Oracle® Developer Server

Installation Guide

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

June 1999
Part No. A70128-02

Topics Include:
Features and Requirements
Setting the Environment
Installation Tasks
Completing Oracle Developer Server Installation
Oracle Developer Server Administration
Creating User Exits
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Part No. A70128-02

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■ 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?
■ What features did you like most about this manual?

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  Redwood Shores, CA 94065
  USA

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Preface

Purpose

The Oracle Developer Server Installation Guide for Intel UNIX provides Intel UNIX installation and configuration information for Release 6.0 of Oracle Developer. 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 Developer, see the product documentation for Oracle Browser, Oracle Forms, Oracle Graphics, Oracle Procedure Builder, 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 Developer Server Release 6.0 on Intel UNIX. Verify that the system meets these requirements before starting the installation.

The following topics are covered in this chapter:

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

Oracle Developer Server is an integrated set of database tools supporting multiple platforms, user interfaces, and data sources. These tools are 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 Developer Server 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 Developer Server Installation" and Chapter 5, "Oracle Developer Server Administration".

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


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

The following products are supported in Oracle Developer Server.

<table>
<thead>
<tr>
<th>Table 1–1 Oracle Developer Server Supported Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Forms</td>
</tr>
<tr>
<td>Oracle Graphics</td>
</tr>
<tr>
<td>Oracle Reports</td>
</tr>
</tbody>
</table>
Installation Overview

Client-only and Server-based Installations

**Client-only Installation**
You must install Oracle Developer Server 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 Developer Server 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 Developer Server is installed on client machines connecting to the database server with Oracle Net8.

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

Table 1–2 lists the Oracle Developer Server Release 6.0 tools and whether they support character mode, Motif, and Web interfaces on Intel UNIX.

Table 1–2 Oracle Developer Server Release 6.0 Tools

<table>
<thead>
<tr>
<th>Oracle Product</th>
<th>Character Mode Runtime</th>
<th>Motif (v1.2.3)</th>
<th>Web</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Browser</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Oracle Forms</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Oracle Graphics</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Oracle Reports</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Oracle Procedure Builder</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Oracle Project Builder</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Online Documentation and Help

Installation Guide

Oracle Developer Server 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 Developer Server 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.

Note: Web interfaces are only available in the Oracle Developer Server release, not in the Oracle Developer release.

Note: None of the Oracle Developer Server products listed have a character mode designer component.
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 Developer Server on Intel UNIX.

Hardware Requirements

Table 1–3 lists hardware requirements for installing and running Oracle Developer Server on Intel UNIX.

### Table 1–3 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 1–4 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>
Table 1–5  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 1–6  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 1–7 lists operating system requirements for installing and running Oracle Developer Server on Intel UNIX.

Table 1–7  Operating System Requirements

<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>
System Requirements

Table 1–8 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 1–9 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 1–10 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 1–11 lists user interface requirements for installing and running Oracle Developer Server products on Intel UNIX.

Table 1–11 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>
Relinking Requirements

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

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

Disk Space and Memory Requirements

Table 1–12 lists disk space, database space, and memory requirements for Oracle Developer Server. 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 1–12 Space Requirements for Oracle Developer Server

<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>70.3</td>
<td>0.53</td>
</tr>
<tr>
<td>Oracle Forms</td>
<td>160.0</td>
<td>0.32</td>
</tr>
<tr>
<td></td>
<td>Runtime (Char.)</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Designer (Motif)</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Runtime (Motif)</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Generator (Char.)</td>
<td>3.6</td>
</tr>
</tbody>
</table>
### Disk Storage Requirements

