

Oracle Server Manager[™] User's Guide

Release 2.1

Part No. A30887-1

ORACLE[®]

Oracle Server Manager User's Guide, Release 2.1

Part No. A30887-1

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Contributing Authors: Eric Belden, Valerie Kane, Vrinda Kirloskar, Harry Sun

Contributors: Bruce Arthur, Dennis Buchheim, Edith Cheng, George Dong, Michael Hartstein, Stella Jacoby, Robin Keller, Alex Meyer, Valarie Moore, Maria Pratt, Marc Sinykin, Anthony Sirna, Daniel Sternbergh, Scott Storkel, David Urry, Michael Wei, Kim Zabora

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Preface

This section describes the purpose and organization of this guide: the *Oracle Server Manager User's Guide*. This section also illustrates the conventions used in this guide.

The Preface contains the following information:

- the purpose of the guide
- the intended audience for the guide
- the organization of the guide

Purpose of this Guide

This guide describes how to use Oracle Server Manager™, Oracle's database administration tool. This guide describes Server Manager's graphical component (Server Manager/GUI) and line mode component (Server Manager/LineMode).

Information in this guide applies to Server Manager running on all platforms. Where some functionality may differ from platform to platform, this guide refers you to your operating system-specific documentation.

Audience

This guide is written for those who wish to use Oracle Server Manager to perform database administration tasks.

Knowledge Assumed of the Reader

This guide assumes you are familiar with the administrative tasks you wish to perform. If you are not, refer to the Oracle7 Server documentation set. The Oracle7 Server documentation set contains specific and thorough descriptions of the database administration tasks you can perform with Server Manager. In addition, the Oracle7 Server documentation set provides recommendations on how to administer your database optimally.

If you have not yet read the introductory chapters of the *Oracle7 Server Administrator's Guide*, we recommend that you do so. These chapters describe the specific responsibilities of a database administrator.

Because Server Manager is available for several different Graphical User Interfaces (GUIs), this guide also assumes that you are familiar with the operation of your GUI. Refer to the user interface documentation for your system, if necessary.

How the *Oracle Server Manager User's Guide* Is Organized

This guide is divided into parts and chapters, as described below.

Part I: Introduction to Server Manager

Chapter 1: Overview of Server Manager

This chapter describes the overall organization and behavior of Server Manager's graphical interface. It discusses connecting to one or more databases with Server Manager. It also describes how to use Server Manager's launch in context facility to start up Server Manager and jump to a specified place in the graphical interface.

Part II: The Administration Manager

Chapter 2: Overview of the Administration Manager

This chapter introduces the Administration Manager. It also describes the user interface elements used in the Administration Manager.

Chapter 3: Managing Database Storage

This chapter explains how to use the Administration Manager to manage the datafiles, tablespaces, and rollback segments in your database.

Chapter 4: Controlling Database Security

This chapter describes how to use the Administration Manager to manage users, roles, and profiles. It also describes how to view the audit options set for your system.

Chapter 5: Managing Instances and Sessions

This chapter describes how to use the Administration Manager to start up or shut down your database, and examine the values of the initialization parameters used to start up the instance. It also describes how to manage in-doubt transactions and users' sessions.

Chapter 6: Backing Up and Recovering the Database

This chapter describes how to use the Administration Manager to back up your database, perform recovery, and manage the redo log files.

Chapter 7: Viewing Schema Objects

This chapter describes how to use the Administration Manager to examine various objects in your database. It also explains how to determine which objects have been analyzed and how to list the SQL statements whose execution plans are stored in the PLAN_TABLE.

Chapter 8: Managing a Replication Environment

This chapter describes how to use the Administration Manager to manage and view information about your replication environment.

Part III: The SQL Worksheet

Chapter 9: Using the SQL Worksheet

This chapter explains how to use the SQL Worksheet to enter ad hoc SQL and PL/SQL statements. It also describes the editing capabilities of the SQL Worksheet, as well as the command history and session log features.

Part IV: System Monitors

Chapter 10: Overview of the System Monitors

This chapter introduces the System Monitors. It describes the interface elements common to the monitors available in Server Manager.

Chapter 11: Monitoring System Performance

This chapter describes the System Monitors and statistics that you can view using Server Manager.

Part V: Line Mode

Chapter 12: Using Server Manager in Line Mode

This chapter describes how to use Server Manager in line mode.

Part VI: Reference

Appendix A: Server Manager Command Reference

This appendix describes the Server Manager commands available in the SQL Worksheet and in line mode.

Appendix B: Server Manager Messages and Codes

This appendix describes the messages generated by Server Manager, and lists probable causes and actions for each message.

Appendix C: Compatibility with SQL*DBA

This appendix describes the differences in functionality and behavior between Server Manager/Line Mode and SQL*DBA.

Appendix D: Keyboard Shortcuts

This appendix lists the keyboard shortcuts implemented in Server Manager.

Appendix E: Motif-Specific Operations

This appendix describes operations that are specific to running Server Manager under Motif.

Appendix F: Windows-Specific Operations

This appendix describes operations that are specific to running Server Manager under Microsoft Windows.

Appendix G: Operating System Dependencies

This appendix lists all the operating system–specific references within this guide.

How to Use This Guide

This *Oracle Server Manager User's Guide* has been designed to be used closely with the Oracle7 Server documentation set. While this guide teaches you how to use Server Manager to perform database administration tasks, the Oracle7 Server documentation set describes the reasons for and the implications of performing these tasks. Consequently, you should refer to the Oracle7 Server documentation set while using Server Manager to perform your administrative tasks.

Before using Server Manager, you should read Chapter 1, “Overview of Server Manager.” After reading Chapter 1, you may choose to proceed directly to those chapters that are relevant to the tasks you plan to perform using Server Manager.

Before using the Administration Manager, you should read Chapter 2, “Overview of the Administration Manager.” Chapter 2 provides an overview of the organization and user interface elements of the Administration Manager.

Conventions Used in This Guide

The following sections explain the conventions used in this guide.

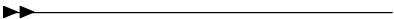



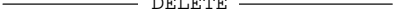
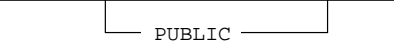
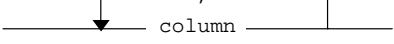
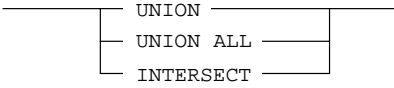
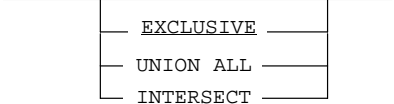
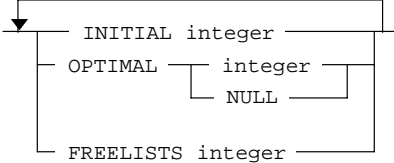
Syntax Diagrams

The syntax diagrams in this guide show the complete syntax for the Server Manager commands. Syntax diagrams are composed of these items:

Keywords Keywords are words that have special meanings. In the syntax diagrams in this guide, keywords appear in uppercase. When you specify them, they can be in uppercase or lowercase, but they must be used exactly as they appear in the syntax diagram.

Parameters Parameters act as place holders in syntax diagrams. They appear in lowercase. Parameters are usually names of schema objects, Oracle datatypes, or expressions. When you see a parameter in a syntax diagram, you should substitute an object or expression of the appropriate type. Note that parameter names appear in italics in the text of this guide.

Graphic Components Syntax diagrams use lines and arrows to show syntactic structure. The following list shows combinations of lines and arrows and their meanings within railroad diagrams:

	Beginning of a diagram.
	The diagram is continued on the next line.
	The diagram is continued from the previous line.
	End of a diagram.
	A required item (parameter or keyword). You must use it.
	An optional item. You can use the item or omit it.
	You can optionally repeat the item multiple times. Consecutive items must be separated by a comma.
	You must use one of these items.
	You can optionally use only one of the items. If there is a default item, it is underlined.
	A list of specific items. Each item can only appear once, unless otherwise specified. The items can appear in any order.

Examples

This guide also contains examples. This is an example of a SELECT statement:

```
SELECT * FROM emp
```

Note that the text of examples appears in a different font than the text of the guide.

Examples in this guide follow these case conventions:

- Keywords, such as CREATE and NUMBER, appear in uppercase.
- Names of database objects and their parts, such as emp and empno, appear in lowercase.

However, in the text of this guide, names of database objects and their parts appear in uppercase.

Illustrations

Included throughout this guide are illustrations of various Server Manager windows, dialog boxes, and alert boxes. The illustrations show Server Manager Version 2.1.3 running on Microsoft Windows NT.

Special Icons

Special icons are provided to alert you to particular information within the body of this guide and within other manuals.



OSDoc

Additional Information: Operating System-Specific

Documentation Where necessary, this guide refers you to your operating system-specific Oracle documentation for additional information.



Attention: The attention icon highlights information that is important to remember when performing the described task.



Suggestion: The suggestion icon signifies suggestions and practical hints that can be helpful when using Server Manager.



Warning: The warning icon indicates information that you should be aware of before you perform the action described in the current section.

Related Publications

The *Oracle Server Manager User's Guide* is one of many books that explain various parts of an Oracle database system.

In many sections of this guide, the information is general because the guide is written to apply to Server Manager working under any operating system and configuration. Therefore, you will also find many references in this book to important information in the related publications. The related books referred to in this guide are listed below:

- For general information about the Oracle7 Server and how it works, see the *Oracle7 Server Concepts*.
- For information about administering the Oracle7 Server, see the *Oracle7 Server Administrator's Guide*.
- For information about developing database applications within the Oracle7 Server, see the *Oracle7 Server Application Developer's Guide*.
- For the procedures for migrating a previous version of Oracle to Oracle7, see the *Oracle7 Server Migration*.
- For information on Oracle's SQL commands and functions, see the *Oracle7 Server SQL Reference*.
- For information about Oracle's procedural language extension to SQL, PL/SQL, see the *PL/SQL User's Guide and Reference*.
- For information about Oracle messages and codes, refer to *Oracle7 Server Messages*.
- For information about the utilities bundled with the Oracle Server, including Export, Import, and SQL*Loader, refer to the *Oracle7 Server Utilities*.
- For information specific to the Oracle Server working on your host operating system, see your operating system-specific Oracle documentation (specific book titles vary by operating system) and system release bulletins, if available.
- For information about SQL*Net, see the SQL*Net documentation, which includes *Understanding SQL*Net*, the *Oracle Network Manager Administrator's Guide*, the *Oracle Names Administrator's Guide*, the *Oracle Network Products Messages Manual*, and the *Oracle MultiProtocol Interchange Administrator's Guide*.



OSDoc

Oracle Corporation also publishes several ASCII files, which are available on your distribution media. These files describe differences between minor releases of Oracle software that are not accompanied by new manuals. These files are usually named README.DOC, BUGFIX.DOC, BUGHST.DOC, and RESTRICT.DOC. Read these files to learn about changes to the software that are not described in the regular manuals.

The release notes for Server Manager are also available on your distribution media. The file is commonly called SVRMGR.TXT.



OSDoc

Additional Information: The exact names and locations of the files mentioned above may vary, depending on your operating system. See your operating system-specific Oracle documentation for information about these files.

Your Comments Are Welcome

We value and appreciate your comments as an Oracle user and reader of the manuals. As we write, revise, and evaluate our documentation, your opinions are the most important input we receive. At the back of our printed manuals is a Reader's Comment Form, which we encourage you to use to tell us what you like and dislike about this manual or other Oracle manuals. If the form is not available, please use the following address or FAX number.

Server Manager Product Manager
Oracle Corporation
500 Oracle Parkway
Redwood City, CA 94065
U.S.A.
FAX: 415-506-7200



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PART

I



Introduction to Server Manager

Overview of Server Manager

This chapter introduces Oracle Server Manager and gives you an overview of its major components.

This chapter covers the following topics:

- A description of Server Manager
- An overview of Server Manager's organization
- An introduction to Server Manager's pull-down menus
- A discussion of connecting to one or more databases and managing multiple Server Manager windows
- A description of Server Manager's online Help system

What is Server Manager?

Server Manager is Oracle's database administration tool. The graphical component of Server Manager (Server Manager/GUI) allows you to perform database administration tasks with the convenience of a graphical user interface (GUI). The line mode component of Server Manager (Server Manager/LineMode) provides a line mode interface.

Server Manager and Database Administration

Server Manager is designed to provide administrative functionality via an easy-to-use interface. You can use Server Manager to:

- Perform traditional administrative tasks, such as database startup, shutdown, backup, and recovery. Rather than manually entering the SQL commands to perform these tasks, you can use Server Manager's graphical interface to execute the commands quickly and conveniently by pointing and clicking with the mouse.
- Concurrently perform multiple tasks. Because you can open multiple windows simultaneously in Server Manager, you can perform multiple administrative and non-administrative tasks concurrently.
- Administer multiple databases. You can use Server Manager to administer a single database or to simultaneously administer multiple databases.
- Centralize database administration tasks. You can administer both local and remote databases running on any Oracle platform in any location worldwide. In addition, these Oracle platforms can be connected by any network protocol(s) supported by SQL*Net and the MultiProtocol Interchange.
- Dynamically execute SQL, PL/SQL, and Server Manager commands. You can use Server Manager to enter, edit, and execute statements. Server Manager also maintains a history of statements executed. Thus, you can re-execute statements without retyping them, a particularly useful feature if you need to execute lengthy statements repeatedly.
- Perform administrative tasks using Server Manager's line mode interface when a graphical user interface is unavailable or undesirable.

Portability

Server Manager is available for multiple GUI environments, yet adopts the native look and feel of the platform on which it is running. So, Server Manager running on Motif looks like a Motif application. And, Server Manager running on Windows looks like a Windows application.

Supported Oracle Server Releases

You can use Server Manager to administer any database running Oracle7 release 7.0 or later. You can also simultaneously administer different databases running different releases of Oracle7.

Server Manager/LineMode

For those environments that do not support a graphical user interface, or for those times when a command line interface is desirable, Server Manager for Line Mode provides a conversational line mode. In line mode, you can explicitly execute commands on a command line.

You may want to use Server Manager in line mode when a graphical device is unavailable (such as when dialing-in from a non-GUI terminal) or when performing unattended operations (such as when running nightly batch jobs or batch scripts that do not require user intervention).

For more information about using Server Manager in line mode, see Chapter 12, “Using Server Manager in Line Mode.”

Using Server Manager

To use Server Manager to administer a database, you must install Server Manager on your personal computer. You must also install several views on the databases you wish to administer



Additional Information: For instructions on installing Server Manager, see your operating system-specific Oracle documentation. For example, for instructions on installing Server Manager on a Windows system, see the *Oracle Server Manager for Windows Installation Guide*.

Installing Server Manager Views

You must install the Server Manager views on each database you wish to administer. Even if you use one copy of Server Manager to administer several databases, the Server Manager views must be installed on each database.

The script CATSVRMG.SQL creates the views used by Server Manager, as well as a public synonym called SM\$VERSION. SM\$VERSION contains the script's version number, which appears in Server Manager's version banner. The CATSVRMG.SQL script is included with Server Manager on your distribution media.

In Oracle7 release 7.1 and later, the CATSVRMG.SQL script is run automatically by CATALOG.SQL.

If you wish to use Server Manager to administer a database running Oracle7 release 7.0, you must run the CATSVRMG.SQL script manually. You can run this script from a SQL Worksheet or while using Server Manager in line mode.

When running the CATSVRMG.SQL script, you must be connected with the schema SYS. So, in a release 7.0 database, you must connect as either SYS or INTERNAL. In a release 7.1 or later database, you can connect with either SYSDBA or SYSOPER privileges.

To verify that the Server Manager views have been installed, you can examine the version banner in the Administration window or query SM\$VERSION (SELECT * FROM sm\$version). Figure 1 – 1 illustrates the version banner in the Administration window.

Dropping Server Manager Views

The script CATNOSVM.SQL drops all the objects created by CATSVRMG.SQL.

Other Scripts Needed for Server Manager

Server Manager also relies on other scripts. For information about Server Manager and the UTLXPLAN.SQL script, see Chapter 7, “Viewing Schema Objects.” For information about Server Manager and the UTLMONTR.SQL script, see Chapter 10, “Overview of the System Monitors.”



OSDoc

Additional Information: The script names given above are the standard names. On some operating systems, the names and locations of these scripts may differ. See your operating system-specific Oracle documentation for details.

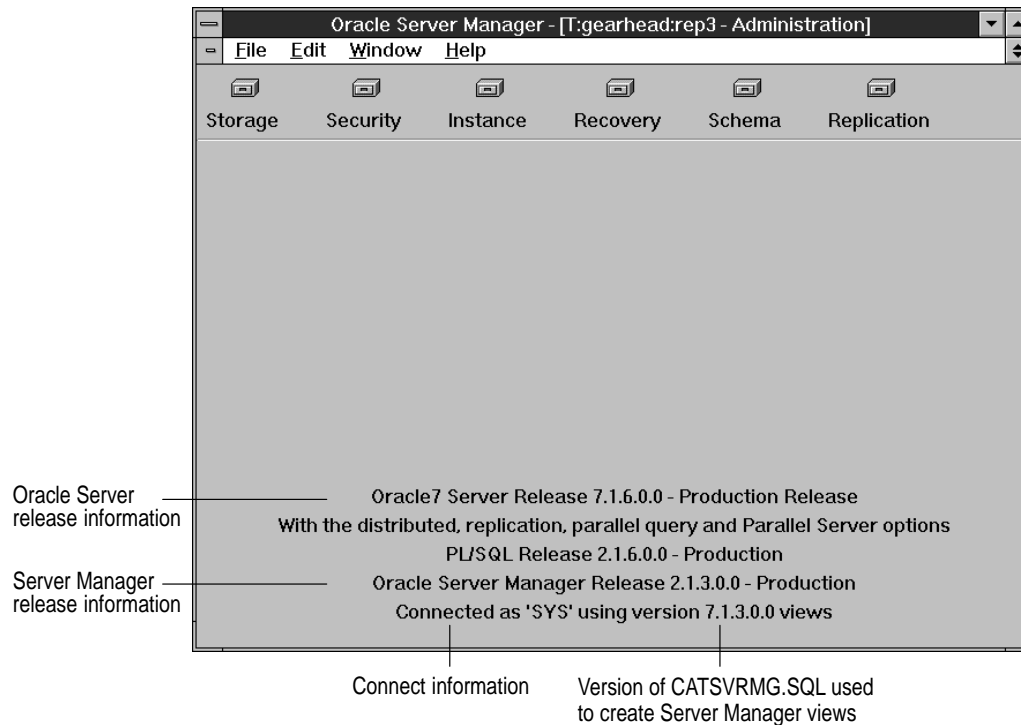


Figure 1 – 1 Administration Window Version Banner

Privileged Operations

To perform an operation or task using Server Manager, you must have the appropriate privileges. For example, to create a tablespace using Server Manager, you must have the CREATE TABLESPACE system privilege.

Because many of Server Manager's windows include information selected from data dictionary tables, you need the SELECT ANY TABLE system privilege to fully utilize Server Manager's interface. The SELECT ANY TABLE system privilege is also part of the DBA role.

Server Manager does not enable any additional roles, so any privileges you need must be part of your default role(s) and privileges.

For information about privileges and roles, refer to the *Oracle7 Server Concepts* and *Oracle7 Server Administrator's Guide*.

Starting Up Server Manager

The method for starting up Server Manager depends on your platform.



OSDoc

Additional Information: For information about starting up Server Manager, see your operating system-specific Oracle documentation.

For information on starting Server Manager with Windows, see Appendix F, “Windows-Specific Operations.”

Preliminary Server Manager Windows

When you start up Server Manager, the copyright window appears. The copyright window disappears in seven seconds. You can also type any key or click anywhere in the window to make the window disappear immediately.

Next, the Connect dialog box appears. You may connect to an Oracle instance at this time or close the dialog box. For more information about connecting to an instance, see “Connecting to an Instance” on page 1 – 13.

Skipping to a Specified Window

You can start up Server Manager and jump to a specified window in the interface. This allows you to skip any intermediate windows. This facility is called launch in context.

For a description of how to use launch in context, see “Launching Server Manager in Context” on page 1 – 17.

Server Manager Organization

Server Manager’s graphical interface is divided into three major components:

- Administration Manager
- SQL Worksheet
- System Monitors

The following sections give you an overview of these components.

Administration Manager

The Administration Manager is the primary administrative component of Server Manager. You will probably use the Administration Manager to perform most of your administrative tasks.

The Administration Manager divides database administration tasks into categories:

- Managing storage
- Controlling security
- Managing instances and sessions
- Backing up and recovering a database
- Viewing schema objects
- Managing a replication environment

Each of these categories is associated with its own pull-down menus and dialog boxes.

The Administration Manager and these categories of tasks are discussed in detail in Part II, “The Administration Manager.”

SQL Worksheets

A SQL Worksheet allows you to dynamically enter SQL statements, PL/SQL code, and Server Manager commands. You can also run scripts from a SQL Worksheet.

A SQL Worksheet maintains a history of the commands you have entered. Thus, you can use the SQL Worksheet to edit and re-execute an earlier command without having to retype it.

You can have multiple SQL Worksheets open at a time, each of which is separate from the others. So, you can commit or roll back work in each worksheet independently.

SQL Worksheets are discussed in detail in Part III, “The SQL Worksheet.”

System Monitors

The System Monitors allow you to gather and inspect performance statistics. These statistics can be useful for tuning your database.

The types of System Monitors are:

- Circuit
- Dispatcher
- File I/O
- Latch
- Library Cache
- Lock
- Process
- Queue
- Rollback
- Session
- Shared Server
- SQL Area
- System I/O
- System Statistics
- Table Access
- Tablespace

By selecting which aspects of system performance you want to monitor, you can view performance statistics. You can sample these statistics as frequently as you like by setting sampling intervals.

The System Monitors and the specific types of statistics you can monitor are discussed in detail in Part IV, “System Monitors.”

Server Manager Menus

Server Manager includes four main pull-down menus:

- File
- Edit
- Window
- Help

Some windows include other menus as well. For example, when you open the Tablespaces folder in the Administration Manager, a pull-down menu called Tablespace is added to the menu bar.

When a menu item is dimmed, it is not currently available. Menu items that end with an ellipsis (...) indicate that you will be asked to enter more information to complete the command.

File Menu

The File menu items allow you to open or close Server Manager windows and create new connections.

The following figure illustrates the File menu.

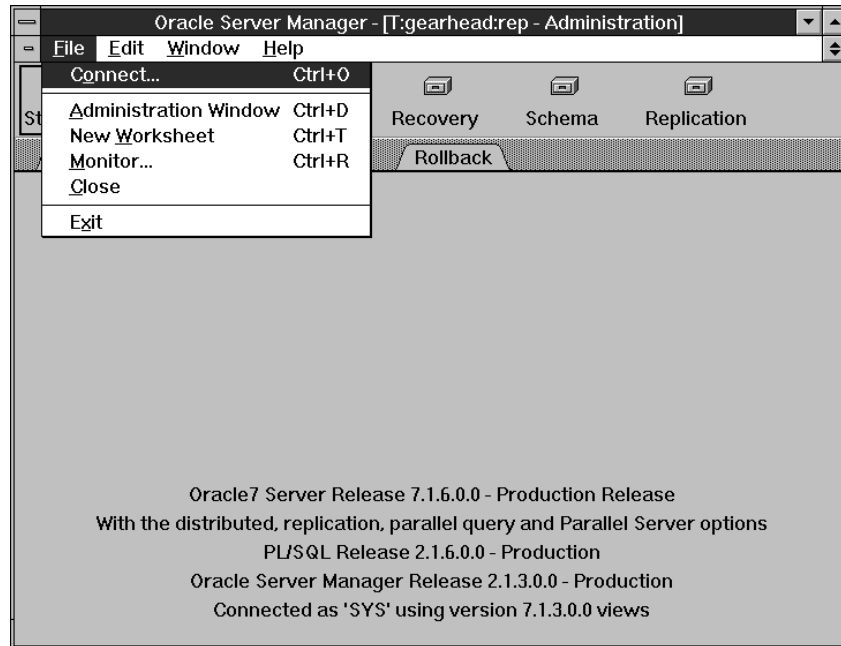


Figure 1 – 2 File Menu

The File menu is described below:

Connect	Displays the Connect dialog box to connect to an instance and open an Administration window for that database.
Administration Window	Brings the associated Administration window forward, or displays a new Administration window.
New Worksheet	Starts a new SQL Worksheet.
Monitor	Displays the Monitor dialog box, which allows you to choose a System Monitor to start.
Close	Closes the current window.
Exit	Exits Server Manager.

The Administration window, New Worksheet, and Monitor menu items are only available from a window connected to an instance. These items display a window associated with that connection.

Edit Menu

The Edit menu contains the standard editing menu items for your platform. These commands are useful when editing text in the SQL Worksheet or in the filters in the System Monitors. On some platforms, these editing capabilities may also be available for use in dialog boxes, although sometimes via keyboard equivalents only.

The following figure illustrates the Edit menu.

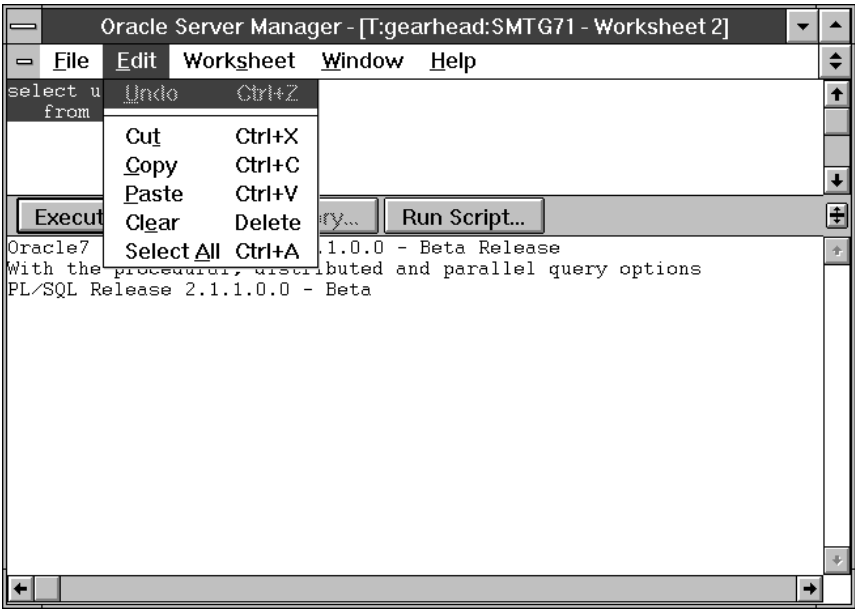



Figure 1 – 3 Edit Menu

 **Warning:** The Undo menu item, when available, undoes the last edit you performed on text. It does not undo the last operation performed on the database you are administering.

Window Menu

The Window menu contains a list of all the Server Manager windows you have open. To bring a window forward, choose its name from the Window menu.

The following figure illustrates a sample Window menu.

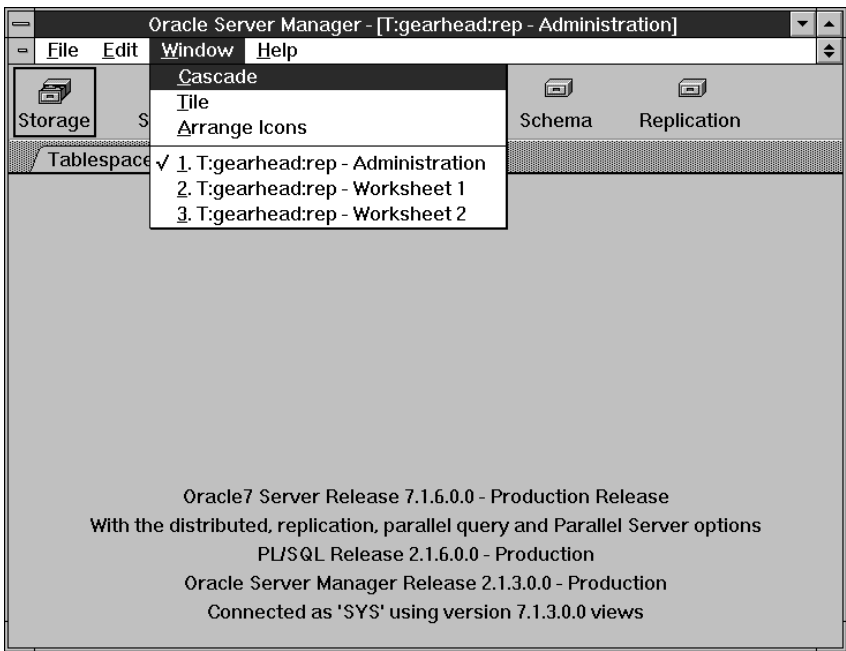


Figure 1 – 4 Window Menu

Help Menu

From the Help menu, you can access the Server Manager online Help system. For more information about Server Manager online Help system, see “Using Online Help” on page 1 – 16.

The following figure illustrates the Help menu.

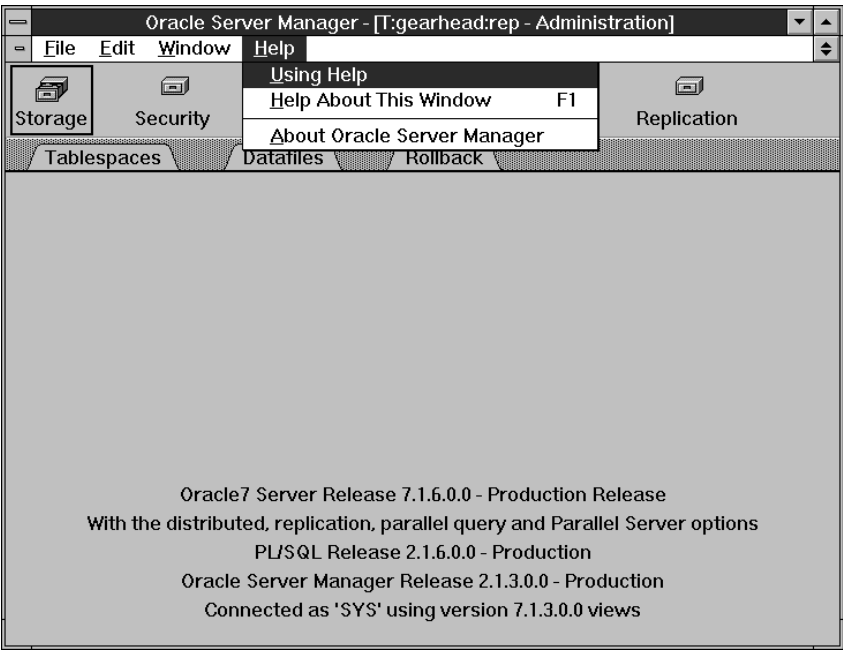


Figure 1 – 5 Help Menu

Using Help	Displays a dialog box containing information about the Help system. See “Using Online Help” on page 1 – 16 for information about the Help dialog box.
Help About This Window	Displays a dialog box containing information about the current window.
About Oracle Server Manager	Displays a dialog box containing version information about Server Manager and its components. See Figure 1 – 6.

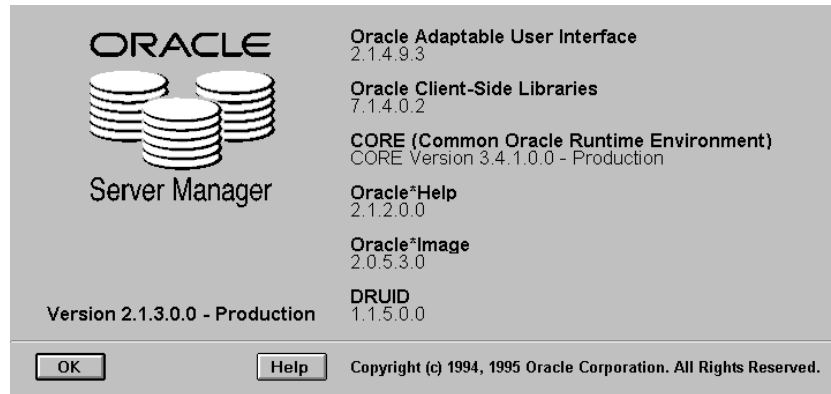


Figure 1 – 6 About Oracle Server Manager Dialog Box

Connecting to an Instance

You can connect to an Oracle instance using the Server Manager Connect dialog box. When you start up Server Manager, the Connect dialog box appears. You can connect to an instance, or click Cancel and connect later. You can also display the Connect dialog box by choosing Connect from the File menu.

