Oracle Procedure Builder™

Installation Guide

Release 6.0 for Intel UNIX (DG/UX Intel, SCO UnixWare, Sequent DYNIX/ptx, Solaris Intel)

June 1999
Part No. A70129-02

Topics Include:
Features and Requirements
Setting the Environment
Installation Tasks
Completing Oracle Procedure Builder Installation
Configuring Oracle Procedure Builder
Configuring Toolkit Resources
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Send Us Your Comments

Oracle Procedure Builder Installation Guide for Intel UNIX Release 6.0 for Intel UNIX
Part No. A70129-02

Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information used for revision.

■ Did you find any errors?
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■ Do you need more information? If so, where?
■ Are the examples correct? Do you need more examples?
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  USA

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If you have problems with the software, please contact your local Oracle Support Services.
Purpose

The Oracle Procedure Builder Installation Guide for Intel UNIX provides Intel UNIX installation and configuration information for Release 6.0 of Oracle Procedure Builder. The topics covered in this preface are:

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

Audience

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

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

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

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

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

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

Command Syntax

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

**backslash \**  A backslash indicates a command that is too long to fit on a single line. Enter the line as printed (with a backslash) or enter it as a single line without a backslash:

```
dd if=/dev/rdsk/c0t1d0s6 of=/dev/rst0 bs=10b \
count=10000
```

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

**brackets []**  Brackets indicate optional items: `cvtcrt termname [outfile]`

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

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

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

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

```
library_name
```

**vertical line |**  A vertical line indicates a choice within braces or brackets:

```
SIZE filesize [K|M]
```
Related Documentation

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

Oracle Services and Support

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

Oracle Support Services

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

Products and Documentation

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

Customer Service

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

Education and Training

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

Oracle Technology Network

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

The following topics are covered in this chapter:

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

Oracle Procedure Builder enables you to create, edit, and debug PL/SQL code. Procedure Builder supports multiple platforms, user interfaces, and data sources. It is built on a layer called Oracle Toolkit, which provides a uniform programming interface to the underlying user interface. Oracle Toolkit makes it possible to create applications that run against multiple user interfaces, such as Motif or Windows, while retaining the full native look and feel of the interface.

Installing Oracle Procedure Builder involves the following steps:

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

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

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

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

Oracle Procedure Builder is built using standard application programming interfaces (APIs), allowing organizations to supplement the Procedure Builder product set with tools from other vendors.

Installation Overview

Client-only and Server-based Installations

**Client-only installation**

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

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

Server-based installation

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

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

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

To start a browser:
$ cd /cdrom/orainst
$ ./oraview
The oraview script invokes the appropriate browser for the system. If you want more information about the oraview script, enter:
$ ./oraview -h

Context-Sensitive Online Help
Oracle Procedure Builder provides a context-sensitive online help system. Access online help by selecting Contents from the Help menu.

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

System Requirements
This section describes the system requirements for installing Oracle Procedure Builder on Intel UNIX.
Hardware Requirements

Table 1–1 lists hardware requirements for installing and running Oracle Procedure Builder on Intel UNIX.

**Table 1–1 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 the physical 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 1–2 Hardware Requirements for Sequent**

<table>
<thead>
<tr>
<th>Hardware Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>A Sequent Symmetry (Intel 386/486 or Pentium-based) or NUMA-Q 2000 system</td>
</tr>
<tr>
<td>Media Device</td>
<td>A RockRidge format CD-ROM drive supported by Sequent</td>
</tr>
<tr>
<td>Display Device for GUI Tools</td>
<td>The following types are supported: vtxxx, ncd220</td>
</tr>
</tbody>
</table>
System Requirements

Table 1–3  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. See your Solaris Intel documentation for a list of supported 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 the physical RAM</td>
</tr>
<tr>
<td>CD-ROM Device</td>
<td>A RockRidge format CD-ROM drive supported by Solaris Intel</td>
</tr>
<tr>
<td>Ethernet Controller</td>
<td>An Ethernet card supported by Solaris Intel</td>
</tr>
</tbody>
</table>

Table 1–4  Hardware Requirements for UnixWare7

<table>
<thead>
<tr>
<th>Hardware Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>An Intel-based system. See your UnixWare documentation for a list of supported 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 the physical RAM</td>
</tr>
<tr>
<td>CD-ROM Device</td>
<td>A RockRidge format CD-ROM drive supported by UnixWare</td>
</tr>
<tr>
<td>Ethernet Controller</td>
<td>An Ethernet card supported by UnixWare</td>
</tr>
</tbody>
</table>

Operating System Requirements

Table 1–5 lists operating system requirements for installing and running Oracle Procedure Builder on Intel UNIX.