#### Table 1-12  Space Requirements for Oracle Developer Server

**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>Generator (Motif)</td>
<td>3.6</td>
<td>0</td>
</tr>
<tr>
<td>Runtime (Web)</td>
<td>3.6</td>
<td>0</td>
</tr>
<tr>
<td>Oracle Reports</td>
<td>85.0</td>
<td>0.39</td>
</tr>
<tr>
<td>Builder</td>
<td>3.8</td>
<td>0</td>
</tr>
<tr>
<td>Converter</td>
<td>3.8</td>
<td>0</td>
</tr>
<tr>
<td>Runtime (Char.)</td>
<td>3.8</td>
<td>0</td>
</tr>
<tr>
<td>Runtime (Motif)</td>
<td>4.0</td>
<td>0</td>
</tr>
<tr>
<td>CGI Executable</td>
<td>0.3</td>
<td>0</td>
</tr>
<tr>
<td>Multi-tier server</td>
<td>0.3</td>
<td>0</td>
</tr>
<tr>
<td>Client (Web)</td>
<td>0.3</td>
<td>0</td>
</tr>
<tr>
<td>Webcartridge</td>
<td>0.3</td>
<td>0</td>
</tr>
<tr>
<td>Queue Viewer</td>
<td>0.1</td>
<td>0</td>
</tr>
<tr>
<td>Oracle Graphics</td>
<td>42.0</td>
<td>0.12</td>
</tr>
<tr>
<td>Designer (Motif)</td>
<td>3.8</td>
<td>0</td>
</tr>
<tr>
<td>Runtime (Motif)</td>
<td>3.8</td>
<td>0</td>
</tr>
<tr>
<td>Oracle Browser</td>
<td>20.2</td>
<td>0.04</td>
</tr>
<tr>
<td>Query Builder</td>
<td>0.26</td>
<td>0</td>
</tr>
<tr>
<td>Schema Builder</td>
<td>0.26</td>
<td>0</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 Project Builder</td>
<td>8.9</td>
<td>0</td>
</tr>
<tr>
<td>Project Builder (Motif)</td>
<td>0.56</td>
<td>0</td>
</tr>
<tr>
<td>Oracle Installer</td>
<td>39.1</td>
<td>0</td>
</tr>
<tr>
<td>Oracle Common</td>
<td>138.0</td>
<td>0</td>
</tr>
<tr>
<td>Online Documentation Library</td>
<td>239.5</td>
<td>0</td>
</tr>
</tbody>
</table>
Oracle Application Server Installation

If you are using the Oracle Developer Server options, Oracle Developer Server will need to be installed in the same ORACLE_HOME as Oracle Application Server 4.0.7.

National Language Support for Oracle Developer Server

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

- American English
- Brazilian Portuguese
- Traditional Chinese*
- Simplified Chinese
- Czech
- Danish
- Dutch
- Finnish
Issues and Restrictions

- French*
- German*
- Greek
- Hungarian
- Italian*
- Japanese*
- Korean
- Latin American Spanish
- Norwegian*
- Polish
- Portuguese
- Romanian
- Russian
- Spanish*
- Turkish

**Arabic Language Support**

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

The following topic is covered in this chapter:

- Pre-Installation Tasks
Pre-Installation Tasks

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

Create a UNIX Account to Own Oracle Software

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

The oracle account is the UNIX account that owns the Oracle Developer Server 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 root (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 Developer Server uses to store Oracle Developer Server objects, such as Oracle Forms applications, in the database.
Database objects must exist in each database where you are storing Oracle Developer Server objects. If you have already installed the database objects on your database, do not install them again.

If you are upgrading to Oracle Developer Server 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_tables
3  WHERE table_name LIKE 'table_name';
```

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

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

### Set Up the tnsnames.ora File

If you are installing database objects, you must set up the tnsnames.ora file before you run the Installer. The tnsnames.ora file contains details of the remote databases available to the Oracle Developer Server products 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 =
```
Pre-Installation Tasks

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

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 Developer Server installation. Log into the oracle account and set environment variables according to the instructions in this section. The startup file, normally located in your UNIX login home directory, will vary depending upon the shell used. Typically, .profile is used for the Bourne and Korn shells, and .cshrc is used for the C shell.