The following figure illustrates the Connect dialog box.

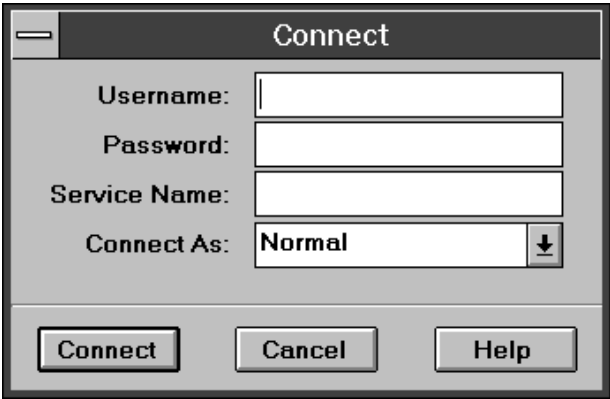


Figure 1 – 7 Connect Dialog Box

The elements of the Connect dialog box are described below:

Username	Your Oracle username for the database to which you are connecting.
Password	Your Oracle password for the database to which you are connecting.
Service Name	SQL*Net service name for the database to which you are connecting. Server Manager accepts connections using SQL*Net Version 1 or SQL*Net Version 2. Server Manager recognizes SQL*Net Version 1 connect strings, such as T : BOSTON : A, and SQL*Net Version 2 service names, such as NY_FINANCE.
Connect As	Pop-up menu containing Normal, SYSOPER, and SYSDBA for Oracle7 release 7.1 or later. Only Normal is allowed for release 7.0.
Connect	Initiates connection.
Cancel	Exits dialog box without connecting.
Help	Displays help information.



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Additional Information: If you do not specify a database service name, you connect to the default database for your platform. Refer to your operating system-specific Oracle documentation and SQL*Net documentation for more information.

Multiple Connections

In Server Manager you can have multiple connections open simultaneously. For each connection you initiate, you can have one Administration window, multiple SQL Worksheets, and one of each type of System Monitor.

The service name you specify when you connect becomes part of the title for each window associated with that connection. If you do not specify a service name, the title of each window associated with the connection begins with the word “Default”. This scheme distinguishes windows associated with different connections, and organizes them conveniently in the Window menu.

Opening New Windows

Using the File menu, you can open new windows from the Administration Manager, a SQL Worksheet, or a System Monitor. When you open a new window, it is associated with the instance and username of your current window.

Each new SQL Worksheet automatically initiates a separate physical connection to an instance; you do not have to re-enter your connection information. The first System Monitor you open also creates a new physical connection. However, subsequent monitors share the same connection.

Limits on the Number of Connections

On some platforms there may be a limit on the number of connections you can have open simultaneously.



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Additional Information: For information about the limit on open connections, see your operating system-specific Oracle documentation.

Using Online Help

Server Manager includes an online Help system that provides you with help information for every window and dialog box. The Help system is context sensitive, but you can also search through help information to find a particular topic.

Accessing Online Help There are two ways of accessing the online Help system. In a main window, such as the Administration window, you can access the Help system by choosing Help About This Window from the Help menu. Figure 1 – 5 illustrates the Help menu.

In a dialog box, click Help to access the online Help system. Figure 1 – 7 shows the Connect dialog box and its Help button.

On Microsoft Windows, Server Manager provides a native online help system. Refer to your Microsoft Windows documentation for information on using online help.

On Motif systems, Server Manager also provides an online help system. See Appendix E, “Motif-Specific Operations,” for instructions on using the online help when running Server Manager for Motif.

Launching Server Manager in Context

Using the launch in context facility, you can start up Server Manager and immediately access a specific window or dialog box. You specify the location to jump to using command-line parameters.

With the command-line parameters, you can bypass initial windows that require user input (such as the Connect dialog box) and jump directly to Server Manager's Administration Manager, SQL Worksheet, or System Monitor components. For example, the statement:

```
svrmgrm user=scott password=tiger service=t:oraserv:smtg71  
        subsystem=administration area=requestlog
```

does the following:

- starts up Server Manager in a Motif environment
- connects as SCOTT with the password TIGER to the database specified by the service name T:ORASERV:SMTG71
- starts the Administration Manager and opens the Request Log folder in the Replication drawer
- displays the Request Log object list



Suggestion: You can use launch in context under your own command-line interface or via menu items and commands in management consoles.



OSDoc

Additional Information: Starting Server Manager using the launch in context facility varies with specific operating systems. For information about using the launch in context facility, see your operating system-specific Oracle documentation. For information on using launch in context with Windows, see Appendix F, "Windows-Specific Operations."

Jumping to the Administration Manager

When accessing the Administration Manager, you can specify:

- the folder to open
- the object to select in the folder's object list
- the menu command to execute

Jumping to a SQL Worksheet

When accessing a SQL Worksheet, you can specify:

- a SQL statement or PL/SQL block to execute
- a script to execute

Jumping to a System Monitor

When accessing System Monitors, you can specify the monitor to display.

Global Parameters for Launch in Context

The global parameters for launch in context control your database connection and the Server Manager component you access when you start up Server Manager.

Table 1 – 1 lists the various global parameters you can use with launch in context.

<i>Global Parameter</i>	<i>Value</i>	<i>Specifies</i>
user	<i>username</i>	Name of user to connect as.
password	<i>password</i>	Password for the user.
service	<i>service name</i>	SQL*Net service name for the database to which you are connecting.
as	normal sysdba sysoper	Privileges with which to connect. Default is normal.
subsystem	administration monitor worksheet	Subsystem to access. Default is administration.

Table 1 – 1 Global Launch in Context Parameters

Specifying Connect Information

When you start up Server Manager without any command-line parameters, the copyright window and Connect dialog box appear. See Figure 1 – 7 on page 1 – 14 for an example of a Connect box.

However, if you specify the connect information on the command line, you bypass the copyright window and Connect dialog box.

If you do not specify enough information on the command line for Server Manager to complete the connection, the Connect dialog box appears partially filled in. For example, if you specify a service name but omit the user, Server Manager opens the Connect dialog box with the service name filled in.

You must supply the missing information to complete the connection and click Connect to proceed.



Suggestion: For security reasons, you may want to omit the password parameter and require that users enter a password in the Connect dialog box when using the launch in context facility.

Specifying a Subsystem

Server Manager normally proceeds to the Administration Manager after connecting to a database. However, you can specify a different subsystem to jump to using the SUBSYSTEM parameter.

For example, the statement:

```
svrmgrm subsystem=worksheet
```

starts up Server Manager and immediately displays the Connect dialog box. Once you have specified the connect information and connected to a database, Server Manager jumps to a SQL Worksheet.

Parameters for the Administration Manager

The Administration Manager parameters control the drawer that is opened, the folder that is displayed, the object that is selected, and the menu command that is executed.

Table 1 – 2 lists the Administration Manager parameters you can use with launch in context.

<i>Administration Parameter</i>	<i>Value</i>	<i>Specifies</i>
area	<i>folder_name</i>	Name of the folder to open. Server Manager infers the correct drawer to open. See “AREA Parameter” on page 1 – 20.
object	<i>object_name</i>	Name of the object to select. See “OBJECT Parameter” on page 1 – 22.
menu	<i>menu_item</i> default	Menu command to execute for the folder specified. See “MENU Parameter” on page 1 – 22.

Table 1 – 2 Administration Manager in Context Parameters

AREA Parameter

Use the AREA parameter to specify the folder to open in the Administration Manager. Because the folder names are unique, Server Manager infers the corresponding drawer to open.

Folder names for the AREA parameter must be entered:


- in lower case
- without any spaces between words

For example, the statement:

```
svrmgrm user=scott password=tiger service=t:oraserv:smtg71
area=requestlog
```

does the following:

- starts up Server Manager
- connects as SCOTT to the specified database
- opens the Request Log folder in the Replication drawer



Suggestion: Because Server Manager normally proceeds to the Administration Manager after connecting, you can omit the SUBSYSTEM parameter when you want to jump to any location in the Administration Manager.

Table 1 – 3 lists the possible folder names for the AREA parameter.

Area Argument	Specifies	
tablespaces	Storage drawer	Tablespaces folder
datafiles	Storage drawer	Datafiles folder
rollback	Storage drawer	Rollback folder
users	Security drawer	Users folder
profiles	Security drawer	Profiles folder
roles	Security drawer	Roles folder
audit	Security drawer	Audit folder
database	Instance drawer	Database folder
initialization	Instance drawer	Initialization folder
transactions	Instance drawer	Transactions folder
sessions	Instance drawer	Sessions folder
backup	Recovery drawer	Backup folder
recovery	Recovery drawer	Recovery folder

Table 1 – 3 Values for the AREA Parameter, continued on next page

Area Argument	Specifies	
redologs	Recovery drawer	Redo Logs folder
optimizer	Schema drawer	Optimizer folder
explainplans	Schema drawer	Explain Plans folder
snapshots	Schema drawer	Snapshots folder
snapshotlogs	Schema drawer	Snapshot Logs folder
links	Schema drawer	Links folder
synonyms	Schema drawer	Synonyms folder
packages	Schema drawer	Packages folder
triggers	Schema drawer	Triggers folder
constraints	Schema drawer	Constraints folder
schemas	Replication drawer	Schemas folder
objects	Replication drawer	Objects folder
registeredsnapshots	Replication drawer	Registered Snapshots folder
masters	Replication drawer	Masters folder
conflictresolution	Replication drawer	Conflict Resolution folder
deferredtransactions	Replication drawer	Deferred Transactions folder
errors	Replication drawer	Errors folder
requestlog	Replication drawer	Request Log folder

Table 1 – 3 Values for the AREA Parameter

OBJECT Parameter

Use the OBJECT parameter to specify the object you want to select in the object list. The entry in the first column is the identifier for each object.

Object names for the OBJECT parameter:

- must be one of the object names listed in the first column of the object list
- are case-sensitive

For example, the statement:

```
svrmgrm user=scott password=tiger service=t:oraserv:smtg71  
subsystem=administration area=tablespaces object=SYSTEM
```

does the following:

- starts up Server Manager
- connects as SCOTT to the specified database
- opens the Storage drawer and Tablespaces folder
- selects the tablespace SYSTEM in the Tablespace object list

Note: “Tablespace” is the first column of the Tablespace object list. SYSTEM is the identifier for the object and is located in the “Tablespace” column.



Attention: If the object list is long, the selected object may not be visible. Scroll down the list to display the object.

If you specify an object that does not exist, Server Manager opens the folder you specified but does not select any objects in the folder’s object list. If there are multiple objects with the same identifier in the first column, the first object that matches is selected.

MENU Parameter

Use the MENU parameter to specify the menu command to execute on a selected object.

Menu commands for the MENU parameter must be either:

- a number starting with 1, which is the position of the menu command from the top of the pull-down menu



Attention: The position number includes menu separator lines. See Figure 2 – 3 on page 2 – 7 for an example of a pull-down menu. In that menu, Add Datafile is in position 5.

or

- the word “default”, which represents the menu command that would be executed if you double-clicked on the selected object in the object list

For example, both statements:

```
svrmgrm user=scott password=tiger service=t:oraserv:smtg71  
        subsystem=administration area tablespaces object=SYSTEM  
        menu=2
```

and

```
svrmgrm user=scott password=tiger service=t:oraserv:smtg71  
        subsystem=administration area tablespaces object=SYSTEM  
        menu=default
```

do the following:

- start up Server Manager
- connect as SCOTT to the specified database
- open the Storage drawer and Tablespaces folder
- select the tablespace SYSTEM in the Tablespace object list
- display the Alter Tablespace property sheet for the SYSTEM tablespace

Note: The Alter menu command is the second menu item from the top of the Tablespace pull-down menu.

Equivalently, double-clicking on SYSTEM in Tablespaces object list also executes the Alter command.

Parameters for the SQL Worksheet

The launch in context parameter for the SQL Worksheet is the COMMAND parameter. Use the COMMAND parameter to specify a statement, command, or script to execute.

The value for COMMAND:

- can be any valid SQL or PL/SQL statement, or Server Manager command
- must be enclosed in quotation marks if the command or statement contains multiple words
- must use the '@' operator to run a script



Attention: When running under Windows, you can only use the COMMAND parameter to specify a script to execute.

For example, the statement:

```
svrmgrm user=scott password=tiger service=t:oraserv:smtg71  
subsystem=worksheet command=@utlxplan
```

does the following:

- starts up Server Manager in a Motif environment
- connects as SCOTT to the specified database
- opens a SQL Worksheet and runs the UTLXPLAN.SQL script

The COMMAND parameter is optional. You can specify SUBSYSTEM equals worksheet without including the COMMAND parameter. In this case, Server Manager just starts a SQL Worksheet.

Parameters for the System Monitors

The launch in context parameter for the System Monitors is the MONITOR parameter. Use the MONITOR parameter to specify the type of monitor to start.

You may only start one monitor with the MONITOR parameter.

Monitor names for the MONITOR parameter must:

- be entered in lower case
- include any punctuation present in the name of the monitor

For example, the statement:

```
svrmgrm user=scott password=tiger service=t:oraserv:smtg71  
monitor=systemi/o
```

does the following:

- starts up Server Manager
- connects as SCOTT to the specified database
- starts the System I/O monitor



Suggestion: If you specify a monitor type with the MONITOR parameter, you can omit the SUBSYSTEM parameter.

Table 1 – 4 lists the possible monitor names for the MONITOR parameter.

<i>Monitor Arguments</i>	<i>Specifies</i>
circuit	Circuit monitor
dispatcher	Dispatcher monitor
filei/o, file	File I/O monitor
latch	Latch monitor
librarycache, library	Library Cache monitor
lock	Lock monitor
process	Process monitor
queue, q	Queue monitor
rollback	Rollback monitor
session	Session monitor
sharedserver, shared	Shared Server monitor
sqlarea, sql	SQL Area monitor
systemi/o, sio	System I/O monitor
systemstatistics, ss	System Statistics monitor
tableaccess, table	Table Access monitor
tablespace	Tablespace monitor

Table 1 – 4 Values for the MONITOR Parameter

The MONITOR parameter is optional. You can specify SUBSYSTEM equals monitor without including the MONITOR parameter. In this case, Server Manager jumps to the Monitor dialog box from which you can select the type of monitor to start.

PART

II

The Administration Manager

Overview of the Administration Manager

This chapter describes the organization and basic elements of the Administration Manager, which is part of Server Manager. Specifically, it explains the following elements:

- Drawers
- Folders
- Folder Tabs
- Folder Menus
- Object Lists
- Property Sheets
- Pages
- Page Tabs

The Administration Manager

The Administration Manager is the primary administrative component of Server Manager. Once you connect to a database service, Server Manager automatically proceeds to the Administration window.

The following figure illustrates the Administration window.

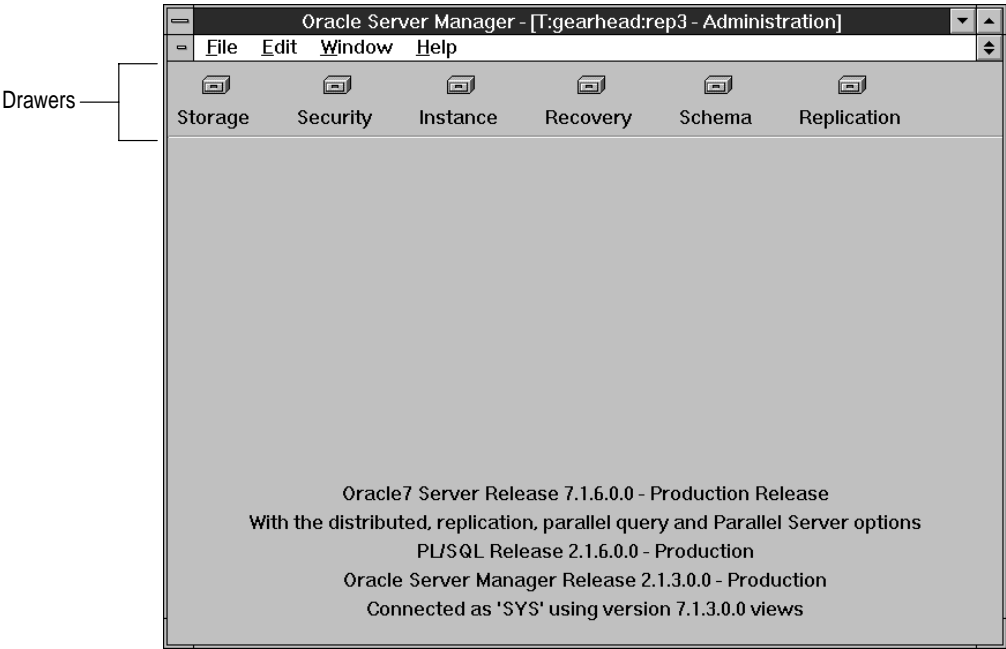


Figure 2 – 1 Administration Window

Administration Drawers and Folders

In the Administration Manager, tasks are divided into categories, each represented by a drawer. Each drawer contains individual folders that organize the tasks associated with that drawer.

The drawers, shown in Figure 2 – 1, are named:

- Storage
- Security
- Instance
- Recovery
- Schema
- Replication

The following sections describe each drawer and its folders. For detailed descriptions of the objects and commands available in each drawer, see Chapters 3 through 8.

The Storage Drawer



In the Storage drawer you can perform administrative tasks associated with managing database storage. These tasks include managing tablespaces and rollback segments, and adding and renaming datafiles.

The Storage drawer contains the following folders:

- Tablespaces
- Datafiles
- Rollback

The Security Drawer



In the Security drawer you can manage database security. You can create, alter, and drop users, roles, and profiles. In addition, the Audit folder allows you to view audit options.

The Security drawer contains the following folders:

- Users
- Profiles
- Roles
- Audit

The Instance Drawer



In the Instance drawer you can start up or shut down a database, examine database initialization parameters, manage in-doubt transactions, and manage users' sessions.

The Instance drawer contains the following folders:

- Database
- Initialization
- Transactions
- Sessions

The Recovery Drawer



In the Recovery drawer you can recover a database and manage the redo logs. You can also manage online tablespace backups.

The Recovery drawer contains the following folders:

- Backup
- Recovery
- Redo Logs

The Schema Drawer



In the Schema drawer you can view information about schema objects. You can examine information about synonyms, stored procedures and packages, triggers, constraints, snapshots, snapshot logs, and database links. You can determine if optimizer statistics have been collected for objects in your database. You can also see which SQL statements have execution plans stored in the table PLAN_TABLE.

The Schema drawer contains the following folders:

- Constraints
- Triggers
- Packages
- Links
- Synonyms
- Snapshots
- Snapshot Logs
- Optimizer
- Explain Plans

The Replication Drawer



In the Replication drawer you can manage the operations of a replication environment. For example, you can suspend or resume activity at the master sites, you can add replicated objects, and you can manually execute requests. You can also view information about registered snapshots, conflict resolution methods, and deferred transactions.

This Replication drawer is available only if you have purchased the replication option. Otherwise, the drawer is dimmed and cannot be opened.

The Replication drawer contains the following folders:

- Schemas
- Objects
- Registered Snapshots
- Masters
- Conflict Resolution
- Deferred Transactions
- Errors
- Request Log

Opening a Drawer

To open a drawer, click its icon. The drawer opens, and folder tabs for the folders in the drawer appear. In Figure 2 – 1, none of the Administration drawers are open. However, in the following figure, the Storage drawer is open and its three folder tabs are visible.

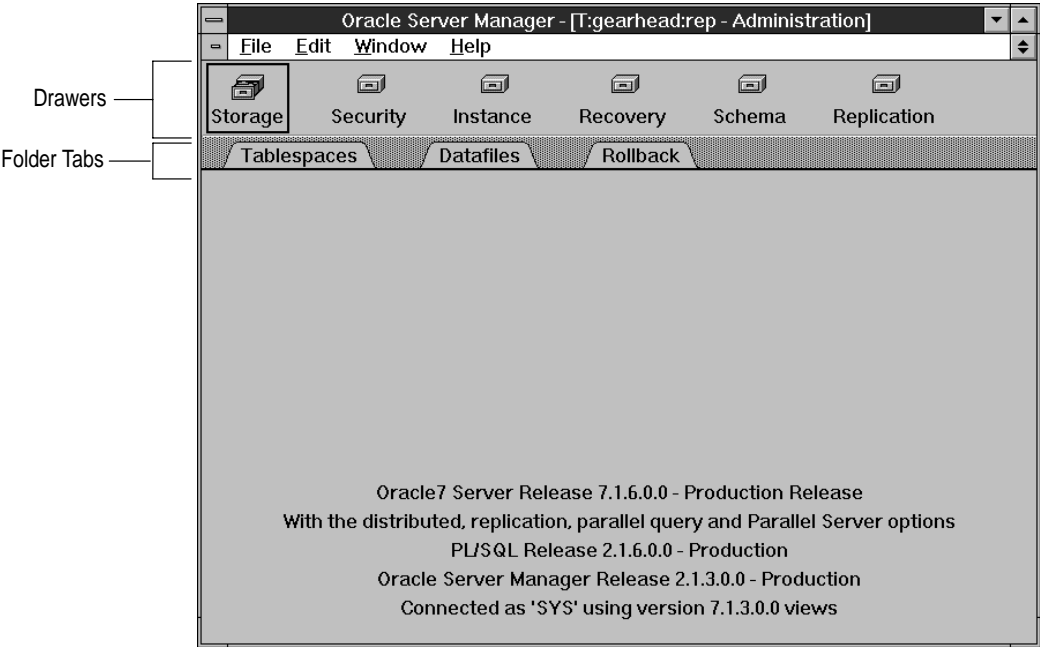


Figure 2 – 2 Opening a Drawer

Opening a Folder

To open a particular folder, click its folder tab. When you open a folder, its contents are displayed and an additional pull-down menu is usually added to the menu bar. This menu contains the commands available in the folder you opened.

In Figure 2 – 3, the Tablespaces folder has been opened. The figure also shows the Tablespace pull-down menu.

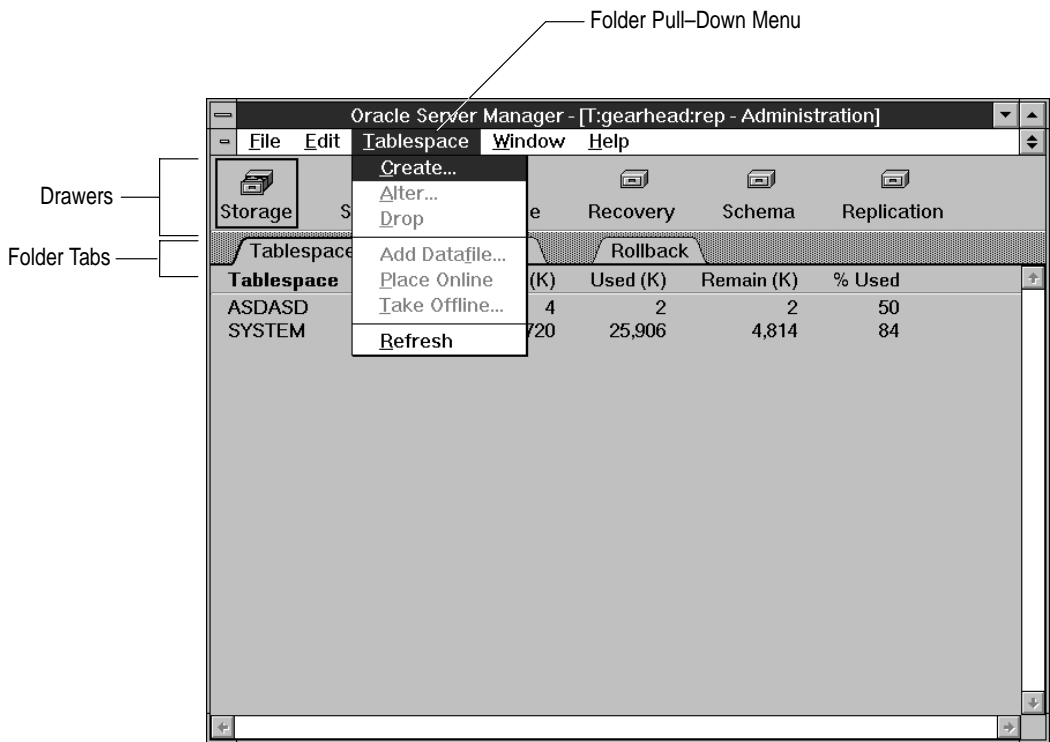


Figure 2 – 3 Opening a Folder

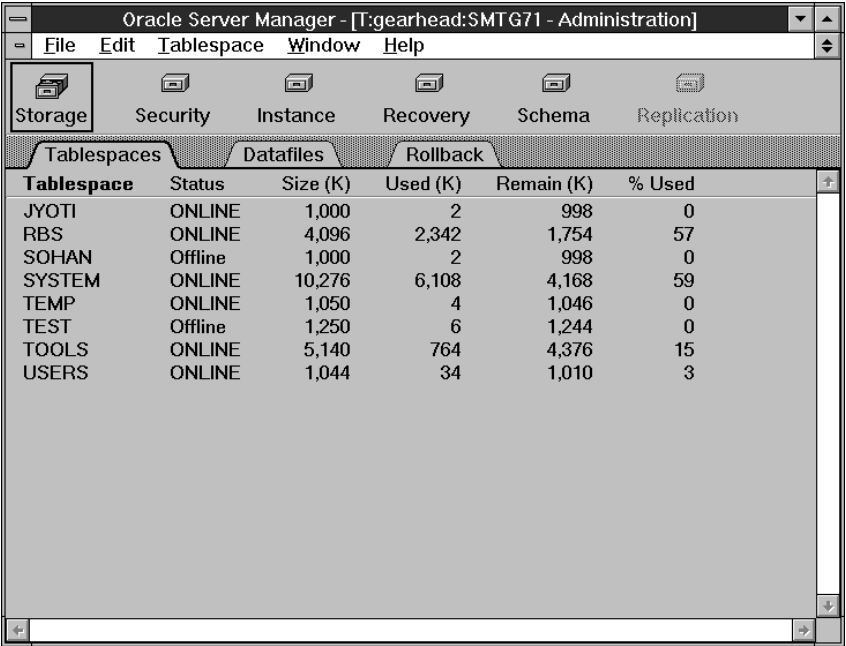
Common Interface Elements

In addition to the drawers, folders, and folder tabs, there are other interface elements common to the windows of the Administration Manager. The following sections describe these elements and their behavior.

Object Lists

When you open a folder, an object list appears. For example, when you open the Tablespaces folder in the Storage drawer, a list of the tablespaces in your database appears.

The following figure illustrates the object list for the Tablespaces folder.



The screenshot shows the Oracle Server Manager interface. The title bar reads "Oracle Server Manager - [T:gearhead:SMT G71 - Administration]". The menu bar includes "File", "Edit", "Tablespace", "Window", and "Help". Below the menu is a toolbar with icons for "Storage", "Security", "Instance", "Recovery", "Schema", and "Replication". The "Storage" drawer is expanded, showing sub-tabs for "Tablespaces", "Datafiles", and "Rollback". The "Tablespaces" tab is active, displaying a table with the following data:

Tablespace	Status	Size (K)	Used (K)	Remain (K)	% Used
JYOTI	ONLINE	1,000	2	998	0
RBS	ONLINE	4,096	2,342	1,754	57
SOHAN	Offline	1,000	2	998	0
SYSTEM	ONLINE	10,276	6,108	4,168	59
TEMP	ONLINE	1,050	4	1,046	0
TEST	Offline	1,250	6	1,244	0
TOOLS	ONLINE	5,140	764	4,376	15
USERS	ONLINE	1,044	34	1,010	3

Annotations on the left side of the table:

- "Column Headings" points to the header row of the table.
- "Object List" points to the body of the table containing the data rows.

Figure 2 – 4 Tablespace Object List

Sorting an Object List

An object list can have one or more columns. By default, the objects are sorted on the first column. However, you can sort an object list on any column by clicking the desired column heading. The column heading appears in bold to indicate that the object list is sorted on that column.

In Figure 2 – 4, the Tablespaces object list is sorted on the first column and the column heading **Tablespace** is bold. In the following figure the Tablespace object list is sorted on the Size column and the column heading **Size (K)** is bold.

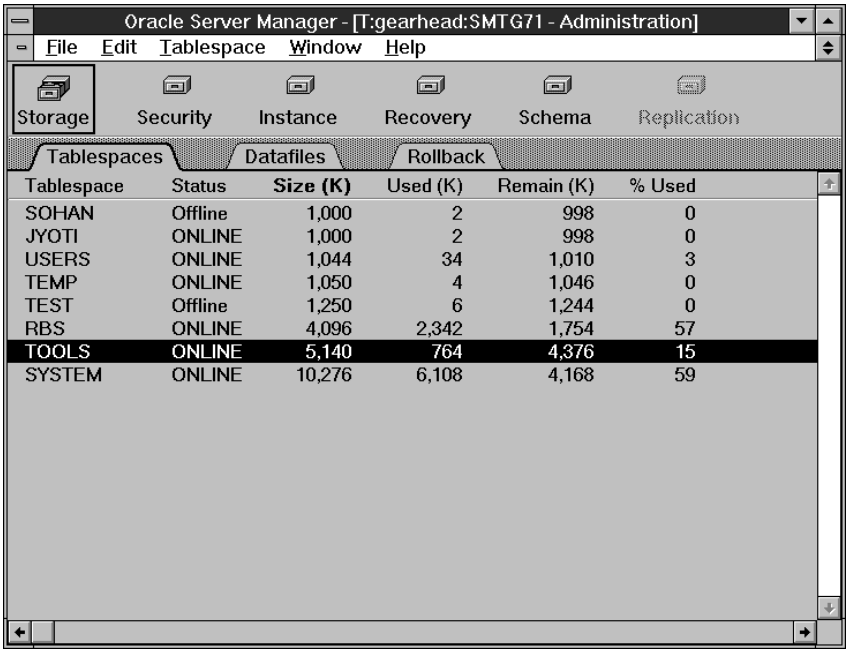
Tablespace	Status	Size (K)	Used (K)	Remain (K)	% Used
SOHAN	Offline	1,000	2	998	0
JYOTI	ONLINE	1,000	2	998	0
USERS	ONLINE	1,044	34	1,010	3
TEMP	ONLINE	1,050	4	1,046	0
TEST	Offline	1,250	6	1,244	0
RBS	ONLINE	4,096	2,342	1,754	57
TOOLS	ONLINE	5,140	764	4,376	15
SYSTEM	ONLINE	10,276	6,108	4,168	59

Figure 2 – 5 Tablespace Object List Sorted on the Size Column

Selecting an Object

Most administrative tasks involve managing a specific object. To perform these tasks, you must first select the object by clicking its row in the object list.

The following figure shows a selected tablespace in the Tablespace object list.



The screenshot shows the Oracle Server Manager interface. The title bar reads "Oracle Server Manager - [T:gearhead:SMTG71 - Administration]". The menu bar includes "File", "Edit", "Tablespace", "Window", and "Help". Below the menu bar is a toolbar with icons for "Storage", "Security", "Instance", "Recovery", "Schema", and "Replication". The "Tablespaces" tab is selected, displaying a table with the following data:

Tablespace	Status	Size (K)	Used (K)	Remain (K)	% Used
SOHAN	Offline	1,000	2	998	0
JYOTI	ONLINE	1,000	2	998	0
USERS	ONLINE	1,044	34	1,010	3
TEMP	ONLINE	1,050	4	1,046	0
TEST	Offline	1,250	6	1,244	0
RBS	ONLINE	4,096	2,342	1,754	57
TOOLS	ONLINE	5,140	764	4,376	15
SYSTEM	ONLINE	10,276	6,108	4,168	59

Figure 2 – 6 Selecting an Object



Suggestion: In most cases, double-clicking an object selects it and issues an Alter command on that object.

Folder Pull-Down Menu

Most folders in the Administration Manager include a pull-down menu that contains the commands available in that folder. Many of these commands, such as Alter, require that you select an object first. These commands are unavailable until you select an appropriate object. Unavailable commands are represented by dimmed menu items. Other menu items, such as Create, do not require an object selection and are never dimmed.