Table 1–5  Operating System Requirements for Data General

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>DG/UX R4.20 with SDK and ACO options</td>
</tr>
<tr>
<td>Networking Software</td>
<td>TCP/IP software as installed with DG/UX R4.20</td>
</tr>
</tbody>
</table>
Table 1–6  Operating System Requirements for Sequent

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>DYNIX/ptx version 4.4</td>
</tr>
<tr>
<td>GUI Software</td>
<td>ptx/Windows installed</td>
</tr>
</tbody>
</table>

Table 1–7  Operating System Requirements Solaris Intel

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Solaris 2.6 for Intel</td>
</tr>
</tbody>
</table>

Table 1–8  Operating System Requirements for UnixWare7

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>UnixWare 7 Server, Enterprise Edition version 7.0.1. The Optimizing C compilation system is required.</td>
</tr>
<tr>
<td>Operating System Patches</td>
<td>ptf7002b, ptf7003c, ptf7005, ptf7010a, ptf7011, ptf7013e, ptf7014a, ptf7016c, ptf7017a, ptf7018, ptf7020a, ptf7021a, ptf7027a, ptf7033a, ptf7104.</td>
</tr>
<tr>
<td>GUI Requirements</td>
<td>X11R6 from the current system release.</td>
</tr>
</tbody>
</table>

Note: The ptf patches are available from the SCO ftp site.

User Interface Requirements

Table 1–9 lists user interface requirements for installing and running Oracle Procedure Builder products on Intel UNIX.

Table 1–9  User Interface Requirements

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window Manager</td>
<td>For Data General: Motif mwm Window Manager delivered with DG/UX R4.2</td>
</tr>
<tr>
<td></td>
<td>For Sequent: ptx/Windows installed.</td>
</tr>
</tbody>
</table>
Disk Space and Memory Requirements

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

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

Disk Space and Memory Requirements

Table 1–10 lists disk space, database space, and memory requirements for Oracle Procedure Builder. These are minimum, not approximate estimates.

Calculating Total Disk Space Required

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

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11 Server</td>
<td>For Data General: X11 and Motif 1.2.4</td>
</tr>
<tr>
<td></td>
<td>For Solaris Intel: X11 and Motif 1.2.6</td>
</tr>
<tr>
<td></td>
<td>For UnixWare 7: X11 Motif 1.2.5</td>
</tr>
</tbody>
</table>

Table 1–9 User Interface Requirements

<table>
<thead>
<tr>
<th>Software Item</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUI Common Area</td>
<td>49.2 MB</td>
</tr>
<tr>
<td>Oracle Procedure Builder</td>
<td>22.0 MB</td>
</tr>
<tr>
<td>Procedure Builder (Motif)</td>
<td>3.0 MB</td>
</tr>
<tr>
<td>Oracle Installer</td>
<td>38.6 MB</td>
</tr>
<tr>
<td>Oracle Common</td>
<td>98.2 MB</td>
</tr>
<tr>
<td>Online Documentation Library</td>
<td>239.5 MB</td>
</tr>
</tbody>
</table>

Table 1–10 Space Requirements for Procedure Builder

Space Requirements: Applications Development and Standalone Products

<table>
<thead>
<tr>
<th>Products and Options</th>
<th>Distribution (MB)</th>
<th>Database Space (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUI Common Area</td>
<td>49.2</td>
<td>0.53</td>
</tr>
<tr>
<td>Oracle Procedure Builder</td>
<td>22.0</td>
<td>0</td>
</tr>
<tr>
<td>Procedure Builder (Motif)</td>
<td>3.0</td>
<td>0</td>
</tr>
<tr>
<td>Oracle Installer</td>
<td>38.6</td>
<td>0</td>
</tr>
<tr>
<td>Oracle Common</td>
<td>98.2</td>
<td>0</td>
</tr>
<tr>
<td>Online Documentation Library</td>
<td>239.5</td>
<td>0</td>
</tr>
</tbody>
</table>
Issues and Restrictions