Syntax of Environment Variables

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

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

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

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

For the Bourne 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>
<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>Intel UNIX Intel xterm</td>
<td>386s</td>
</tr>
<tr>
<td>Data General 200</td>
<td>dgd2</td>
</tr>
<tr>
<td>Data General 400</td>
<td>dgd4</td>
</tr>
<tr>
<td>IBM High Function Terminal and aixterm (monochrome)</td>
<td>hft</td>
</tr>
<tr>
<td>IBM High Function Terminal and aixterm (color)</td>
<td>hftc</td>
</tr>
<tr>
<td>hpterm terminal emulator and HP 700/9x terminal</td>
<td>hpterm</td>
</tr>
<tr>
<td>IBM 3151 terminal</td>
<td>3151 (for IBM)</td>
</tr>
<tr>
<td>NCD X Terminal with vt220 style keyboard</td>
<td>ncd220</td>
</tr>
<tr>
<td>Sun cmdtool/shelltool using a type 4 keyboard</td>
<td>sun</td>
</tr>
<tr>
<td>Sun cmdtool/shelltool using a type 5 keyboard</td>
<td>sun5</td>
</tr>
<tr>
<td>vt100 terminal</td>
<td>vt100</td>
</tr>
<tr>
<td>vt220 terminal</td>
<td>vt220</td>
</tr>
<tr>
<td>Wyse 50 or 60 terminal</td>
<td>wy50</td>
</tr>
<tr>
<td>Wyse 150 terminal</td>
<td>wy150</td>
</tr>
<tr>
<td>Sun xterm using a type 4 keyboard</td>
<td>xsun</td>
</tr>
<tr>
<td>Sun xterm using a type 5 keyboard</td>
<td>xsun5</td>
</tr>
</tbody>
</table>

**TWO_TASK**

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

**ORA_NLS33**

For the Installer to function properly, the ORA_NLS33 environment variable, used in earlier releases, cannot be set. Check to see if the variable is set.
Pre-Installation Tasks

$ 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 Developer Server. 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 cdrom device_name /cdrom
   ```

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

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

For UnixWare7:

```
# 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.

```
# 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 Developer Server. 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
Using the Oracle Installer

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

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

- **Custom Install**

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

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

---

**Readme Files**

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

**Installation Activity Choice**

The Installer prompts you with three options:

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

  Select this option to install or upgrade Oracle Developer Server 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 Developer Server installation.

**Installation Options**

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

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

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

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

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

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

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

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

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

Confirm or change the directory pathnames shown for ORACLE_HOME and ORACLE_BASE.
Enter the ORACLE_BASE for your Oracle product directory structure. This directory will contain the Oracle Developer Server 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 Developer/2000 Release 2.1 to Oracle Developer Server Release 6.0. It is assumed that Developer/2000 Release 2.1 is installed in your ORACLE_HOME before you begin upgrading to Release 6.0. You must de-install old versions of Developer/2000 products.

---

**Note:** Upgrading Developer/2000 to Oracle Developer Server Release 6.0 does not require a Database Object upgrade.

---

1. Start the Release 2.1 Installer as described in “Start the Installer” on page 3-4.
Creating or Upgrading Database Objects

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 Developer/2000 Release 2.1 products are deleted, start the new Installer and install the Oracle Developer Server 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:

$ $ORACLE_HOME/bin/install_tables.sh
Completing Oracle Developer Server 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 Developer Server Environment
- Setting Up the GUI Environment
- Setting Up Oracle Developer Server
- Setting Up Oracle Developer Tuxedo
- 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 Intel 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 Developer Server products, you need to update the $ORACLE_HOME/guicommon6/tk60/admin/uiprint.txt file with entries for each of your printers. Using this file enables you to obtain correct paper sizes and correct printer resolution. Toolkit application users can now set their print jobs to use various paper sizes available on the selected printer.

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

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

printer:printer_driver:Toolkit_driver: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 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.
### 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.

**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.

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

### Set the TK60_FONTALIAS Environment Variable

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

### Modify the `uifont.ali` File

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

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

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

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

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

Where:

new_font is a font you want to add.

existing_font is a font that already exists on your printer.

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

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

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

face specifies the name of the font the Toolkit uses for printing. Common fonts include Palatino, Helvetica, Courier, and Times.

size specifies the size of the font in points.

style specifies the choice of style options, which are plain, italic, oblique, underline, outline, shadow, inverted, and overstrike. If there is more than one style, the list must be enclosed in parentheses, for example, (plain italic).

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

width specifies the choice of width options, which are ultradense, extradense, dense, semidense, normal, semiexpand, expand, extraexpand, and ultraexpand.

charset specifies the name of a character set. This option is not supported in the current release.

The following rules apply:

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


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


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

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

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

**Set Printer Commands (Optional)**

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

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

which allows you to embed the following strings:

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

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

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

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

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

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

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

For the C shell, enter:

```
% setenv TK6_PRINT "print_string"
% setenv TK6_PRINT_STATUS "print_string"
```
Specify a Default Printer

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

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

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

```plaintext
FONT={fontname}
```

`{fontname}` is a descriptive name for the font.

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

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

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

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

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

/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 Developer Server 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.

ียว Test Printing Capabilities and Fix Errors

1. Test printing capability.

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

2. Select a printer from the Choose Printer dialog.

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

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

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

Configure the developer60 Shell Scripts
Using a text editor, configure the scripts in the ORACLE_HOME directory named developer60.sh and developer60.csh. These files allow you to designate values for environment variables used by Oracle Developer Server. 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 Developer Server products.

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

$ . developer60.sh

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

% source developer60.csh

Set LD_LIBRARY_PATH for Each User
To run the Oracle Developer Server products, you must set the LD_LIBRARY_PATH environment variable. Oracle Developer Server products use 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 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 Developer Server:

- 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 Developer Server is running. To move the file, perform the following steps:

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

```
# 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 Developer Server 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 Forms from a larger machine named `godzilla`. From `godzilla`:

For the Bourne and 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.
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:

\[
\text{$ xhost +\text{godzilla} $}
\]

To allow unlimited, unspecified access, enter:

\[
\text{$ xhost + $}
\]

**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.

Setting Up Oracle Developer Server

The Forms, Reports, and Graphics servers allow you to deploy new and existing applications on the World Wide Web.

You must use the following two executables to install required software on each Windows machine that will be used as a client of Oracle Developer Server Release 6.0:

- $ORACLE_HOME/bin/jdk.exe
- $ORACLE_HOME/bin/jinit.exe
Enabling Use of Other Languages

The jdk.exe executable installs Oracle’s JDK 1.1.7 and an appletviewer that can be used as a client to Oracle Developer Server. The jinit.exe executable installs JInitiator 1.1.7.11.

To install these products:

1. Use ftp to copy jdk.exe and jinit.exe to the client Windows machine.
2. Find jdk.exe and jinit.exe in Windows and double-click on either executable.
3. Follow instructions on screen to complete the installation.
4. Repeat steps 3 and 4 for the other executable.
5. Using the System Properties control panel in Windows, configure the PATH environment variable so that it includes the location of the directory where you installed Oracle’s JDK 1.1.7.

Repeat these steps for every Windows machine that will be used as a client of this release of Oracle Developer Server.

Please refer to Oracle Developer Server: Guidelines for Building Applications for information on configuring Forms, Reports, and Graphics for the Web. This documentation set is installed in the $ORACLE_HOME/doc60/admin/manuals/US/guide60/gd60toc.htm directory.

Setting Up Oracle Developer Tuxedo

Oracle Developer Tuxedo enables you to use Oracle Forms Release 6.0 as a front-end development tool to the Tuxedo transaction processing (TP) monitor. For information on how to set Developer Tuxedo up, please refer to Chapter 3 of Using Oracle Developer with the Tuxedo TP Monitor located at $ORACLE_HOME/d2tx/doc/d2tx60.doc.

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 Developer Server to run in languages other than the default language (English):

- Set NLS_LANG
Enabling Use of Other Languages

Set the Tk6Motif*fontMapCs File

Note: Forms and Graphics runtime files may need to be regenerated if they were previously generated with a different NLS_LANG setting.

Set NLS_LANG

Oracle Developer Server 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
$ 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 Developer Server 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>
</tbody>
</table>
### Table 4–1  Settings for NLS_LANG