A menu item can be dimmed even when an object is selected because the command does not apply to that particular object. For example, in the following figure, the Place Online menu item is dimmed because the selected tablespace is already online.

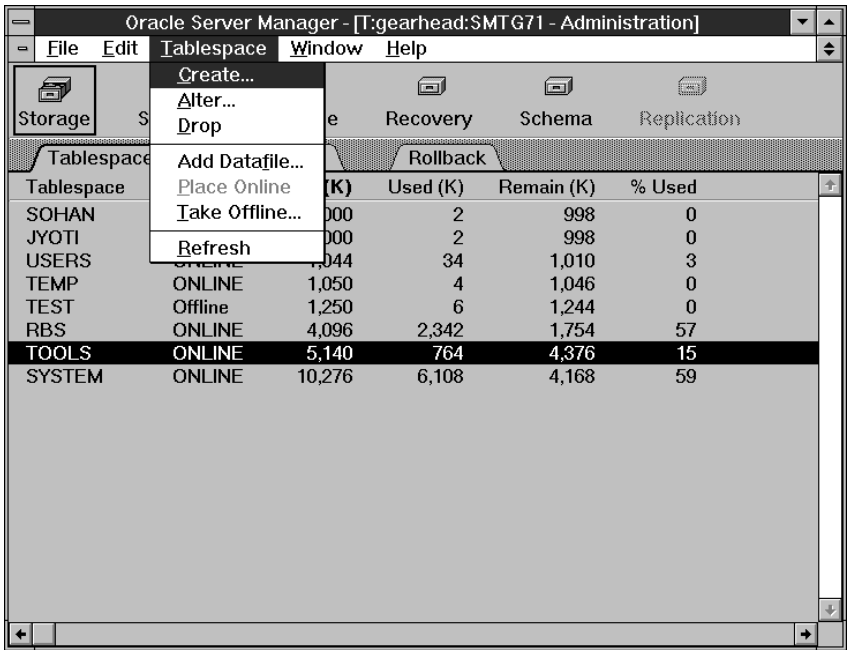


Figure 2 – 7 Tablespace Pull-Down Menu

Some menu items are followed by an ellipsis (...). This indicates that to complete the command, Server Manager will prompt you for more information with a dialog box or property sheet.

All folder menus have a Refresh command, which refreshes the object list for the current folder. This command is useful when other database administrators are making changes to the objects you are viewing, or when you are making such changes in a different window, such as a SQL Worksheet.

Property Sheets

A property sheet is a dialog box used for commands, such as Create or Alter, that have many options. A property sheet consists of one or more pages. The pages are labeled with page tabs.

The following figure illustrates the Alter Tablespace property sheet, which consists of two pages:

- General
- Default Storage

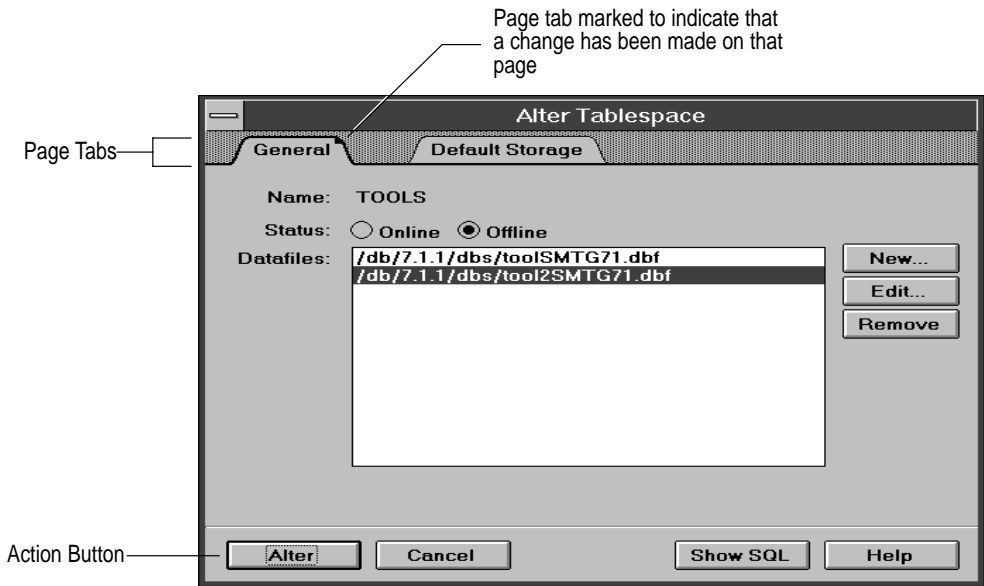


Figure 2 – 8 Property Sheet with Two Pages

The elements of a property sheet are described below:

Page Tabs	Organize the pages within the property sheet. To go to a particular page, click its page tab. When you have entered information or made changes on a page, the page tab is marked to remind you that a change has been made.
Action Button	Performs the current operation, such as Alter or Create.
Cancel Button	Exits the property sheet without performing the operation.

Show SQL/Hide SQL Button	Displays or hides the SQL statement(s) generated by the property sheet. For information about the Show SQL/Hide SQL button, see “Showing SQL Statements” on page 2 – 13.
Help Button	Displays help information for the page.

Showing SQL Statements

The following figure illustrates the Alter Tablespace property sheet after the Show SQL button has been clicked. When you click Show SQL, Server Manager displays the SQL statement(s) that will be executed when you click the Action button. In Figure 2 – 9, the Action button is the Alter button.

Click Hide SQL to hide the SQL statements.

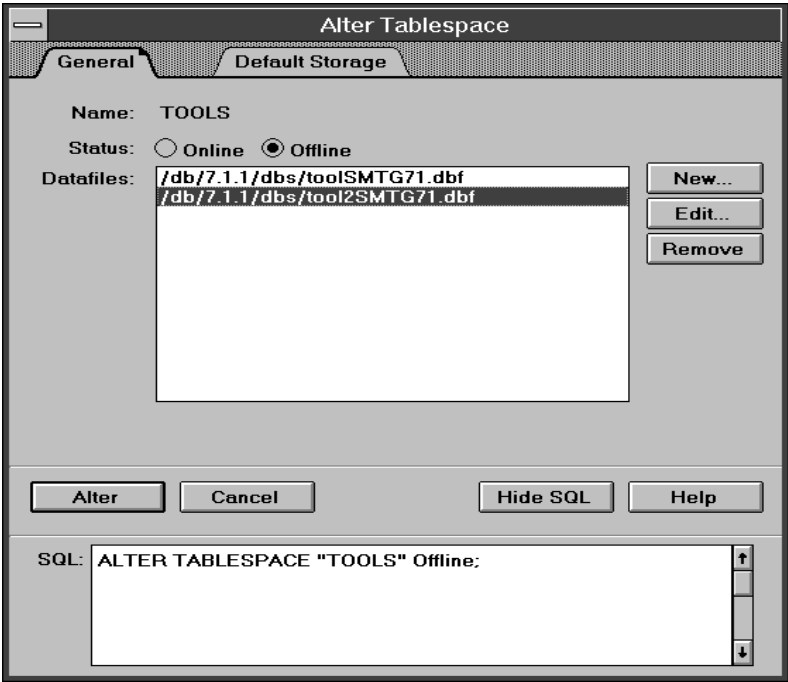


Figure 2 – 9 Property Sheet with the Show SQL Option Selected

Managing Database Storage

This chapter describes how to use Server Manager to manage database storage. This chapter assumes that you have read Chapter 2, “Overview of the Administration Manager,” and are familiar with the interface elements of the Administration Manager.

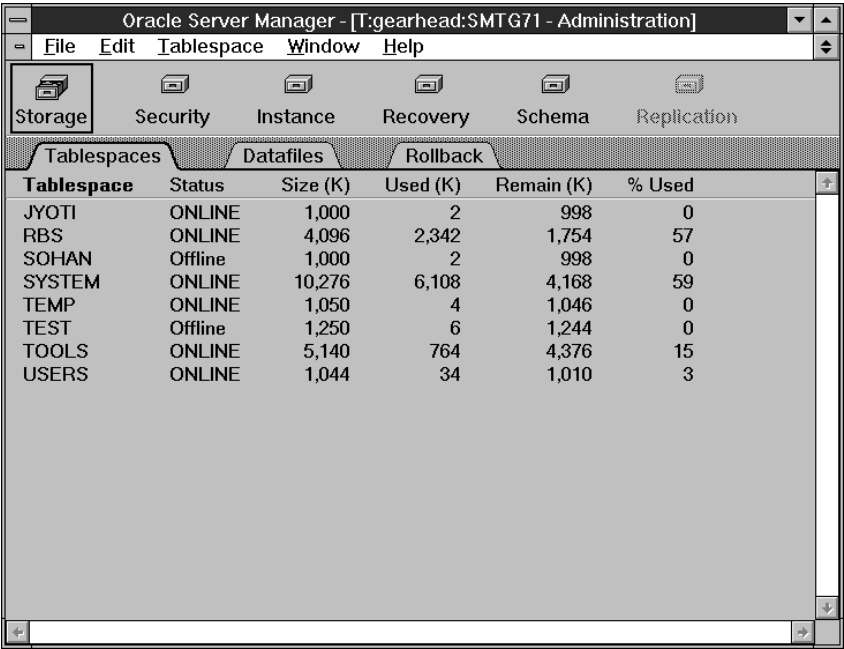
In the Storage drawer, you can manage the tablespaces, datafiles, and rollback segments in your database. This chapter describes the commands available in the Storage drawer’s folders:

- Tablespaces
- Datafiles
- Rollback

The Tablespaces Folder

When you click the Tablespace folder tab, the Tablespaces folder opens and the Tablespace object list and menu appear. The Tablespace object list contains information about the tablespaces in your database.

For information about managing tablespaces, see the *Oracle7 Server Concepts*, the *Oracle7 Server Administrator's Guide*, and the *Oracle7 Server SQL Reference*. The following figure illustrates the Tablespace object list.

The screenshot shows the Oracle Server Manager interface. At the top is a menu bar with 'File', 'Edit', 'Tablespace', 'Window', and 'Help'. Below the menu bar is a toolbar with icons for 'Storage', 'Security', 'Instance', 'Recovery', 'Schema', and 'Replication'. The 'Tablespaces' tab is selected, displaying a table with the following data:

Tablespace	Status	Size (K)	Used (K)	Remain (K)	% Used
JYOTI	ONLINE	1,000	2	998	0
RBS	ONLINE	4,096	2,342	1,754	57
SOHAN	Offline	1,000	2	998	0
SYSTEM	ONLINE	10,276	6,108	4,168	59
TEMP	ONLINE	1,050	4	1,046	0
TEST	Offline	1,250	6	1,244	0
TOOLS	ONLINE	5,140	764	4,376	15
USERS	ONLINE	1,044	34	1,010	3

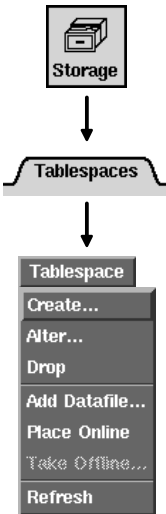
Figure 3 – 1 Tablespace Object List

Tablespace Object List

The columns of the Tablespace object list are described below:

Tablespace	Name of the tablespace.
Status	Status of the tablespace: ONLINE or Offline.
Size (K)	Total size of the datafiles that comprise the tablespace (in kilobytes).
Used (K)	Amount of space used in the tablespace (in kilobytes).
Remain (K)	Amount of free space in the tablespace (in kilobytes).
% Used	Space used, as a percentage of the tablespace size.

Creating a Tablespace



To create a new tablespace, choose Create from the Tablespace menu. The Create Tablespace property sheet appears.

The Create Tablespace property sheet consists of the following pages:

- General
- Default Storage

The following figure illustrates the General page.

Figure 3 – 2 General Page of the Create Tablespace Property Sheet

Create Tablespace: General Page

The General page of the Create Tablespace property sheet is described below:

Name	Name of the tablespace to be created. Enter the name of the new tablespace. The tablespace name can only contain characters from your database character set and can be at most 30 bytes long.
Status	Status of the tablespace to be created. Click Online or Offline to specify the initial status of the tablespace. The default is online.
Datafiles	Scrolling list of the datafiles belonging to the tablespace.

New	Displays the New Datafile dialog box, which allows you to specify each new datafile belonging to the new tablespace. For a description of the New Datafile dialog box, see “New Datafile Dialog Box” on page 3 – 4.
Edit	Displays the Edit Datafile dialog box, which allows you to edit the file specification for the datafile selected in the Datafiles scrolling list. For a description of the Edit Datafile dialog box, see “Edit Datafile Dialog Box” on page 3 – 5.
Remove	Removes the datafile selected in the Datafiles scrolling list.

New Datafile Dialog Box Use the New Datafile dialog box to specify a new datafile to be added to a tablespace. The following figure illustrates the New Datafile dialog box.

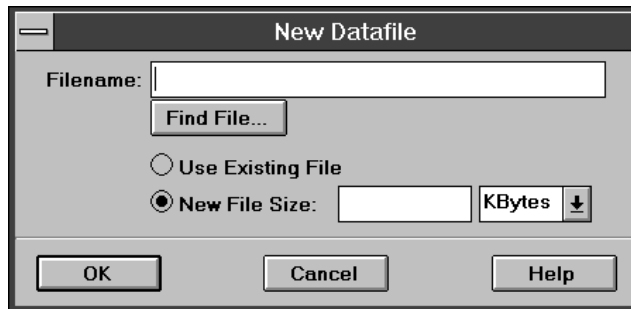


Figure 3 – 3 New Datafile Dialog Box

The New Datafile dialog box is described below:

Filename	Name of the datafile to be created. Enter the new filename. The filename must be specified according to the conventions of your operating system.
----------	--

Find File	Displays the standard file selection dialog box for your system, which you can use to select a file.
Use Existing File	Designates that the datafile already exists and should be reused.
New File Size	Designates that Oracle should create the file. Enter a value for the file size. Use the pop-up menu to specify the units of the new datafile's size as either kilobytes or megabytes.



Additional Information: For information about specifying file names on your system, see your operating system-specific Oracle documentation. For information about the standard file selection dialog box for your system, see your operating system-specific documentation.

Edit Datafile Dialog Box Use the Edit Datafile dialog box to edit the specification of a datafile. The following figure illustrates the Edit Datafile dialog box.

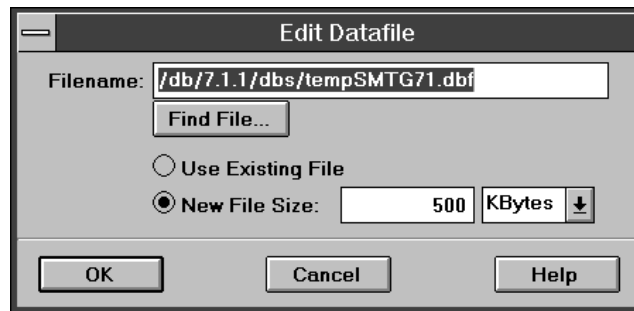


Figure 3 – 4 Edit Datafile Dialog Box

The Edit Datafile dialog box is identical to the New Datafile dialog box. See “New Datafile Dialog Box” on page 3 – 4 for a description of the elements of the New Datafile dialog box.

On the Default Storage page, you can specify the default storage parameters for all objects created in the tablespace. The following figure illustrates the Default Storage page of the Create Tablespace property sheet.

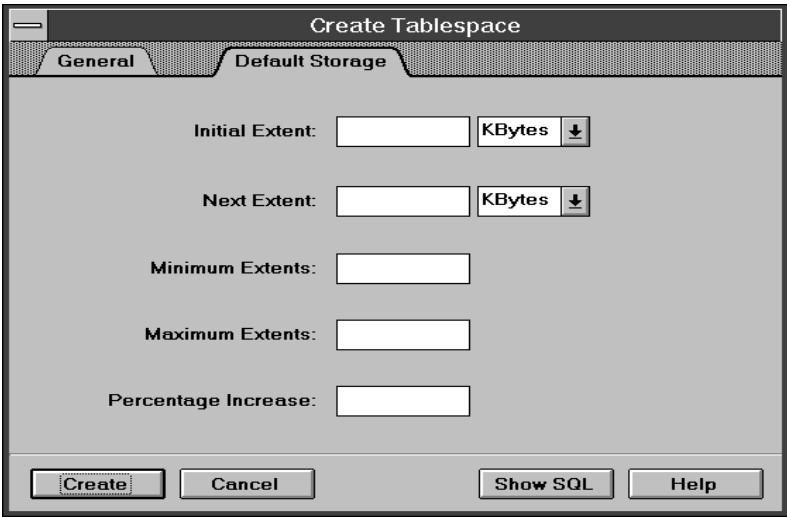


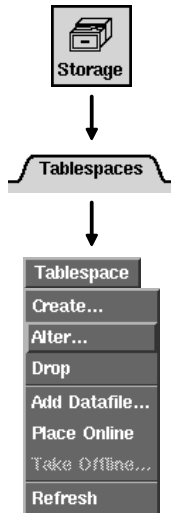
Figure 3 – 5 Default Storage Page of the Create Tablespace Property Sheet

The Default Storage page is described below:

Initial Extent	<p>Size of the object’s first extent.</p> <p>Enter the size of the initial extent. Use the pop-up menu to specify either kilobytes or megabytes. If you do not specify a size, the default is the size of 5 data blocks.</p>
Next Extent	<p>Size of the next extent to be allocated to the object.</p> <p>Enter the size of the next extent. Use the pop-up menu to specify either kilobytes or megabytes. If you do not specify a size, the default is the size of 5 data blocks.</p>
Minimum Extents	<p>Total number of extents to be allocated when an object is created in the tablespace.</p> <p>Enter the minimum number of extents. If you do not specify a number, the default value is 1.</p>

Maximum Extents	Maximum number of extents that can be allocated to an object created in the tablespace. Enter the maximum number of extents. If you do not specify a value, the default value applies. The default and maximum values depend on the data block size.
Percentage Increase	Percent by which each extent after the second grows over the previous extent. Enter a value for percent increase. If you do not specify a value, the default is 50.

Altering a Tablespace



To alter an existing tablespace, select the tablespace from the Tablespace object list and choose Alter from the Tablespace menu. The Alter Tablespace property sheet appears. You can also bring up the Alter Tablespace property sheet by double-clicking on a tablespace in the Tablespace object list.

The Alter Tablespace property sheet consists of the following pages:

- General
- Default Storage

The following figure illustrates the General page.

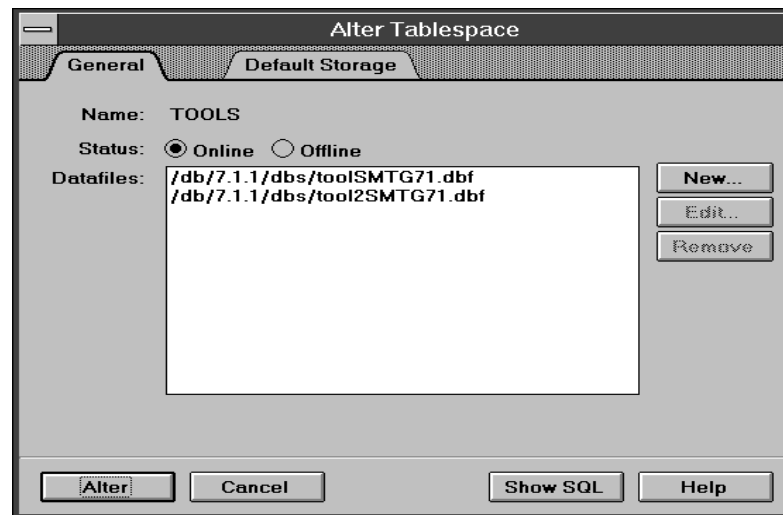


Figure 3 – 6 General Page of the Alter Tablespace Property Sheet

Alter Tablespace: General Page

The General page of the Alter Tablespace property sheet is described below:

Name	Name of the tablespace to be altered.
Status	Status of the tablespace. Click Online or Offline to alter the status of the tablespace.
Datafiles	Scrolling list of the datafiles belonging to the tablespace.
New	Displays the New Datafile dialog box, which allows you to specify a datafile to add to the tablespace. For a description of the New Datafile dialog box, see “New Datafile Dialog Box” on page 3 – 9.
Edit	<p>Allows you to edit the file specification for the datafile selected in the Datafiles scrolling list.</p> <p>If the selected datafile is one you have just added to the Datafiles scrolling list, the Edit button displays the Edit Datafile dialog box. For a description of the Edit Datafile dialog box, see “Edit Datafile Dialog Box” on page 3 – 10.</p> <p>If the selected datafile has already been added to the tablespace, the Edit button displays the Rename Datafile dialog box, which allows you to rename the selected datafile. For a description of the Rename Datafile dialog box, see “Rename Datafile Dialog Box” on page 3 – 10. In order to rename a datafile, its tablespace must be offline.</p>
Remove	Removes the datafile selected in the Datafiles scrolling list. You can only remove a file specification you have just added to the Datafiles scrolling list. You cannot remove a datafile that has already been added to the tablespace.



Attention: When you use the Alter Tablespace property sheet to take a tablespace offline, Server Manager takes the tablespace offline in NORMAL mode. If you want to take a tablespace offline in TEMPORARY or IMMEDIATE mode, choose Take Offline from the Tablespace menu. The Take Offline menu item is described in “Placing a Tablespace Online or Taking a Tablespace Offline” on page 3 – 15.

New Datafile Dialog Box Use the New Datafile dialog box to specify a new datafile to be added to a tablespace. The following figure illustrates the New Datafile dialog box.

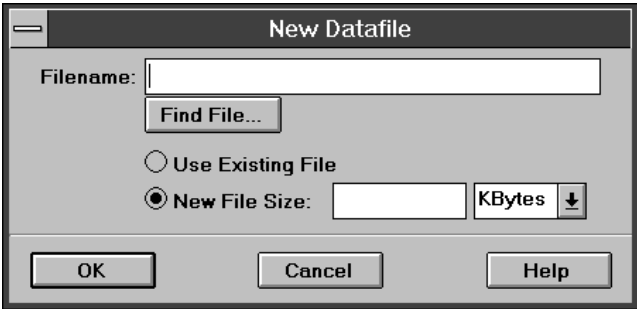


Figure 3 – 7 New Datafile Dialog Box

The New Datafile dialog box is described below:

Filename	Name of the datafile to be created. Enter the new filename. The filename must be specified according to the conventions of your operating system.
Find File	Displays the standard file selection dialog box for your system, which you can use to select a file.
Use Existing File	Designates that the datafile already exists and should be reused.
New File Size	Designates that Oracle should create the file. Enter a value for the file size. Use the pop-up menu to specify the units of the new datafile's size as either kilobytes or megabytes.



OSDoc

Additional Information: For information about specifying filenames on your system, see your operating system-specific Oracle documentation. For information about the standard file selection dialog box for your system, see your operating system-specific documentation.

Edit Datafile Dialog Box

Use the Edit Datafile dialog box to edit the specification of a datafile. The following figure illustrates the Edit Datafile dialog box.

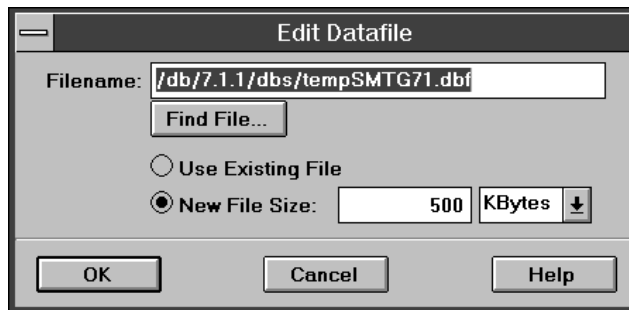


Figure 3 – 8 Edit Datafile Dialog Box

The Edit Datafile dialog box is identical to the New Datafile dialog box. See “New Datafile Dialog Box” on page 3 – 9 for a description of the elements of the New Datafile dialog box.

Rename Datafile Dialog Box

The Rename Datafile dialog box allows you to rename a datafile belonging to a tablespace. You must rename a tablespace’s datafile if you have changed the name of the corresponding operating system file or if you have moved the file to a new location. In order to rename a datafile, its tablespace must be offline.

The following figure illustrates the Rename Datafile dialog box.

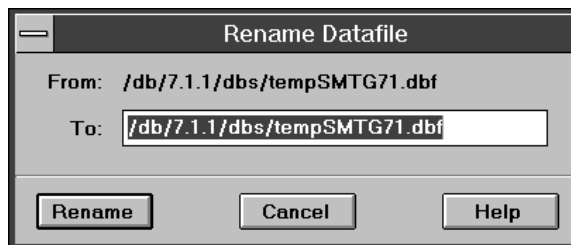



Figure 3 – 9 Rename Datafile Dialog Box

The Rename Datafile dialog box is described below:

From	Old filename.
To	New filename.
	Enter the new filename. The filename must be specified according to the conventions of your operating system.

 **Attention:** When you rename a datafile using Server Manager, the name of the operating system file is not changed. The new filename is only associated with the tablespace. Before renaming the datafile using Server Manager, you must change the name of the file through your operating system.

Alter Tablespace:
Default Storage Page

On the Default Storage page of the Alter Tablespace property sheet, you can alter the default storage parameters for objects subsequently created in the tablespace. The following figure illustrates the Default Storage page of the Alter Tablespace property sheet.

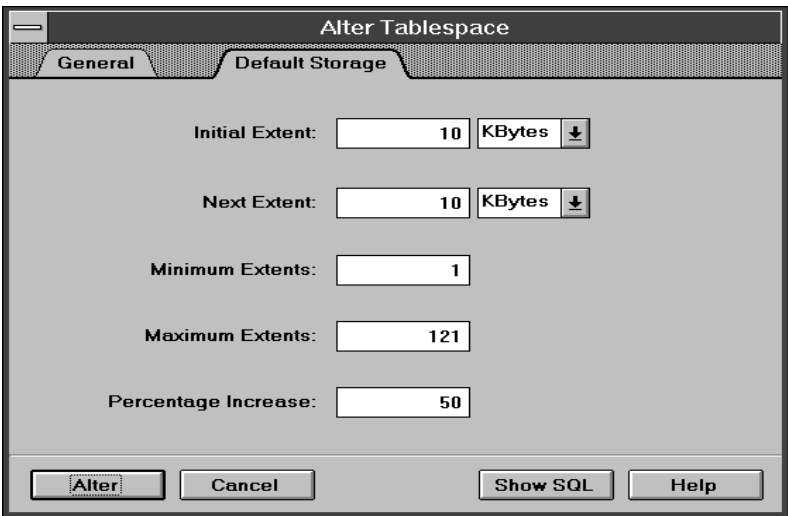


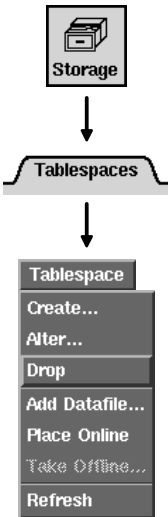
Figure 3 – 10 Default Storage Page of the Alter Tablespace Property Sheet

On the Default Storage page of the Alter Tablespace property sheet, Server Manager displays the current storage characteristics of the tablespace.

The Default Storage page is described below:

Initial Extent	<p>Size of the object's first extent.</p> <p>Enter the size of the initial extent. Use the pop-up menu to specify either kilobytes or megabytes. If you do not specify a size, the default is the size of 5 data blocks.</p>
Next Extent	<p>Size of the next extent to be allocated to the object.</p> <p>Enter the size of the next extent. Use the pop-up menu to specify either kilobytes or megabytes. If you do not specify a size, the default is the size of 5 data blocks.</p>
Minimum Extents	<p>Total number of extents to be allocated when an object is created in the tablespace.</p> <p>Enter the minimum number of extents. If you do not specify a number, the default value is 1.</p>
Maximum Extents	<p>Maximum number of extents that can be allocated to an object created in the tablespace.</p> <p>Enter the maximum number of extents. If you do not specify a value, the default value applies. The default and maximum values depend on the data block size.</p>
Percentage Increase	<p>Percent by which each extent after the second grows over the previous extent.</p> <p>Enter a value for percent increase. If you do not specify a value, the default is 50.</p>

Dropping a Tablespace



To drop an existing tablespace, select the tablespace to be dropped from the Tablespace object list and choose Drop from the Tablespace menu. The Drop Tablespace alert box appears.

When you drop a tablespace, all objects in the tablespace are dropped as well. Server Manager also drops all referential integrity constraints from tables outside the tablespace that refer to primary or unique keys in the tables stored in the dropped tablespace.

The following figure illustrates the Drop Tablespace alert box.



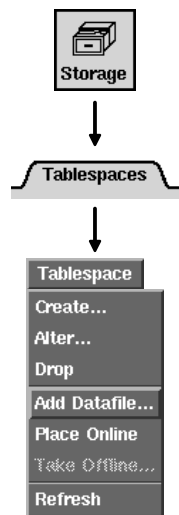
Figure 3 – 11 Drop Tablespace Alert Box

The Drop Tablespace alert box indicates if the tablespace to be dropped contains any objects or contains any tables referenced by integrity constraints from tables outside the tablespace being dropped.



Suggestion: Before dropping a tablespace, take it offline. This ensures that SQL statements that are currently running transactions do not access objects in the tablespace.

Adding a Datafile to a Tablespace



To add a datafile to an existing tablespace, select the tablespace from the Tablespace object list and choose Add Datafile from the Tablespace menu. The Add Datafile dialog box appears.

The following figure illustrates the Add Datafile dialog box.

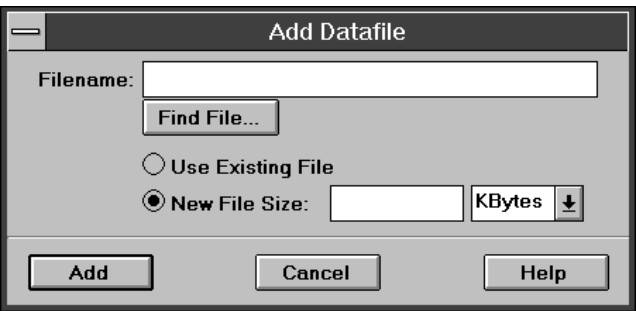
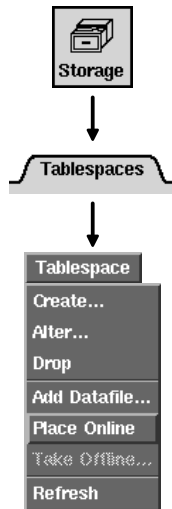


Figure 3 – 12 Add Datafile Dialog Box

The Add Datafile dialog box is described below:

Filename	Name of the datafile to be created. Enter the new filename. The filename must be specified according to the conventions of your operating system.
Find File	Displays the standard file selection dialog box for your system, which you can use to select a file.
Use Existing File	Designates that the datafile already exists and should be reused.
New File Size	Designates that Oracle should create the file. Enter a value for the file size. Use the pop-up menu to specify the units of the new datafile's size as either kilobytes or megabytes.

Placing a Tablespace Online or Taking a Tablespace Offline



To place a tablespace online, select the tablespace from the Tablespace object list and choose Place Online from the Tablespace menu. The tablespace is placed online.

To take a tablespace offline, select the tablespace from the Tablespace object list and choose Take Offline from the Tablespace menu. The Take Tablespace Offline dialog box appears.

The following figure illustrates the Take Tablespace Offline dialog box.



Figure 3 – 13 Take Tablespace Offline Dialog Box

The Take Tablespace Offline dialog box is described below:

Offline Mode: Normal Takes the tablespace offline in normal mode.

A checkpoint is performed for all datafiles in the tablespace (all of these datafiles must be available). You need not perform media recovery on this tablespace before placing it back online. You must use this option if the database is in NOARCHIVELOG mode.

Offline Mode: Temporary	<p>Takes the tablespace offline in temporary mode.</p> <p>A checkpoint is performed for all online datafiles in the tablespace but does not ensure that all files can be written. Any offline files may require media recovery before you place the tablespace back online.</p>
Offline Mode: Immediate	<p>Takes the tablespace offline in immediate mode.</p> <p>Oracle does not ensure that the datafiles are available, and no checkpoint is performed. You must perform media recovery on the tablespace before placing it back online.</p> <p>Use the SQL Worksheet to perform media recovery on a specific tablespace or datafile. For information about the SQL Worksheet, see Chapter 9, “Overview of the System Monitors.”</p>

The Datafiles Folder

When you click the Datafiles folder tab, the Datafiles folder opens and the Datafile object list and menu appear. The Datafile object list contains information about the datafiles in your database.