National Language Support for Oracle Procedure Builder

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

- American English
- Brazilian Portuguese
- Traditional Chinese*
- Simplified Chinese
- Czech
- Danish
- Dutch
- Finnish
- French*
- German*
- Greek
- Hungarian
- Italian*
- Japanese*
Issues and Restrictions

- Korean
- Latin American Spanish
- Norwegian*
- Polish
- Portuguese
- Romanian
- Russian
- Spanish*
- Turkish

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

The following topics are covered in this chapter:

- Pre-Installation Tasks
Pre-Installation Tasks

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

Create a UNIX Account to Own Oracle Software

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

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

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

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

Decide Whether to Install or Upgrade Database Objects

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

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

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

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

Below is a list of tables names that should be installed.

<table>
<thead>
<tr>
<th>Table names to install</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE__ATTACHED__LIBS</td>
</tr>
<tr>
<td>ROSSTRINGS</td>
</tr>
<tr>
<td>ROSLFDESC</td>
</tr>
<tr>
<td>ROSTFDESC</td>
</tr>
<tr>
<td>ROSOBJMAP</td>
</tr>
<tr>
<td>ROSSEQUENCES</td>
</tr>
<tr>
<td>TOOL_ACCESS</td>
</tr>
<tr>
<td>TOOL_LIBRARY</td>
</tr>
<tr>
<td>TOOL_MODULE</td>
</tr>
<tr>
<td>TOOL_LTEXT</td>
</tr>
<tr>
<td>TOOL_LRAW</td>
</tr>
<tr>
<td>TOOL_PLSQL</td>
</tr>
<tr>
<td>TOOL_COMMENT</td>
</tr>
<tr>
<td>TOOL_DEPEND</td>
</tr>
</tbody>
</table>

Set Up the **tnsnames.ora** File

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

A `tnsnames.ora` file contains the following:

```
alias = 
  (DESCRIPTION = 
    (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 use a text editor to update the file with the information in Table 2–2.

**Table 2–2  `tnsnames.ora` File Values**

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

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

1. `.tnsnames.ora` file in the user’s home directory (Note the dot before the file name).
2. `$TNS_ADMIN/tnsnames.ora`
3. `/var/opt/oracle/tnsnames.ora` for Intel UNIX
4. `$ORACLE_HOME/network/admin/tnsnames.ora`
Make sure you put the tnsnames.ora file in one of these locations; otherwise, you cannot connect to the database through Net8.

**TNS_ADMIN**

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

### Set Required Environment Variables

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

**Syntax of Environment Variables**

The syntax for setting an environment variable for the Bourne or Korn shell is:

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

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

```
% setenv variable_name value
```

**DISPLAY**

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

For the Bourne or Korn shells:

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

For the C shell:
% setenv DISPLAY machinename:0.0
% xhost +

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

For more information, see "Set the DISPLAY Environment Variable" on page 4-13.

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

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

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

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

**ORACLE_TERM**
You can run the Installer in either Motif or character mode. To run the Installer in character mode, set the ORACLE_TERM environment variable to the correct terminal type before installing Oracle Procedure Builder.

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

For the Bourne shell or Korn shell:

$ set ORACLE_TERM=vt220; export ORACLE_TERM

For the C shell:

% setenv ORACLE_TERM vt220
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 2–3 lists common ORACLE_TERM settings.

<table>
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<tr>
<th>To Run:</th>
<th>Set ORACLE_TERM to:</th>
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<tr>
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<td>xsun</td>
</tr>
<tr>
<td>Sun xterm using a type 5 keyboard</td>
<td>xsun5</td>
</tr>
</tbody>
</table>

**TWO_TASK**

When installing database objects, set the TWO_TASK environment variable to the correct alias for the database where you want to create the database objects.
ORA_NLS33
For the Installer to function properly, the ORA_NLS33 environment variable, used in earlier releases, cannot be set. Check to see if the variable is set.

$ echo $ORA_NLS33

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

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

The following topics are covered in this chapter:

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

The following tasks are covered in this section:

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

Mount the Product Installation CD-ROM

To mount your CD-ROM, perform the following steps:

1. Log in as root.
   
   ```bash
   $ su root
   ```

2. Create an empty CD-ROM directory (the “mount point directory”) for mounting the CD-ROM drive and set the permissions to make it accessible by all users.
   
   ```bash
   # mkdir /cdrom
   # chmod 777 /cdrom
   ```

3. Mount the CD-ROM to the mount point by entering the following:
   
   For Data General:
   
   ```bash
   # mount -t cdom device_name /cdrom
   ```

   For Sequent:
   
   ```bash
   # /etc/mount -r -o showdot -F cdfs device_name /cdrom
   ```
For Solaris Intel:

```bash
# /etc/mount -F hsfs -r device_name /cdrom
```

For UnixWare7:

```bash
# mount -F cdfs -oro device_name /cdrom
```

Where `device_name` is the block device name for your CD-ROM drive, for example, `/dev/dsk/c0t6d0p0`.

---

**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.

---

4. Exit the root account.

```bash
# exit
```
Start the Installer

Perform the following steps to start the Oracle Installer:

1. Log in as oracle software owner.

---

WARNING: Do not run the Installer as the root user.

---

2. Change to the /cdrom/orainst directory.

   $ cd /cdrom/orainst

3. Type the following command to invoke the Installer:

   For Motif mode, enter:

   $ ./orainst /m

   If you are using Motif mode, make sure you set the DISPLAY to your current workstation.

   For character mode, enter:

   $ ./orainst /c

Oracle Installation

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

Respond to Installer Prompts

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

Install Type

- Default Install
Select this option if the Installer default values are appropriate for your installation. The Installer uses default values for information it requires.

If at any time you decide that a Default Install is not adequate for your installation, you can select the Back button and return to this screen.

- **Custom Install**

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

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

**Readme Files**

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

**Installation Activity Choice**

The Installer prompts you with three options:

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

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

- **Create/Upgrade Database Objects**

  This option creates or upgrades database objects in an existing database without installing any new products.

- **Perform Administrative Tasks**

  This option relinks product executables in an existing Oracle Procedure Builder installation.

**Installation Options**

- **Install New Product - Create DB Objects**
Using the Oracle Installer

Select this option for a new installation and to create database objects during the installation.

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

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

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

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

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

- **De-Install Software**
  Select this option to de-install old products before upgrading products using the existing $ORACLE_HOME.

Depending upon the Installation Option that you chose for your Installation Type, you will be prompted, at some point, for Environment Variables, Installation Log Files, and Install Source described in the following sections

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

Confirm or change the directory pathnames shown for ORACLE_HOME and ORACLE_BASE.
Enter the ORACLE_BASE for your Oracle product directory structure. This directory will contain the Oracle Procedure Builder software as well as associated administration files. If you set ORACLE_BASE before starting the Installer, this field defaults to the value you chose.

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

**Installation Log Files**

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

- install.log
- sql.log
- make.log
- os.log

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

**Install Source**

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

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

If you install from a staging area, you can load and install the distribution in distinct phases. You must choose between temporary and permanent staging areas.

If you choose a temporary staging area, the Installer converts the contents of the staging area into the installed distribution during the Installer session.
A permanent staging area is neither removed nor converted during installation. You can, therefore, use it to perform multiple installations.

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

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

---

**National Language Support (NLS)**

This screen only appears if you select a Custom install.

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

**Relink Executables**

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

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

- installing a new Oracle protocol adapter
- linking Oracle products
- installing patches or bug fixes

**Root Install Script File**

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

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

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

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

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

Remaining Installation Dialogs

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

Software Upgrade

This section describes upgrading from Oracle Procedure Builder Release 2.1 to Oracle Procedure Builder Release 6.0. It is assumed that Oracle Procedure Builder Release 2.1 is installed in your ORACLE_HOME before you begin upgrading to Release 6.0. You must de-install old versions of Oracle Procedure Builder products.

**Note:** Upgrading Oracle Procedure Builder to Release 6.0 does not require a Database Object upgrade.
1. Start the Release 2.0 Installer as described in "Start the Installer" on page 3-4.

   **Note:** Use the old Installer provided with Developer/2000 Release 2.1 to de-install the old version of Oracle Procedure Builder. You must de-install all Developer/2000 Release 2.1 products, not just those products you want to upgrade. Use only the new Installer to install the new version.

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

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

4. Continue answering the Installer prompts.

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

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

---

**Creating or Upgrading Database Objects**

To create or upgrade database objects, run the following script:

```bash
$ $ORACLE_HOME/bin/install_tables.sh
```
Completing Oracle Procedure Builder Installation

This chapter describes post-installation and configuration tasks.

The following topics are covered in this chapter:

- Verifying Your Installation
- Setting Printer Configuration Files
- Setting Up the Oracle Procedure Builder Environment
- Setting Up the GUI Environment
- Enabling Use of Other Languages
Verifying Your Installation

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

For the Korn or Bourne shell:
$ DEBUG_SLFIND=outfile; export DEBUG_SLFIND

For the C shell:
% setenv DEBUG_SLFIND outfile

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

Verify Audio

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

$ ls -l /dev/audio*

Setting Printer Configuration Files

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

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

Locate and Install PPD and AFM Files for Your Printers

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

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

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

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

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

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

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

   ```
   $ grep Font PPD_filename | more
   ```

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

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

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

**Changing the Default PPD File**

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

   ```
   $ mv default.ppd default.ppd.old
   $ cp another_PPD_file default.ppd
   ```
Modifying the PPD Files
Do not modify the PPD files unless you want to add fonts to the printer and you want these changes reflected in Oracle applications. If you add fonts to your printer, you should also add entries for these fonts to the printer’s PPD file.

The format for a font entry is as follows:

*Font font_name: encoding "version" charset

Where:
- `font_name` specifies the Adobe font name as specified in PostScript.
- `encoding` specifies the PostScript encoding name.
- `version` specifies the font’s version number.
- `charset` specifies the Adobe character set name.

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

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

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

`printer:printer_driver:Toolkit_driver: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.
- `printer_driver` specifies the type of print driver used for the printer. The Toolkit currently supports the PostScript, ASCII, and PCL selections for the printer driver.
**Setting Printer Configuration Files**

**Setting Printer Configuration Files**

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

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

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

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

**Update the Toolkit Font Mapping File**

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

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

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

**Set the TK60_FONTALIAS Environment Variable**

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

**Modify the uifont.ali File**

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

Where:

new_font is a font you want to add.

existing_font is a font that already exists on your printer.

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

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

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

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

The following rules apply:

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


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

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

Use the correct number of periods as placeholders if you choose not to define certain elements. Trailing periods may be truncated. For example, in the following statement the two sides are equivalent even though the size is not specified on the left side:
Arial..Italic+Overstrike = Helvetica.12.Italic.Bold

Set Printer Commands (Optional)
You can set TK6_PRINT to store the print command and TK6_PRINT_STATUS to store the printer status command. You must supply a print_string. For example:
lp -s -d '%n' -n%c
lpstat -p '%n'

which allows you to embed the following strings:
$n the name of the printer.
$c the number of copies (printed as a decimal number).

If you do not set TK6_PRINT, the value defaults to:
lp -s -d '%n' -n%c

If you do not set TK6_PRINT_STATUS, the value defaults to:
/usr/bin/lpstat -p '%n'

To set TK6_PRINT and TK6_PRINT_STATUS for the Bourne shell, enter:
$ TK6_PRINT="print_string"; export TK6_PRINT
$ TK6_PRINT_STATUS="print_string"; export TK6_PRINT_STATUS

For the C shell, enter:
% setenv TK6_PRINT "print_string"
% setenv TK6_PRINT_STATUS "print_string"
Specify a Default Printer

Oracle Procedure Builder determines your default printer by searching for values of the following variables in the given order:

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

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

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

Information on Printing to HP PCL Printers

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

As with PostScript’s AFM files, every HP font must have an associated TFM file; TFM files should be provided by the font vendor, and new fonts should be added to the glue file for your printer when installed. The TFM files are located under $ORACLE_HOME/guicommon6/tk65/admin/TFM.

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

\[\text{FONT} = \{\text{fontname}\} \]
\[\text{fontname}\] is a descriptive name for the font.

\[\text{/tfm} = \{\text{tfm-filename}\} \]
\[\text{tfm-filename}\] is the base filename for TFM file.

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

\[\text{/ptsize} = \{\text{size {size ...}}\} \]
If the font is a bitmapped font, but is listed in the TFM file as a scalable font, you can limit the point sizes used by listing all acceptable sizes.

/symset={symset {symset ...}}

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

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

<defaultpaper={papername}>

For example, <defaultpaper=A4 will set the default paper to A4.

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

Test Printing Capabilities and Fix Errors

1. Test printing capability.
   
   Start up Oracle Procedure Builder and print to the default printer.

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

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

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

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

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

$ . developer60.sh

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

% source developer.csh

Set LD_LIBRARY_PATH for Each User
To run Oracle Procedure Builder, you must set the LD_LIBRARY_PATH environment variable. Oracle Procedure Builder uses dynamic, or shared, libraries. Therefore, you must set LD_LIBRARY_PATH so that the dynamic linker can find the libraries. To determine if your LD_LIBRARY_PATH is set, enter:

$ echo $LD_LIBRARY_PATH

Set the LD_LIBRARY_PATH environment variable to $ORACLE_HOME/lib.

For the Bourne and Korn shell:

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

For the C shell:

% setenv LD_LIBRARY_PATH "
$ORACLE_HOME/lib:$LD_LIBRARY_PATH"
Setting Up the GUI Environment

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

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

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

➤ Getting Help with X and OSF/Motif

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

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

➤ Relocate Key Definition File

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

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

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

2. Set up the XKeysymDB file of your choice.

If you have a version of XKeysymDB in /usr/openwin/lib/X11, decide whether to use the new file as is or 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.

- To preserve the original file, enter:
  # cd /usr/openwin/lib/X11
  # mv XKeysymDB XKeysymDB.OLD
  # cd $ORACLE_HOME/guicommon6/tk60/admin

- To merge the new file with the existing file, add the old material you want to keep into the new file using your system editor.

- To install the new file, enter:
  # cp XKeysymDB /usr/openwin/lib/X11

---

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

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

---

3. Exit the root user account.

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

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

This section describes the following topics:

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

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

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