<table>
<thead>
<tr>
<th>Language Name</th>
<th>language Value</th>
<th>territory Value</th>
<th>character_set Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutch</td>
<td>dutch</td>
<td>“the netherlands”</td>
<td>we8dec</td>
</tr>
<tr>
<td>Finnish</td>
<td>finish</td>
<td>finland</td>
<td>we8dec</td>
</tr>
<tr>
<td>French</td>
<td>french</td>
<td>france</td>
<td>we8dec</td>
</tr>
<tr>
<td>German</td>
<td>german</td>
<td>germany</td>
<td>we8dec</td>
</tr>
<tr>
<td>Greek</td>
<td>greek</td>
<td>greece</td>
<td>el8iso</td>
</tr>
<tr>
<td>Hungarian</td>
<td>hungarian</td>
<td>hungary</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Italian</td>
<td>italian</td>
<td>italy</td>
<td>we8dec</td>
</tr>
<tr>
<td>Japanese</td>
<td>japanese</td>
<td>japan</td>
<td>ja16euc</td>
</tr>
<tr>
<td>Korean</td>
<td>korean</td>
<td>korea</td>
<td>kol6ksc5601</td>
</tr>
<tr>
<td>Norwegian</td>
<td>norwegian</td>
<td>norway</td>
<td>we8iso</td>
</tr>
<tr>
<td>Portuguese</td>
<td>portuguese</td>
<td>portugal</td>
<td>we8iso</td>
</tr>
<tr>
<td>Portuguese</td>
<td>&quot;brazilian portuguese&quot;</td>
<td>brazil</td>
<td>we8iso</td>
</tr>
<tr>
<td>Romanian</td>
<td>romanian</td>
<td>romania</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Russian</td>
<td>russian</td>
<td>cis</td>
<td>cl8iso</td>
</tr>
<tr>
<td>Slovak</td>
<td>slovak</td>
<td>slovakia</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Slovenian</td>
<td>slovenian</td>
<td>slovenia</td>
<td>ee8iso</td>
</tr>
<tr>
<td>Spanish</td>
<td>spanish</td>
<td>spain</td>
<td>we8dec</td>
</tr>
<tr>
<td>Spanish</td>
<td>&quot;latin american spanish&quot;</td>
<td>america</td>
<td>web8iso</td>
</tr>
<tr>
<td>Simplified Chinese</td>
<td>&quot;simplified chinese&quot;</td>
<td>china</td>
<td>zhs16cb</td>
</tr>
<tr>
<td>Traditional Chinese</td>
<td>&quot;traditional chinese&quot;</td>
<td>taiwan</td>
<td>zht16b165</td>
</tr>
<tr>
<td>Turkish</td>
<td>turkish</td>
<td>turkey</td>
<td>we8iso</td>
</tr>
</tbody>
</table>
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` is the name of an X character set
- `character_set` is the name of an Oracle character set

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

```
$ xlsfonts | awk -F- '{print $14 "-" $15}' | sort -u
```
This chapter provides information specific to administering Oracle Developer Server products and supplements the product chapters in the Oracle Developer Installation Guide for Intel UNIX.

The following topics are covered in this chapter:

- Administering Forms
- Administering Reports
- Administering Graphics
Setting Environment Variables

This section describes the environment variables you need to use Forms with Oracle Developer Server:

- HOSTNAME
- OWSPORT
- FORMS60_OUTPUT
- FORMS60_MAPPING
- GRAPHICS_WEB_DIR

HOSTNAME
HOSTNAME specifies the UNIX server machine where the Oracle Developer Server resides.

OWSPORT
OWSPORT specifies the port number that the Oracle Net8 Listener uses on your system.

FORMS60_OUTPUT
The FORMS60_OUTPUT environment variable establishes the directory in which you store Forms temporary files. The default directory is /tmp.

FORMS60_MAPPING
FORMS60_MAPPING specifies the directory where Forms writes temporary files. Its value corresponds to the values of HOSTNAME, OWSPORT, and FORMS60_OUTPUT and should have the following format:

http://$HOSTNAME:$OWSPORT/$FORMS60_OUTPUT

GRAPHICS_WEB_DIR
GRAPHICS_WEB_DIR specifies the path where graphics will find files when called by Forms.
Forms Executables

Table 5–1 contains the Forms executable names. The executables are in the $ORACLE_HOME/bin directory.

Table 5–1  Forms Executables

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms listener</td>
<td>f60webm</td>
</tr>
<tr>
<td>Forms server</td>
<td>f60srvm</td>
</tr>
<tr>
<td>Forms Web cartridge</td>
<td>f60webc.so</td>
</tr>
</tbody>
</table>

Deploying Forms on the Web

Refer to Oracle Developer Server Guidelines for Building Applications in $ORACLE_HOME/doc60/admin/manuals/US/guide60/gd60toc.htm for more information.

Relinking Forms

To relink Forms with Oracle Developer Server, enter:

$ cd $ORACLE_HOME/forms60/lib
$ make -f ins_forms60w.mk install

Further information about relinking Forms is included in the ins_forms60w.mk file.