For information about datafiles, see the *Oracle7 Server Concepts* and the *Oracle7 Server Administrator's Guide*.

The following figure illustrates the Datafile object list.

Oracle Server Manager - [T:gearhead:SMTG71 - Administration]			
File Edit Datafile Window Help			
Storage	Security	Instance	Recovery Schema Replication
Tablespaces	Datafiles	Rollback	
Filename	Tablespace	Status	Size (K)
/db/7.1.1/dbs/CRW	SYSTEM	Available	4
/db/7.1.1/dbs/JYOTI_data	JYOTI	Available	1,000
/db/7.1.1/dbs/foo5	SYSTEM	Available	20
/db/7.1.1/dbs/rbsSMTG71.dbf	RBS	Available	4,096
/db/7.1.1/dbs/sohan_data	SOHAN	Available	1,000
/db/7.1.1/dbs/stella.datafile3	SYSTEM	Available	6
/db/7.1.1/dbs/syst2SMTG71.dbf	SYSTEM	Available	6
/db/7.1.1/dbs/syst3SMTG71.dbf	SYSTEM	Available	5,120
/db/7.1.1/dbs/systSMTG71.dbf	SYSTEM	Available	5,120
/db/7.1.1/dbs/temp2SMTG71.dbf	TEMP	Available	500
/db/7.1.1/dbs/tempSMTG71.dbf	TEMP	Available	550
/db/7.1.1/dbs/test1.dbf	TEST	Available	450
/db/7.1.1/dbs/test2.dbf	TEST	Available	500
/db/7.1.1/dbs/test3.dbf	TEST	Available	300
/db/7.1.1/dbs/testSMTG71.dbf	USERS	Available	20
/db/7.1.1/dbs/tool2SMTG71.dbf	TOOLS	Available	20
/db/7.1.1/dbs/toolSMTG71.dbf	TOOLS	Available	5,120
/db/7.1.1/dbs/usrSMTG71.dbf	USERS	Available	1,024

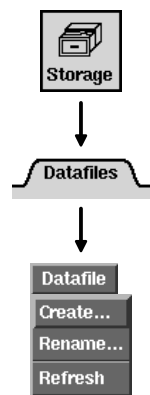
Figure 3 – 14 Datafile Object List

Datafile Object List

The columns of the Datafile object list are described below:

Filename	Name of the datafile.
Tablespace	Tablespace to which the datafile belongs.
Status	Status of the datafile: Available or Invalid.
Size (K)	Size of the datafile in kilobytes.

Creating a Datafile



To create a new datafile, choose Create from the Datafile menu. The Create Datafile property sheet appears. The Create Datafile property sheet consists of one page, called the Datafile Specification page. The following figure illustrates the Datafile Specification page.

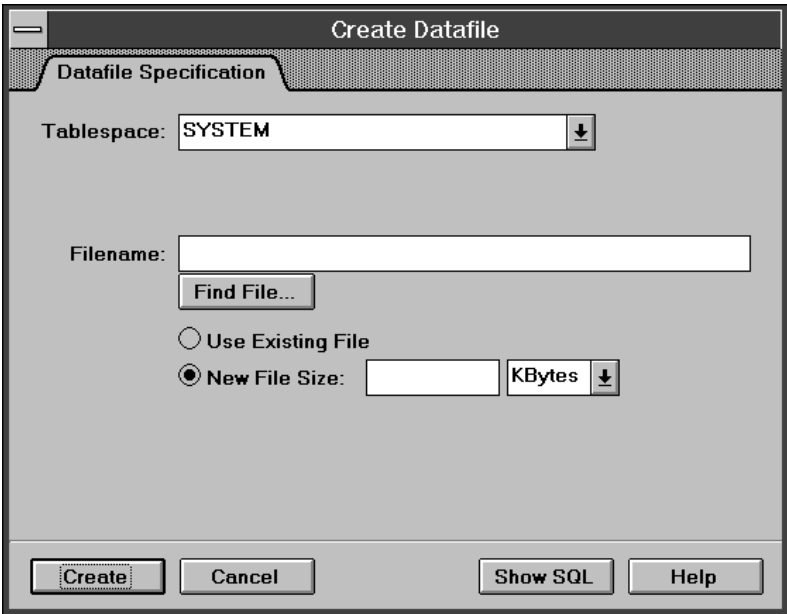


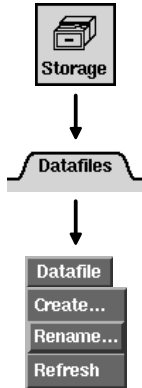
Figure 3 – 15 Datafile Specification Page of the Create Datafile Property Sheet

Datafile Specification Page The Datafile Specification page of the Create Datafile property sheet is described below:

Tablespace	<p>Name of the tablespace to which the new datafile belongs.</p> <p>Use the pop-up menu to choose the tablespace.</p>
Filename	<p>Name of the datafile to be created.</p> <p>Enter the name of the new datafile. The filename must be specified according to the conventions of your operating system.</p>
Find File	<p>Displays the standard file selection dialog box for your system, which you can use to select a local file. Remote files cannot be seen.</p>

Use Existing File	Designates that the datafile already exists and should be reused.
New File Size	Designates that Oracle should create the file. Enter the size of the new datafile. Use the pop-up menu to specify either kilobytes or megabytes.

Renaming a Datafile



To rename an existing datafile, select the datafile to be renamed from the Datafile object list and choose Rename from the Datafile menu. The Rename Datafile dialog box appears. You can also bring up the Rename Datafile dialog box by double-clicking on the datafile in the Datafile object list.

You must rename a datafile if you have changed the name of the corresponding operating system file or if you have moved the file to a new location. To rename a datafile, its tablespace must be offline.

The following figure illustrates the Rename Datafile dialog box.

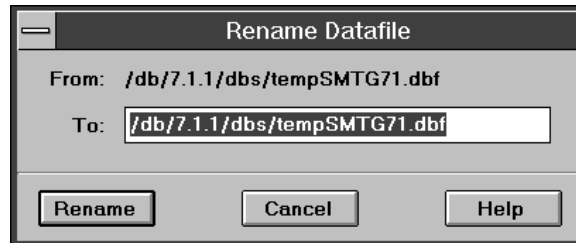


Figure 3 – 16 Rename Datafile Dialog Box

Rename Datafile Dialog Box

The Rename Datafile dialog box is described below:

From	Old filename.
To	New filename. Enter the new filename. The filename must be specified according to the conventions of your operating system.



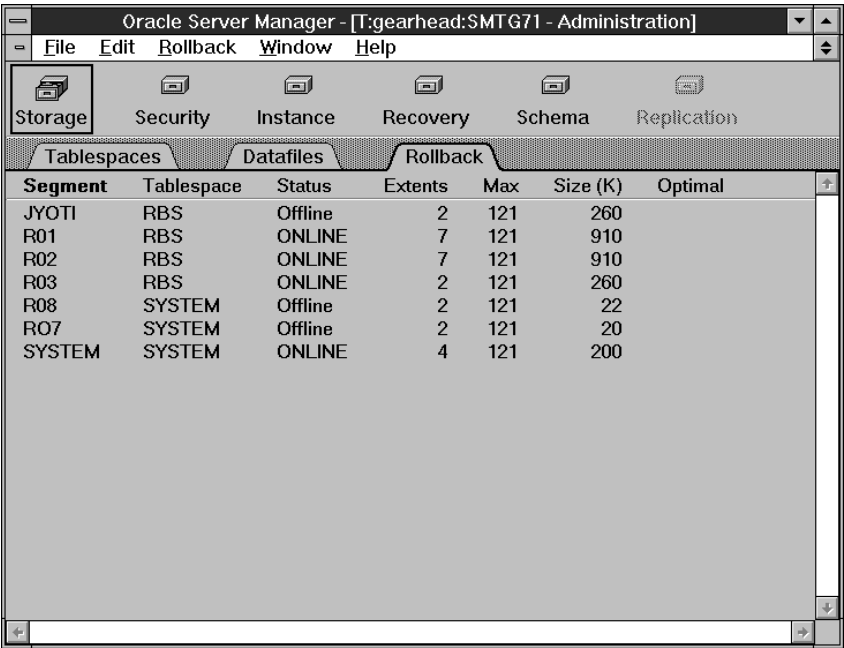
Attention: When you rename a datafile using Server Manager, the name of the operating system file is not changed. The new filename is only associated with the tablespace. Before renaming the datafile using Server Manager, you must change the name of the file through your operating system.

The Rollback Folder

When you click the Rollback folder tab, the Rollback folder opens and the Rollback object list and menu appear. The Rollback object list contains information about the rollback segments in your database.

For information about managing rollback segments, see the *Oracle7 Server Concepts*, the *Oracle7 Server Administrator's Guide*, and the *Oracle7 Server SQL Reference*.

The following figure illustrates the Rollback object list.

The screenshot shows the Oracle Server Manager interface. The title bar reads "Oracle Server Manager - [T:gearhead:SMTG71 - Administration]". The menu bar includes "File", "Edit", "Rollback", "Window", and "Help". Below the menu bar is a toolbar with icons for "Storage", "Security", "Instance", "Recovery", "Schema", and "Replication". A set of tabs below the toolbar includes "Tablespaces", "Datafiles", and "Rollback", with "Rollback" currently selected. The main area displays a table with the following data:

Segment	Tablespace	Status	Extents	Max	Size (K)	Optimal
JYOTI	RBS	Offline	2	121	260	
R01	RBS	ONLINE	7	121	910	
R02	RBS	ONLINE	7	121	910	
R03	RBS	ONLINE	2	121	260	
R08	SYSTEM	Offline	2	121	22	
R07	SYSTEM	Offline	2	121	20	
SYSTEM	SYSTEM	ONLINE	4	121	200	

Figure 3 – 17 Rollback Object List

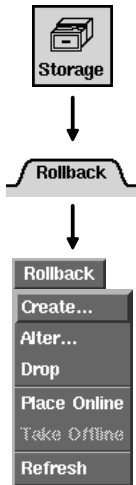
Rollback Object List

The columns of the Rollback object list are described below:

Segment	Name of the rollback segment.
Tablespace	Tablespace that contains the rollback segment.
Status	Status of the rollback segment: ONLINE, Offline, Invalid, Needs Recovery, or Partly Available.
Extents	Number of extents allocated to the rollback segment.

Max	Maximum number of extents allowed for the rollback segment.
Size (K)	Space allocated to the rollback segment (in kilobytes).
Optimal	Optimal size, in kilobytes, of the rollback segment (blank if optimal is not specified for the rollback segment). Optimal is not displayed for offline rollback segments.

Creating a Rollback Segment



To create a new rollback segment, choose Create from the Rollback menu. The Create Rollback Segment property sheet appears.

The Create Rollback Segment property sheet consists of the following pages:

- General
- Storage

The following figure illustrates the General page.

Figure 3 – 18 General Page of the Create Rollback Segment Property Sheet

Create Rollback Segment: General Page	<p>The General page of the Create Rollback Segment property sheet is described below:</p> <table> <tr> <td>Rollback Segment</td><td> <p>Name of the rollback segment to be created.</p> <p>Enter the name of the new rollback segment. The rollback segment name can only contain characters from your database character set and can be at most 30 bytes long.</p> </td></tr> <tr> <td>Tablespace</td><td> <p>Name of the tablespace in which to create the rollback segment.</p> <p>Use the pop-up menu to choose the tablespace.</p> </td></tr> <tr> <td>Status</td><td> <p>Status of the rollback segment to be created.</p> <p>Click Online or Offline to specify the initial status of the rollback segment.</p> </td></tr> </table>	Rollback Segment	<p>Name of the rollback segment to be created.</p> <p>Enter the name of the new rollback segment. The rollback segment name can only contain characters from your database character set and can be at most 30 bytes long.</p>	Tablespace	<p>Name of the tablespace in which to create the rollback segment.</p> <p>Use the pop-up menu to choose the tablespace.</p>	Status	<p>Status of the rollback segment to be created.</p> <p>Click Online or Offline to specify the initial status of the rollback segment.</p>
Rollback Segment	<p>Name of the rollback segment to be created.</p> <p>Enter the name of the new rollback segment. The rollback segment name can only contain characters from your database character set and can be at most 30 bytes long.</p>						
Tablespace	<p>Name of the tablespace in which to create the rollback segment.</p> <p>Use the pop-up menu to choose the tablespace.</p>						
Status	<p>Status of the rollback segment to be created.</p> <p>Click Online or Offline to specify the initial status of the rollback segment.</p>						

Create Rollback Segment:
Storage Page

On the Storage page you can specify the storage characteristics of the rollback segment. The Storage page of the Create Rollback Segment property sheet is illustrated in the following figure.

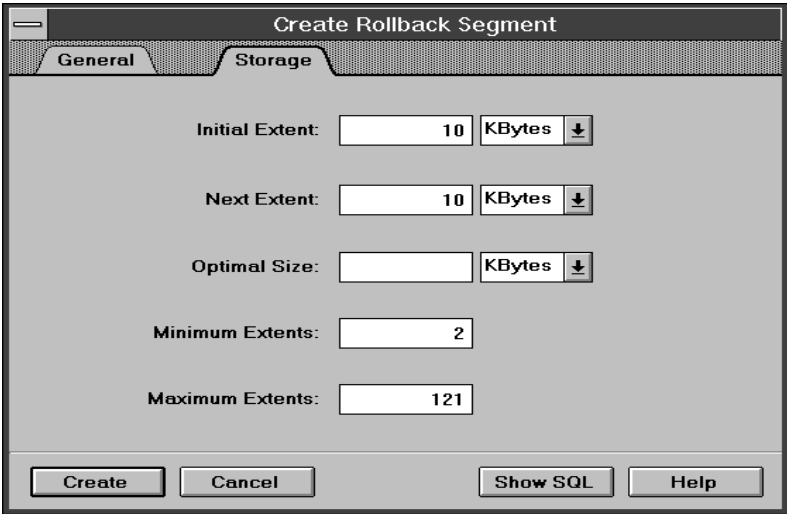
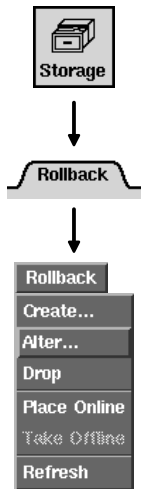


Figure 3 – 19 Storage Page of the Create Rollback Segment Property Sheet

The Storage page is described below:

Initial Extent	<p>Size of the rollback segment's first extent.</p> <p>Enter the size of the initial extent. Use the pop-up menu to specify either kilobytes or megabytes. The default is the size of 5 data blocks.</p>
Next Extent	<p>Size of the next extent allocated to the rollback segment.</p> <p>Enter the size of the next extent. Use the pop-up menu to specify either kilobytes or megabytes. The default is the size of 5 data blocks.</p>
Optimal	<p>Optimal size for the rollback segment. Optimal is not displayed for offline rollback segments.</p> <p>Enter the value for Optimal. Use the pop-up menu to specify either kilobytes or megabytes. Oracle tries to maintain the optimal size of the rollback segment by dynamically deallocating extents when their data is no longer needed for active transactions. A blank field assumes the default value.</p> <p>The default value of Optimal is null. If Optimal is null, Oracle never deallocates the rollback segment's unused extents.</p> <p>The value of Optimal can never be less than the space initially allocated to the rollback segment, as specified by the values of Initial Extent, Next Extent, and Minimum Extents.</p>
Minimum Extents	<p>Total number of extents to be allocated when the rollback segment is created.</p> <p>Enter the minimum number of extents. The default and minimum value is 2.</p>
Maximum Extents	<p>Maximum number of extents that can be allocated to the rollback segment.</p> <p>Enter the maximum number of extents. The default and maximum values depend on the data block size.</p>

Altering a Rollback Segment



To alter an existing rollback segment, select the rollback segment to be altered from the Rollback object list and choose Alter from the Rollback menu. The Alter Rollback Segment property sheet appears. You can also bring up the Alter Rollback Segment property sheet by double-clicking on the rollback segment in the Rollback object list. The Alter Rollback Segment property sheet consists of the following pages:

- General
- Storage

The following figure illustrates the General page.

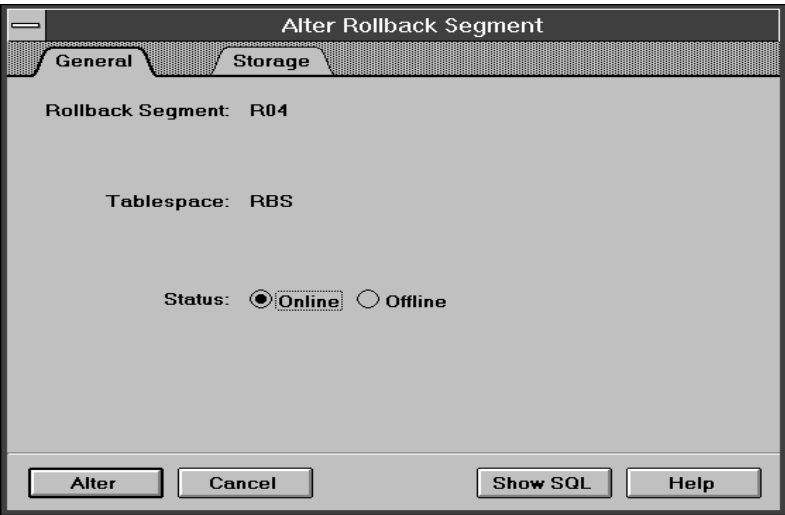


Figure 3 – 20 General Page of the Alter Rollback Segment Property Sheet

Alter Rollback Segment:
General Page

The General page of the Alter Rollback Segment property sheet is described below:

Rollback Segment	Name of the rollback segment to be altered.
Tablespace	Tablespace to which the rollback segment belongs.
Status	Status of the rollback segment. Click Online or Offline to alter the status of the rollback segment. For information about placing a rollback segment online or taking it offline, see “Placing a Rollback Segment Online or Taking a Rollback Segment Offline” on page 3 – 27.

Alter Rollback Segment: Storage Page

On the Storage page you can alter the storage characteristics of the rollback segment. These changes apply to any subsequent extent allocations to the rollback segment. The Storage page of the Alter Rollback Segment property sheet is illustrated in the following figure.

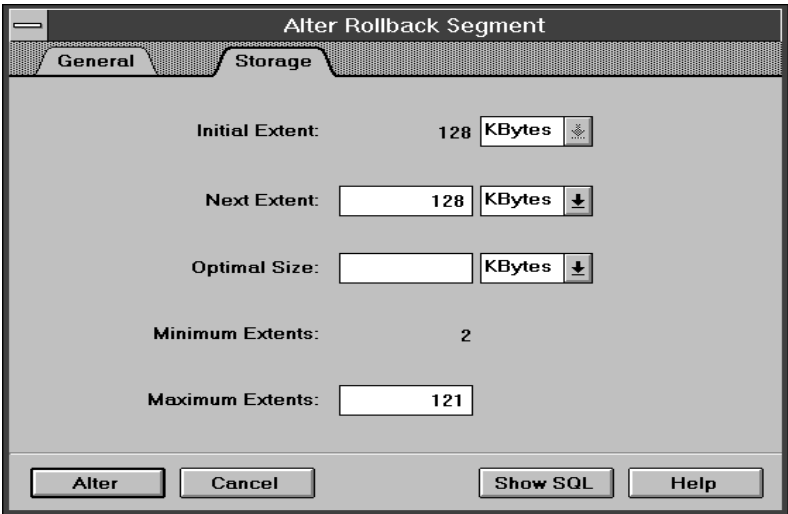


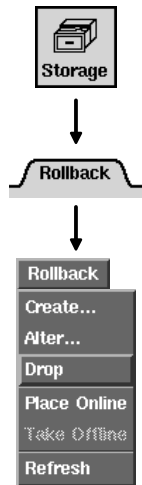
Figure 3 – 21 Storage Page of the Alter Rollback Segment Property Sheet

The Storage page of the Alter Rollback Segment property sheet is described below:

Initial Extent	Size of the initial extent that was allocated to the rollback segment when it was created.
Next Extent	Size of the next extent to be allocated to the rollback segment. Enter the size of the next extent. Use the pop-up menu to specify either kilobytes or megabytes.
Optimal Size	Optimal size for the rollback segment. Optimal is not displayed for offline rollback segments. Enter the value for Optimal. Use the pop-up menu to specify either kilobytes or megabytes. For more information on Optimal, see “Create Rollback Segment: Storage Page” on page 3 – 23.

Minimum Extents	Number of extents that were allocated to the rollback segment when it was created.
Maximum Extents	Maximum number of extents that can be allocated to the rollback segment.
	Enter the maximum number of extents. The default and maximum values depend on the data block size.

Dropping a Rollback Segment



To drop an existing rollback segment, select the rollback segment to be dropped from the Rollback object list and choose Drop from the Rollback menu. The Drop Rollback Segment alert box appears.

The following figure illustrates the Drop Rollback Segment alert box.

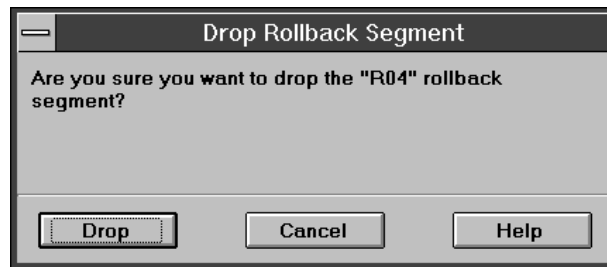
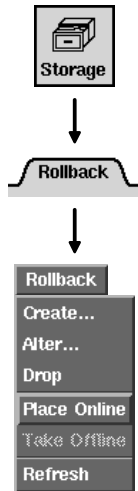


Figure 3 – 22 Drop Rollback Segment Alert Box



Attention: You can only drop a rollback segment that is offline.

Placing a Rollback Segment Online or Taking a Rollback Segment Offline



To place a rollback segment online, select the rollback segment from the Rollback object list and choose Place Online from the Rollback menu. The rollback segment is placed online.

To take a rollback segment offline, select the rollback segment from the Rollback object list and choose Take Offline from the Rollback menu. The rollback segment is taken offline.

When you change the status of a rollback segment to offline, Oracle takes the rollback segment offline immediately if the rollback segment does not contain information necessary to roll back any active transactions. If the rollback segment *does* contain information for active transactions, Oracle makes the rollback segment unavailable for future transactions and takes it offline after all the active transactions are committed or rolled back.



Attention: Because Oracle does not take a rollback segment offline until all its active transactions have completed, there may be some delay before the status of the rollback segment is changed to Offline in the Rollback object list.

Controlling Database Security

This chapter describes how to use Server Manager to manage database security. This chapter assumes that you have read Chapter 2, “Overview of the Administration Manager,” and are familiar with the interface elements of the Administration Manager.

In the Security drawer, you can manage users, roles and profiles. You can also view the auditing options that are set for your system. This chapter describes the commands available in the Security drawer’s folders:

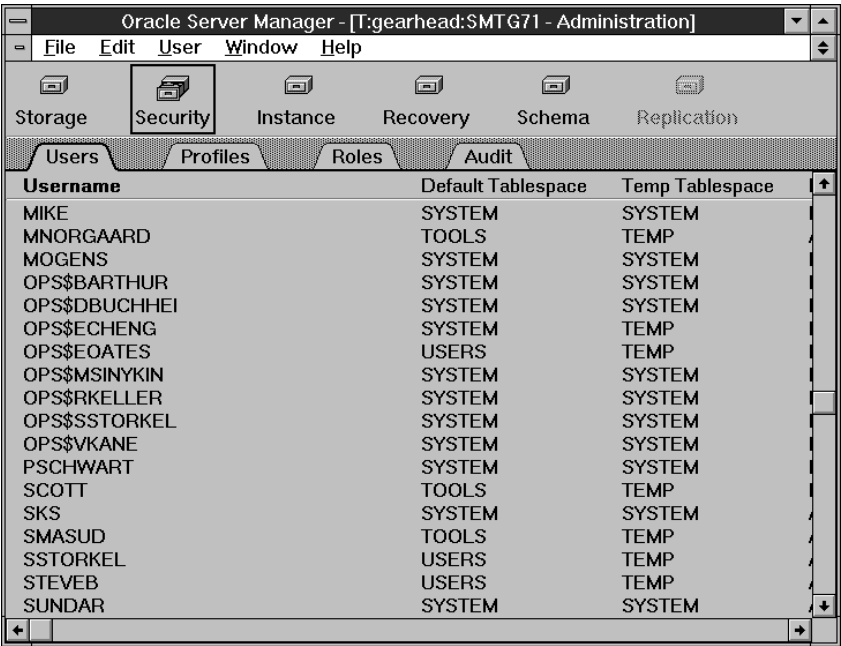
- Users
- Profiles
- Roles
- Audit

The Users Folder

When you click the Users folder tab, the Users folder opens and the User object list and menu appear. The User object list contains information about the users in the database.

For more information about users, see the *Oracle7 Server Concepts*, the *Oracle7 Server Administrator's Guide*, and the *Oracle7 Server SQL Reference*.

The following figure illustrates the User object list.



The screenshot shows the Oracle Server Manager interface. The title bar reads "Oracle Server Manager - [T:gearhead:SMTG71 - Administration]". The menu bar includes "File", "Edit", "User", "Window", and "Help". Below the menu bar is a toolbar with icons for "Storage", "Security", "Instance", "Recovery", "Schema", and "Replication". The "Security" icon is selected. Below the toolbar are tabs for "Users", "Profiles", "Roles", and "Audit". The "Users" tab is active, displaying a table with the following columns: "Username", "Default Tablespace", and "Temp Tablespace". The table lists 20 users with their respective tablespaces.

Username	Default Tablespace	Temp Tablespace
MIKE	SYSTEM	SYSTEM
MNORGAARD	TOOLS	TEMP
MOGENS	SYSTEM	SYSTEM
OPS\$BARTHUR	SYSTEM	SYSTEM
OPS\$DBUCHHEI	SYSTEM	SYSTEM
OPS\$ECHENG	SYSTEM	TEMP
OPS\$EOATES	USERS	TEMP
OPS\$MSINYKIN	SYSTEM	SYSTEM
OPS\$RKELLER	SYSTEM	SYSTEM
OPS\$SSTORKEL	SYSTEM	SYSTEM
OPS\$VKANE	SYSTEM	SYSTEM
PSCHWART	SYSTEM	SYSTEM
SCOTT	TOOLS	TEMP
SKS	SYSTEM	SYSTEM
SMASUD	TOOLS	TEMP
SSTORKEL	USERS	TEMP
STVEEB	USERS	TEMP
SUNDAR	SYSTEM	SYSTEM

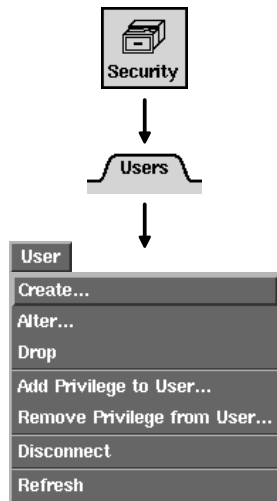
Figure 4 - 1 User Object List

User Object List

The columns of the User object list are described below:

Username	Name of the user.
Default Tablespace	Default tablespace for the user's objects.
Temp Tablespace	Tablespace for the user's temporary segments.
Profile	Profile assigned to the user.
Logged In	Whether or not the user is currently connected to the database.

Creating a User



To create a new user, choose Create from the User menu. The Create User property sheet appears.

The Create User property sheet consists of the following pages:

- General
- Quotas
- Privs & Roles (Privileges and Roles)
- Default Role

The following figure illustrates the General page.

Create User

General Quotas Privs & Roles Default Role

Username:

Password: ☐ OS Authenticated
☒ Password:

Default Tablespace:

Temporary Tablespace:

Profile:

Figure 4 – 2 General Page of the Create User Property Sheet

Create User:
General Page

The General page of the Create User property sheet is described below:

Username

Name of the user to be created.

Enter the name of the new user. The username can only contain characters from your database character set and can be at most 30 bytes long.

Password	<p>Method Oracle uses to authenticate the user.</p> <p>Click OS Authenticated to specify that the operating system verify the user.</p> <p>Click Password to require a password for logon. Enter the password in the adjacent text entry field.</p>
Default Tablespace	<p>User's default tablespace.</p> <p>Use the pop-up menu to choose the default tablespace for objects the user creates.</p>
Temporary Tablespace	<p>User's tablespace for temporary segments.</p> <p>Use the pop-up menu to choose the tablespace for the user's temporary segments.</p>
Profile	<p>User's profile.</p> <p>Use the pop-up menu to assign a profile to the user.</p>

Create User: Quotas Page

On the Quotas page of the Create User property sheet, you can specify the tablespaces in which the user can allocate space and the maximum amount of space the user can allocate in each. The following figure illustrates the Quotas page.

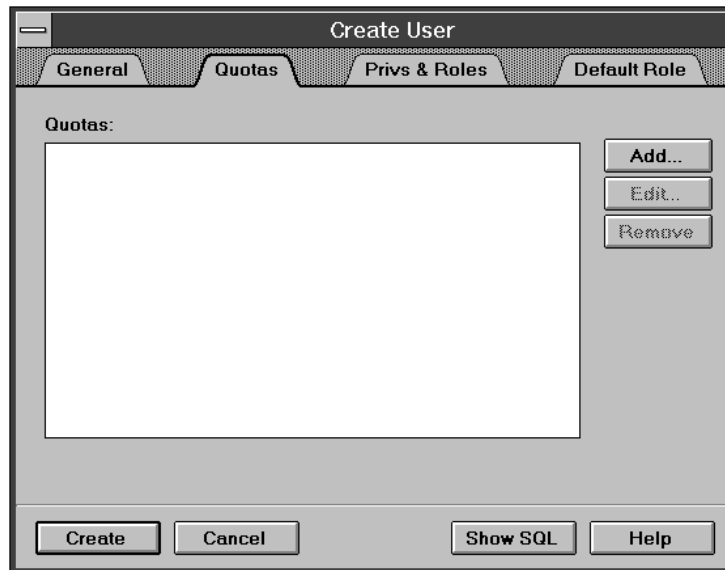


Figure 4 – 3 Quotas Page of the Create User Property Sheet

The Quotas page is described below:

Quotas	Scrolling list of the tablespace quotas assigned to the user.
Add	Displays the Add Quota dialog box, which allows you to specify a quota for the user. For a description of the Add Quota dialog box, see page 4–5. When you have specified a quota, that quota appears in the Quotas scrolling list.
Edit	Displays the Edit Quota dialog box, which allows you to alter the quota selected in the Quotas scrolling list. For a description of the Edit Quota dialog box, see page 4–6.
Remove	Removes the quota selected in the Quotas scrolling list.

Add Quota Dialog Box

Use the Add Quota dialog box to specify a user’s quota on a specific tablespace. The following figure illustrates the Add Quota dialog box.



Figure 4 – 4 Add Quota Dialog Box

The Add Quota dialog box is described below:

Tablespace	Tablespace to which the quota applies. Use the pop-up menu to specify the tablespace for the quota.
------------	--

Quota Size Maximum amount of space the user is allowed to allocate in the tablespace.

To specify an unlimited quota for the tablespace, click the Unlimited button. With an unlimited quota, the user can allocate an unbounded amount of space in the tablespace.

To specify a specific quota, click the quota size lower button and enter a quota value in the adjacent text entry field. Use the pop-up menu to specify kilobytes or megabytes.

Edit Quota Dialog Box Use the Edit Quota dialog box to alter a user’s quota on a specified tablespace. The following figure illustrates the Edit Quota dialog box.



Figure 4 – 5 Edit Quota Dialog Box

The Edit Quota dialog box is described below:

Tablespace Name of the tablespace for which you are changing the quota.

Quota Size New quota size.

The quota value is the maximum amount of space the user can allocate in the tablespace.

To specify an unlimited quota for the tablespace, click Unlimited. With an unlimited quota, the user can allocate an unbounded amount of space in the tablespace.

To specify a specific quota, click the quota size button and enter a quota value in the adjacent text entry field. Use the pop-up menu to specify kilobytes or megabytes.

Create User:
Privileges and Roles Page

On the Privileges and Roles page of the Create User property sheet, you can assign roles and grant individual privileges to the user. The following figure illustrates the Privileges and Roles page.

