
$ oraform45m
```

Moving Motif Windows

Under Motif, all windows are movable. This is true even if the user does not set the movable hint in the windows property sheet.

User Exits

See Chapter 5, “Completing Developer/2000 Installation”, for information on how to create user exits in Forms.
Demonstration Files and Applications

Demonstration files are located in the $ORACLE_HOME/forms45/demos directory. To properly display the demonstrations, the following settings are recommended in the Tk2Motif.rgb file:

Tk2Motif*pushb.defaultButtonShadowThickness: 0
Tk2Motif*pushb.shadowThickness: 2
Tk2Motif*pushb.highlightThickness: 1

Tk2Motif*expandNonDefaultButtons: True

You must set the following environment variables to properly generate and run the Forms demonstrations.

<table>
<thead>
<tr>
<th>Environment Variable</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>TK23_ICON</td>
<td>$ORACLE_HOME/forms45/demos/icons</td>
</tr>
<tr>
<td>FORMS45_PATH</td>
<td>$ORACLE_HOME/forms45/demos/start $ORACLE_HOME/forms45/plsqlib</td>
</tr>
<tr>
<td>FORMS45.UNKNOWN</td>
<td>Points to the directory where your Tk2Motif.rgb file resides.</td>
</tr>
</tbody>
</table>

Table 6 – 3 Required Environment Variables

Synchronization Demonstration

This demonstration highlights the automatic synchronization of multiple layouts of the same data. You can change the data in any of the layouts, and corresponding values are mirrored without writing a single line of code.

The file included is sync.fmb.

To run the demonstration, perform the following steps:

1. Generate the synchronization module by entering:
   genform45m sync scott/tiger

2. Run the demonstration by entering:
   runform45m sync scott/tiger
MDI Demonstration

This demonstration illustrates multiple forms operating in a Multiple Document Interface (MDI) framework.

The files included are mdi.fmb, mdi1.fmb, mdi2.fmb, and mdi3.fmb.

To run the demonstration, perform the following steps:

1. Generate the MDI module by entering:
   
   ```
   genform45m mdi scott/tiger
   genform45m mdi1 scott/tiger
   genform45m mdi2 scott/tiger
   genform45m mdi3 scott/tiger
   ```

2. Run the demonstration by entering:
   
   ```
   runform45m mdi scott/tiger
   ```

Toolbar Demonstration

This demonstration illustrates the use of an iconic toolbar and how you can use it to navigate through the data in a form. In addition, this demonstration uses the current row attribute to highlight the current row of a multi-record block, if the block contains data.

The files included are toolbar.fmb and toolbar.pll.

To run this demonstration, perform the following steps:

1. Generate the toolbar module by entering:
   
   ```
   genform45m toolbar scott/tiger
   ```

2. Run the demonstration by entering:
   
   ```
   runform45m toolbar scott/tiger
   ```

Drag Demonstration

This demonstration gives an example of how to implement drag and drop in an application using the EMP/DEPT tables. The application is based on a library called drag.pll, which provides generic code on how to drag one or multiple objects in an application.

The files included are drag.fmb and drag.pll.

To run this demonstration, perform the following steps:

1. Generate the drag module by entering:
   
   ```
   genform45m drag scott/tiger
   ```
2. Run the demonstration by entering:
   runform45m drag scott/tiger

Oracle Chess Demonstration

The files included are: chess.fmb, chess.mmb, chess.pl1, chess.sql, king.ico, queen.ico, bishop.ico, knight.ico, rook.ico, pawn.ico. To run this demonstration, perform the following steps:

1. Install the required tables by running the chess.sql script as scott/tiger.
2. Generate the chess module by entering:
   $ genform45m chess scott/tiger
   $ genform45m chess scott/tiger module_type=menu

   The TK23_ICON or ORACLE_ICON environment variables must be set to the directory that includes the six icon files. The icon files reside in the $ORACLE_HOME/forms45/demo directory.
3. Run the demonstration by entering:
   $ runform45m chess scott/tiger

Game of 4othello Demonstration

The file included is 4othello.fmb. To run this demonstration, perform the following steps:

1. Generate the 4othello module by entering:
   $ genform45m 4othello scott/tiger

2. Run the demonstration by entering:
   $ runform45m 4othello scott/tiger
This chapter explains how to administer and use the character mode and Motif versions of Reports release 2.5 on your UNIX-based operating system.

The topics covered in this chapter are:

- Product Documentation
- Administering Reports
- Using Reports
Product Documentation

The information in this chapter supplements the information provided in:

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

README.doc file

The README.doc file is located in the $ORACLE_HOME/reports25/doc directory. This file, which outlines administrative procedures and describes the latest known restrictions, serves as an online supplement to the printed documentation.

Administering Reports

Executables

The Reports executables, listed in the following table, initially appear in the $ORACLE_HOME/bin subdirectory.

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name on UNIX</th>
<th>Platform-Independent Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convert Reports</td>
<td>r25convm (Motif)</td>
<td>convrep25m (Motif)</td>
</tr>
<tr>
<td>Move Reports and Printer</td>
<td>r25mrepm (Motif)</td>
<td>moverep25m (Motif)</td>
</tr>
<tr>
<td>Definitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runtime</td>
<td>r25run (char mode)</td>
<td>runrep25 (char)</td>
</tr>
<tr>
<td></td>
<td>r25runm (Motif)</td>
<td>runrep25m (Motif)</td>
</tr>
<tr>
<td>Designer</td>
<td>r25desm (Motif)</td>
<td>orarep25m (Motif)</td>
</tr>
</tbody>
</table>

Table 7 – 1 Reports Executables

Note: Reports Designer is not available in character mode.
When you enter an executable on the command line, it generally has the following form:

$ executable keyword1='value1' keyword2='value2'

where:

- **keyword** is not case-sensitive. Set *keyword* equal to a *value* to construct the argument on the command line.
- **value** is the value of the *keyword*. The values for the keywords `source`, `dest`, `cmdfile`, `term`, `desname`, `desformat`, `dname`, and `sname` are case-sensitive. This means the value specified for these keywords must be in the same case as the corresponding filename.

**See Also:** See the “Executables” chapter in the *Reports Reference Manual* for more information about arguments.

### Relinking Reports

Each time Graphics is called by Reports, a separate process is spawned unless Graphics is linked into the Reports executables. Since Reports is shipped without Graphics linked in, you can relink with Graphics (if you are licensed to use Graphics) to avoid creating extra processes.

Enter the following to relink with Graphics:

```bash
$ cd $ORACLE_HOME/reports25/lib
$ make -f ins_reports25.mk mginstall
```

Enter the following to relink without Graphics:

```bash
$ cd $ORACLE_HOME/reports25/lib
$ make -f ins_reports25.mk minstall
```

### Edit Preferences

Tools Options is a menu item on the Reports 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 the **Save Preferences** button 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 `$HOME/prefs.ora`. 

---

---
Report Doc Option

Use the Report Doc option, which is accessed from the Administration submenu of the File Menu, to create a list of the settings of reports if the reports are stored in the database. Report Doc is useful for keeping a record of all your reports and for debugging reports. To perform Report Doc in batch mode, use runrep to run one of the three available reports on reports. The reports are located in the SORACLE_HOME/reports25/admin/report directory. The following examples show how to use Report Doc in batch mode with a report.

Motif portrait output:

```bash
$ runrep25m report=srwdocpb.rdf userid=username \
    batch=yes report_name=name_of_user’s_report destype=file
```

Motif landscape output:

```bash
$ runrep25m report=srwdoclb.rdf userid=username \
    batch=yes report_name=name_of_user’s_report destype=file
```

Text Format Filename Extension

When a report is saved in text format, a .rex filename extension is appended to the filename. For example, ASCII text might be contained in a file named `emp.rex`.

Setting Maximum Limits in Menu Fields

The size limits for the Reports menu fields are as listed in the Reports Reference Manual.

User Exits

See Chapter 5, “Completing Developer/2000 Installation”, for information on how to create user exits in Reports.

Call Interface

Using the information in the Reports Reference Manual, and the supplied makefile, SORACLE_HOME/ins_reports25/lib/reports25.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()`, `rwcrb()`, `rw2rrb()`, `rwcrun()`, `rw2run()`, `rwcsrb()`, `rw2srb()`.

2. Compile the program and generate object code.

3. To link the demonstrations of call interface for Reports, enter the following commands:

   For character mode runtime, enter:
   ```bash
   $ make -f ins_reports25.mk r25runo
   ```

   For bitmap runtime, enter:
   ```bash
   $ make -f ins_reports25.mk r25runmo
   ```

   For bitmap runtime and Graphics, enter:
   ```bash
   $ make -f ins_reports25.mk r25runmgo
   ```

   For bitmap designer, enter:
   ```bash
   $ make -f ins_reports25.mk r25desmo
   ```

   For bitmap designer and Graphics, enter:
   ```bash
   $ make -f ins_reports25.mk r25desmgo
   ```

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

   For character mode runtime, enter:
   ```bash
   $ make -f ins_reports25.mk r25runo
   RXOCIQA="ociobj1.o ociobj2.o..."
   ```

   For bitmap runtime, enter:
   ```bash
   $ make -f ins_reports25.mk r25runmo
   RXOCIQA="ociobj1.o ociobj2.o..."
   ```

   For bitmap runtime and Graphics, enter:
   ```bash
   $ make -f ins_reports25.mk r25runmgo
   RXOCIQA="ociobj1.o ociobj2.o..."
   ```

   For bitmap designer, enter:
   ```bash
   $ make -f ins_reports25.mk r25desmo
   RXOCIQA="ociobj1.o ociobj2.o..."
   ```

   For bitmap designer and Graphics, enter:
   ```bash
   $ make -f ins_reports25.mk r25desmgo
   RXOCIQA="ociobj1.o ociobj2.o..."
   ```
Filename Extensions

The files you create with Reports have the following extensions: .pll, .prt, .rdf, .rep, and .rex. These file extensions are case-sensitive, and therefore must be specified in lowercase.

See Also: See the “Storage” chapter in the Reports Reference Manual 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: See the “Administration” chapter in the Reports Reference Manual 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/reports25/admin/printer directory. The following set of printer definitions is shipped with your UNIX-based system:

- **bold.prt**: a generic printer file that supports bold attributes and 66x80 page size
- **dec.prt**: a generic printer file for most DEC printers; it supports 66x80 page sizes for the LN03, LPS40, LP05, and LA50 printers
- **dec180.prt**: same as decland.prt, but supports 66x180 page size
- **decland.prt**: a generic printer file that prints in landscape mode and supports 66x132 page sizes
- **decwide.prt**: same as dec.prt, but supports 66x132 page size
- **dfilt.prt**: a generic printer file that ignores highlighting attributes and supports 66x80 page size
- **hpl.prt**: a generic printer file for the HP LaserJet printer that supports 66x80 page size
- **hplwide.prt**: same as hpl.prt, but supports 66x80 page sizes
- **no_ff.prt**: a generic printer file with no formfeed between pages and supports 66x80 page size
psl132.prt character mode PostScript printer file that prints in landscape mode and supports 66x132 page size
ps1180.prt character mode PostScript printer file that prints in landscape mode and supports 66x180 page size
ps2page.prt character mode PostScript printer file that prints two 66x80 portrait pages on one landscape page
psland.prt character mode PostScript printer file that prints in landscape mode and supports 66x80 page size
psp132.prt character mode PostScript printer file that prints in portrait mode and supports 66x132 page size
psport.prt PostScript printer file that prints in portrait mode and supports 66x80 page size
wide.prt a generic printer file that ignores highlighting attributes and supports 66x132 page size
wide180.prt same as wide.prt, but supports 66x180 page sizes

Creating or Modifying Terminal Definitions

The file containing the keypad mappings for your UNIX-based system is located in the $ORACLE_HOME/reports25/admin/terminal directory.

See Also: See the Oracle7 Installation Guide for Intel SVR4 UNIX for more information on installing and using Oracle Terminal on your UNIX-based system.

Modifying the Tk2Motif File

Enter the following in your Tk2Motif.rgb file to ensure proper font sizing regardless of the display resolution setting:

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

Setting the Environment Variables

This section describes how to set the REPORTS25_TERMINAL, REPORTS25_PATH, ORACLE_TERM, REPORTS25_TMP, TK23_TERMINAL, and TK23_ICON environment variables.

A directory specifies the directory where a file resides. A path specifies the colon-delimited list of directories where a file can reside.
REPORTS25_TERMINAL

If set, REPORTS25_TERMINAL points to the directory where the terminal files for Reports reside.

For the Bourne shell, enter the following:

$ REPORTS25_TERMINAL=directory
$ export REPORTS25_TERMINAL

For the C shell, enter the following:

% setenv REPORTS25_TERMINAL directory

REPORTS25_PATH

This variable is used to locate external objects that you use in your reports. By default this variable is set to $ORACLE_HOME/reports25.

Enter the following to set REPORTS25_PATH:

For the Bourne shell, enter the following:

$ REPORTS25_PATH=path; export REPORTS25_PATH

For the C shell, enter the following:

% setenv REPORTS25_PATH path

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:

$ r25run TERM=device

You can find the Reports terminal file for your UNIX-based system in the $ORACLE_HOME/reports25/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, tk2cvt100.res.

See Table 7 – 2 for a list of device names to which you can set the ORACLE_TERM environment variable.
For the Bourne shell, enter the following:

```
$ ORACLE_TERM=device; export ORACLE_TERM
```

For the C shell, enter the following:

```
% setenv ORACLE_TERM device
```

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Description</th>
<th>File</th>
</tr>
</thead>
<tbody>
<tr>
<td>vt100</td>
<td>vt100 (or emulator, including xterm)</td>
<td>rwcvt100.res</td>
</tr>
<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>

Table 7–2 Supported Terminals for Character Mode Reports

If you do not find the required Reports file, see the “Create and Edit Terminal Files” section on page 5–21 for instructions on creating a terminal file for your device.

See Also: See the Oracle7 Administrator’s Reference for UNIX for more information on installing and using Oracle Terminal on your UNIX-based system.

**REPORTS25_TMP**

This variable establishes the directory where Reports will store Reports temporary files. The default directory is /tmp, or enter the following to set REPORTS25_TMP:

For the Bourne shell, enter the following:

```
$ REPORTS25_TMP=directory; export REPORTS25_TMP
```

For the C shell, enter the following:

```
% setenv REPORTS25_TMP directory
```

**TK23_TERMINAL**

If set, TK23_TERMINAL points to the directory where the terminal files for the Oracle Toolkit reside.
For the Bourne shell, enter the following:

$ TK23_TERMINAL=directory; export TK23_TERMINAL

For the C shell, enter the following:

% setenv TK23_TERMINAL \
$ORACLE_HOME/guicommon/tk23/admin/terminal

TK23_ICON

If set, TK23_ICON points to the path where the icon buttons for the Oracle Toolkit reside.

For the Bourne shell, enter the following:

$ TK23_ICON=path; export TK23_ICON

For the C shell, enter the following:

% setenv TK23_ICON path

Specifying Printers and Queues

The script $ORACLE_HOME/reports25/admin/printer/spoolcmd.sh is called when you send a file to the printer. This file uses lp to print. If your printer setup is different, you may need to modify the file.

For more information, see the spoolcmd.sh script.

Using Reports

Starting Reports Runtime

Reports Runtime allows you to run reports built in the Designer.

To start the Motif mode version of Reports Runtime, enter:

$ runrep25m filename

where filename is the name of your report. If you do not enter the name of a file, a main menu appears from which you can open a report.

To start the character mode version of Reports Runtime, enter:

$ runrep25 filename

where filename is the name of your report.
Starting Reports Designer

Reports Designer allows you to build reports to use with Reports. To start Reports Designer, enter:

$ orarep25m

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 the DESNAME parameter.

Sending Reports to Printer

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

To send reports to a printer:

1. Choose File—>Print or File—>Run. The Runtime Parameter Form is displayed.
   
   If you selected File—>Print, Printer is displayed as the DESTYPE, unless you suppressed this option.
   
   If you selected File—>Run, select a DESTYPE of 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 for use 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 using the File DESTYPE, 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 *<report name>*.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.
3. Select **Run Report**.

   The default mail type is UNIX mail. You can send reports through a different mail system, such as Oracle Office, by editing the `r25mail.sh` file, located in `$ORACLE_HOME/reports25/admin/mail`. The `r25mail.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 you ensure that 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**.

   **Suggestion:** To send the report output directly to the printer, go to the Printers dialog in Control Panel. 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 across all UNIX-based systems.

Escape to Host

For Escape to Host to work, ensure the SHELL environment variable is set to the applicable shell.

The following examples show how to set SHELL at the Bourne shell or the C shell.

For the Bourne shell, enter the following:

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

For the C shell, enter the following:

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

User Exits

See Chapter 5, “Completing Developer/2000 Installation”, for information on creating user exits in Reports.

Demonstration Files and Applications

The $ORACLE_HOME/reports25/demo directory contains the demonstration files.

Following are the procedures for installing the Reports demonstration table:

1. Create a user ID to store the demonstration tables in the database.
   
   For example, enter the following commands:
   
   ```
   sqlplus system/manager
   SQL> GRANT connect, resource TO user IDENTIFIED BY passwd;
   ```

2. Go to the reports25/demo/reqfiles directory.
   
   `$ cd reports25/demo/reqfiles`
3. Enter the following to load the demonstration tables:

$ sqlplus user/password @demobld
$ sqlplus user/password @advanced

For bitmap demonstrations, go to the reports/25/demo(bitmap directory and enter the following command:

$ runrep25m report_name userid=scott/tiger

Additional demo files may be included in the reports/25/demo/char directory. These are documented in the Building Reports Manual.
This chapter explains how to administer Graphics release 2.5 on your UNIX-based operating system.

The topics covered in this chapter are:

- Product Documentation
- Administering Graphics
- Using Graphics
Product Documentation

The information in this chapter supplements the information provided in:

- *Graphics 2.5 Developer’s Guide*
- *Graphics Reference Manual*

Online Help

This release provides `god.obd` and `gor.obd` online help files for Graphics. They are located in the `$ORACLE_HOME/graphics25/admin/help/US` directory.

To access online help using Oracle Book Motif, enter:

```
$ runbook22m filename
```

README.doc File

The `README.doc` file is located in the `$ORACLE_HOME/graphics25/doc` directory. This file outlines administrative procedures and describes the latest known restrictions.

Administering Graphics

Executable Files

The Graphics executables listed in the following table are installed in the `$ORACLE_HOME/bin` subdirectory.

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name on UNIX</th>
<th>Platform-Independent Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designer</td>
<td>g25desm</td>
<td>oragraph25m</td>
</tr>
<tr>
<td>Runtime</td>
<td>g25runm</td>
<td>rungraph25m</td>
</tr>
<tr>
<td>Batch</td>
<td>g25batm</td>
<td>batgraph25m</td>
</tr>
</tbody>
</table>

Table 8 – 1 Graphics Executables
Edit Preferences

Tools Option is a selection on the Tools menu that sets options for your Graphics session. It displays the Tools Option dialog box, in which you specify, design, and run preferences.

When you enter an executable on the command line, it generally has the following form:

```
$ executable_name keyword1=value1 keyword2=value2
```

Each `keyword=value` statement is called an argument. The `keyword=` portion of all arguments is not case-sensitive. However, the value portion of all arguments except `userid, print, copies, close, and quit` is case-sensitive.

Example

If you save a display as `Untitled`, and you want to see a runtime execution of the display, then enter:

```
$ rungraph25m openfile=Untitled
```

Using Graphics

Setting the Environment Variables

This section describes how to set the GRAPHICS25_PATH and ORACLE_PATH environment variables.

A `path` specifies the colon-delimited list of directories where your Graphics applications reside.

GRAPHICS25_PATH

The GRAPHICS25_PATH environment variable specifies where Graphics searches for files.

To set the GRAPHICS25_PATH environment variable, enter the following.

For the Bourne shell, enter the following:

```
$ GRAPHICS25_PATH=path; export GRAPHICS25_PATH
```

For the C shell, enter the following:

```
% setenv GRAPHICS25_PATH path
```
ORACLE_PATH

The ORACLE_PATH environment variable specifies where Oracle tools search for files.

To set the ORACLE_PATH environment variable, enter the following:

For the Bourne shell, enter the following:

$ ORACLE_PATH=path; export ORACLE_PATH

For the C shell, enter the following:

% setenv ORACLE_PATH path

Starting Graphics Runtime

Graphics Runtime allows an end-user to run applications created in the designer. To start Graphics Runtime, enter:

$ rungraph25m userid/password filename

where filename is the name of your application. If you do not enter the name of a file, a main menu appears from which you can open a document.

Starting Graphics Designer

Graphics Designer allows the application developer to build dynamic graphical displays using charts, graphics, images, sounds, and PL/SQL programs to interpret database information.

To start Graphics Designer, enter:

$ oragraph25m

User Exits

See Chapter 5, “Completing Developer/20000 Installation”, for information on how to create user exits in Graphics.
This chapter explains how to administer the Motif version of Procedure Builder release 1.5 on your UNIX-based operating system. The topics covered in this chapter are:

- Product Documentation
- Administering Procedure Builder
- Using Procedure Builder
Product Documentation

The information in this chapter supplements the information provided in:

- Procedure Builder Developer’s Guide

README.doc File

The README.doc file, located in the $ORACLE_HOME/procbuilder/doc directory, outlines administrative procedures and describes known restrictions.

Administering Procedure Builder

Executables

The executables appear in the $ORACLE_HOME/bin subdirectory. The Procedure Builder executables are listed in Table 9 – 1:

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name on UNIX</th>
<th>Platform-independent Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runtime</td>
<td>de15desm</td>
<td>plbild15m</td>
</tr>
</tbody>
</table>

Table 9 – 1 Procedure Builder Executables

Environment Variable

The ORAPLSQLLOADPATH environment variable tells Procedure Builder where to look for PL/SQL files.

To set ORAPLSQLLOADPATH, enter the following:

For the Bourne shell, enter the following:

```
$ ORAPLSQLLOADPATH=path; export ORAPLSQLLOADPATH
```

For the C shell, enter the following:

```
% setenv ORAPLSQLLOADPATH path
```

A path specifies the colon-delimited list of directories where a file can reside.
Using Procedure Builder

Starting Procedure Builder Runtime

To start the Motif mode version of Procedure Builder Runtime, enter:
$ plbild15m filename

To start the line mode version of Procedure Builder Runtime, enter:
$ plbild15m mode=line filename
This chapter explains how to administer Oracle Browser version 2.0 on your UNIX-based operating system.

The topics covered in this chapter include:

- Product Documentation
- Installing the Oracle Browser Client
- Installing the Oracle Browser Database Tables (Server)

*Note*: Oracle Browser is a graphical client, and only runs on UNIX under the Motif graphical user interface.
Product Documentation

The information provided in this chapter supplements the following Browser Version 2.0 documentation:

- Oracle Browser User’s Guide
- Oracle Browser Reference Manual
- Oracle Browser System Administrator’s Guide

Online Help and Documentation

The online help files brw20.obd (Browser) and bra20.obd (Browser Administrator’s Utility) can be viewed from within Browser using the context-sensitive and menu-searchable features provided by Oracle Help. You can also view these files using Oracle Book. The help files are located in the $ORACLE_HOME/browser20/admin/help/US directory.

To access online help or online documentation using Oracle Book for Motif, enter:

$ runbook22m filename

README.doc File

The README.doc file, located in the $ORACLE_HOME/browser20/doc directory, provides a list of changes to Oracle Browser since the last release, describes known restrictions, and outlines installation and administrative procedures.
Installing the Oracle Browser Client

The .res Files

The Browser resource files, `brw20.res` (Browser) and `bra20.res` (Browser Administrator’s Utility), reside in the $ORACLE_HOME/browser20/admin/resource/US directory.

The .msb File

The Browser message file, `brw20us.msb`, resides in the $ORACLE_HOME/browser20/mesg directory.

Executable File

The Oracle Browser executables are installed in the $ORACLE_HOME/bin subdirectory. The Oracle Browser executable names are listed in the following table:

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name on UNIX</th>
<th>Platform-Independent Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Browser User Edition</td>
<td>brw20</td>
<td>browser20m</td>
</tr>
<tr>
<td>Oracle Browser Extended Edition</td>
<td>brwe20</td>
<td>browser20em</td>
</tr>
<tr>
<td>Oracle Browser Administrator’s Utility</td>
<td>brwa20</td>
<td>browser20am</td>
</tr>
</tbody>
</table>

Table 10 – 1 Oracle Browser Executables

Default Font and Color

Installing the Oracle Browser Database Tables (Server)

Running the .SQL Upgrade and Installation Scripts Manually

Attention: Before running any script, particularly the End User Layer (EUL) scripts, make sure the working directory is set to $ORACLE_HOME/browser20.

There are four SQL scripts provided with Oracle Browser that are run on the server:

- **brwupg20.sql**: upgrades Browser V1 system file tables to Browser V2.
- **brwins20.sql**: creates the tables that enable you to save queries in the database.
- **brwprf20.sql**: installs the Browser Profile table (to control Data and Schema editing).
- **brwble20.sql**: builds the End User Layer tables.

You may not need to run all of these scripts, depending on whether you are upgrading from Browser V1 or intend to use the Data and Schema Editors or the Administrator’s Utility.

Attention: If you are upgrading from Browser V1, run the **brwupg20.sql** script instead of running the **brwins20.sql** script.

The **brwupg20.sql** Script

The **brwupg20.sql** script, located in the admin directory, is used to upgrade the Browser 1.0 to 2.0. In particular, it creates the browser_docs_sql table and other new V2 tables. It does not change the browser_docs table.

You only need to run this script if you are upgrading from Browser V1. Browser V2 can read Browser V1 queries, regardless of whether you run this script, but this script builds the tables that enable you to save queries in the database.
The `brwins20.sql` Script

Attention: If you are upgrading from Browser V1, run the `brwupg20.sql` script instead of running the `brwins20.sql` script.

Run this script as the SYSTEM user. This script will create the necessary tables to save queries in the database. There are two main tables: `BROWSER_DOCS_`, which stores all the information about a query and `BROWSER_GRANTS_`, which stores security information (privileges).

You need to run this script only if you plan to allow users to save queries to the database. This script does not effect any other Browser functions.

Advantages of running this script:

If you provide users the ability to save queries to the database, these queries can be made available to other users. Browser creates a view based on any query saved in the database, which can be queried just like a table. Refer to the “Performing Administration Tasks” section in Chapter 1 of the Oracle Browser System Administrator’s Guide for details.

The `brwprf20.sql` Script

Run this script as the SYSTEM user. This script creates the Browser Profile table, which is used to control Data and Schema editing, Browser Administrator Utility use, Set Roles privilege use, and End User Layer access. The Schema Editor, Data Editor, Set Roles, and Administrator Utility are disabled if this table is not present, whereas both the End User Layer and Native dictionaries are enabled by default.

This script has no other impact on Browser other than to load the Browser Profile table. See the “Performing Administration Tasks” section in Chapter 1 of the Oracle Browser System Administrator’s Guide for details.
Editing the Browser Profile Table

The `brwprf20.sql` script assigns all Browser profile privileges to the SYSTEM user by default. For other users or roles to have these privileges, you must edit this table (insert the appropriate rows into the table). The following are the privileges controlled by the Profile table:

<table>
<thead>
<tr>
<th>Privileges</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator Privileges for End-User Layer</td>
<td>Disabled</td>
</tr>
<tr>
<td>Data Editing Privileges</td>
<td>Disabled</td>
</tr>
<tr>
<td>Schema Editing Privileges</td>
<td>Disabled</td>
</tr>
<tr>
<td>End-User Dictionary Table Access</td>
<td>Enabled</td>
</tr>
<tr>
<td>Native Dictionary Table Access</td>
<td>Enabled</td>
</tr>
<tr>
<td>Set Role Privileges</td>
<td>Disabled</td>
</tr>
</tbody>
</table>

Table 10 – 2 Browser Profile Privileges

The following example shows how to enable all privileges for a user called BROWSER. You can use SQL*Plus or the Browser Data Editor to edit the profile table. To use the Browser Data Editor:

1. Connect as the SYSTEM user.
2. From the Data menu, select Data Table BROWSER_PROFILE.
3. Select the PRODUCT, USERID, ATTRIBUTE, and CHAR_VALUE columns.
4. Execute the Query.
5. From the Data Menu, select Show Data Editor.
6. From the Edit Menu, select Insert.
7. Enter 6 as the number of rows.
8. Input the following values:

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>USERID</th>
<th>ATTRIBUTE</th>
<th>CHAR_VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Browser</td>
<td>BROWSER</td>
<td>BROWSER_ADMIN</td>
<td>ENABLED</td>
</tr>
<tr>
<td>Oracle Browser</td>
<td>BROWSER</td>
<td>DATA_EDIT</td>
<td>ENABLED</td>
</tr>
<tr>
<td>Oracle Browser</td>
<td>BROWSER</td>
<td>SCHEMA_EDIT</td>
<td>ENABLED</td>
</tr>
<tr>
<td>Oracle Browser</td>
<td>BROWSER</td>
<td>NATIVE_DICTIONARY</td>
<td>ENABLED</td>
</tr>
<tr>
<td>Oracle Browser</td>
<td>BROWSER</td>
<td>ENDUSER_DICTIONARY</td>
<td>ENABLED</td>
</tr>
<tr>
<td>Oracle Browser</td>
<td>BROWSER</td>
<td>SET_ROLES</td>
<td>ENABLED</td>
</tr>
</tbody>
</table>

Table 10 – 3 Values for Browser Data Editor
9. From the Data Menu, choose Commit Data.

To edit the Browser profile table using SQL*Plus instead of the Browser Data Editor, connect as the SYSTEM user, and execute the following SQL statements:

```sql
SQL> INSERT INTO browser_profile VALUES
      ( 'Oracle Browser', 'BROWSER', 'BROWSER_ADMIN', null, null, 'ENABLED', null, null);

SQL> INSERT INTO browser_profile VALUES
      ( 'Oracle Browser', 'BROWSER', 'DATA_EDIT', null, null, 'ENABLED', null, null);

SQL> INSERT INTO browser_profile VALUES
      ( 'Oracle Browser', 'BROWSER', 'SCHEMA_EDIT', null, null, 'ENABLED', null, null);

SQL> INSERT INTO browser_profile VALUES
      ( 'Oracle Browser', 'BROWSER', 'NATIVE_DICTIONARY', null, null, 'ENABLED', null, null);

SQL> INSERT INTO browser_profile VALUES
      ( 'Oracle Browser', 'BROWSER', 'ENDUSER_DICTIONARY', null, null, 'ENABLED', null, null);

SQL> INSERT INTO browser_profile VALUES
      ( 'Oracle Browser', 'BROWSER', 'SET_ROLES', null, null, 'ENABLED', null, null);

SQL> COMMIT;
```
The `brwble20.sql` Script

To install the End-User Layer (EUL) tables, run the `brwble20.sql` script as SYSTEM user. The script creates a new user, who becomes the owner of the End-User Layer.

**Attention:** Before running this script make sure you run the `brwprf20.sql` script, which creates the Browser Profile table. Refer to the “The `brwprf20.sql` Script” section on page 10–5.

1. The `brwble20.sql` script prompts you to specify the name of the user who will own the EUL. The script then prompts you for your password.

2. The script prompts you to enter a tablespace name. The default is SYSTEM.

3. The script prompts you to specify the `end_user_layer_connect_string`. Make sure you type the entire string. For example, enter:

   ```
eulowner:eulowner@aliasname
   ```

   where:

   `eulowner` is the username you specified.

   `aliasname` is a SQL*NET v2 alias specified in your `tnsnames.ora` file.

4. The script prompts you to indicate whether you want to use PUBLIC synonyms. The default answer is Yes (Y).

Make sure you update the Browser Profile table to give BROWSER_ADMIN privileges to any other users who need to use the Administrator’s Utility. See the “Editing the Browser Profile Table” section, or “Performing Administration Tasks” in Chapter 1 of the *Oracle Browser System Administrator’s Guide* for details.
End User Layer Issues

To make the EUL accessible to a user, the following criteria must be met:

- Private Synonyms or Public Synonyms must be created for the user by running either eulpris.sql or eulpubs.sql.
- The ENDUSER_DICTIONARY attribute must be ENABLED in the BROWSER_PROFILE table (it is enabled by default).
- The NATIVE_DICTIONARY attribute is optional, but if it is ENABLED, to access the EUL you need to enter DICTIONARY = ENDUSER as a Command Line Option or through the Preferences dialog (accessed from the Browser Data menu) before running Browser.

If any of these criteria is not met, the EUL will not be accessible.

Building Demonstration Tables Manually

The tutorial in the Oracle Browser User’s Guide uses sample data that resides in your Oracle7 Server database. The demonstrations described in this document may differ from the samples you see on your screen.

You need only build the demonstration tables once. If you want to install demonstration tables automatically, the Installer provides this option with a prompt during installation.

To build the demonstration tables manually, perform the following steps:

1. Create a new account in the database with the username browser and the password browser.
2. Build the sample tables using the brwld20.sql script. Enter the following commands at the system prompt:
   
   ```
   $ cd $ORACLE_HOME/browser20/demo
   $ sqlplus browser/browser @brwld20.sql
   ```

   where browser is the username and also the password. Do not try to use a different username or password. If you are a remote user, append your network connect string to the browser username.
Dropping Demonstration Tables

To drop the demonstration tables, use the `brwdrp20.sql` script. Enter the following at the system prompt:

```
$ cd $ORACLE_HOME/browser20/demo
$ sqlplus browser/browser @brwdrp20.sql
```
This chapter explains how to administer Oracle Book release 2.2 on your UNIX-based operating system.

The topics covered in this chapter are:

- Product Documentation
- Administering Oracle Book
- Using Oracle Book
Product Documentation

The information in this chapter supplements the information provided in:

- Oracle Book User’s Guide
- Oracle Book Designer’s Guide
- Oracle Book Designer’s Tutorial
- Oracle Book SGML Designer’s Guide

Online Help

This release provides the product documentation as the online help files for Oracle Book. These files are located in the $ORACLE_HOME/book22/doc directory:

- book.obd (User’s Guide)
- bookdes.obd (Designer’s Guide)
- tutorial.obd (Designer’s Tutorial)
- cnv.obd (Converting Oracle Book V1.0 to V2)

To access online help using Oracle Book Motif, enter:

$ runbook22m filename

README.doc File

The README.doc file, located in the $ORACLE_HOME/book22/doc directory, provides a list of changes to Oracle Book since the last release. This file outlines administrative procedures and describes known restrictions.

The ob2html.doc file, located in the same directory, provides information on installing the HTML converter component.
Administering Oracle Book

Executables

The executables appear in the $ORACLE_HOME/bin subdirectory. The Oracle Book executables are listed in the following table.

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name on UNIX</th>
<th>Platform-Independent Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runtime</td>
<td>b22runm (Motif)</td>
<td>runbook22m</td>
</tr>
<tr>
<td></td>
<td>b22run (char. mode)</td>
<td>runbook22</td>
</tr>
<tr>
<td>Designer</td>
<td>b22desm</td>
<td>orabook22m</td>
</tr>
<tr>
<td>Converter</td>
<td>b22convm</td>
<td>convbook22m</td>
</tr>
<tr>
<td>HTML Converter</td>
<td>ob2htmlm</td>
<td>book22tohtmlm</td>
</tr>
</tbody>
</table>

Table 11–1 Oracle Book Executables

Preference File

Users can modify information in the default.obs file located in their home directory to suit their own particular requirements. Administrators can place a global copy of this file in $ORACLE_HOME/book22/admin.

Environment Variables

This section describes how to set the BOOK2_DIR and ORACLE_TEMP environment variables.

A path specifies the colon-delimited list of directories where a file can reside. A directory specifies the directory where a file resides.

BOOK2_DIR

This variable tells Oracle Book where to look for documents not found in the local directory.

To set the BOOK2_DIR environment variable, enter the following:

For the Bourne shell, enter the following:

```
$ BOOK2_DIR=path; export BOOK2_DIR
```

For the C shell, enter the following:

```
% setenv BOOK2_DIR path
```
ORACLE_TEMP

This variable establishes the directory in which Oracle Book stores temporary files. The default directory is the user’s home directory. To set ORACLE_TEMP to a different directory, enter the following:

For the Bourne shell, enter the following:

```
$ ORACLE_TEMP=directory; export ORACLE_TEMP
```

For the C shell, enter the following:

```
% setenv ORACLE_TEMP directory
```

ORACLE_TERM

If the TERM environment variable is not already set to a supported device name, you must set ORACLE_TERM before logging into Oracle Book to use the character mode implementation of the runbook component. The ORACLE_TERM environment variable setting overrides the TERM environment variable setting.

See Table 11 – 2 for a list of device names to which you can set the ORACLE_TERM environment variable.

For the Bourne shell, enter the following:

```
$ ORACLE_TERM=device_name; export ORACLE_TERM
```

For the C shell, enter the following:

```
% setenv ORACLE_TERM device_name
```
The following table provides information on the supported environment settings and the terminal files located in the `book22/admin-terminal/US` directory.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Device Name</th>
<th>Terminal Description</th>
<th>Terminal File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>sun5</td>
<td>sun5</td>
<td>Sun Type 5 console (cmdtool)</td>
<td>obcsun5.res</td>
</tr>
<tr>
<td>sun</td>
<td>sun</td>
<td>Sun Type 4 console (cmdtool)</td>
<td>obcsun.res</td>
</tr>
<tr>
<td>vt100</td>
<td>vt100</td>
<td>vt100 terminal</td>
<td>obcvt100.res</td>
</tr>
<tr>
<td>vt220</td>
<td>vt220</td>
<td>vt220 terminal</td>
<td>obcvt220.res</td>
</tr>
<tr>
<td>hft</td>
<td>hft</td>
<td>IBM hft mono console</td>
<td>obchft.res</td>
</tr>
<tr>
<td>xhft</td>
<td>xhft</td>
<td>IBM hft xterm (xterm using hft keyboard)</td>
<td>obcxhft.res</td>
</tr>
<tr>
<td>xsun</td>
<td>xsun</td>
<td>Sun xterm using type 4 keyboard</td>
<td>obcxsun.res</td>
</tr>
<tr>
<td>xsun5</td>
<td>xsun5</td>
<td>Sun xterm using type 5 keyboard</td>
<td>obcxsun5.res</td>
</tr>
</tbody>
</table>

Table 11 – 2 Supported Terminals for Character Mode Oracle Book

Using Oracle Book

Starting Oracle Book Runtime

Oracle Book Runtime allows you to view documents online.

To start the Motif version of Oracle Book Runtime, enter:

```
$ runbook22m filename
```

To start the character mode version of Oracle Book Runtime, enter:

```
$ runbook22 filename
```

where `filename` is the name of your document. If you do not enter the name of a file, a main menu appears from which you can open a document.

Starting Oracle Book Designer

Oracle Book Designer allows you to build documents for use with Oracle Book. To start Oracle Book Designer, enter:

```
$ orabook22m filename
```
where filename is the name of your Oracle Book build file. If you do not enter the name of a file, a main menu appears from which you can open a document.

Starting Oracle Book Converter

Oracle Book Converter changes Oracle Book version 1 source files into Oracle Book version 2 source files. To start Oracle Book Converter, enter:

$ convbook22m filename

where filename is the name of your Oracle Book version 1 build file. If you do not enter the name of a file, a main menu appears from which you can open a document.

Starting Oracle Book HTML Converter

Oracle Book HTML Converter changes Oracle Book source files into HTML source files. To start Oracle Book HTML Converter, enter:

$ book22tohtmlm filename htmldir

where:

filename is the Oracle Book document.

htmldir is the directory where you want your HTML files to reside.

Demonstration File

Demonstration files are located in the $ORACLE_HOME/book22/demo directory.

To run the Oracle Book demonstrations, enter the following commands:

$ cd $ORACLE_HOME/book22/demo
$ runbook22m hawaii.obd
$ runbook22m context.obd

The demonstration is a document describing Developer/2000 and related products. To navigate through it, either click on product names or use the Navigate menu.
Oracle Toolkit Objects and Motif Widgets

This appendix describes various Oracle Toolkit objects and the Motif widgets from which the Oracle Toolkit objects are built. This information is presented for those users who want to change their Motif widgets by modifying the TK2Motif resource file. The following information is provided for each widget:

- the object name
- the widget name
- the widget class or subclass
- a description of the widget
The Oracle Toolkit contains the following objects:

- Oracle Tool
- Window
- Menu
- Drawn View
- Label
- Checkbox
- Push Button
- Radio Button
- Radio Button Group
- Text Field
- Text Editor
- Text List
- Scroll Bar
- Popup List
- Scroll Box
- Alert
- File Dialog
- Color Dialog
Oracle Tool Object

Table A – 1 describes the options of the Oracle Tool object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Tool</td>
<td>Tk2Motif/ApplicationShell</td>
<td>The Oracle Tool widget is the root of the widget hierarchy for the Oracle Toolkit. It is the widget from which all other widgets descend. The class name is Tk2Motif for all tools; thus a resource of the form Tk2Motif<em>fontList will apply to all Oracle Toolkit/Motif based tools, while one of the form browser</em>fontList will apply to Oracle Data Browser only.</td>
</tr>
</tbody>
</table>

Table A – 1 Oracle Tool Options

Window Object

Table A – 2 describes the options of the Window object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>window_shell</td>
<td>TopLevelShell</td>
<td>The window_shell is the topmost widget for application windows; it is a TopLevelShell for main windows and a TransientShell for dialogs and palettes.</td>
</tr>
<tr>
<td>window_shell</td>
<td>TransientShell</td>
<td>A container and geometry manager for the various possible subareas of a window (menubar, content view, horizontal and vertical scrollbar alleys).</td>
</tr>
<tr>
<td>window_topmgr</td>
<td>XmDrawingArea</td>
<td>Horizontal and vertical scrollbar alleys; usually contain scrollbars.</td>
</tr>
</tbody>
</table>

Table A – 2 Window Object Options
**Menu Object**

Table A – 3 describes the options of the Menu object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>menubar</td>
<td>XmRowColumn</td>
<td>A window's menubar.</td>
</tr>
<tr>
<td>menu_item</td>
<td>XmCascadeButton</td>
<td>Various types of menu items; XmCascadeButton for menubar items and items with submenus; XmPushButton for simple items; XmPushButtonGadget for checkbox and radio items; XmSeparatorGadget for separator lines.</td>
</tr>
<tr>
<td>menu_item</td>
<td>XmPushButton</td>
<td></td>
</tr>
<tr>
<td>menu_item</td>
<td>XmToggleButtonGadget</td>
<td></td>
</tr>
<tr>
<td>menu_item</td>
<td>XmSeparatorGadget</td>
<td></td>
</tr>
<tr>
<td>popup_submenu</td>
<td>XmMenuShell</td>
<td>Parent for a pulldown submenu.</td>
</tr>
<tr>
<td>submenu</td>
<td>XmRowColumn</td>
<td>Container for a pulldown submenu.</td>
</tr>
</tbody>
</table>

**Drawn View Object**

The Drawn View object is an all-purpose scrollable container for other controls, and an area that can be painted by the application. It consists of two or three widgets, depending on configuration. Table A – 4 describes the options of the Drawn View object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>drawn</td>
<td>UiDrawnView/ XmDrawingArea</td>
<td>An area in which shadow borders are drawn, if present; otherwise, clip window for canvas.</td>
</tr>
<tr>
<td>canvas_clip</td>
<td>UiDrawnView/ XmDrawingArea</td>
<td>Clip window for canvas: used when borders present only. Always completely obscured by canvas.</td>
</tr>
<tr>
<td>canvas</td>
<td>XmDrawingArea</td>
<td>Scrollable canvas.</td>
</tr>
</tbody>
</table>

**Table A – 3 Menu Object Options**

**Table A – 4 Drawn View Object Options**
Label Object

Table A – 5 describes the options of the Label object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>label</td>
<td>XmLabel</td>
<td>Used for static text.</td>
</tr>
</tbody>
</table>

Table A – 5 Label Object Options

Checkbox Object

Table A – 6 describes the options of the Checkbox object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>checkbox</td>
<td>XmToggleButton</td>
<td>A nonexclusive two-state control; does not apply to checkboxes in menus.</td>
</tr>
</tbody>
</table>

Table A – 6 Checkbox Object Options

Push Button Object

Table A – 7 describes the options of the Push Button object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>pushb</td>
<td>XmPushButton</td>
<td>A simple button, when not in a menu, an alert, a file dialog or color dialog.</td>
</tr>
</tbody>
</table>

Table A – 7 Push Button Object Options

Radio Button Object

Table A – 8 describes the options of the Radio Button object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>radio</td>
<td>XmToggleButton</td>
<td>A two-state control, usually grouped with others so that only one can be selected at a time. Does not apply to radio buttons in menus.</td>
</tr>
</tbody>
</table>

Table A – 8 Radio Button Object Options
Radio Button Group Object

Table A – 9 describes the options of the Radio Button Group object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>radiog</td>
<td>UiDrawnView</td>
<td>A container for a group of mutually exclusive radio buttons.</td>
</tr>
</tbody>
</table>

Table A – 9 Radio Button Group Object Options

Text Field Object

Table A – 10 describes the options of the Text Field object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>field</td>
<td>XmTextField</td>
<td>A single-line area for entering text.</td>
</tr>
</tbody>
</table>

Table A – 10 Text Field Object Options

Text Editor Object

Table A – 11 describes the options of the Text Editor object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>tedit</td>
<td>XmText</td>
<td>A multiple-line area for entering and editing text.</td>
</tr>
</tbody>
</table>

Table A – 11 Text Editor Object Options

Text List Object

The Text List object is a scrollable area that presents a list of choices to the user. Table A – 12 describes the options of the Text List object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>uiTListForm</td>
<td>XmForm</td>
<td>Container for managing the size of the visible area.</td>
</tr>
<tr>
<td>tlistSW</td>
<td>XmScrolledWindow</td>
<td>Container for scrolling the list.</td>
</tr>
</tbody>
</table>

Table A – 12 Text List Object Options
### Scroll Bar Object

Table A – 13 describes the options of the Scroll Bar object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scrollbar</td>
<td>XmScrollbar</td>
<td>A scrollbar that is not a part of a text list or file dialog.</td>
</tr>
</tbody>
</table>

Table A – 13 Scroll Bar Object Options

### Popup List Object

The Popup List object is a popup menu that allows the user to select from a list of options. Table A – 14 describes the options of the Popup List object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>poplist</td>
<td>XmRowColumn</td>
<td>Container for the OptionButton and OptionLabel.</td>
</tr>
<tr>
<td>OptionButton</td>
<td>XmCascadeButtonGadget</td>
<td>Pops up the menu, displays the current selection.</td>
</tr>
<tr>
<td>OptionLabel</td>
<td>XmLabelGadget</td>
<td>Not used.</td>
</tr>
<tr>
<td>popup_poplist_pulldown</td>
<td>XmMenuShell</td>
<td>Parent for the popup menu.</td>
</tr>
<tr>
<td>popuplist_pulldown</td>
<td>XmRowColumn</td>
<td>Container for the menu items.</td>
</tr>
<tr>
<td>poplist_item</td>
<td>XmPushButtonGadget</td>
<td>A menu item.</td>
</tr>
</tbody>
</table>

Table A – 14 Popup List Object Options
Scroll Box Object

Table A – 15 describes the options of the Scroll Box object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scrollbar</td>
<td>XmForm</td>
<td>Container/geometry manager for a scrollable view and scrollbars.</td>
</tr>
</tbody>
</table>

Table A – 15 Scroll Box Object Options

Alert Object

The Alert object is a window that pops up to display warning and error messages. Table A – 16 describes the options of the Alert object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>alert_popup</td>
<td>XmDialogShell</td>
<td>Topmost widget of an alert window.</td>
</tr>
<tr>
<td>alert</td>
<td>XmMessageBox</td>
<td>Container for other widgets.</td>
</tr>
<tr>
<td>Symbol</td>
<td>XmLabelGadget</td>
<td>Iconic symbol dependent on alert type.</td>
</tr>
<tr>
<td>Message</td>
<td>XmLabelGadget</td>
<td>The warning text.</td>
</tr>
<tr>
<td>Separator</td>
<td>XmSeparatorGadget</td>
<td>Leftmost button.</td>
</tr>
<tr>
<td>Cancel</td>
<td>XmPushButtonGadget</td>
<td>Second button, if present.</td>
</tr>
<tr>
<td>Help</td>
<td>XmPushButtonGadget</td>
<td>Third button, if present.</td>
</tr>
</tbody>
</table>

Table A – 16 Alert Object Options

File Dialog Object

The File Dialog object is a dialog window for selecting files. Table A – 17 describes the options of the File Dialog object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>dialog_popup</td>
<td>XmDialogShell</td>
<td>Topmost widget of window.</td>
</tr>
<tr>
<td>dialog</td>
<td>XmFileSelectionBox</td>
<td>Container for widgets in window.</td>
</tr>
<tr>
<td>Items</td>
<td>XmLabelGadget</td>
<td>Label for file list.</td>
</tr>
</tbody>
</table>

Table A – 17 File Dialog Object Options
Color Dialog Object

The Color Dialog object is a dialog window for selecting and editing colors. Table A – 18 describes the options of the Color object.

<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>colordialog_popup</td>
<td>XmDialogShell</td>
<td>Topmost widget of the window.</td>
</tr>
<tr>
<td>colordialog</td>
<td>XmForm</td>
<td>Geometry manager for all other widgets in window.</td>
</tr>
<tr>
<td>frame1</td>
<td>XmFrame</td>
<td>Dialog message and frame.</td>
</tr>
<tr>
<td>frame1.label</td>
<td>XmLabel</td>
<td></td>
</tr>
</tbody>
</table>

Table A – 18  Color Object Options
<table>
<thead>
<tr>
<th>Widgets</th>
<th>Class/Subclass</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>frame2</td>
<td>XmFrame</td>
<td>Buttons for displaying old/new colors, container and frame.</td>
</tr>
<tr>
<td>rc2</td>
<td>XmRowColumn</td>
<td></td>
</tr>
<tr>
<td>pb1</td>
<td>XmPushButton</td>
<td></td>
</tr>
<tr>
<td>pb2</td>
<td>XmPushButton</td>
<td></td>
</tr>
<tr>
<td>frame3</td>
<td>XmFrame</td>
<td></td>
</tr>
<tr>
<td>rc3</td>
<td>XmRowColumn</td>
<td></td>
</tr>
<tr>
<td>red_sc</td>
<td>XmScale</td>
<td></td>
</tr>
<tr>
<td>red_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>red_sc.Scrollbar</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>green_sc</td>
<td>XmScale</td>
<td></td>
</tr>
<tr>
<td>green_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>green_sc.Scrollbar</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>blue_sc</td>
<td>XmScale</td>
<td></td>
</tr>
<tr>
<td>blue_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>blue_sc.Scrollbar</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>frame4</td>
<td>XmFrame</td>
<td></td>
</tr>
<tr>
<td>rc4</td>
<td>XmRowColumn</td>
<td></td>
</tr>
<tr>
<td>hue_sc</td>
<td>XmScale</td>
<td></td>
</tr>
<tr>
<td>hue_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>hue_sc.Scrollbar</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>saturation_sc</td>
<td>XmScale</td>
<td></td>
</tr>
<tr>
<td>saturation_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>saturation_sc.Scrollbar</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>value_sc</td>
<td>XmScale</td>
<td></td>
</tr>
<tr>
<td>value_sc.Title</td>
<td>XmLabelGadget</td>
<td></td>
</tr>
<tr>
<td>value_sc.Scrollbar</td>
<td>XmScrollBar</td>
<td></td>
</tr>
<tr>
<td>frame5</td>
<td>XmFrame</td>
<td></td>
</tr>
<tr>
<td>mb</td>
<td>XmMessageBox</td>
<td></td>
</tr>
<tr>
<td>mb.OK</td>
<td>XmPushButtonGadget</td>
<td></td>
</tr>
<tr>
<td>mb.Cancel</td>
<td>XmPushButtonGadget</td>
<td></td>
</tr>
<tr>
<td>OK</td>
<td>XmPushButtonGadget</td>
<td></td>
</tr>
</tbody>
</table>

Table A – 18 Color Object Options
This appendix provides a list of key mappings reserved by OSF/Motif.

**Attention:** Do not override these key mappings.

<table>
<thead>
<tr>
<th>Function</th>
<th>Platform</th>
<th>Key Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help</td>
<td>All</td>
<td>[F1]</td>
</tr>
<tr>
<td>Menu</td>
<td>All</td>
<td>[F10]</td>
</tr>
<tr>
<td>Next Field</td>
<td>All</td>
<td>[Tab]</td>
</tr>
<tr>
<td>Prev Field</td>
<td>HP</td>
<td>[Shift][Backtab]</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>[Shift][Tab]</td>
</tr>
<tr>
<td>Exit/Cancel</td>
<td>All</td>
<td>[Esc]</td>
</tr>
</tbody>
</table>

Table B – 1 Key Mappings on All Platforms

<table>
<thead>
<tr>
<th>Function</th>
<th>Key Map</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>HP</strong></td>
</tr>
<tr>
<td>Delete Backwards</td>
<td>[Backspace]</td>
</tr>
<tr>
<td>Beginning of line</td>
<td>[Home]</td>
</tr>
</tbody>
</table>
Table B – 2 Key Mappings Fixed for a Particular Platform

Note: On DEC keyboards, the [Alt] key is labeled Compose Character and the [Esc] key is labeled F11.

<table>
<thead>
<tr>
<th>Function</th>
<th>Key Map</th>
<th>Key Map</th>
<th>Key Map</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HP</td>
<td>Sun</td>
<td>DEC</td>
</tr>
<tr>
<td>End of line</td>
<td>[F7]</td>
<td>[F13]</td>
<td>[Alt][Right]</td>
</tr>
<tr>
<td>Cut</td>
<td>[Shift][Delchar]</td>
<td>[F20]</td>
<td>[Shift][Remve]</td>
</tr>
<tr>
<td>Copy</td>
<td>[Ctrl][Inschar]</td>
<td>[F16]</td>
<td>[Ctrl][Insert]</td>
</tr>
<tr>
<td>Paste</td>
<td>[Shift][Inschar]</td>
<td>[F18]</td>
<td>[Shift][Insert]</td>
</tr>
<tr>
<td>Undo</td>
<td>[Alt][Backspace]</td>
<td>[F14]</td>
<td>[Alt][Delete]</td>
</tr>
<tr>
<td>Select</td>
<td>[Select]</td>
<td>[Ctrl][Space]</td>
<td>[Select]</td>
</tr>
<tr>
<td>Scroll Up</td>
<td>[Prev]</td>
<td>[F29]</td>
<td>[Prevscreen]</td>
</tr>
<tr>
<td>Scroll Down</td>
<td>[Next]</td>
<td>[F35]</td>
<td>[Nextscreen]</td>
</tr>
<tr>
<td>Help</td>
<td>[F1]</td>
<td>[F1]</td>
<td>[Help]</td>
</tr>
<tr>
<td>Menu</td>
<td>[F10]</td>
<td>[F10]</td>
<td>[F10]</td>
</tr>
<tr>
<td>Next Field</td>
<td>[Tab]</td>
<td>[Tab]</td>
<td>[Tab]</td>
</tr>
<tr>
<td>Prev Field</td>
<td>[Shift][Backtab][Tab]</td>
<td>[Shift][Tab]</td>
<td>[Shift][Tab]</td>
</tr>
<tr>
<td>Exit/Cancel</td>
<td>[Esc]</td>
<td>[Esc]</td>
<td>[Esc]</td>
</tr>
</tbody>
</table>

Table B – 3 Key Definitions Reserved by Motif Fixed for Particular Platforms

<table>
<thead>
<tr>
<th>Function</th>
<th>Key Map</th>
<th>Key Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delete Backwards</td>
<td>[Backspace]</td>
<td>[Backspace]</td>
</tr>
<tr>
<td>Beginning of line</td>
<td>[Home]</td>
<td>[Home]</td>
</tr>
<tr>
<td>End of line</td>
<td>[F7]</td>
<td>[F7]</td>
</tr>
<tr>
<td>Cut</td>
<td>[Shift][Delete]</td>
<td>[Shift][Delete]</td>
</tr>
<tr>
<td>Copy</td>
<td>[Ctrl][Insert]</td>
<td>[Ctrl][Insert]</td>
</tr>
<tr>
<td>Paste</td>
<td>[Shift][Insert]</td>
<td>[Shift][Insert]</td>
</tr>
<tr>
<td>Undo</td>
<td>[Alt][Backspace]</td>
<td>[Alt][Backspace]</td>
</tr>
<tr>
<td>Select</td>
<td>[Ctrl][Space]</td>
<td>[Ctrl][Space]</td>
</tr>
<tr>
<td>Scroll Up</td>
<td>[Prevscreen]</td>
<td>[Prevscreen]</td>
</tr>
<tr>
<td>Scroll Down</td>
<td>[Nextscreen]</td>
<td>[Nextscreen]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key</th>
<th>Normal</th>
<th>Shift</th>
<th>Ctrl</th>
<th>Alt</th>
</tr>
</thead>
<tbody>
<tr>
<td>[F3]</td>
<td></td>
<td></td>
<td></td>
<td>LowerWindow</td>
</tr>
<tr>
<td>[F4]</td>
<td>Menu</td>
<td></td>
<td></td>
<td>CloseWindow</td>
</tr>
<tr>
<td>[F5]</td>
<td></td>
<td></td>
<td></td>
<td>RestoreWindow</td>
</tr>
<tr>
<td>[F7]</td>
<td></td>
<td></td>
<td></td>
<td>MoveWindow</td>
</tr>
<tr>
<td>[F8]</td>
<td>AddMode</td>
<td></td>
<td></td>
<td>ResizeWindow</td>
</tr>
<tr>
<td>[F9]</td>
<td></td>
<td></td>
<td></td>
<td>MinimizeWindow</td>
</tr>
<tr>
<td>[F10]</td>
<td>MenuBar</td>
<td></td>
<td></td>
<td>MaximizeWindow</td>
</tr>
<tr>
<td>[F11]</td>
<td>Exit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[F14]</td>
<td>PrimaryPaste</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Help]</td>
<td>Help</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[F17]</td>
<td>QuickPaste</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[InsertHere]</td>
<td>Insert</td>
<td>Paste</td>
<td></td>
<td>Copy</td>
</tr>
<tr>
<td>[Remove]</td>
<td>Delete</td>
<td>Cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Select]</td>
<td>Select</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[PrevScreen]</td>
<td>ScrollUp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[NextScreen]</td>
<td>ScrollDown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Tab]</td>
<td>NextField</td>
<td>PrevField</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[BS]</td>
<td>Backspace</td>
<td></td>
<td></td>
<td>Undo</td>
</tr>
<tr>
<td>[Enter]</td>
<td>Activate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Up]</td>
<td>Up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Down]</td>
<td>Down</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Right]</td>
<td>Right</td>
<td></td>
<td></td>
<td>EndLine</td>
</tr>
<tr>
<td>[Left]</td>
<td>Left</td>
<td></td>
<td></td>
<td>BeginLine</td>
</tr>
</tbody>
</table>

Table B – 4  Key Definitions Reserved by Motif on DEC

**Note:** If a key is not listed, then that key is not reserved by Motif on DEC.
Table B – 5 Key Definitions Reserved by Motif on DG

<table>
<thead>
<tr>
<th>Key</th>
<th>Normal</th>
<th>Shift</th>
<th>Ctrl</th>
<th>Alt</th>
</tr>
</thead>
<tbody>
<tr>
<td>[F11]</td>
<td>Exit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[F14]</td>
<td>PrimaryPaste</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Help]</td>
<td>Help</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[F17]</td>
<td>QuickPaste</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[InsertHere]</td>
<td>Insert</td>
<td>Paste</td>
<td>Copy</td>
<td></td>
</tr>
<tr>
<td>[Remove]</td>
<td>Delete</td>
<td>Cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Select]</td>
<td>Select</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[PrevScreen]</td>
<td>ScrollUp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[NextScreen]</td>
<td>ScrollDown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Tab]</td>
<td>NextField</td>
<td>PrevField</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[BS]</td>
<td>Backspace</td>
<td></td>
<td>Undo</td>
<td></td>
</tr>
<tr>
<td>[Enter]</td>
<td>Activate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Up]</td>
<td>Up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Down]</td>
<td>Down</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Right]</td>
<td>Right</td>
<td></td>
<td>EndLine</td>
<td></td>
</tr>
<tr>
<td>[Left]</td>
<td>Left</td>
<td></td>
<td>BeginLine</td>
<td></td>
</tr>
</tbody>
</table>

Note: If a key is not listed, then that key is not reserved by Motif on DG.
<table>
<thead>
<tr>
<th>Key</th>
<th>Normal</th>
<th>Shift</th>
<th>Ctrl</th>
<th>Alt</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Next]</td>
<td>Scroll Down</td>
<td>ExtendNext Page</td>
<td>ScrollRight</td>
<td></td>
</tr>
<tr>
<td>[InsertChar]</td>
<td>Paste</td>
<td>Copy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[DeleteChar]</td>
<td>Cut</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Escape]</td>
<td>Exit</td>
<td>PostWindow Menu</td>
<td>Exit</td>
<td>NextWindow</td>
</tr>
<tr>
<td>[Return]</td>
<td>Activate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Select]</td>
<td>Select</td>
<td>ExtendSeln</td>
<td>Discontig</td>
<td>Sein</td>
</tr>
<tr>
<td>[Tab]</td>
<td>NextField</td>
<td>PrevField</td>
<td>NextField</td>
<td>NextWindow</td>
</tr>
<tr>
<td>[Space]</td>
<td>Select</td>
<td>Select</td>
<td></td>
<td>PostWindowMenu</td>
</tr>
<tr>
<td>[Backspace]</td>
<td>Delete Back</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Home]</td>
<td>BeginLine</td>
<td>ExtendBeginLine</td>
<td>BeginData</td>
<td></td>
</tr>
<tr>
<td>[Up]</td>
<td>Up</td>
<td>ExtendPrvLin</td>
<td>Back</td>
<td>Paragraph</td>
</tr>
<tr>
<td>[Down]</td>
<td>Down</td>
<td>ExtendNxtLin</td>
<td>Fwd</td>
<td>Paragraph</td>
</tr>
<tr>
<td>[Right]</td>
<td>Right</td>
<td>ExtendRight</td>
<td>FwdWord</td>
<td></td>
</tr>
<tr>
<td>[Left]</td>
<td>Left</td>
<td>ExtendLeft</td>
<td>BackWord</td>
<td></td>
</tr>
</tbody>
</table>

![Table B – 6 Key Definitions Reserved by Motif on HP](image.png)

**Note:** If a key is not listed, then that key is not reserved by Motif on HP.
<table>
<thead>
<tr>
<th>Key</th>
<th>Normal</th>
<th>Shift</th>
<th>Ctrl</th>
<th>Alt</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Delete]</td>
<td>Cut</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Escape]</td>
<td>Exit</td>
<td>PostWindow Menu</td>
<td>Exit</td>
<td>NextWindow</td>
</tr>
<tr>
<td>[Return]</td>
<td>Activate</td>
<td>Activate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Select]</td>
<td>Select</td>
<td>ExtendSeln</td>
<td>Discontig</td>
<td>Seln</td>
</tr>
<tr>
<td>[Tab]</td>
<td>NextField</td>
<td>PrevField</td>
<td>NextField</td>
<td>NextWindow</td>
</tr>
<tr>
<td>[Space]</td>
<td>Select</td>
<td></td>
<td>Select</td>
<td>PostWindowMenu</td>
</tr>
<tr>
<td>[Backspace]</td>
<td>DeleteBack</td>
<td></td>
<td></td>
<td>Undo</td>
</tr>
<tr>
<td>[Home]</td>
<td>BeginLine</td>
<td>ExtendBeginLine</td>
<td>BeginData</td>
<td></td>
</tr>
<tr>
<td>[Up]</td>
<td>Up</td>
<td>ExtendPrvLine</td>
<td>Back Paragraph</td>
<td></td>
</tr>
<tr>
<td>[Down]</td>
<td>Down</td>
<td>ExtendNxtLine</td>
<td>Fwd Paragraph</td>
<td></td>
</tr>
<tr>
<td>[Right]</td>
<td>Right</td>
<td>ExtendRight</td>
<td></td>
<td>FwdWord</td>
</tr>
</tbody>
</table>

Table B – 7 Key Definitions Reserved by Motif on PC

**Note:** If a key is not listed, then that key is not reserved by Motif on a PC.

<table>
<thead>
<tr>
<th>Key</th>
<th>Normal</th>
<th>Shift</th>
<th>Ctrl</th>
<th>Alt</th>
</tr>
</thead>
<tbody>
<tr>
<td>[F1]</td>
<td>Help</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[F3]</td>
<td></td>
<td></td>
<td></td>
<td>LowerWindow</td>
</tr>
<tr>
<td>[F4]</td>
<td></td>
<td></td>
<td></td>
<td>CloseWindow</td>
</tr>
<tr>
<td>[F5]</td>
<td></td>
<td></td>
<td></td>
<td>RestoreWindow</td>
</tr>
<tr>
<td>[F6]</td>
<td></td>
<td></td>
<td></td>
<td>NextTransWndw</td>
</tr>
<tr>
<td>[F7]</td>
<td></td>
<td></td>
<td></td>
<td>MoveWindow</td>
</tr>
<tr>
<td>[F8]</td>
<td>AddMode</td>
<td></td>
<td></td>
<td>ResizeWindow</td>
</tr>
<tr>
<td>[F9]</td>
<td></td>
<td></td>
<td></td>
<td>Minimize</td>
</tr>
<tr>
<td>[F10]</td>
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<td>Shift</td>
<td>Ctrl</td>
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<td>-----------------</td>
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<td>PostWindow</td>
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<td>Select</td>
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<td>BeginData</td>
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<td>ExtendLeft</td>
<td>BackWord</td>
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### Table B – 8 Key Definitions Reserved by Motif on Sun Type 4 and Sun Type 5

**Note:** If a key is not listed, then that key is not reserved by Motif on Sun Type 4 or Sun Type 5.

### Key Mapping Restrictions

**[Esc] Key:** Avoid using the [Esc] key as a modifier key. Because [Esc] is the Exit/Cancel key, avoid any key maps that use [Esc] as a modifier key (such as [Esc][Left] to scroll to the left).

**Accelerator Functions:** Avoid key mappings of multiple key events to accelerator functions. In Oracle Toolkit/Motif tools, most of the default pull-down menu items have associated accelerator keys (function key counterparts). For accelerators to work, the associated key mapping *must* be a single-key event. A single-key event is either one unmodified key, or a combination of the standard modifier keys [Shift], [Ctrl], [Alt], and Meta. Other key mappings will lead to unpredictable results.

**[Alt] and Letter Keys:** Avoid key mappings that include [Alt]+[letter]. One way of accessing a menu is a combination of the [Alt] key and a letter key. If you customize your key map to include this combination, the menu access function will interfere with the function you intend for that combination.
This appendix contains supplementary information about the Installer and the installation process.

The topics covered in this appendix are:

- Troubleshooting the Installer
- Navigating in the Installer in Character Mode
- Using the Installer in Silent Mode
- Installer Help System
- Relinking Error Messages
Troubleshooting the Installer

This section describes problems you may encounter when running the Installer and suggestions for fixing those problems:

- Display Problems
- Insufficient Disk Space

Fixing shelltool or cmdtool Display Problems

If you run the Installer in character mode from an OpenWindows shelltool or cmdtool, the screen may be difficult to read.

To fix the display for a shelltool:

Screen Refresh

To refresh the character mode Installer screen during an installation session, enter:

```
[Ctrl]+[r]
```

Insufficient Disk Space

If the session terminates because the Installer runs out of space during installation, check $ORACLE_HOME for any files installed just before the crash. Remove any files for products you were installing. If you were installing from a temporary staging directory, clean out that directory and rebuild it before attempting to re-install.

After you have cleaned up the $ORACLE_HOME directory, use the df command to determine how much space is available.

Space in $ORACLE_HOME

When the Installer calculates space for transferring files into $ORACLE_HOME, it accounts for product dependencies. If the Installer detects there is insufficient space, it issues a warning.

Files are uncompressed when they are transferred to $ORACLE_HOME.

Symbolic Links

If you have created symbolic links in $ORACLE_HOME to accommodate parts of the Oracle distribution, the Installer does not follow these links when it calculates space requirements.
If you are sure symbolic links are set up correctly and there is enough space in $ORACLE_HOME to install the distribution, ignore the Installer warnings regarding insufficient space. Make sure the linked directories have read and write permissions for oracle.

Swap Space

The swap space on the disk should be two to four times the physical RAM. If the UNIX system uses swap space for relinking, you probably need to increase the size of the swap space. If you run out of swap space during the relinking of product executables, the Installer returns an error message and aborts the session.

Navigating in the Installer in Character Mode

You have the option to run the Installer in character mode. You must use the keyboard to navigate through the windows and screens displayed during an installation. Figure C–1 shows an example Installer screen in character mode.

![Figure C–1 Character-Mode Installer Screen](image)
Navigation Keys

Use these keys to navigate through Installer screens:

- [Return] invokes an action and proceeds to the next screen
- [Space Bar] selects or deselects an item from a list
- [Tab] progresses from field to field within the screen
- [Arrow Keys] move horizontally or vertically through a list or menu

For example, to select the Create/Upgrade Database Objects option in Figure C–1

1. Press [Tab] until the cursor moves to the list of options.
2. Press [Down Arrow] to move to the Create/Upgrade Database Objects option.
3. Press [Space Bar] to select the option.
4. Press [Return].

Commands and Buttons

Installer screens include the following buttons:

- **Back** moves you to a previous input screen
- **Cancel** exits the Installer session
- **Help** invokes the Installer help system

The following buttons are available only at the Software Asset Manager screen:

- **From** displays a file browsing window to facilitate finding required product files
- **Options** displays advanced options available to the user
- **View Log** displays installation log viewing options (you can specify the log file to be viewed and the level of detail)

**Note:** The **Cancel** Button is labeled **Exit** in the Software Asset Manager screen.
Using the Installer in Silent Mode

If you are performing multiple installations that are identical or similar to each other, you may want to run the Installer in silent mode after the initial installation. Do this by creating a response file, then using the response file to provide answers to Installer prompts in subsequent installations.

To use the Installer in silent mode (examples show running the Installer under Motif):

1. Run the Installer for the initial installation, recording your answers to prompts in a response file.
   `$ ./orainst /m /rspdest filename`
   where `filename` is the full pathname of the response file where the Installer will record your answers. Be sure to specify a directory where you have write permission.

2. Edit the response file, changing any necessary values (for example, pathnames, mount points, ORACLE_SID, etc.). Use any UNIX text editor.

3. Invoke the Installer, specifying the response file and products to install.
   `$ ./orainst /m /respsrc filename /install products /silent`
   where:
   - `filename` is the full pathname of the response file you created in a previous installation.
   - `products` is a comma-separated (no spaces) list of products to install. Available products and the product names to use in the command line are available in the `unix.prd` file in your staging area directory.

Following is an example of the commands to invoke the Installer and create a response file, then use that response file in a subsequent installation. The products specified for installation are the Oracle7 Server, Server Manager (Motif mode), and Oracle Names Server.

   `$ ./orainst /m /rspdest resp_732`
   `$ ./orainst /m /respsrc resp_732 /install rdbms,svrmgrm,NAMES /silent`

   **Attention:** Only use silent mode to install the same products you installed during the initial installation, or a subset of them.
Installer Help System

You can invoke Installer online help with the Help button in either Motif or character mode. When you select the Help button, the Installer invokes a browser (included with the distribution) and displays help text.

When running the Installer in Motif, you can either close the browser or leave it open to the help text when you return to the Installer window.

When running in character mode, you must quit the browser after you finish reading the help text; the Installer is suspended until the browser is terminated.

**Note:** In character mode, you cannot view diagrams or images.

![Installer Online Help (Motif Mode)](image-url)
Relinking Error Messages

The system can display the following errors during relinking.

Message:    sh:  make:  Not found
Action:     Operating system program (make) not available: install it or put it in $PATH.

Message:    sh:  sh (echoDo):  cc:  Not found
Action:     Operating system program (cc) not available: install it or put it in $PATH.

Message:    ld:  fatal error:  library not found: library_name
Action:     Operating system library not loaded: library_name indicates the name of the library you must install.

Message:    ld:  archive out of date for libxxx.a
Action:     Run the ranlib utility on the library.
When relinking the Oracle products, you may see link warnings in the following format:

```
ld: /usr/lib/libnet.so:  Warning: attempted multiple inclusion of file
```

You can ignore these warnings.

**Undefined Symbols**

Many relinking errors are caused by undefined symbols. Symbols may be undefined when SQL*Net network protocol adapters are installed without the correct underlying network protocol.

For instance, `putmesg` and `getmesg` undefined symbols occur if you install the Oracle SPX/IPX Protocol Adapter, but do not have SPX/IPX installed.

**See Also:** Appendix A, “Oracle Messages on UNIX”, in the *Oracle7 Administrator’s Reference for UNIX*, if you receive an `ORA–nnn` message during installation.
This appendix contains installation instructions for the UnixWare Patch Notice.
UnixWare Patch Installation

Users on UnixWare 2.0.3 with Motif 1.2.3 must perform the following steps to install patches to take care of the shared library bug in Motif and X11 Toolkit.

Make the following modifications to your Developer/2000 installation:

1. Make sure that the Software Development Kit for UnixWare 2.03 is fully installed.

2. Obtain a copy of the patched Motif version 1.2.3 libraries and shared object files.
   - Perform an anonymous FTP to websco.sco.com (132.147.210.9).
   - Find patch identifier tf2236, which corresponds to UnixWare 2.01 and 2.03.

3. Remove links between $ORACLE_HOME/lib and any versions of libXm.so or libX11.so.

4. Obtain a copy of patch 407730 from Oracle Customer Support and install it in your Developer/2000 Release 1.3.1 installation area as per the README file in the patch directory.
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