Administering Reports

Reports Executables

The Reports executables, listed in Table 5–2, initially appear in the $ORACLE_HOME/bin subdirectory.

Table 5–2  Reports Executables

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reports CGI Executable</td>
<td>rwcgi60</td>
</tr>
<tr>
<td>Multi-Tier Server</td>
<td>rwmts60</td>
</tr>
<tr>
<td>Queue Viewer</td>
<td>rwrqv60</td>
</tr>
</tbody>
</table>
Deploying Reports on the Web

Refer to Oracle Developer Server Guidelines for Building Applications in $ORACLE_HOME/doc60/admin/manuals/US/guide60/gd60toc.htm for more information.

Relinking Reports

To relink Reports for the Oracle Developer Server, enter:

$ cd $ORACLE_HOME/reports60/lib
$ make -f ins_reports60w.mk install

Administering Graphics

Graphics Executables

The Graphics executable listed in Table 5–3 is installed in the $ORACLE_HOME/bin subdirectory.

Table 5–3  Graphics Executables and Libraries

<table>
<thead>
<tr>
<th>Component</th>
<th>Executable Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphics Web Cartridge</td>
<td>libgw60.so</td>
</tr>
</tbody>
</table>

Deploying Graphics on the Web

Refer to Oracle Developer Server Guidelines for Building Applications in $ORACLE_HOME/doc60/admin/manuals/US/guide60/gd60toc.htm for more information.

Relinking Graphics

To relink Graphics for the Oracle Developer Server, enter:

$ cd $ORACLE_HOME/graphics60/lib
$ make -f ins_graphics60w.mk install
User exits are subroutines that contain embedded SQL commands. You can create user exits by modifying the sample source file.

The following topic is covered in this chapter:

- User Exits
User Exits

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

- Forms uses $ORACLE_HOME/forms60/lib/ue_xtb.c.
- Reports uses $ORACLE_HOME/reports60/lib/rweiap.c

To create user exits:

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

   ```c
   /* Define the user exit table */
   extern exitr iapxtb[] = { /* Holds exit routine pointers */
     "UE_OK",          ue_ok, XITCC,
     "UE_ERR",        ue_err, XITCC,
     "UE_MB",         ue_mb, XITCC,
     "UE_EMP_PLAN",   ue_emp_plan, XITCC,
     (char *) 0, 0, 0   /* zero entry marks the end */};
   /* end iapxtb */
   
   The first item in the entry is the name (inside double quotes) used by the tool to reference the user exit. The second item is the actual name of the user exit routine. Names of user exits cannot be more than 30 alphanumeric characters in length, and must begin with a letter. The last item (XITCC) indicates that the user exit is called using C calling conventions. For other languages, you would use one of the following:
   - XITCOB /* COBOL */
   - XITFOR /* FORTRAN */
   - XITPLI /* PL/I */
   - XITPAS /* Pascal */
   - XITAda /* Ada */

2. After modifying the source file, compile it along with your user exit program. Next, link the resulting IAPXTB object file with the product executable(s).
Forms
To link your user exits into Web Forms, enter the following:

```sh
$ cd $ORACLE_HOME/forms60/lib
$ make -f ins_forms60w.mk EXITS="my_iapxtb.o \userexit1.0 userexit2.0 ..." f60webmx
```

Then replace the default Web Forms f60webmx engine with your newly relinked copy:

```sh
$ mv f60webmx $ORACLE_HOME/bin/f60webm
```

Reports
To link your user exits into the Reports Web engine, enter the following.

```sh
$ cd $ORACLE_HOME/reports60/lib
$ make -f ins_reports60w.mk EXITS="my_iapxtb.o userexit1.0 userexit2.0 ..." rwrun60x
```

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

```sh
$ mv rwrun60x $ORACLE_HOME/bin/rwrun60
```

Graphics
Linking user exits into the Graphics Web cartridge is not currently supported.

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:

```sh
$ cd $ORACLE_HOME/reports60/lib
$ make -f ins_reports60w.mk EXITS="my_iapxtb.o userexit1.o userexit2.o ..." rwrun60x
```

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

```sh
$ mv rwrun60x $ORACLE_HOME/bin/rwrun60
```
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