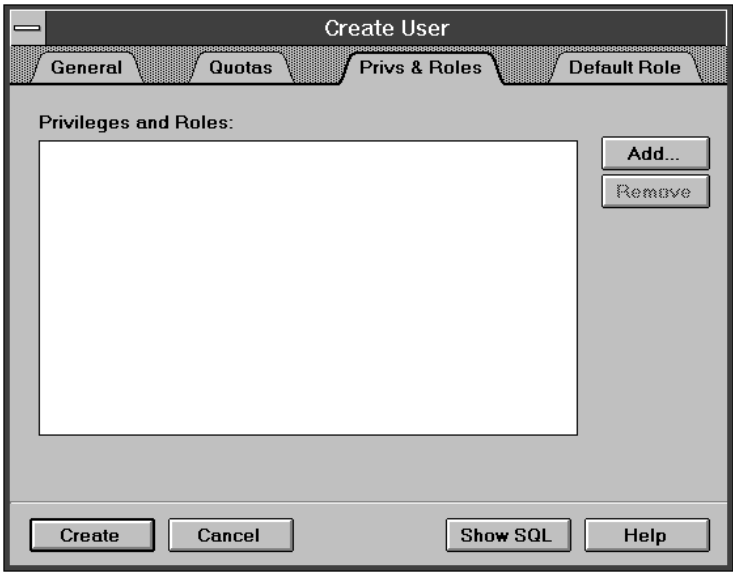


Figure 4 – 6 Privileges and Roles Page of the Create User Property Sheet

The Privileges and Roles page is described below:

- | | |
|----------------------|--|
| Privileges and Roles | Scrolling list of the roles and privileges to be granted to the user. |
| Add | Displays the Add Privilege to User dialog box. See page 4–8 for a description of the Add Privilege to User dialog box. |
| Remove | Removes the role or privilege selected in the Privileges and Roles scrolling list. |

Add Privilege to User Dialog Box

In the Add Privilege to User dialog box you can grant roles, system privileges, and object privileges to a user. You can add a privilege to a user when you create a new user, alter a user, or choose Add Privilege to User from the User menu.

The following figure illustrates the Add Privilege to User dialog box with the Role Privilege Type selected.

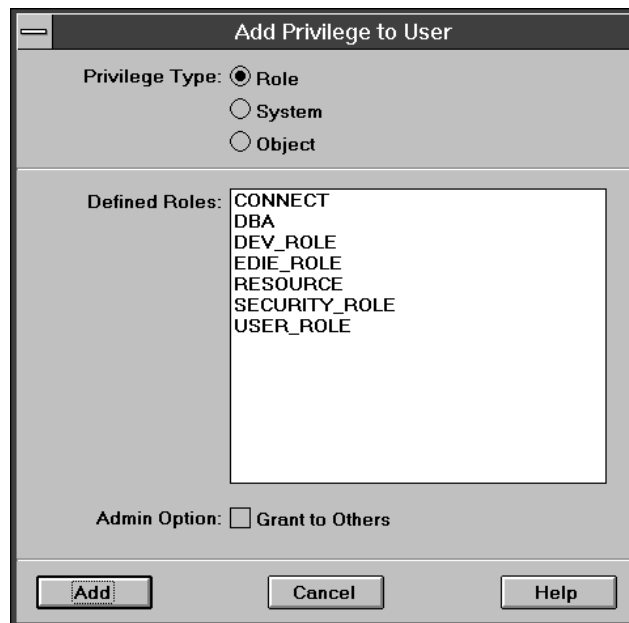


Figure 4 – 7 Add Privilege to User Dialog Box with the Role Privilege Type Selected

The Add Privilege to User dialog box in Figure 4–7 is described below:

Privilege Type: Role	Displays the roles you can grant to the user.
Defined Roles	Scrolling list of the roles you can grant. These are roles you have created and roles you have been granted with the Admin Option. If you have the GRANT ANY ROLE system privilege, all roles are listed. Select the role you wish to grant to the user.
Admin Option	Allows the user to grant the role to other users or roles. If you grant a role with the Admin Option, the user can also alter or drop the role.

The following figure illustrates the Add Privilege to User dialog box with the System Privilege Type selected.

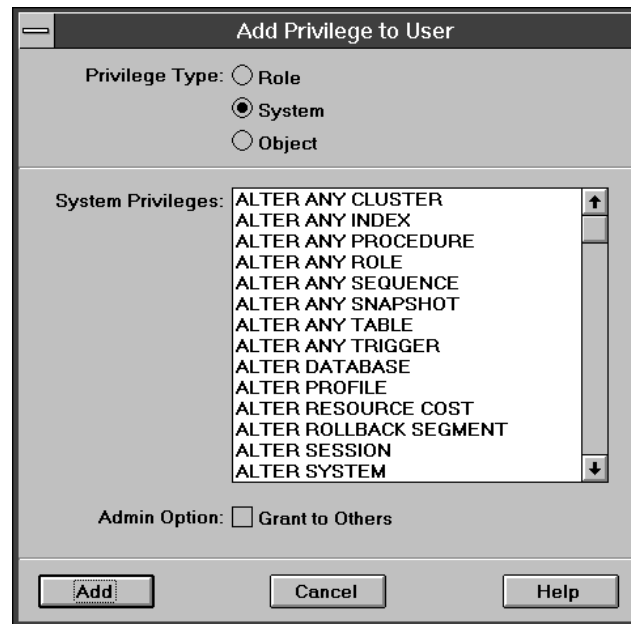


Figure 4 – 8 Add Privilege to User Dialog Box with the System Privilege Type Selected

The Add Privilege to User dialog box in Figure 4–8 is described below:

Privilege Type: System Displays the system privileges you can grant to the user.

System Privileges Scrolling list of the system privileges you can grant. These are the system privileges you have been granted with the Admin Option. If you have the GRANT ANY PRIVILEGE system privilege, all privileges are listed.

Select the system privilege you wish to grant to the user.

Admin Option Allow the user to grant the system privilege to other users or roles.

The following figure illustrates the Add Privilege to User dialog box with the Object Privilege Type selected.

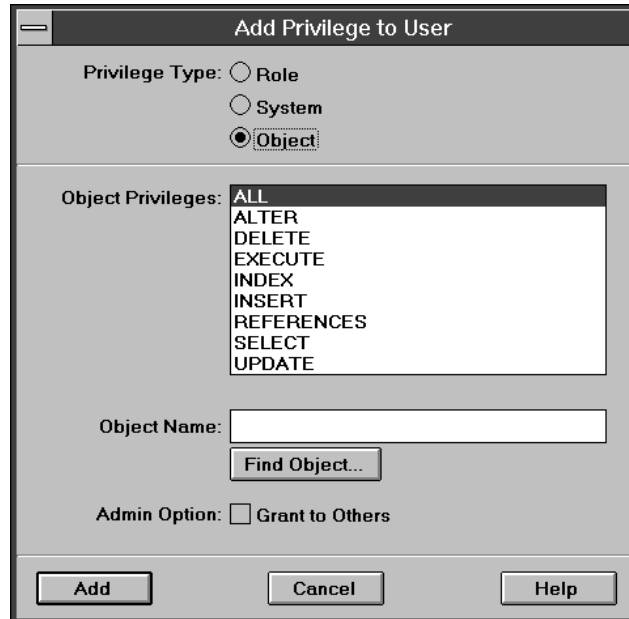


Figure 4 – 9 Add Privilege to User Dialog Box with the Object Privilege Type Selected

The Add Privilege to User dialog box in Figure 4–9 is described below:

Privilege Type: Object	Displays object privileges.
Object Privileges	<p>Scrolling list of all object privileges.</p> <p>You can grant an object privilege that you have been granted with the Grant Option. If you are the owner of the object, you can grant all privileges on the object.</p> <p>The scrolling list includes the item ALL, which represents all object privileges you can grant on an object.</p>
Object Name	<p>Schema and name of the object on which you are granting privileges.</p> <p>Enter the schema and object name, or click Find Object.</p>
Find Object	<p>Displays the Find Schema Object dialog box. See page 4–12 for a description of the Find Schema Object dialog box.</p>
Admin Option	<p>Allows the user to grant the object privilege to other users and roles.</p>



Attention: In the SQL Worksheet, use the GRANT command to grant privileges on a column in a table or view. For information about the GRANT command, see the *Oracle7 Server SQL Reference*.

Find Schema Object
Dialog Box

In the Find Schema Object dialog box you can specify an object on which to grant object privileges. The following figure illustrates the Find Schema Object dialog box.

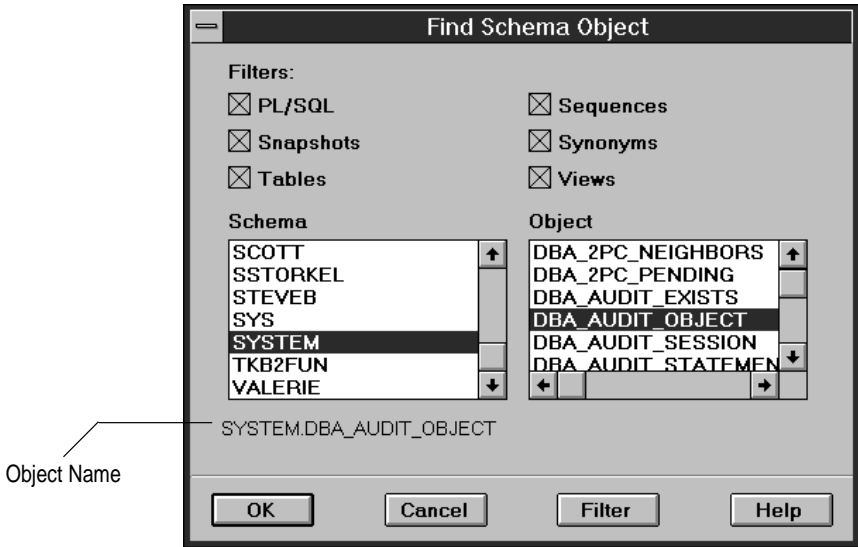


Figure 4 – 10 Find Schema Object Dialog Box

The Find Schema Object dialog box is described below:

Filters	Types of objects on which you can grant object privileges. Click the object types you wish to find, then click Filter to find the objects.
Schema	Scrolling list of schemas in your database. Select a schema from the Schema scrolling list. Server Manager retrieves all the objects in that schema that match the object types you chose in the Filters.
Object	Scrolling list of objects in the selected schema that match the object types you chose in the Filters. Select the object on which you wish to grant object privileges.
Filter	Retrieves the objects in the selected schema that match the object types you chose in the Filters.

Create User:
Default Role Page

On the Default Role page of the Create User property sheet, you can specify the default roles for the user. Oracle enables the user's default roles at logon.

Only a role granted directly to the user can be specified as a default role. A role granted through another role cannot be a default role.

The following figure illustrates the Default Role page.

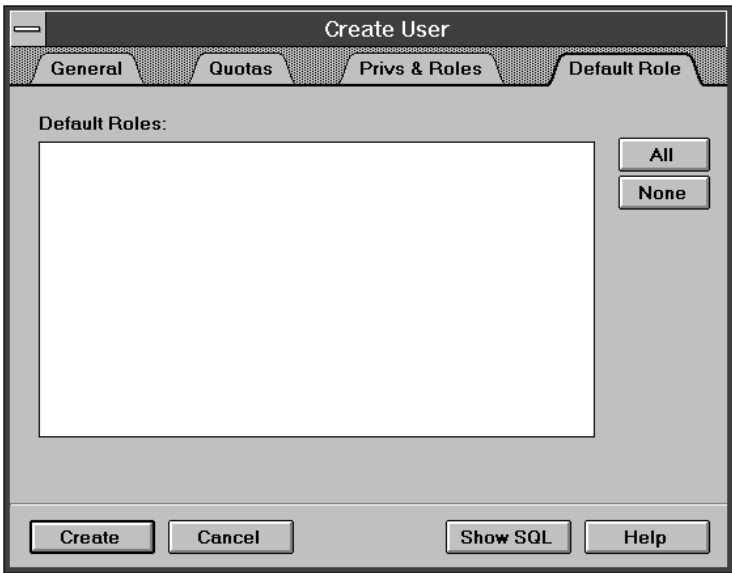


Figure 4 – 11 Default Role Page of the Create User Property Sheet

The Default Role page is described below:

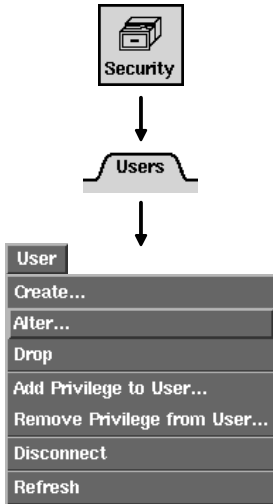
Default Roles	Scrolling list of the roles to be granted to the new user. Select the roles you wish to designate as the user's default roles. Unlike most other scrolling lists in Server Manager, the Default Roles scrolling list allows you to make multiple selections.
All	Selects all roles in the Default Roles scrolling list. Click All to make all roles granted to the user default roles.

None

Selects none of the roles in the Default Roles scrolling list.

Click None to make none of the roles granted to the user default roles.

Altering a User



To alter the characteristics of a user, select the user to be altered from the User object list and choose Alter from the User menu. The Alter User property sheet appears. You can also bring up the Alter User property sheet by double-clicking on the user in the User object list.

The Alter User property sheet consists of the following pages:

- General
- Quotas
- Privs & Roles (Privileges and Roles)
- Default Role
- Objects

The following figure illustrates the General page.

The screenshot shows the 'Alter User' dialog box with the 'General' tab selected. The dialog has a title bar 'Alter User' and five tabs: 'General', 'Quotas', 'Privs & Roles', 'Default Role', and 'Objects'. The 'General' tab contains the following fields and controls:

- Username:** MNORGAARD
- Password:** ☒ OS Authenticated, ☐ Password:
- Default Tablespace:** TOOLS (dropdown menu with a down arrow)
- Temporary Tablespace:** TEMP (dropdown menu with a down arrow)
- Profile:** APP_USER (dropdown menu with a down arrow)
- Buttons:** Alter, Cancel, Show SQL, Help

Figure 4 – 12 General Page of the Alter User Property Sheet

Alter User:
General Page

The General page of the Alter User property sheet is described below:

Username	Name of the user to be altered.
Password	Method Oracle uses to authenticate the user. Click OS Authenticated to specify that the operating system verify the user. Click Password to require a password for logon. Enter the new password in the adjacent text entry field.
Default Tablespace	User's default tablespace. Use the pop-up menu to choose the new default tablespace for objects the user creates.
Temporary Tablespace	User's tablespace for temporary segments. Use the pop-up menu to choose the new tablespace for the user's temporary segments.
Profile	User's profile. Use the pop-up menu to assign a new profile to the user.

Alter User:
Quotas Page

On the Quotas page of the Alter User property sheet, you can specify the tablespaces in which the user can allocate space and the maximum amount of space the user can allocate in each. You can also modify or remove existing quotas. The following figure illustrates the Quotas page.

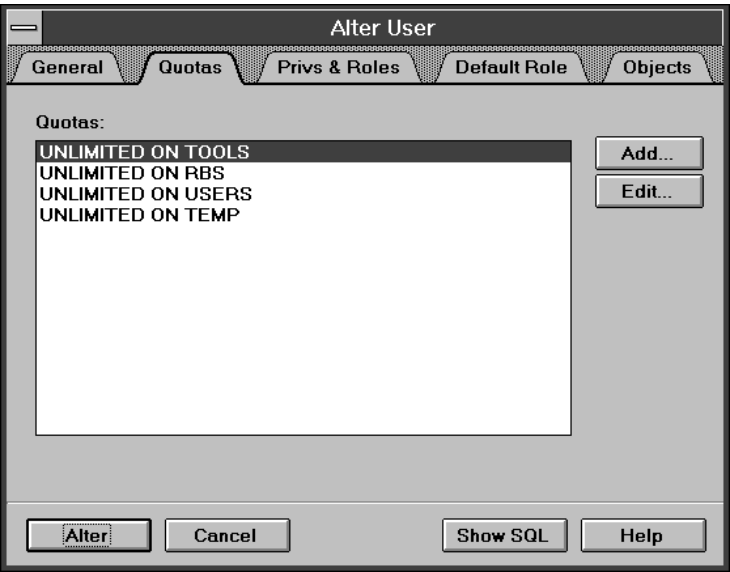



Figure 4 – 13 Quotas Page of the Alter User Property Sheet

The Quotas page is described below:

Quotas	Scrolling list of the quotas assigned to the user.
Add	Displays the Add Quota dialog box, which allows you to specify a quota for the user. For a description of the Add Quota dialog box, see page 4–17.
Edit	Displays the Edit Quota dialog box, which allows you to alter the quota selected in the Quotas scrolling list. For a description of the Edit Quota dialog box, see page 4–18.

 **Attention:** To remove a quota you have assigned to a user, change the value of the quota to zero.

Add Quota Dialog Box

Use the Add Quota dialog box to specify a user's quota on a specific tablespace. The following figure illustrates the Add Quota dialog box.

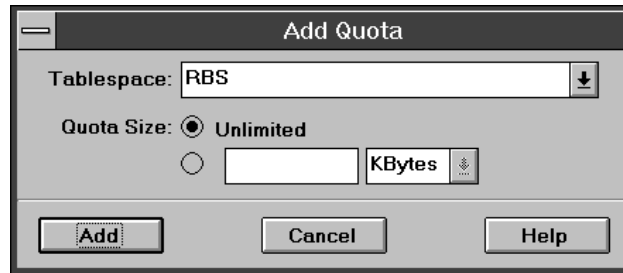


Figure 4 – 14 Add Quota Dialog Box

The Add Quota dialog box is described below:

Tablespace	Tablespace to which the quota applies. Use the pop-up menu to specify the tablespace for the quota.
Quota Size	Maximum amount of space the user is allowed to allocate in the tablespace. To specify an unlimited quota for the tablespace, click the Unlimited button. With an unlimited quota, the user can allocate an unbounded amount of space in the tablespace. To specify a specific quota, click the quota size lower button and enter a quota value in the adjacent text entry field. Use the pop-up menu to specify kilobytes or megabytes.

Edit Quota Dialog Box

Use the Edit Quota dialog box to alter a user's quota on a specified tablespace. The following figure illustrates the Edit Quota dialog box.

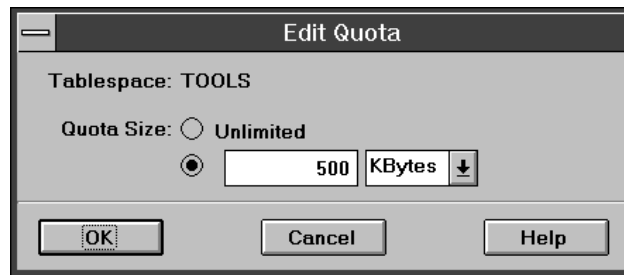


Figure 4 – 15 Edit Quota Dialog Box

The Edit Quota dialog box is described below:

Tablespace	Name of the tablespace for which you are changing the quota.
Quota Size	<p>New quota size.</p> <p>The quota value is the maximum amount of space the user can allocate in the tablespace.</p> <p>To specify an unlimited quota for the tablespace, click Unlimited. With an unlimited quota, the user can allocate an unbounded amount of space in the tablespace.</p> <p>To specify a specific quota, click the quota size button and enter a quota value in the adjacent text entry field. Use the pop-up menu to specify kilobytes or megabytes.</p>

Alter User:
Privileges and Roles Page

On the Privileges and Roles page of the Alter User property sheet, you can grant or revoke roles or individual privileges from the user. The following figure illustrates the Privileges and Roles page.

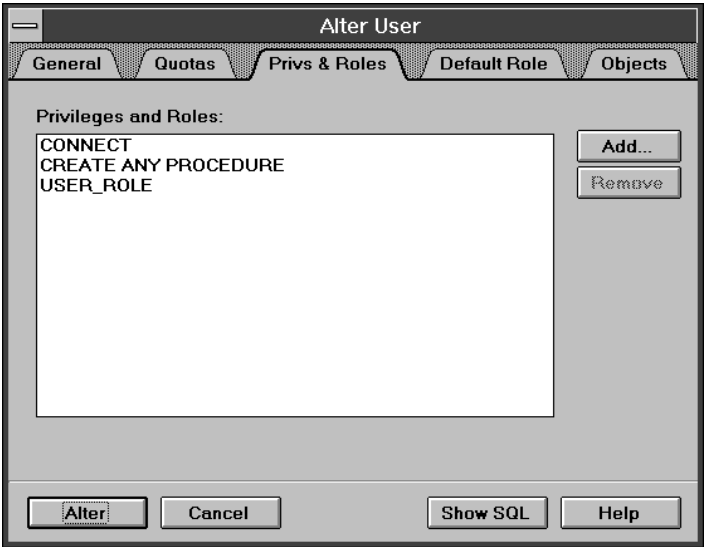


Figure 4 – 16 Privileges and Roles Page of the Alter User Property Sheet

The Privileges and Roles page is described below:

Privileges and Roles	Scrolling list of the roles and privileges assigned to the user.
Add	Displays the Add Privilege to User dialog box. See page 4–8 for a description of the Add Privilege to User dialog box.
Remove	Removes the role or privilege selected in the Privileges and Roles scrolling list.

Alter User:
Default Role Page

On the Default Role page of the Alter User property sheet, you can change the default roles for the user.

Only a role granted directly to the user can be specified as a default role. A role granted through another role cannot be a default role.

The following figure illustrates the Default Role page.

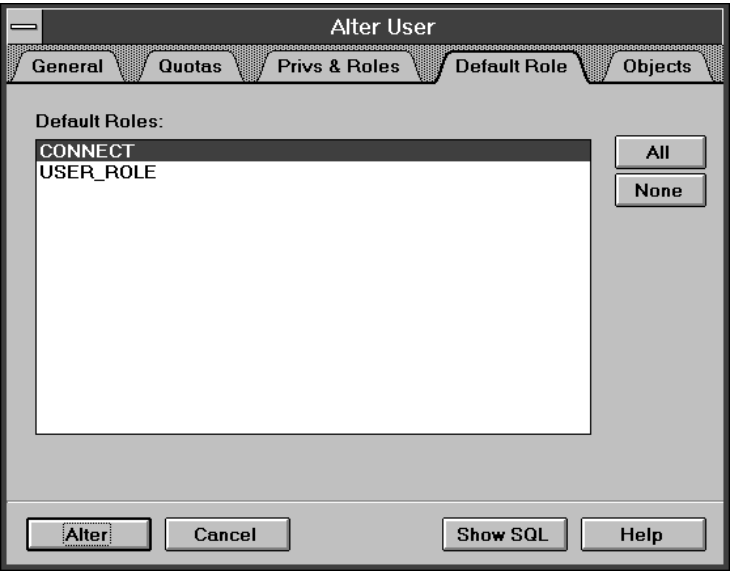


Figure 4 – 17 Default Role Page of the Alter User Property Sheet

The Default Role page is described below:

Default Roles	Scrolling list of all of the roles granted to the user. Select the roles you wish to designate as the user's default roles. Unlike most other scrolling lists in Server Manager, the Default Roles scrolling list allows you to make multiple selections. Note: Roles assigned as default roles appear selected. Unselected roles are not default roles for this user and need to be activated explicitly by the user after connecting to the database.
All	Selects all roles in the Default Roles scrolling list. Click All to make all roles granted to the user default roles.

None

Selects none of the roles in the Default Roles scrolling list.

Click None to make none of the roles granted to the user default roles.

Alter User: Objects Page

On the Objects page of the Alter User property sheet, you can view the names of the objects the user owns.

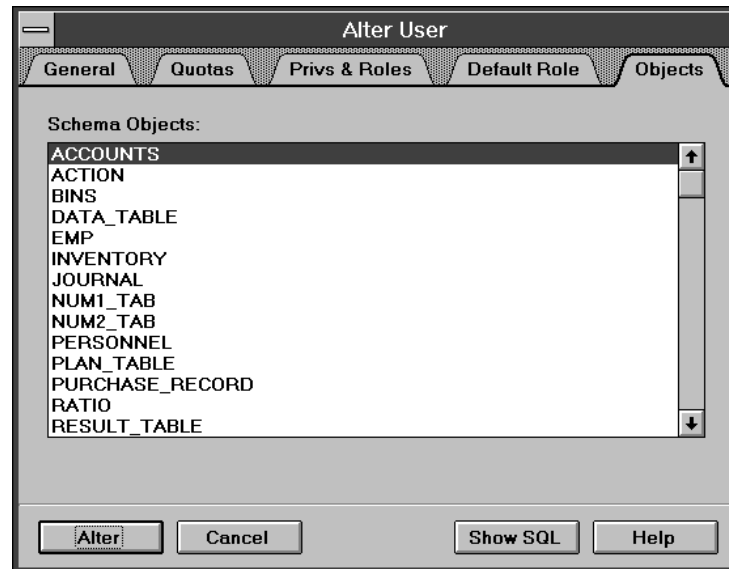
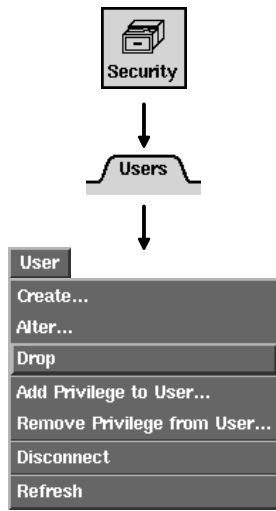


Figure 4 – 18 Objects Page of the Alter User Property Sheet

Dropping a User



If you no longer need a particular user in your database, you can drop the user. To drop a user, select the user to be dropped from the User object list and choose Drop from the User menu. The Drop User alert box appears.

The following figure illustrates the Drop User alert box.

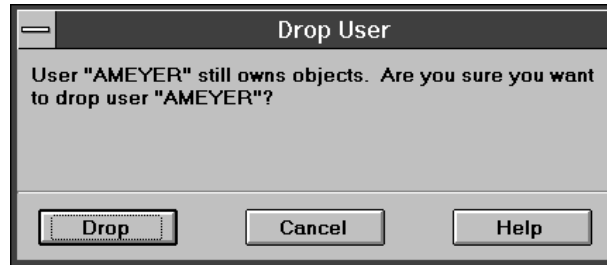


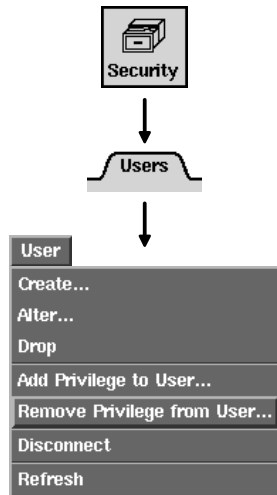
Figure 4 – 19 Drop User Alert Box

The Drop User alert box indicates if the user still owns any objects.

If you drop a user who owns objects, Server Manager:

- drops all of the objects in the user's schema
- drops any referential integrity constraints in other schemas that refer to the dropped user's tables
- invalidates any views or synonyms for objects in the dropped user's schema
- invalidates any stored procedures, functions, or packages that query objects in the dropped user's schema
- does not drop snapshots on tables or views in the dropped user's schema
- does not drop any roles created by the user

Adding a Privilege to or Removing a Privilege from a User



To add a privilege to a user, select the user from the User object list and choose Add Privilege to User from the User menu. The Add Privilege to User dialog box appears. See page 4–8 for a description of the Add Privilege to User dialog box.

To remove a privilege from a user, select the user from the User object list and choose Remove Privilege from User from the User menu. The Remove Privilege from User dialog box appears.

The following figure illustrates the Remove Privilege from User dialog box.

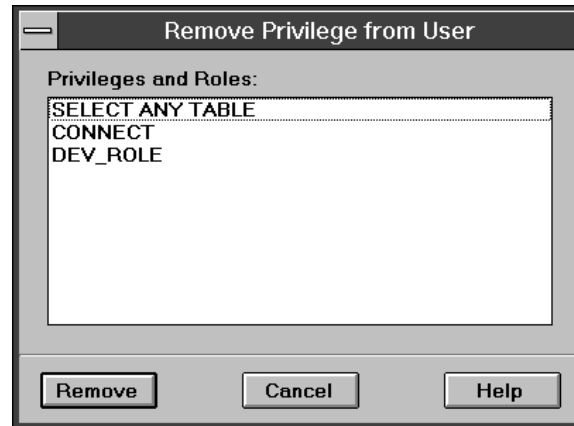
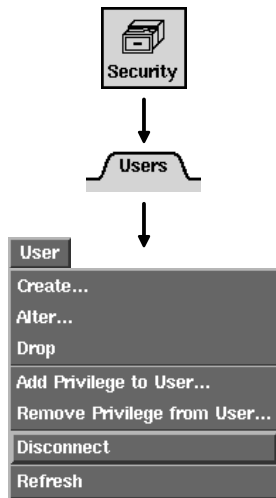


Figure 4 – 20 Remove Privilege from User Dialog Box

The Remove Privilege dialog box is described below:

Privileges and Roles	Scrolling list of the privileges and roles assigned to the user.
	Select the role or privilege you wish to revoke from the user.

Disconnecting a User



To disconnect a user's sessions, select a logged in user from the User object list and choose Disconnect from the User menu. The Disconnect User alert box appears.

The following figure illustrates the Disconnect User alert box.

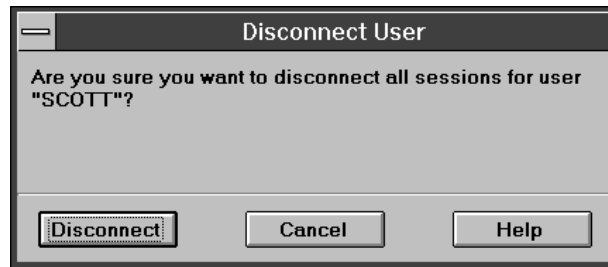


Figure 4 – 21 Disconnect User Alert Box

The Disconnect menu item in the User menu disconnects all sessions for the user. If you wish to disconnect a specific session, use the Sessions folder in the Instance drawer. For information about disconnecting a session from the Sessions folder, see “Disconnecting a User's Session” on page 5 – 11.



Attention: When you disconnect a session, the session is not actually terminated until the user tries to execute a database operation. In the User object list, the user continues to be listed as logged in until the user tries to executes a database operation.

The Profiles Folder

When you click the Profiles folder tab, the Profiles folder opens and the Profile object list and menu appear. The following figure illustrates the Profile object list.

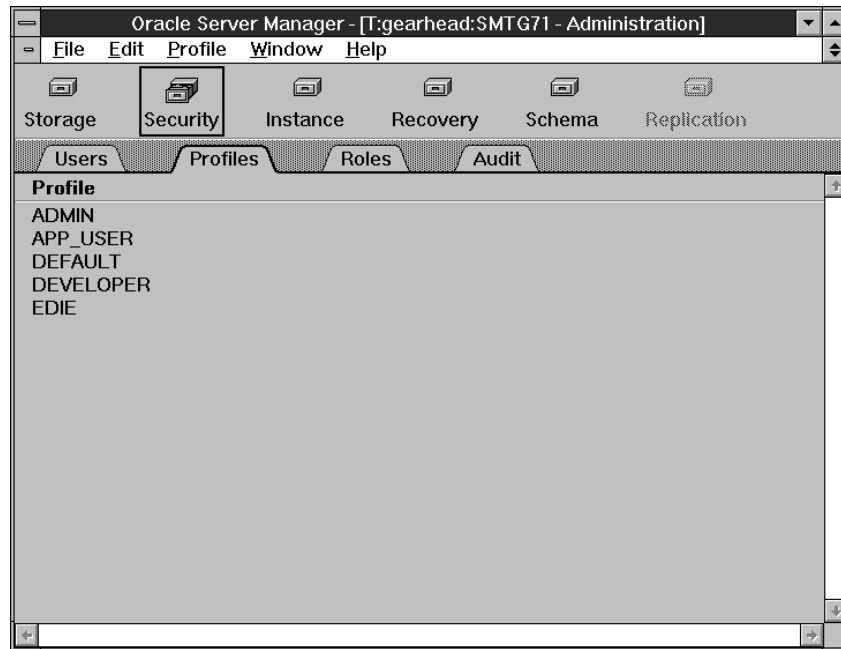


Figure 4 – 22 Profile Object List

Profile Object List

The Profile object list displays the names of all profiles defined for your database. A profile is a set of limits on database resources. When you assign a profile to a user, that user cannot exceed the limits set in the profile.