```
machine_name : server.screen
```

Where:

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

For example, your workstation is named `bambi`, and you want to run Motif Oracle Procedure Builder from a larger machine named `godzilla`. From `godzilla`:

For the Bourne or Korn shell, enter:

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

For the C shell, enter:

```
% 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.
Enabling Use of Other Languages

Control Display Access with the xhost Utility

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

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

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

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

```
$ xhost +godzilla
```

To allow unlimited, unspecified access, enter:

```
$ xhost +
```

---

**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.

---

Enabling Use of Other Languages

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

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

- Set NLS_LANG
- Set the Tk6Motif*fontMapCs File
Set NLS_LANG

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

For the Bourne and Korn shell, enter:

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

For the C shell, enter:

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

Where:

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

**Note:** If NLS_LANG is not set, the default setting is `us7ascii`.

Table 4–1 provides values supported by Oracle Procedure Builder products for NLS_LANG.

<table>
<thead>
<tr>
<th>Language Name</th>
<th>language Value</th>
<th>territory Value</th>
<th>character_set Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croatian</td>
<td>croatian</td>
<td>croatia</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Czech</td>
<td>czech</td>
<td>&quot;czech republic&quot;</td>
<td>ee8iso</td>
</tr>
<tr>
<td>English</td>
<td>american</td>
<td>america</td>
<td>us7ascii</td>
</tr>
<tr>
<td>Danish</td>
<td>danish</td>
<td>denmark</td>
<td>we8iso</td>
</tr>
<tr>
<td>Dutch</td>
<td>dutch</td>
<td>“the netherlands”</td>
<td>we8dec</td>
</tr>
<tr>
<td>Finnish</td>
<td>finish</td>
<td>finland</td>
<td>we8dec</td>
</tr>
<tr>
<td>French</td>
<td>french</td>
<td>france</td>
<td>we8dec</td>
</tr>
<tr>
<td>German</td>
<td>german</td>
<td>germany</td>
<td>we8dec</td>
</tr>
<tr>
<td>Greek</td>
<td>greek</td>
<td>greece</td>
<td>el8iso</td>
</tr>
</tbody>
</table>
Set the Tk6Motif*fontMapCs File

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

Tk6Motif*fontMapCs: xset=character_set

Where:

xset The name of an X character set.
To get a list of all character sets available on your X Server, enter:

\[ \$ \text{xlsfonts} | \text{awk} \ -F\ ' ' \{\text{print} \ 14 \ "-" \ 15\} | \text{sort} \ -u \]

*character_set*  The name of an Oracle character set.
This chapter explains how to configure Oracle Procedure Builder Release 6.0 on your Intel UNIX operating system.