Oracle automatically creates a default profile named DEFAULT. The DEFAULT profile initially defines unlimited resources. You can alter the DEFAULT profile to change any of its resource limits.

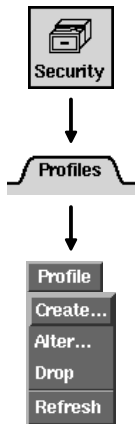
Any user who is not explicitly assigned a profile is subject to the limits defined in the DEFAULT profile. Also, if the profile that is explicitly assigned to a user omits a limit for a resource or specifies the value DEFAULT for a limit, then the user is subject to the limit on that resource as defined in the DEFAULT profile.



Attention: The initialization parameter `RESOURCE_LIMIT` must be set to `TRUE` to enforce the limits set in database profiles. For more information, see the *Oracle7 Server Reference*.

For information about profiles, see the *Oracle7 Server Concepts*, the *Oracle7 Server Administrator's Guide*, and the *Oracle7 Server SQL Reference*.

Creating a Profile



To create a profile, choose Create from the Profile menu. The Create Profile property sheet appears.

The Create Profile property sheet consists of the following pages:

- Session and CPU
- Database Services
- Users

The following figure illustrates the Session and CPU page.

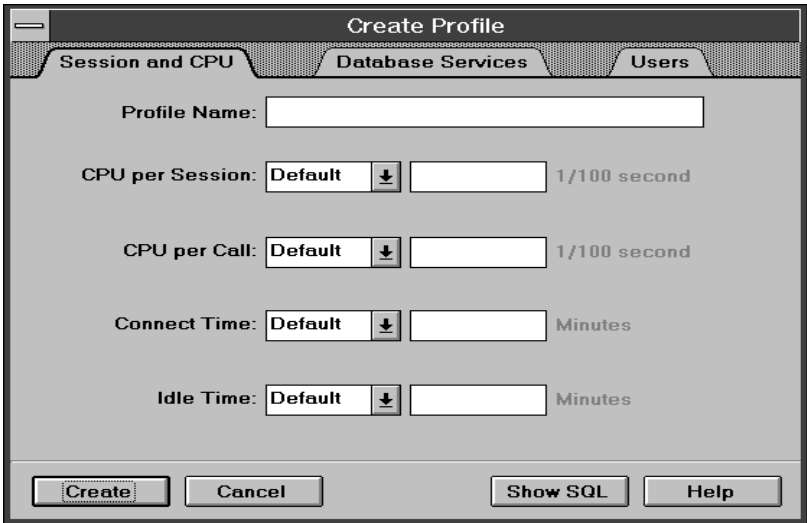


Figure 4 – 23 Session and CPU Page of the Create Profile Property Sheet

Create Profile:
Session and CPU Page

The Session and CPU page is described below:

Profile Name	Name of the new profile.
	Enter the name of the profile to be created.

When you complete the CPU per Session, CPU per Call, Connect Time, and Idle Time fields, a pop-menu provides the following choices:

	Default	Use the limit specified for this resource in the DEFAULT profile.
	Unlimited	The user's access to this resource is unlimited.
	Value	Enter a value for the limit. The text entry fields are unavailable until you choose Value from the pop-up menu.
CPU per Session	Total amount of CPU time allowed in a session. Use the pop-up menu to choose a limit for total CPU time used in a session. The limit is expressed in hundredths of a second.	
CPU per Call	Maximum amount of CPU time allowed for a call (a parse, execute, or fetch). Use the pop-up menu to choose a limit for the CPU time used for a call. The limit is expressed in hundredths of a second.	
Connect Time	Maximum elapsed time allowed for a session. Use the pop-up menu to choose a limit for the total time for a session. The limit is expressed in minutes.	
Idle Time	Maximum idle time allowed in a session. Idle time is a continuous period of inactive time during a session. Long-running queries and other operations are not subject to this limit. Use the pop-up menu to specify a limit for idle time in a session. The limit is expressed in minutes.	

The following figure illustrates the Database Services page of the Create Profile property sheet.

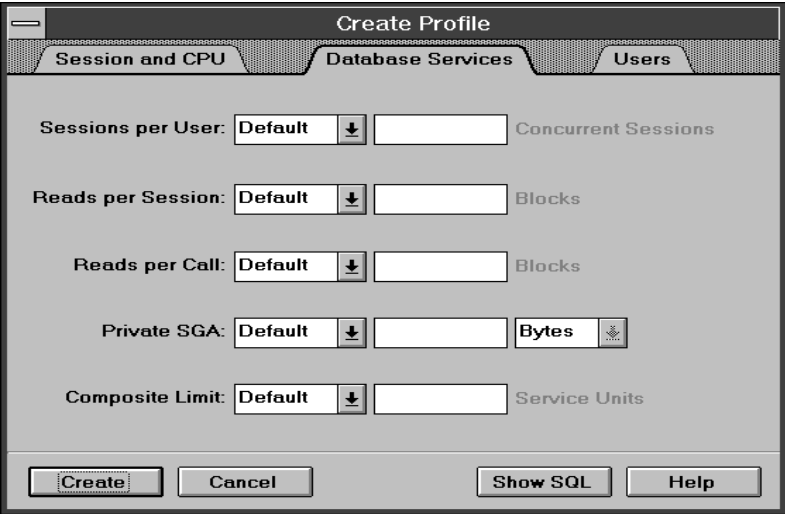


Figure 4 – 24 Database Services Page of the Create Profile Property Sheet

The Database Services page is described below:

When you complete the Sessions per User, Reads per Session, and Reads per Call, a pop-menu provides the following choices:

	Default	Use the limit specified for this resource in the DEFAULT profile.
	Unlimited	The user’s access to this resource is unlimited.
	Value	Enter a value for the limit. The text entry fields are unavailable until you choose Value from the pop-up menu.
Sessions per User	Maximum number of concurrent sessions allowed for a user.	
	Use the pop-up menu to choose a limit for the number of concurrent sessions a user can have.	
Reads per Session	Total number of data block reads allowed in a session.	

	Use the pop-up menu to choose a limit for the number of data blocks read in a session, including blocks read from memory and disk.
Reads per Call	Maximum number of data block reads allowed for a call (a parse, execute, or fetch).
	Use the pop-up menu to choose a limit for the number of data blocks read for a call to process a SQL statement.
Private SGA	Maximum amount of private space a session can allocate.
	Use the pop-up menu to choose a limit for the amount of private space a session can allocate in the shared pool of the System Global Area (SGA). Use the pop-up menu to specify the limit in bytes, kilobytes, or megabytes. The Private SGA limit applies only if you are using the multi-threaded server architecture.
Composite Limit	Total resource cost for a session.
	The resource cost for a session is the weighted sum of the CPU time used in the session, the connect time, the number of reads made in the session, and the amount of private SGA space allocated.
	Use the pop-up menu to choose a limit for the total resource cost for a session. The limit is expressed in service units.



Attention: In the SQL Worksheet, you can use the SQL command ALTER RESOURCE COST to specify the weights for the resources in the Composite Limit. For information about the ALTER RESOURCE COST command, see the *Oracle7 Server SQL Reference*.

Create Profile:
Users Page

On the Users page of the Create Profile property sheet you can assign the profile to users. The following figure illustrates the Users page.

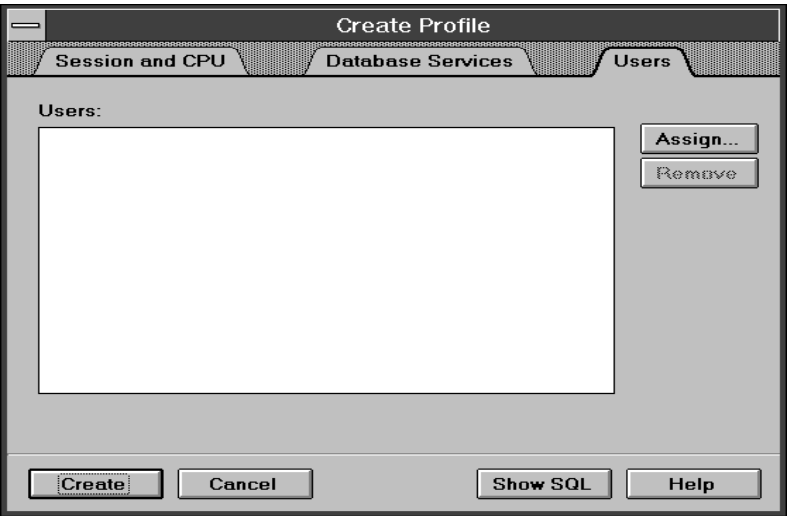


Figure 4 – 25 Users Page of the Create Profile Property Sheet

The Users page is described below:

Users	Scrolling list of users who have been assigned the profile.
Assign	Displays the Assign Profile dialog box. The Assign Profile dialog box is described in “Assign Profile Dialog Box” on page 4 – 31.
Remove	Removes the user selected in the Users scrolling list.

Assign Profile Dialog Box The Assign Profile dialog box allows you to assign a profile to a user. The following figure illustrates the Assign Profile dialog box.

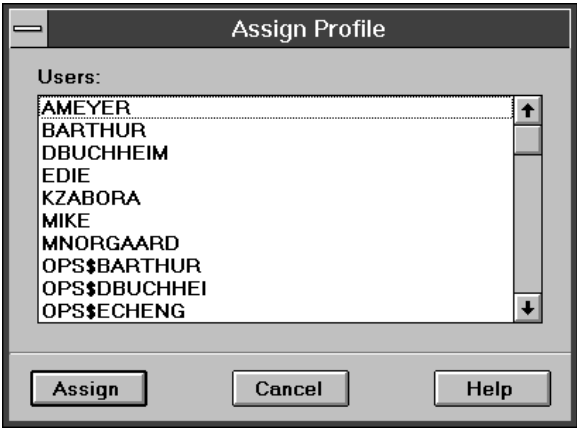
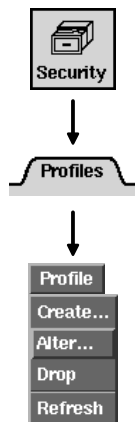


Figure 4 – 26 Assign Profile Dialog Box

The Assign Profile dialog box is described below:

Users	Scrolling list of users.
Assign	Assigns the profile to the user selected in the Users scrolling list.

Altering a Profile



To alter the resource limits for an existing profile, select the profile to be altered from the Profile object list and choose Alter from the Profile menu. The Alter Profile property sheet appears. You can also bring up the Alter Profile property sheet by double-clicking on the profile in the Profile object list.

The Alter Profile property sheet consists of the following pages:

- Session and CPU
- Database Services
- Users

The following figure illustrates the Session and CPU page.

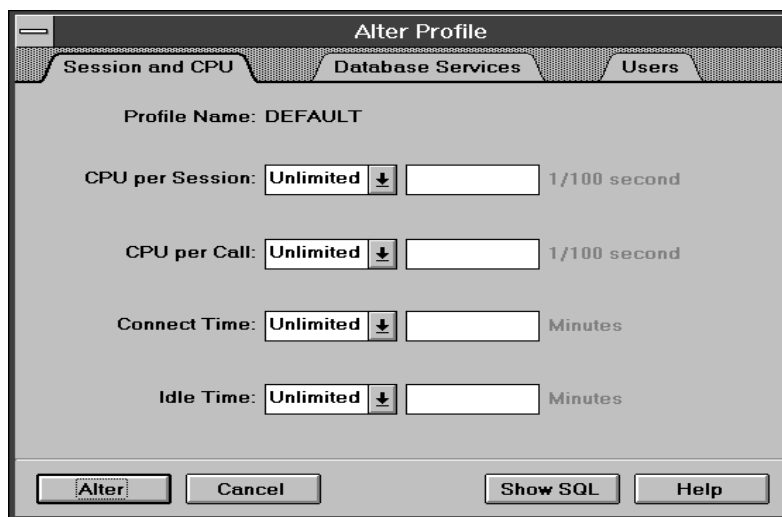


Figure 4 – 27 Session and CPU Page of the Alter Profile Property Sheet

Alter Profile:
Session and CPU Page

The Session and CPU page is described below:

Profile Name Name of the new profile.

When you complete the CPU per Session, CPU per Call, Connect Time, and Idle Time fields, a pop-menu provides the following choices:

	Default	Use the limit specified for this resource in the DEFAULT profile.
	Unlimited	The user's access to this resource is unlimited.
	Value	Enter a value for the limit. The text entry fields are unavailable until you choose Value from the pop-up menu.
CPU per Session	Total amount of CPU time allowed in a session. Use the pop-up menu to choose a limit for total CPU time used in a session. The limit is expressed in hundredths of a second.	
CPU per Call	Maximum amount of CPU time allowed for a call (a parse, execute, or fetch). Use the pop-up menu to choose a limit for the CPU time used for a call. The limit is expressed in hundredths of a second.	
Connect Time	Maximum elapsed time allowed for a session. Use the pop-up menu to choose a limit for the total time for a session. The limit is expressed in minutes.	
Idle Time	Maximum idle time allowed in a session. Idle time is a continuous period of inactive time during a session. Long-running queries and other operations are not subject to this limit. Use the pop-up menu to specify a limit for idle time in a session. The limit is expressed in minutes.	

The following figure illustrates the Database Services page of the Alter Profile property sheet.

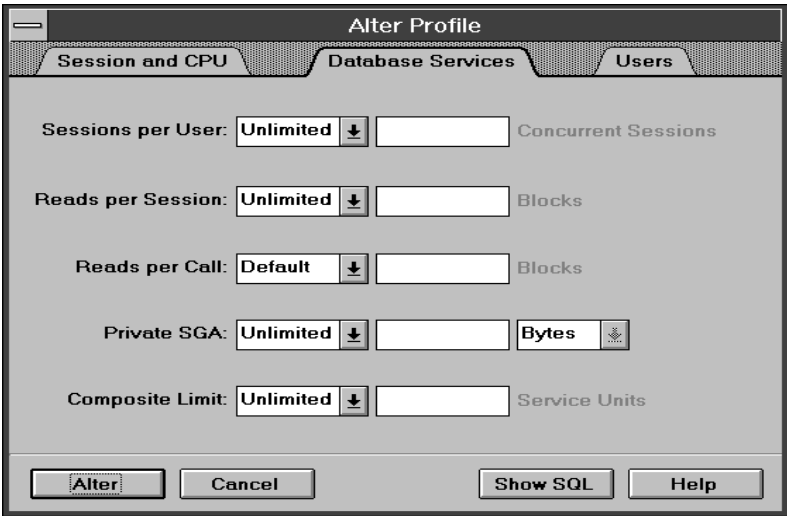


Figure 4 – 28 Database Services Page of the Alter Profile Property Sheet

The Database Services page is described below:

When you complete the Sessions per User, Reads per Session, and Reads per Call, a pop-menu provides the following choices:

	Default	Use the limit specified for this resource in the DEFAULT profile.
	Unlimited	The user’s access to this resource is unlimited.
	Value	Enter a value for the limit. The text entry fields are unavailable until you choose Value from the pop-up menu.
Sessions per User	Maximum number of concurrent sessions allowed for a user.	
	Use the pop-up menu to choose a limit for the number of concurrent sessions a user can have.	
Reads per Session	Total number of data block reads allowed in a session.	

	Use the pop-up menu to choose a limit for the number of data blocks read in a session, including blocks read from memory and disk.
Reads per Call	Maximum number of data block reads allowed for a call (a parse, execute, or fetch).
	Use the pop-up menu to choose a limit for the number of data blocks read for a call to process a SQL statement.
Private SGA	Maximum amount of private space a session can allocate.
	Use the pop-up menu to choose a limit for the amount of private space a session can allocate in the shared pool of the System Global Area (SGA). Use the pop-up menu to specify the limit in bytes, kilobytes, or megabytes. The Private SGA limit applies only if you are using the multi-threaded server architecture.
Composite Limit	Total resource cost for a session.
	The resource cost for a session is the weighted sum of the CPU time used in the session, the connect time, the number of reads made in the session, and the amount of private SGA space allocated.
	Use the pop-up menu to choose a limit for the total resource cost for a session. The limit is expressed in service units.



Attention: In the SQL Worksheet, you can use the SQL command ALTER RESOURCE COST to specify the weights for the resources in the Composite Limit. For information about the ALTER RESOURCE COST command, see the *Oracle7 Server SQL Reference*.

Alter Profile:
Users Page

On the Users page of the Alter Profile property sheet you can view the users who are assigned the profile. The following figure illustrates the Users page.

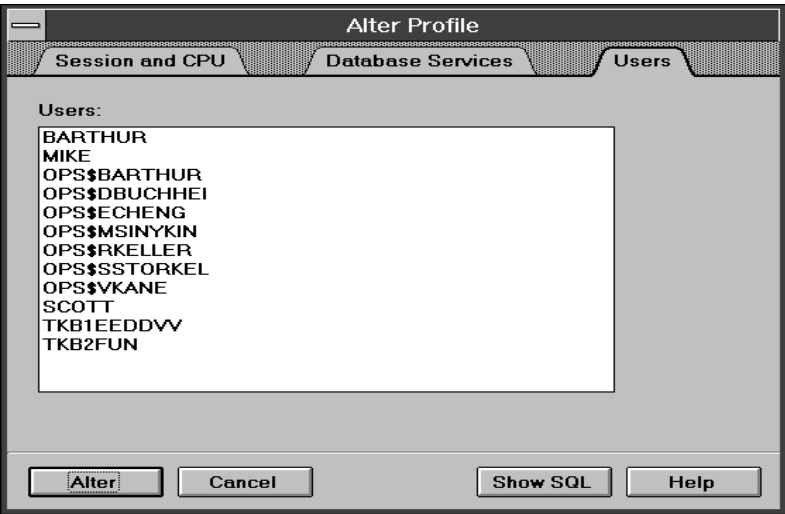
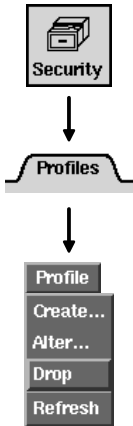


Figure 4 – 29 Users Page of the Alter Profile Property Sheet

Dropping a Profile




If a profile is no longer needed, you can drop it. To drop a profile, select the profile to be dropped from the Profile object list and choose Drop from the Profile menu. The Drop Profile alert box appears.

The following figure illustrates the Drop Profile alert box.



Figure 4 – 30 Drop Profile Alert Box

The Drop Profile alert box indicates if the profile you wish to drop is assigned to any users. If you drop a profile that is assigned to users, Server Manager assigns the DEFAULT profile to them.

 **Attention:** You cannot drop the DEFAULT profile.

The Roles Folder

When you click the Roles folder tab, the Roles folder opens and the Role object list and menu appear. The Role object list displays the roles defined in your database.

Roles are named groups of privileges granted to users or other roles. For information about managing roles, see the *Oracle7 Server Concepts*, the *Oracle7 Server Administrator's Guide*, and the *Oracle7 Server SQL Reference*.

The following figure illustrates the Role object list.

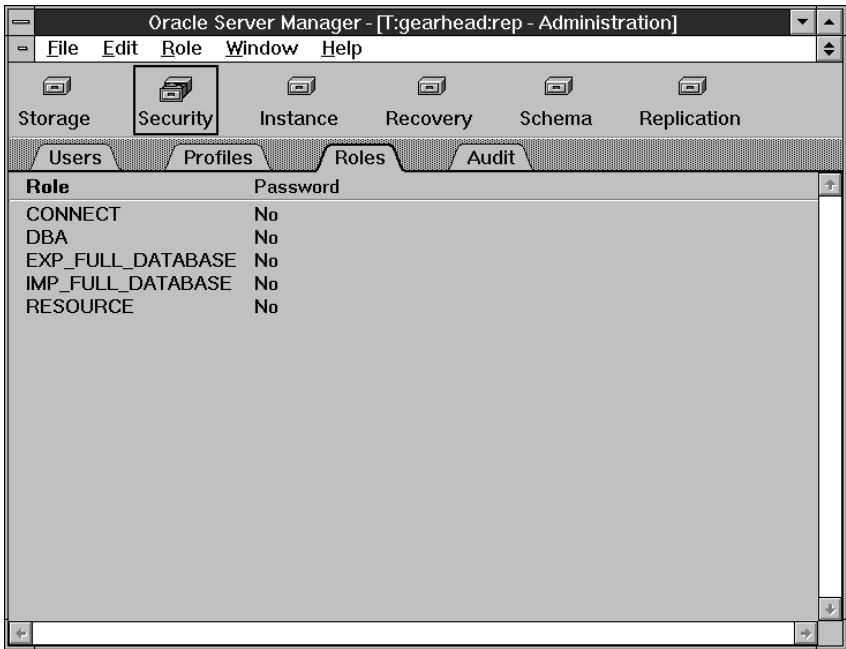


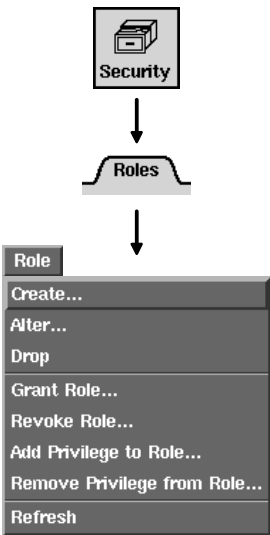
Figure 4 – 31 Role Object List

Role Object List

The columns of the Role object list are described below:

Role	Name of the role.
Password	Whether or not the role requires a password to be enabled.

Creating a Role



To create a new role, choose Create from the Role menu. The Create Role property sheet appears.

The Create Role property sheet consists of the following pages:

- General
- Definition

The following figure illustrates the General page.

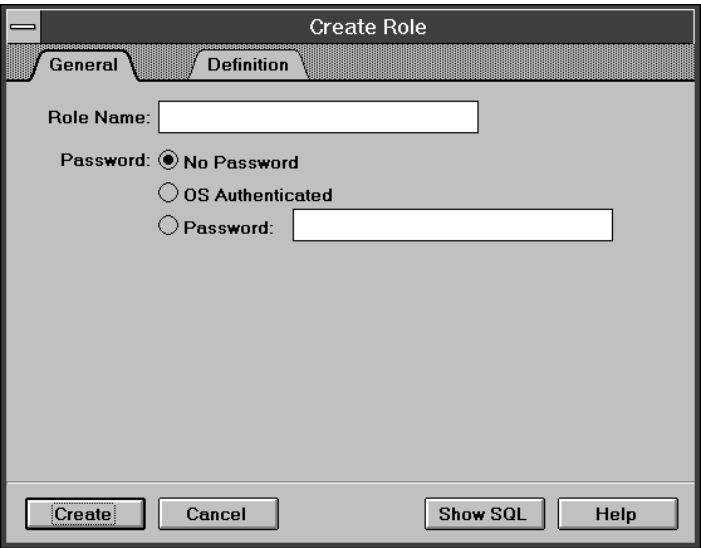


Figure 4 – 32 General Page of the Create Role Property Sheet

Create Role:
General Page

The General page is described below:

Role Name	Name of the role to be created. Enter the name of the new role.
Password	Method used to enable the role. Click No Password to indicate that a user granted the role may enable it without specifying a password. Click OS Authenticated to require the operating system or an external security utility to verify the role. Click Password to require a password in order to enable the role. Enter the password in the adjacent text entry field.

Create Role:
Definition Page

On the Definition page of the Create Role property sheet you can assign roles and grant individual privileges to the role. The following figure illustrates the Definition page.

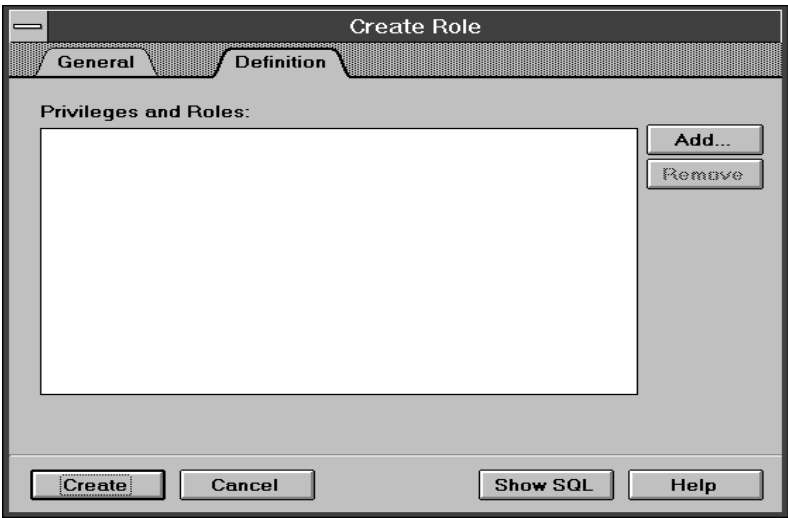


Figure 4 – 33 Definition Page of the Create Role Property Sheet

The Definition page is described below:

Privileges and Roles	Scrolling list of the roles and privileges to be assigned to the new role.
Add	Displays the Add Privilege to Role dialog box. See “Add Privilege to Role Dialog Box” on page 4 – 40 for a description of the Add Privilege to Role dialog box.
Remove	Removes the role or privilege selected in the Privileges and Roles scrolling list.

Add Privilege to Role Dialog Box

In the Add Privilege to Role dialog box you can grant roles, system privileges, and object privileges to a role. You can add a privilege to a role when you create a new role, alter a role, or choose Add Privilege to Role from the Role menu.

The following figure illustrates the Add Privilege to Role dialog box with the Role Privilege Type selected.

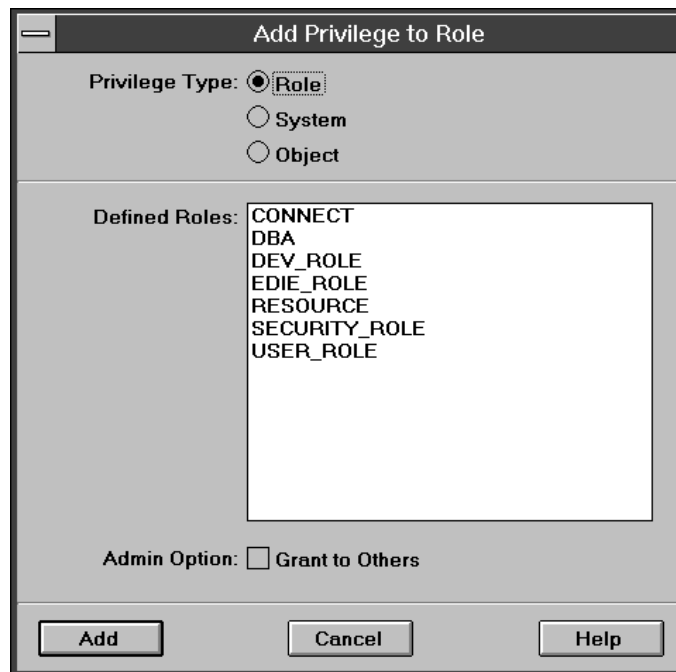


Figure 4 – 34 Add Privilege to Role Dialog Box with the Role Privilege Type Selected

The Add Privilege to Role dialog box in Figure 4 – 34 is described below:

Privilege Type: Role	Displays the roles you can grant to the role you are creating or altering.
Defined Roles	Scrolling list of the roles you can grant. These are roles you have created and roles you have been granted with the Admin Option. If you have the GRANT ANY ROLE system privilege, all roles are listed. Select the role you wish to grant to the role you are creating or altering.
Admin Option	Allow a grantee to grant the role to other users or roles.

The following figure illustrates the Add Privilege to Role dialog box with the System Privilege Type selected.

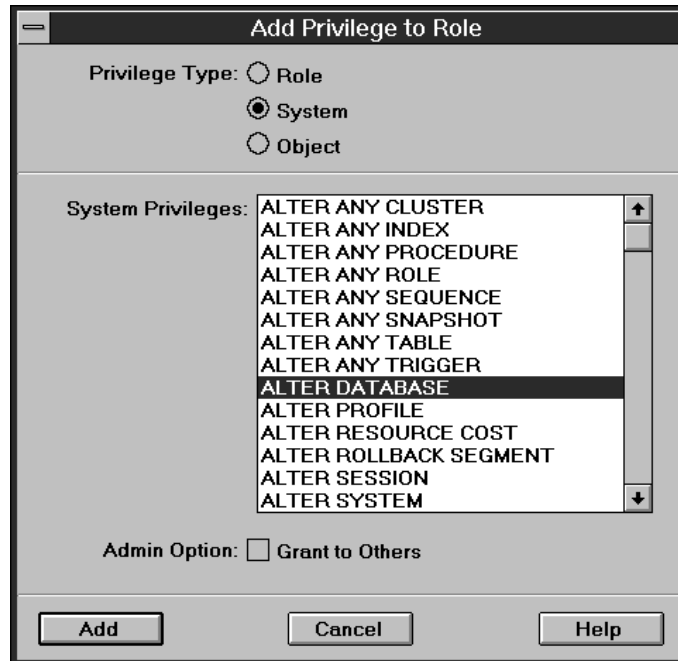


Figure 4 – 35 Add Privilege to Role Dialog Box with the System Privilege Type Selected

The Add Privilege to Role dialog box in Figure 4 – 35 is described below:

Privilege Type: System	Displays the system privileges you can grant to the role.
------------------------	---

System Privileges Scrolling list of the system privileges you can grant. These are the system privileges you have been granted with the Admin Option. If you have the GRANT ANY PRIVILEGE system privilege, all privileges are listed.

Select the system privilege you wish to grant to the role.

Admin Option Allow users assigned this role to grant the system privilege to other users or roles.

The following figure illustrates the Add Privilege to Role dialog box with the Object Privilege Type selected.

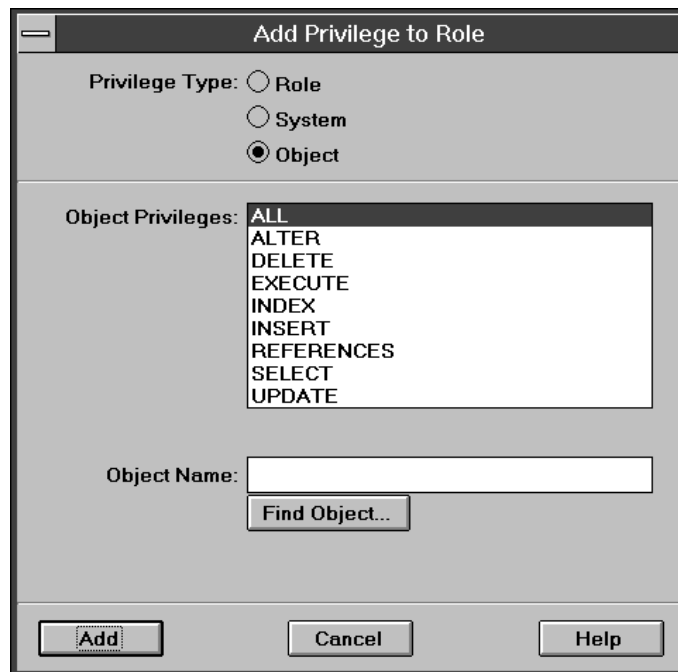


Figure 4 – 36 Add Privilege to Role Dialog Box with the Object Privilege Type Selected

The Add Privilege to Role dialog box in Figure 4 – 36 is described below:

Privilege Type: Object	Displays object privileges.
Object Privileges	<p>Scrolling list of all object privileges.</p> <p>You can grant an object privilege that you have been granted with the Grant Option. If you are the owner of the object, you can grant all privileges on the object.</p> <p>The scrolling list includes the item ALL, which represents all object privileges you can grant for an object.</p>
Object Name	<p>Schema and name of the object on which you are granting privileges.</p> <p>Enter the schema and object name, or click Find Object.</p>
Find Object	<p>Displays the Find Schema Object dialog box. See “Find Schema Object Dialog Box” on page 4 – 44 for a description of the Find Schema Object dialog box.</p>

Find Schema Object
Dialog Box

In the Find Schema Object dialog box you can specify an object on which to grant object privileges. The following figure illustrates the Find Schema Object dialog box.