The following topics are covered in this chapter:

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

The information in this chapter supplements the information provided in Oracle Developer: Guidelines for Building Applications. Use your Web browser to view this document in $ORACLE_HOME/doc60/admin/manuals/us/guide60/gd60toc.htm.

Administering Oracle Procedure Builder

Executables

The executables are in the $ORACLE_HOME/bin subdirectory. The Oracle Procedure Builder executable is listed in Table 5–1.

Table 5–1 Oracle Procedure Builder Executables

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runtime</td>
<td>de60desm</td>
</tr>
</tbody>
</table>

Setting Environment Variables

**ORAPLSQLLOADPATH**

The ORAPLSQLLOADPATH environment variable tells Oracle Procedure Builder the path to look for PL/SQL files. Procedure Builder supports, but does not require, this variable.

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

Using Oracle Procedure Builder

Starting Oracle Procedure Builder Runtime

To start the Motif mode version of Oracle Procedure Builder Runtime, enter:

$ de60desm filename

To start the line mode version of Oracle Procedure Builder Runtime, enter:

$ de60desm filename mode=line
Relinking Oracle Procedure Builder

To relink Oracle Procedure Builder, enter:

$ cd $ORACLE_HOME/procbuilder60/lib
$ make -f ins_procbuilder.mk install
The following topics are covered in this chapter:

- The Resource Database
- Configure Your Environment for Motif
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/openwin/lib/app-defaults.

   WARNING: Do not move the Tk2Motif file to the /usr/openwin/lib/app-defaults directory, as this may override critical internal Oracle Toolkit resources.

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

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.distype files are read and merged non-destructively into the database; i.e., 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/guicommon6/tk60/admin/Tk2Motif.distype

   Where distype 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.

**See Also:** The X Window System documentation set.

---

### Set the Font Search Path with the xset Utility

Use the `xset` utility to specify preferences for the display and keyboard. For example, you can use the `xset` utility to set 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/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:

\$ 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:

\$ xset fp directory[, directory...]

Use the \texttt{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:

\$ xset fp default

The simplest way to find available font names for font specification is to use the \texttt{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 \texttt{.Xdefaults} in their home directory for default settings of colors, fonts, and other aspects of application behavior. You can use the \texttt{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 \texttt{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 \texttt{.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 (note that all windows at all times are movable under Motif). Use the Motif Window Manager (\texttt{mwm}), OPEN LOOK
Configure Your Environment for Motif

This section is organized as follows:

- Overview of Resource Files
- X Resource Files
- Oracle Toolkit Resource Files
- Set Oracle Toolkit/Motif Resources in the Tk2Motif File
- Overlapping Motif and Oracle Terminal (Motif) Key Mappings

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 a listing of the Motif resource settings and the Widgets which are supported by the Toolkit and used by Oracle Developer tools. The relevant X resource files are as follows:

$ORACLE_HOME/guicommon6/tk60/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 Oracle Developer windows to sky blue, is opened by Oracle Terminal to initialize color display resources. If you want to set your Oracle Developer windows to something other than sky blue, you must rename the gray, rose, or steel files to be Tk2Motif.rgb. For example, if you want rose-colored Oracle Developer windows, enter:

```
$ cd $ORACLE_HOME/guicommon6/tk60/admin
```

---

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When you restart the application, Oracle Developer windows will be rose-colored.
If you want to change a single user’s environment to rose-colored windows, enter:

```
$ 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.

### 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.

**Example 1**

The following example shows how the specifications in a user’s `$HOME/Tk2Motif` file override specifications in the file `$ORACLE_HOME/guicommon6/tk60/admin/Tk2Motif.rgb`.

In this scenario, the file `$ORACLE_HOME/guicommon6/tk60/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 a 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:

```plaintext
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:

```plaintext
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 in all other cases, by entering the following lines in your Tk2Motif file:

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

**Overlapping Motif and Oracle Terminal (Motif) Key Mappings**
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.
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