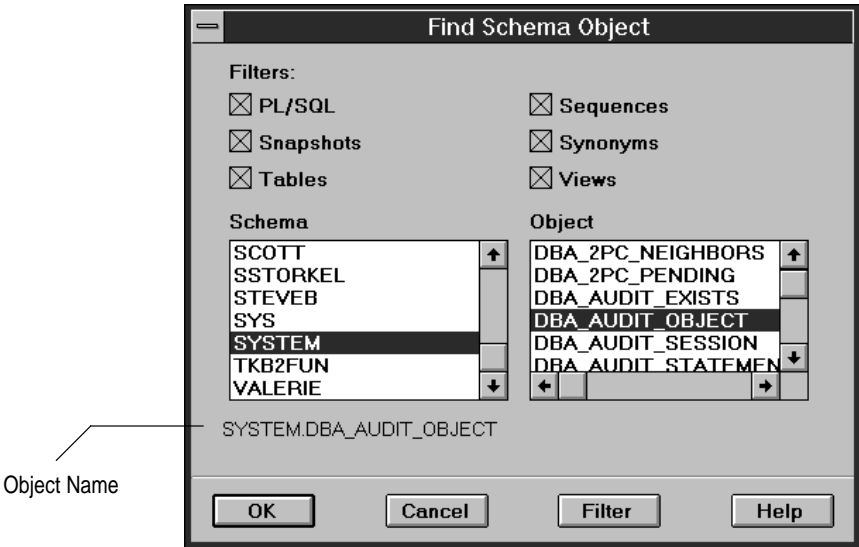


Figure 4 – 37 Find Schema Object Dialog Box

The Find Schema Object dialog box is described below:

- Filters

Types of objects on which you can grant object privileges.

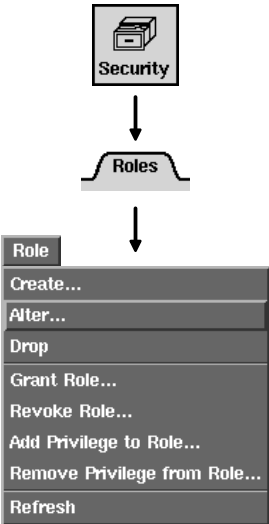
Click the object types you wish to find, then click Filter to find the objects.
- Schema

Scrolling list of schemas in your database.

Select a schema from the Schema scrolling list. Server Manager retrieves all the objects in that schema that match the object types you chose in the Filters.

Object	Scrolling list of objects in the selected schema that match the object types you chose in the Filters. Select the object on which you wish to grant object privileges.
Filter	Retrieves the objects in the selected schema that match the object types you chose in the Filters.

Altering a Role



To alter the privileges granted to a role, select the role to be altered from the Role object list and choose Alter from the Role menu. The Alter Role property sheet appears. You can also bring up the Alter Role property sheet by double-clicking on the role in the Role object list.

The Alter Role property sheet consists of the following pages:

- General
- Definition

The following illustrates the General page.

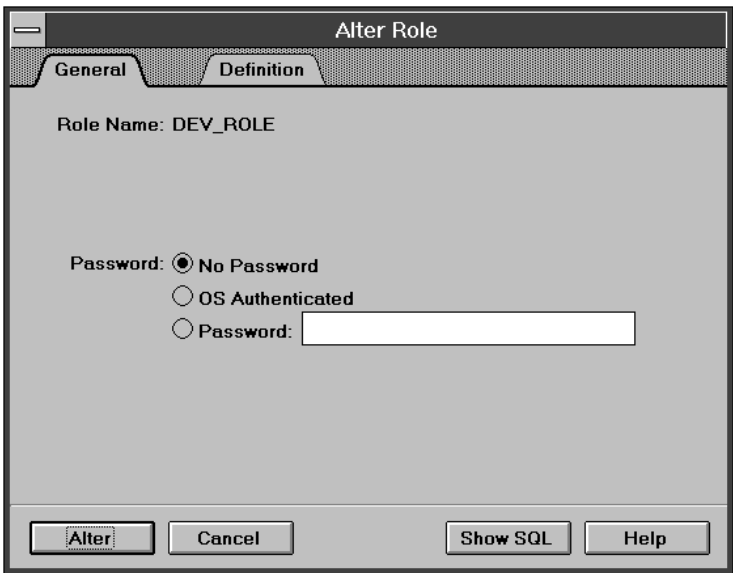


Figure 4 – 38 General Page of the Alter Role Property Sheet

Alter Role:
General Page

The General page is described below:

Role Name	Name of the role you wish to alter.
Password	Method used to enable the role. Click No Password to indicate that a user granted the role may enable it without specifying a password. Click OS Authenticated to require the operating system or an external security utility to verify the role. Click Password to require a password in order to enable the role. Enter the password in the adjacent text entry field.

Alter Role:
Definition Page

On the Definition page of the Alter Role property sheet you can grant or revoke roles or privileges from the role. The following figure illustrates the Definition page.

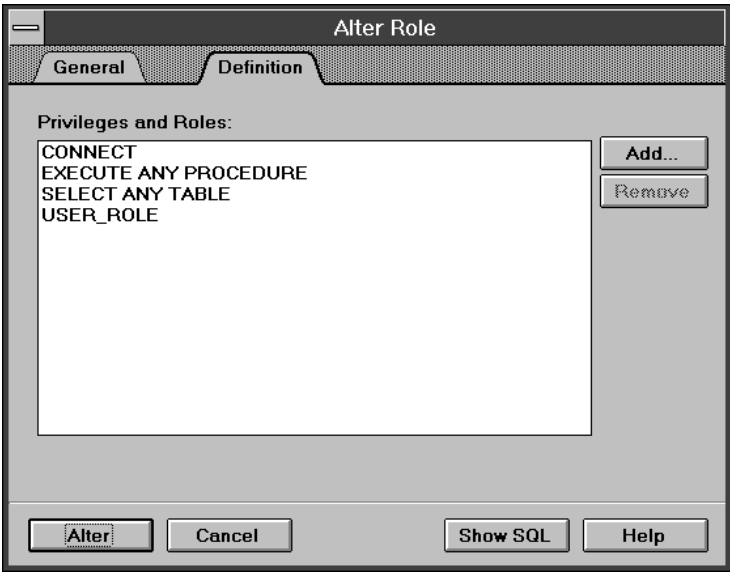
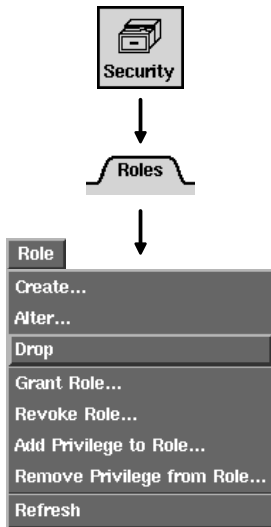


Figure 4 – 39 Definition Page of the Alter Role Property Sheet

The Definition page is described below:

Privileges and Roles	Scrolling list of the roles and privileges assigned to the role being altered.
Add	Displays the Add Privilege to Role dialog box. See “Add Privilege to Role Dialog Box” on page 4 – 40 for a description of the Add Privilege to Role dialog box.
Remove	Removes the role or privilege selected in the Privileges and Roles scrolling list.

Dropping a Role



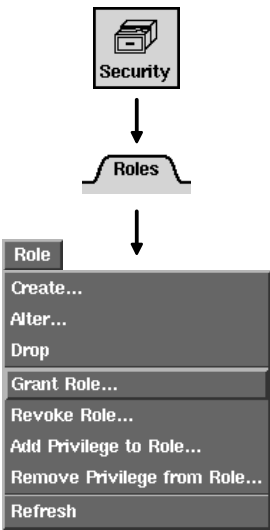
If a particular role is no longer needed, you can drop it. To drop a role, select the role to be dropped from the Role object list and choose Drop from the Role menu. The Drop Role alert box appears.

The following figure illustrates the Drop Role alert box.



Figure 4 – 40 Drop Role Alert Box

Granting a Role



To grant a role to a user or role, select the role to be granted from the Role object list and choose Grant Role from the Role menu. The Grant Role dialog box appears.

The following figure illustrates the Grant Role dialog box.

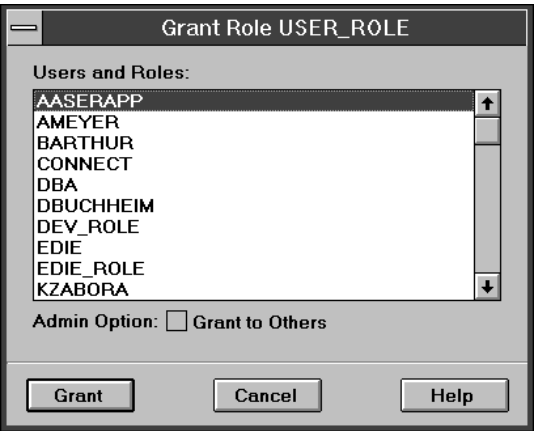
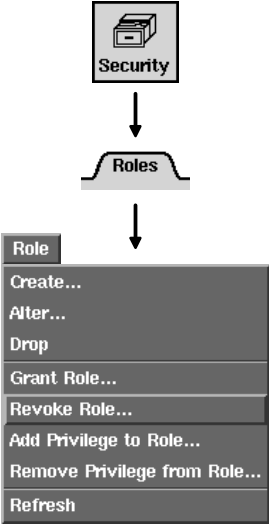


Figure 4 – 41 Grant Role Dialog Box

The Grant Role dialog box is described below:

Users and Roles	Scrolling list of users and roles.
Admin Option	Allow the grantee to grant the role to other users or roles. If you grant a role with the Admin Option, the user can also alter or drop the role.
Grant	Grants the role to the user or role selected in the Users and Roles scrolling list.

Revoking a Role



To revoke a role from a user or role, select the role to be revoked from the Role object list and choose Revoke Role from the Role menu. The Revoke Role dialog box appears.

The following figure illustrates the Revoke Role dialog box.

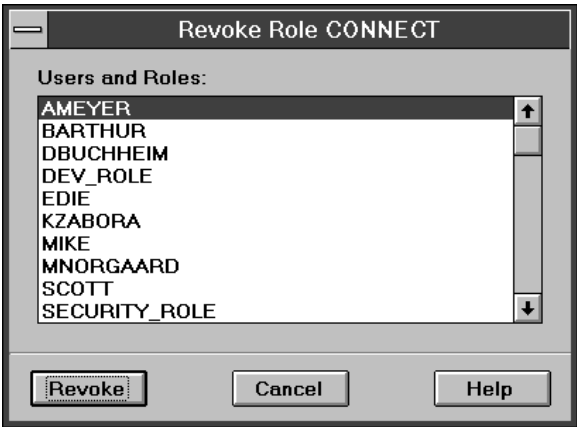
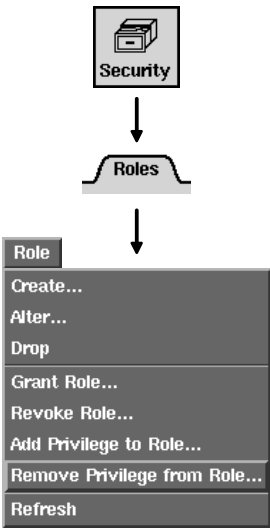


Figure 4 – 42 Revoke Role Dialog Box

The Revoke Role dialog box is described below:

Users and Roles	Scrolling list of users and roles that have been granted the role.
Revoke	Revokes the role from the user or role selected in the Users and Roles scrolling list.

**Adding a Privilege to
or Removing a
Privilege from a Role**



To add a privilege to a role, select the role from the Role object list and choose Add Privilege to Role from the Role menu. The Add Privilege to Role dialog box appears. For a description of the Add Privilege to Role dialog box, see “Add Privilege to Role Dialog Box” on page 4 – 40.

To remove a privilege from a role, select the role from the Role object list and choose Remove Privilege from Role from the Role menu. The Remove Privilege from Role dialog box appears.

The following figure illustrates the Remove Privilege from Role dialog box.

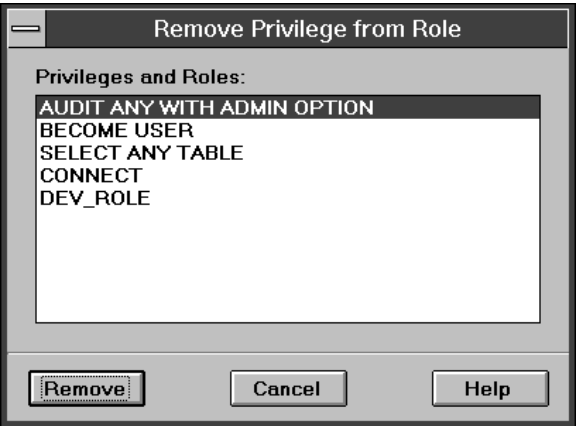


Figure 4 – 43 Remove Privilege from Role Dialog Box

The Remove Privilege from Role dialog box is described below:

Privileges and Roles	Scrolling list of privileges and roles assigned to the role.
	Select the role or privilege you wish to revoke from the role.

The Audit Folder

When you click the Audit folder tab, the Audit folder opens and the Audit object list and menu appear. The Audit object list contains information about the actions being audited in your database.

For information about auditing, see the *Oracle7 Server Concepts*, the *Oracle7 Server Administrator's Guide*, and the *Oracle7 Server SQL Reference*.

The following figure illustrates the Audit object list.

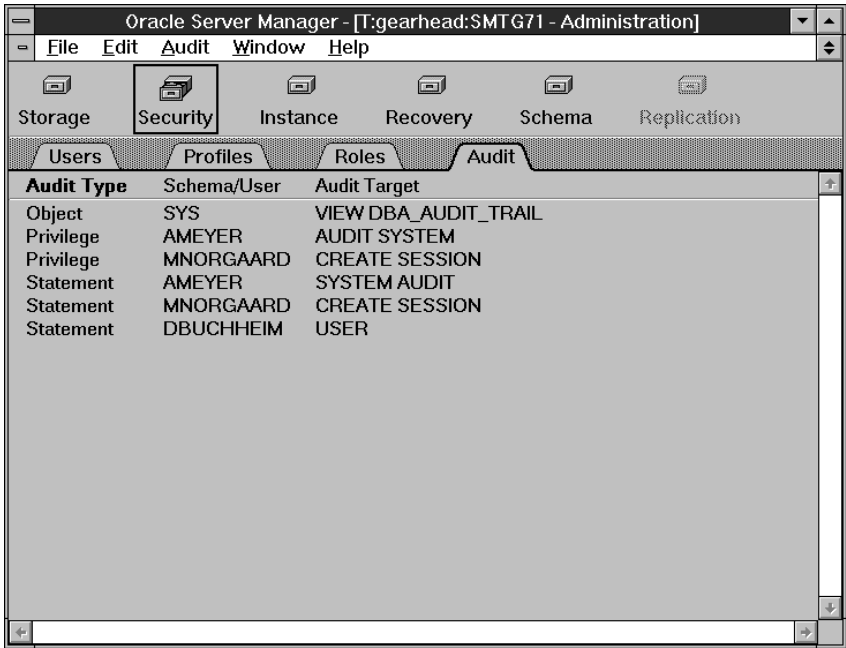


Figure 4 – 44 Audit Object List

Audit Object List

The columns of the Audit object list are described below:

Audit Type	Type of auditing: Statement, Privilege, or Object.
Schema/User	The user being audited. If no user is listed, then all users are being audited.
Audit Target	The statement, privilege, or object being audited.

Managing Instances and Sessions

This chapter describes how to use Server Manager to manage instances and sessions. This chapter assumes that you have read Chapter 2, “Overview of the Administration Manager,” and are familiar with the interface elements of the Administration Manager.

In the Instance drawer, you can start up and shut down a database, view the values of initialization parameters, resolve in-doubt transactions, and manage users’ sessions. This chapter describes the commands available in the Instance drawer’s folders:

- Database
- Initialization
- Transactions
- Sessions

The Database Folder

When you click the Database folder tab, the Database folder opens and the Database object list and menu appear. The Database object list contains information about the memory assigned to the System Global Area (SGA).

The SGA is a shared memory region that contains data and control information for an Oracle instance. For more information about the System Global Area, see the *Oracle7 Server Concepts*.

The following figure illustrates the Database object list.

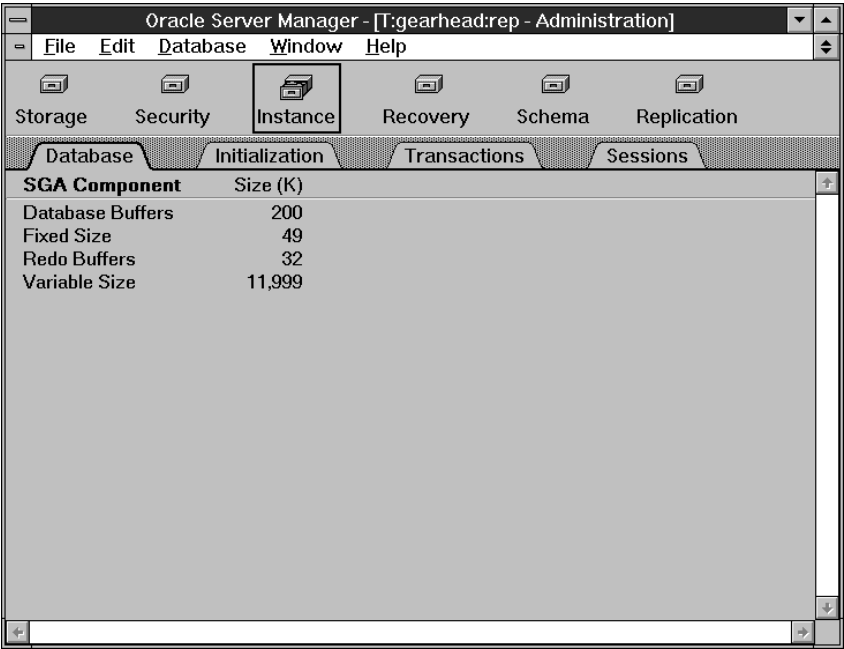



Figure 5 – 1 Database Object List

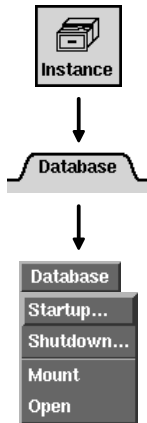
Database Object List

The columns of the Database object list are described below:

- SGA Component The four components of the SGA.
- Size (K) Size of each SGA component in kilobytes.

 **Attention:** If the database is not running, the Database object list contains the message “ORACLE not available.”

Starting Up a Database



Before starting up a release 7.1 or later database, you must connect as SYSDBA or SYSOPER. For information about connecting as SYSDBA or SYSOPER, see the *Oracle7 Server Documentation Addendum*. For release 7.0, you must be connected as INTERNAL before starting up the database. For information about starting up a database, see the *Oracle7 Server Administrator's Guide*.

To start up an instance and optionally mount and open a database, choose Startup from the Database menu. The Startup Database dialog box appears.

The following figure illustrates the Startup Database dialog box.

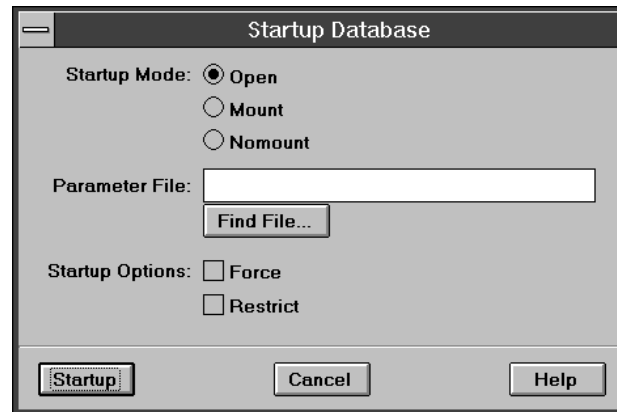


Figure 5 – 2 Startup Database Dialog Box

Startup Database Dialog Box

The Startup Database dialog box is described below:

Startup Mode: Open	Starts up the instance, and mounts and opens the database.
Startup Mode: Mount	Starts up the instance and mounts the database. The database is accessible only to database administrators.
Startup Mode: Nomount	Starts up the instance, but does not mount the database. Use this mode when you are planning to create a database.

Parameter File	<p>Name of the parameter file used to start the instance. The parameter file must reside on the machine on which you are running Server Manager.</p> <p>If you do not specify a parameter file, Server Manager looks for the parameter file in the default location for your platform. For information about the default location for the parameter file, see your operating system–specific Oracle documentation.</p>
Find File	<p>Displays the standard file selection dialog box for your platform and allows you to locate the parameter file. For information about the standard file selection dialog box for your system, see your operating system–specific documentation.</p>
Startup Options: Force	Performs a shutdown in abort mode before trying to start the database.
Startup Options: Restrict	Indicates that the database should be opened in restricted mode. In restricted mode, the database is accessible only to users with the RESTRICTED SESSION system privilege.

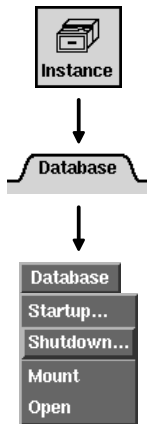


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Shutting Down a Database



Shutdown Database Dialog Box

Before shutting down a release 7.1 or later database, you must connect as SYSDBA or SYSOPER. For information about connecting as SYSDBA or SYSOPER, see the *Oracle7 Server Documentation Addendum*. For release 7.0, you must be connected as INTERNAL before shutting down the database. For information about shutting down a database, see the *Oracle7 Server Administrator's Guide*.

To shut down a database, choose Shutdown from the Database menu. The Shutdown Database dialog box appears.

The following figure illustrates the Shutdown Database dialog box.



Figure 5 – 3 Shutdown Database Dialog Box

The Shutdown Database dialog box is described below:

- Shutdown Mode: Shuts down the database in normal mode:
- Normal
- No new connections are allowed.
 - Before shutting down the database, Oracle waits for all currently connected users to disconnect.
 - The next startup of the database does not require instance recovery.



Attention: The Administration Manager, SQL Worksheet, and System Monitors create separate connections when you start them. When performing a shutdown in normal mode, remember to close these windows, or the shutdown will not complete.

Shutdown Mode:
Immediate

Shuts down the database in immediate mode:

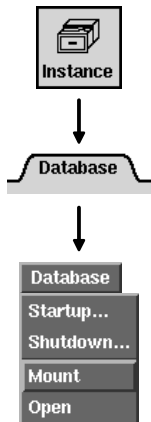
- Processing of SQL statements is terminated immediately.
- Oracle rolls back any active transactions and disconnects all connected users.

Shutdown Mode:
Abort

Shuts down the database in abort mode:

- Aborts the instance.
- Processing of SQL statements is terminated immediately.
- Oracle disconnects all connected users.
- Uncommitted transactions are not rolled back.
- The next startup of the database requires instance recovery, which Oracle performs automatically.

Mounting or Opening a Database



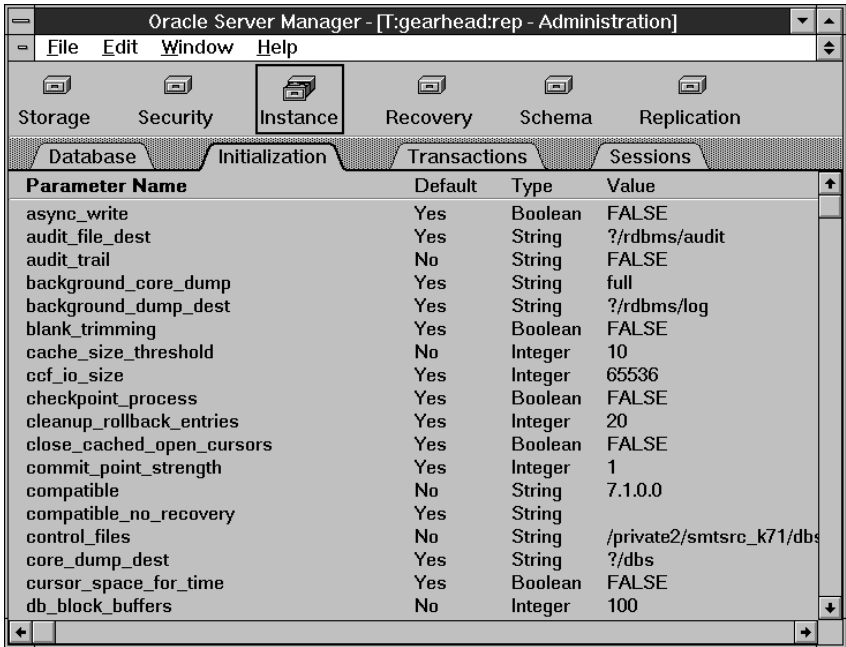
If you have previously started an instance without mounting the database, you can mount the database by choosing Mount from the Database menu. The Mount menu command mounts the database in exclusive mode. When the database is mounted in exclusive mode, it can only be mounted by one instance at a time.

If you have previously mounted a database, you can open the database by choosing Open from the Database menu. The database is opened and is accessible to all users.

The Initialization Folder

When you click the Initialization folder tab, the Initialization folder opens and the Initialization object list appears. The Initialization object list contains information about the parameters defined in the initialization parameter file used to start up your instance. The Initialization folder contains only the Initialization object list. There are no commands available in the Initialization folder.

The following figure illustrates the Initialization object list.

The screenshot shows the Oracle Server Manager interface. The title bar reads "Oracle Server Manager - [T:gearhead:rep - Administration]". The menu bar includes "File", "Edit", "Window", and "Help". Below the menu bar is a toolbar with icons for Storage, Security, Instance, Recovery, Schema, and Replication. The "Instance" tab is selected. Under the "Instance" tab, there are sub-tabs for "Database", "Initialization", "Transactions", and "Sessions". The "Initialization" sub-tab is active, displaying a table of initialization parameters. The table has four columns: "Parameter Name", "Default", "Type", and "Value". The table lists 20 parameters with their respective default values, data types, and current values.

Parameter Name	Default	Type	Value
async_write	Yes	Boolean	FALSE
audit_file_dest	Yes	String	?/rdbms/audit
audit_trail	No	String	FALSE
background_core_dump	Yes	String	full
background_dump_dest	Yes	String	?/rdbms/log
blank_trimming	Yes	Boolean	FALSE
cache_size_threshold	No	Integer	10
ccf_io_size	Yes	Integer	65536
checkpoint_process	Yes	Boolean	FALSE
cleanup_rollback_entries	Yes	Integer	20
close_cached_open_cursors	Yes	Boolean	FALSE
commit_point_strength	Yes	Integer	1
compatible	No	String	7.1.0.0
compatible_no_recovery	Yes	String	
control_files	No	String	/private2/smtsrc_k71/dbs
core_dump_dest	Yes	String	?/dbs
cursor_space_for_time	Yes	Boolean	FALSE
db_block_buffers	No	Integer	100

Figure 5 – 4 Initialization Object List

Initialization Object List

The columns of the Initialization object list are described below:

Parameter Name	Name of the initialization parameter.
Default	Whether the parameter’s value is the default value.
Type	Datatype of the parameter.
Value	Value of the parameter.

The Transactions Folder

When you click the Transactions folder tab, the Transactions folder opens and the Transaction object list and menu appear. The Transaction object list contains information about distributed transactions that failed in the PREPARED state. For information about distributed transactions, see the *Oracle7 Server Concepts*.

The following figure illustrates the Transaction object list.

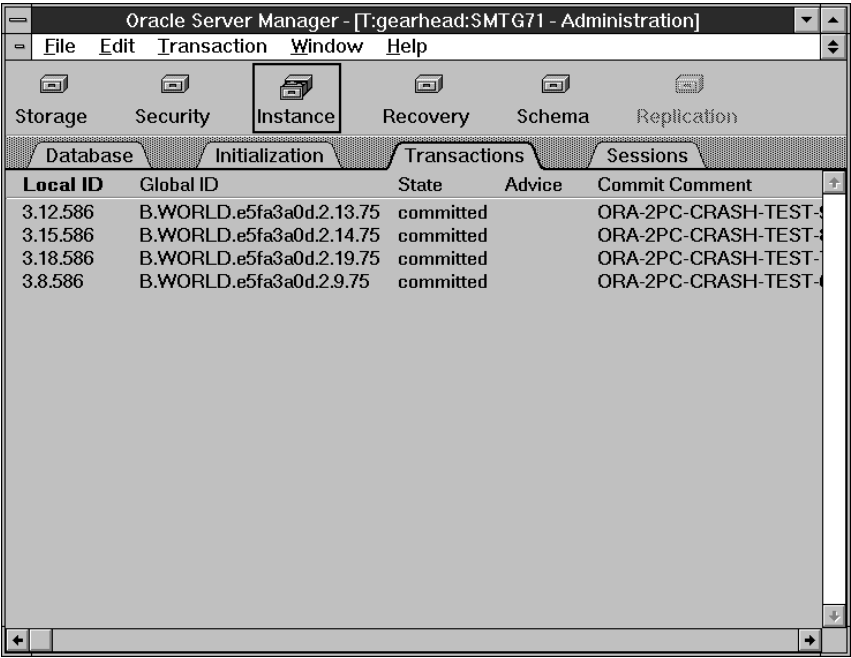


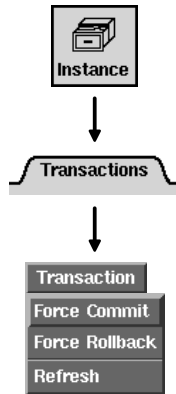
Figure 5 – 5 Transaction Object List

Transaction Object List The columns of the Transaction object list are described below:

- Local ID
- Identifier on the local database for the transaction.
- Global ID
- Global identifier for the transaction.
- State
- The state of the transaction: collecting, prepared, committed, heuristic commit, or heuristic abort.

Advice	Suggested action: C (Commit), R (Rollback), or null (no advice).
Commit Comment	Comment given with the COMMENT clause of the COMMIT WORK command.

Forcing a Commit or Rollback



To commit an in-doubt transaction, select the transaction to be committed from the Transaction object list and choose Force Commit from the Transaction menu.

To roll back an in-doubt transaction, select the transaction to be rolled back from the Transaction object list and choose Force Rollback from the Transaction menu.

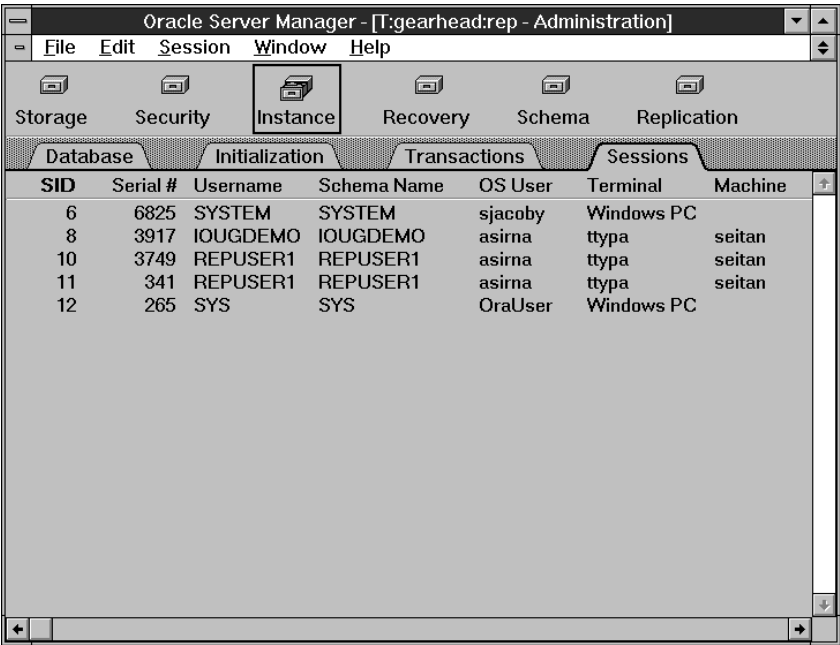


Attention: You cannot roll back an in-doubt transaction to a savepoint.

The Sessions Folder

When you click the Sessions folder tab, the Sessions folder opens and the Session object list and menu appear. The Session object list contains information about the users connected to the database.

The following figure illustrates the Session object list.



The screenshot shows the Oracle Server Manager interface with the 'Sessions' tab selected. The 'Instance' folder is expanded, and the 'Sessions' sub-tab is active. A table displays the following session data:

SID	Serial #	Username	Schema Name	OS User	Terminal	Machine
6	6825	SYSTEM	SYSTEM	sjacoby	Windows PC	
8	3917	IOUGDEMO	IOUGDEMO	asirna	ttypa	seitan
10	3749	REPUSER1	REPUSER1	asirna	ttypa	seitan
11	341	REPUSER1	REPUSER1	asirna	ttypa	seitan
12	265	SYS	SYS	OraUser	Windows PC	

Figure 5 – 6 Session Object List

Session Object List

The columns of the Session object list are described below:

SID	Session identifier.
Serial #	Session serial number, used to uniquely identify a session. In combination with the SID, guarantees that session-level commands are applied to the correct session in the event that the session ends and another session begins with the same session identifier.
Username	Oracle username associated with the session.
Schema Name	Schema name associated with the user.

OS User	Operating system username.
Terminal	Operating system terminal name.
Machine	Operating system machine through which the user is connected.

Disconnecting a User's Session

To disconnect a user's session, select the session to disconnect from the Session object list and choose Disconnect from the Session menu. The Disconnect Session alert box appears.

The following figure illustrates the Disconnect Session alert box.

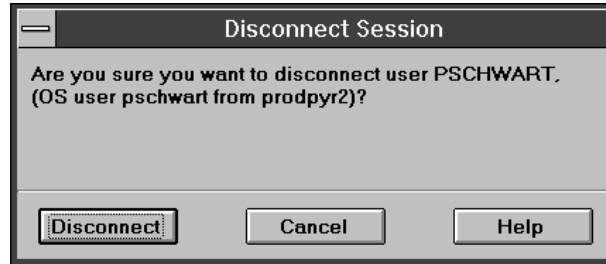
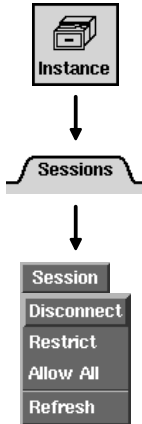
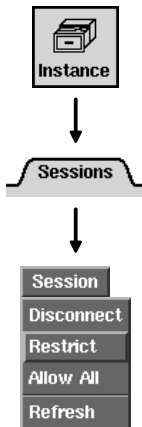


Figure 5 – 7 Disconnect Session Alert Box

Restricting or Allowing Sessions

To make the database accessible only to users with the RESTRICTED SESSION system privilege, choose Restrict from the Session menu. Only users with the RESTRICTED SESSION system privilege are allowed to connect. Users already connected are not affected.

To make the database accessible to all users, choose Allow All from the Database menu. All users with the CREATE SESSION system privilege are allowed to connect.



Backing Up and Recovering the Database

This chapter describes how to use Server Manager to manage online backups, apply log files during recovery, and manage your redo log files. This chapter assumes that you have read Chapter 2, “Overview of the Administration Manager,” and are familiar with the interface elements of the Administration Manager.

This chapter describes the commands available in the Recovery drawer’s folders:

- Backup
- Recovery
- Redo Logs

The Backup Folder

When you click the Backup folder tab, the Backup folder opens and the Backup object list and menu appear. The Backup folder object list displays the size and backup status of each tablespace in the database.

The following figure illustrates the Backup object list.

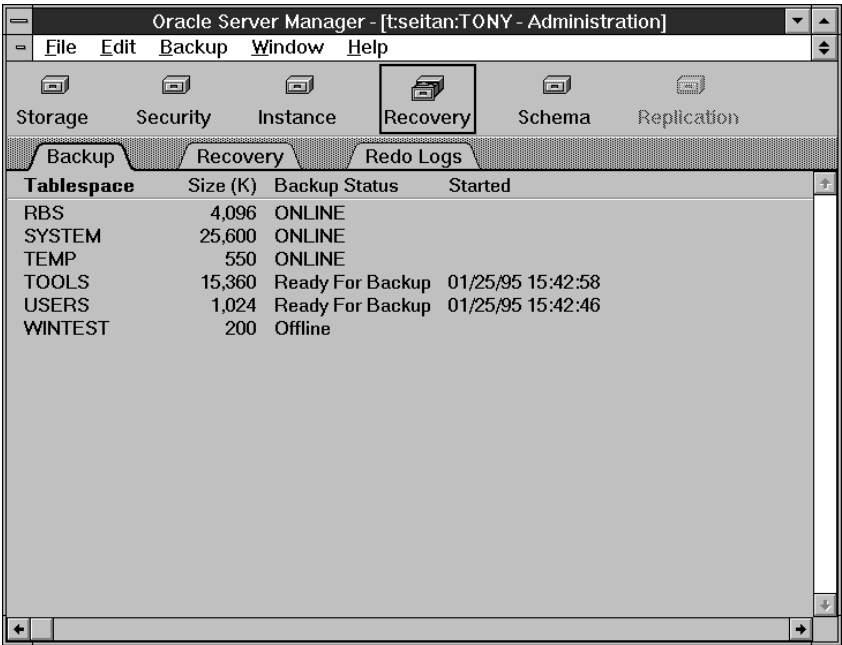


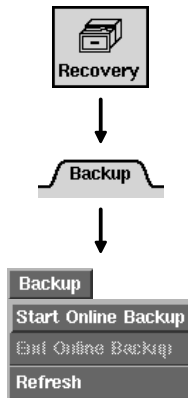
Figure 6 – 1 Backup Object List

Backup Object List

The columns of the Backup object list are described below:

Tablespace	Name of the tablespace.
Size (K)	Size of the tablespace (in kilobytes).
Backup Status	Status of the tablespace: ONLINE, Offline, or Ready for Backup (marked for online backup).
Started	Time the online tablespace backup started.

Starting or Ending an Online Backup



To prepare the datafiles of an online tablespace for backup, select the tablespace to be backed up and choose Start Online Backup from the Backup menu. In the Backup object list, the status of the tablespace changes to Ready for Backup.

Tablespaces that are offline can be backed up at any time, so there is no need to mark offline tablespaces for online backup.

After you have marked a tablespace as ready for backup, you can back up the datafiles that belong to the tablespace. You must back up the datafiles through your operating system. You can use the Datafiles folder in the Storage drawer to identify all datafiles belonging to a tablespace.



Attention: In order to perform an online backup, you must be operating in ARCHIVELOG mode. See the *Oracle7 Server Administrator's Guide* for information about ARCHIVELOG mode.



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Additional Information: For information about performing backups on your operating system, see your platform-specific Oracle documentation.

Once you have completed your backup of the tablespace, mark the end of the backup. To mark the completion of an online tablespace backup, choose End Online Backup from the Backup menu.



Attention: If you forget to indicate the end of an online tablespace backup and subsequently shut down the database, Oracle assumes that media recovery is necessary at the next instance startup. Recovery may require the use of the archived redo log files.

The Recovery Folder

When you click the Recovery folder tab, the Recovery folder opens and the Recovery object list and menu appear. The Recovery object list displays information about archived log files needed for recovery. If no recovery is needed, the object list contains the message “No data found”.

The following figure illustrates the Recovery object list.

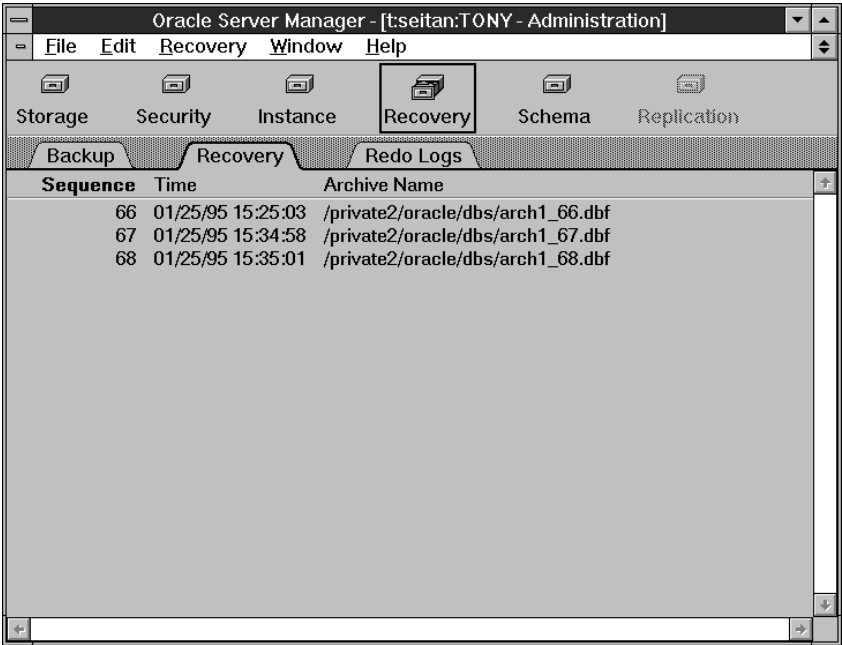
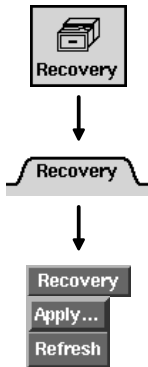


Figure 6 – 2 Recovery Object List

Recovery Object List

- The columns of the Recovery object list are described below:
- Sequence Sequence number of the archived log.
 - Time Time at which the log was archived.
 - Archive Name Name of the file when archived.

Applying a Log File



To apply archived redo log files during media recovery, choose Apply from the Recovery menu. The Apply Recovery Archives dialog box appears.

The following figure illustrates the Apply Recovery Archives dialog box.

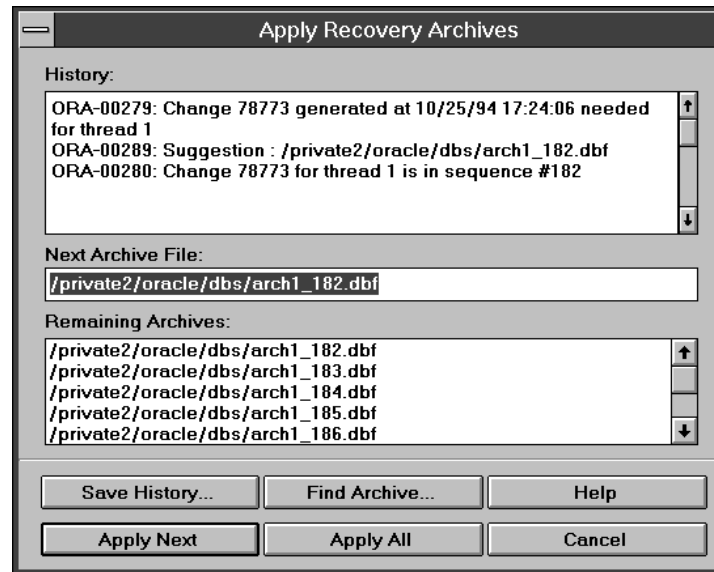


Figure 6 – 3 Apply Recovery Archives Dialog Box

The Apply Recovery Archives dialog box is described below:

- | | |
|-------------------|--|
| History | An output pane that displays prompts and status messages as recovery proceeds. |
| Next Archive File | Text entry field that displays the next archived log file to apply.

The Next Archive File field displays the default next log file. You can edit the name of the file or enter the name of a different file to apply. |

Remaining Archives	Scrolling list that displays the archived redo logs that still need to be applied.
Save History	Saves the contents of the History pane to a file. Displays the standard file selection dialog box for your platform and allows you to specify the file.
Find Archive	Displays the standard file selection dialog box for your platform, and allows you to select a file to apply next.
Apply Next	Applies the file specified in the Next Archive File field.
Apply All	Applies all remaining archived redo log files. When the last log has been applied, the button's name changes to "Done".
Cancel	Stops the recovery operation. Database is recovered up through the last log file applied.



OSDoc

Additional Information: For information about the standard file selection dialog box for your system, see your operating system-specific documentation.

The Redo Logs Folder

The Redo Log object list displays information about the redo log files in the database. When you click the Redo Logs folder tab, the Redo Logs folder opens and the Redo Log object list and Redo menu appear.

The following figure illustrates the Redo Log object list.

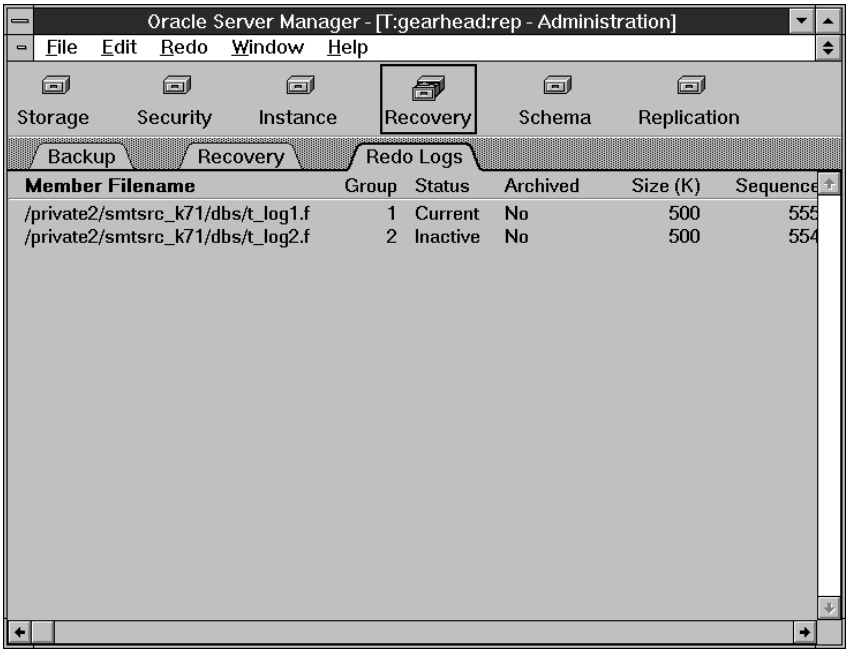


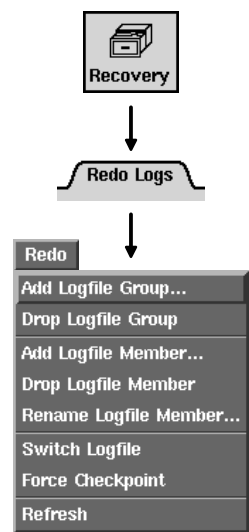
Figure 6 – 4 Redo Log Object List

Redo Log Object List

The columns of the Redo Log object list are described below:

Member Filename	Name of the redo log file.
Group	Group number of the redo log group to which the log file belongs.
Status	Status of the redo log group: Current, Active, or Inactive.
Archived	Whether the redo log file has been archived.
Size (K)	Size of the redo log file (in kilobytes).
Sequence	Sequence number of the redo log group.

Adding a Log File Group



To add a new redo log group to your database, choose Add Logfile Group from the Redo menu. The Add Redo Logfile Group property sheet appears. The Add Redo Logfile Group property sheet consists of one page, called the Group Specification page.

The following figure illustrates the Add Redo Logfile Group property sheet.

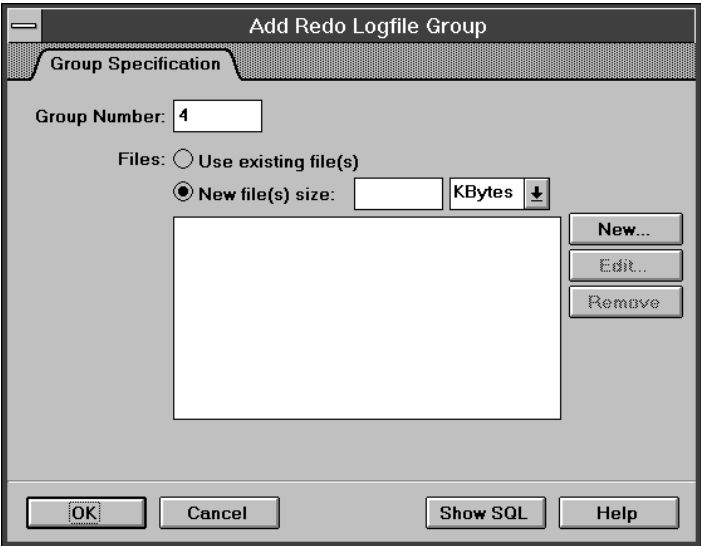


Figure 6 – 5 Add Redo Logfile Group Property Sheet

Group Specification Page

The Group Specification page is described below:

Group Number	Group number for the redo log group. The group number uniquely identifies the redo log group. Server Manager generates the default value automatically. You can enter a different group number in this field, if you desire.
Use existing file(s)	Allows Oracle to reuse existing file(s).
New file(s) size	Instructs Oracle to create new file(s). Specify the size of the new file(s) in the New file(s) size field. Use the pop-up menu to specify kilobytes or megabytes.
Files scrolling list	Scrolling list of members to be included in the redo log group.

New	<p>Displays the New Logfile dialog box and allows you to specify a member to add to the redo log group.</p> <p>When you add a new member to the group, its name appears in the Files scrolling list. See “New Logfile Dialog Box” on page 6 – 9 for a description of the New Logfile dialog box.</p>
Edit	<p>Displays the Edit Logfile dialog box.</p> <p>Select the filename you wish to edit from the Files scrolling list and click Edit to edit the filename. See “Edit Logfile Dialog Box” on page 6 – 10 for a description of the Edit Logfile dialog box.</p>
Remove	<p>Removes a member from the redo log group.</p> <p>Select the member to be removed from the Files scrolling list and click Remove.</p>

New Logfile Dialog Box

Use the New Logfile dialog box to specify the name of a log file to add to the redo log group. The following figure illustrates the New Logfile dialog box.



Figure 6 – 6 New Logfile Dialog Box

Enter the name of the new group member in the Filename text entry field. The file must be fully specified according to the conventions of your operating system. You can also click the Find File button to bring up the standard file selection dialog box for your platform.



OSDoc

Additional Information: For information about specifying filenames for your system, see your operating system-specific Oracle documentation.

Edit Logfile Dialog Box

Use the Edit Logfile dialog box to edit the name of a log file in a redo log group. The following figure illustrates the Edit Logfile dialog box.

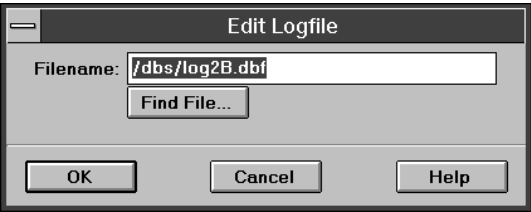
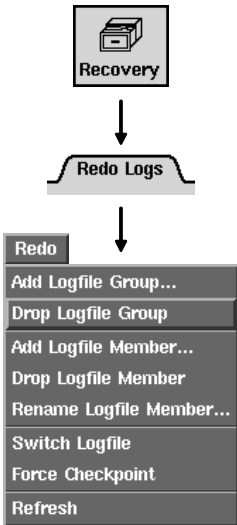


Figure 6 – 7 Edit Logfile Dialog Box

You can edit the filename in the Filename field. You can also click the Find File button to bring up the standard file selection dialog box for your platform.

Dropping a Log File Group



To drop a redo log group, select a member of the group to be dropped from the Redo Log object list and choose Drop Logfile Group from the Redo menu. The Drop Logfile Group alert box appears.

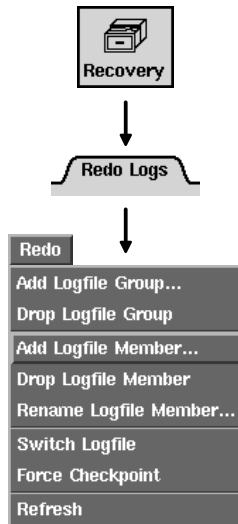
The following figure illustrates the Drop Logfile Group alert box.



Figure 6 – 8 Drop Logfile Group Alert Box

 **Attention:** Dropping a log file group drops all of its members. You cannot drop the active redo log group.

Adding a Log File Member



To add a new member to a redo log group, choose Add Logfile Member from the Redo menu. The Add Redo Logfile Member property sheet appears. The Add Redo Logfile Member property sheet consists of one page, called the Member Specification page.

The following figure illustrates the Add Redo Logfile Member property sheet.

The screenshot shows the 'Add Redo Logfile Member' property sheet with the 'Member Specification' page selected. The page contains the following elements:

- Filename:** A text input field with a 'Find File...' button below it.
- Use Existing File:** A radio button option.
- New File:** A radio button option, which is currently selected.
- Group:** A scrolling list box containing the numbers 1, 2, and 3.
- Buttons:** 'Add', 'Cancel', 'Show SQL', and 'Help' buttons are located at the bottom of the dialog.

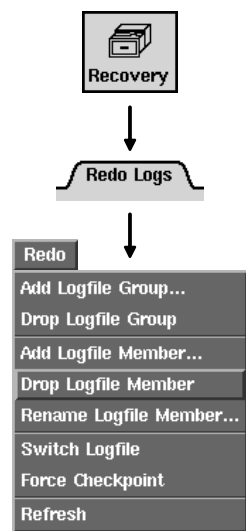
Figure 6 – 9 Add Redo Logfile Member Property Sheet

Member Specification Page

The Member Specification page is described below:

Filename	Name of the file to add to the redo log group. Enter the name of the file in the Filename field. The file must be fully specified according to the conventions of your operating system.
Find File	Displays the standard file selection dialog box for your platform.
Use Existing File	Allows Oracle to reuse an existing file.
New File	Instructs Oracle to create the specified file.
Group	Scrolling list of existing redo log groups. To specify the new file's group, select the group number from the Group scrolling list.

Dropping a Log File Member



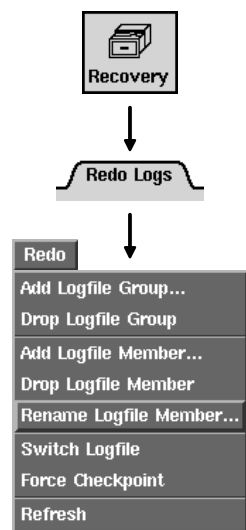
To drop a log file member from a redo log group, select the log file to be dropped from the Redo Log object list and choose Drop Logfile Member from the Redo menu. The Drop Logfile Member alert box appears.

The following figure illustrates the Drop Logfile Member alert box.



Figure 6 – 10 Drop Logfile Member Alert Box

Renaming a Log File Member



To rename a log file, select the log file to be renamed from the Redo Log object list and choose Rename Logfile Member from the Redo menu. The Rename Logfile Member dialog box appears. For information about renaming redo log files, see the *Oracle7 Server Administrator's Guide*.

The following figure illustrates the Rename Logfile Member dialog box.



Figure 6 – 11 Rename Logfile Member Dialog Box

The Rename Logfile Member menu command only renames the log file in the control file. It does not actually rename the file in your operating system. You must rename the file manually.



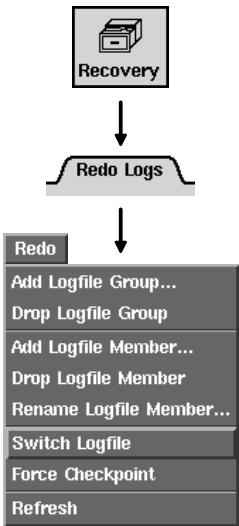
OSDoc

Additional Information: For information about renaming files on your system, see your operating system-specific Oracle documentation.

Forcing a Log Switch or a Checkpoint

To switch redo log groups, choose Switch Logfile from the Redo menu. The next redo log group becomes the current group.

To force a checkpoint, select Force Checkpoint from the Redo menu. During a checkpoint, all modified database buffers are written to the appropriate datafiles.



Viewing Schema Objects

This chapter describes how to use Server Manager to view information about schema objects in your database. This chapter assumes that you have read Chapter 2, “Overview of the Administration Manager,” and are familiar with the interface elements of the Administration Manager.

The information in the Schema drawer is for viewing only. From the Schema drawer, you cannot create, alter, or drop any schema objects. You can create, alter, or drop schema objects using the SQL Worksheet. For a description of the SQL Worksheet, see Chapter 9, “The SQL Worksheet.”

This chapter describes the Schema drawer’s folders:

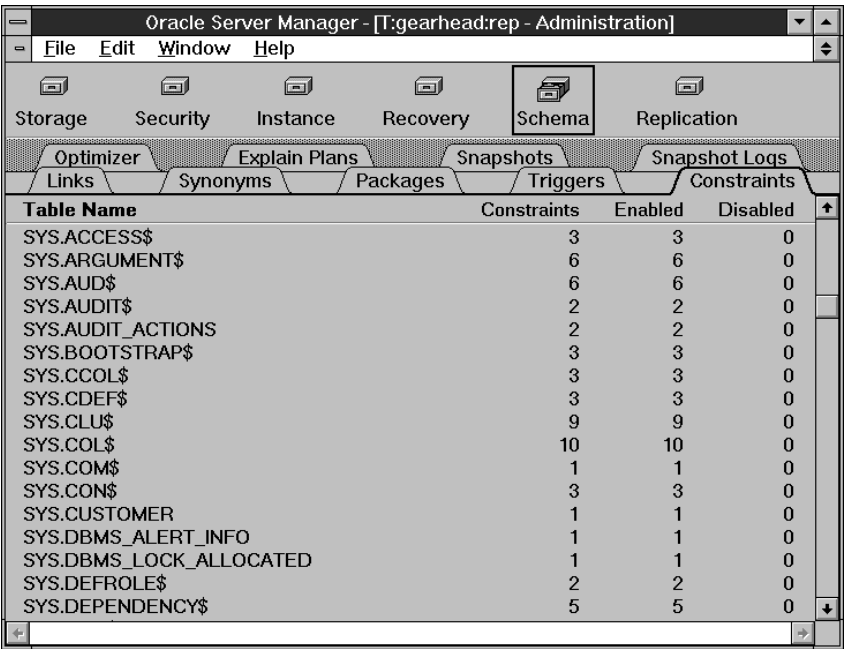
- Constraints
- Triggers
- Packages
- Links
- Synonyms
- Snapshots
- Snapshot Logs
- Optimizer
- Explain Plans

The Constraints Folder

When you click the Constraints folder tab, the Constraints folder opens and the Constraint object list appears. The Constraint object list contains information about the integrity constraints defined on the tables in the database.

Integrity constraints prevent invalid data from being entered into database tables. An integrity constraint is declared on one or more columns in a table, and defines a rule for the data in those columns. For information about data integrity and declarative constraints, see the *Oracle7 Server Concepts*.

The following figure illustrates the Constraint object list.



Oracle Server Manager - [T:gearhead:rep - Administration]			
File Edit Window Help			
Storage	Security	Instance	Recovery
Schema			
Replication			
Optimizer Explain Plans Snapshots Snapshot Logs			
Links Synonyms Packages Triggers Constraints			
Table Name	Constraints	Enabled	Disabled
SYS.ACCESS\$	3	3	0
SYS.ARGUMENT\$	6	6	0
SYS.AUD\$	6	6	0
SYS.AUDIT\$	2	2	0
SYS.AUDIT_ACTIONS	2	2	0
SYS.BOOTSTRAP\$	3	3	0
SYS.CCOL\$	3	3	0
SYS.CDEF\$	3	3	0
SYS.CLU\$	9	9	0
SYS.COL\$	10	10	0
SYS.COM\$	1	1	0
SYS.CON\$	3	3	0
SYS.CUSTOMER	1	1	0
SYS.DBMS_ALERT_INFO	1	1	0
SYS.DBMS_LOCK_ALLOCATED	1	1	0
SYS.DEFROLE\$	2	2	0
SYS.DEPENDENCY\$	5	5	0

Figure 7 – 1 Constraint Object List

Constraint Object List	The columns of the Constraint object list are described below:	
Table Name	Table owner and table name.	
Constraints	Number of constraints defined on the table.	
Enabled	Number of constraints currently enabled in the table.	
Disabled	Number of constraints currently disabled in the table.	

The Triggers Folder

When you click the Triggers folder tab, the Triggers folder opens and the Trigger object list appears. The Trigger object list contains information about triggers defined on tables in the database.

A trigger is PL/SQL code that is implicitly executed when inserting, updating, or deleting data in a table. For information about triggers, see the *Oracle7 Server Concepts* and the *Oracle7 Server Application Developer's Guide*.

The following figure illustrates the Trigger object list.

Oracle Server Manager - [T:gearhead.rep - Administration]			
File Edit Window Help			
Storage	Security	Instance	Recovery
Schema			
Replication			
Optimizer	Explain Plans	Snapshots	Snapshot Logs
Links	Synonyms	Packages	Triggers
Constraints			
Trigger	Table	Type	Event
IOUGDEMO.CUSTOMER\$RT	IOUGDEMO.CUSTOMER	After Each Row	Insert
IOUGDEMO.ITEM\$RT	IOUGDEMO.ITEM	After Each Row	Insert
IOUGDEMO.ORDERS\$RT	IOUGDEMO.ORDERS	After Each Row	Insert
IOUGDEMO.ORDER_LINE\$RT	IOUGDEMO.ORDER_LINE	After Each Row	Insert
IOUGDEMO.STOCK\$RT	IOUGDEMO.STOCK	After Each Row	Insert
REPUSER1.CUSTOMER\$RT	REPUSER1.CUSTOMER	After Each Row	Insert
REPUSER1.ITEM\$RT	REPUSER1.ITEM	After Each Row	Insert
REPUSER1.ORDERS\$RT	REPUSER1.ORDERS	After Each Row	Insert
REPUSER1.ORDER_LINE\$RT	REPUSER1.ORDER_LINE	After Each Row	Insert
REPUSER1.STOCK\$RT	REPUSER1.STOCK	After Each Row	Insert
REPUSER2.CUSTOMER\$RT	REPUSER2.CUSTOMER	After Each Row	Insert
REPUSER2.ITEM\$RT	REPUSER2.ITEM	After Each Row	Insert
REPUSER2.ORDERS\$RT	REPUSER2.ORDERS	After Each Row	Insert
REPUSER2.ORDER_LINE\$RT	REPUSER2.ORDER_LINE	After Each Row	Insert
REPUSER2.STOCK\$RT	REPUSER2.STOCK	After Each Row	Insert
SYSTEM.REPCATLOGTRIG	SYSTEM.REPCAT\$_REPCATLOG	After Statement	Update

Figure 7 – 2 Trigger Object List

Trigger Object List

The columns of the Trigger object list are described below:

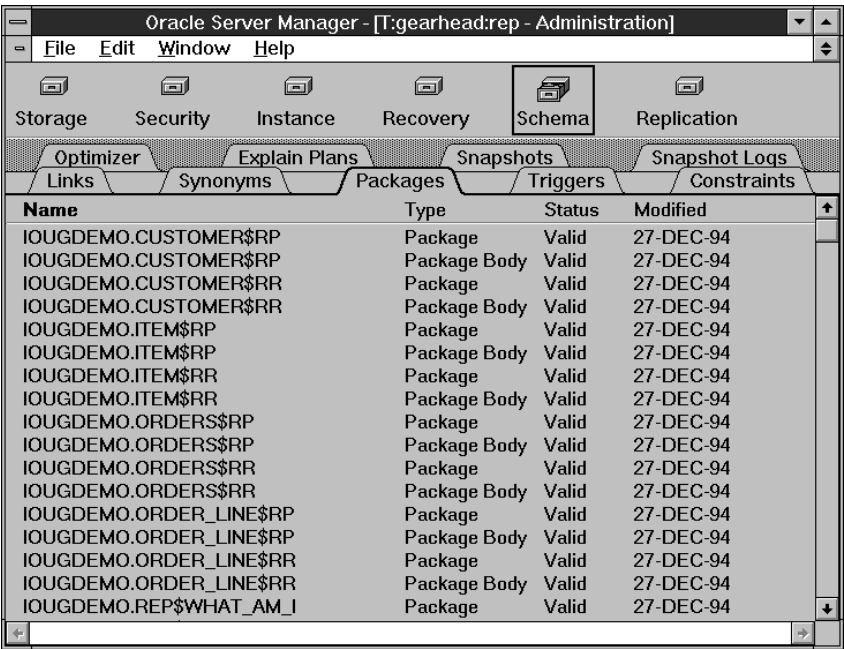
Trigger	Trigger owner and trigger name.
Table	Owner and name of table on which the trigger is defined.
Type	When the trigger fires: Before/After Statement or Before/After Each Row.
Event	Type of statements that fire the trigger: Insert, Update, and/or Delete.
Status	Status of the trigger: Enabled or Disabled.
When	Condition that must be true for the trigger to fire (only applies to row triggers).

The Packages Folder

When you click the Packages folder tab, the Packages folder opens and the Package object list appears. The Package object list contains information about stored procedures, functions, and packages.

A procedure or function is a set of SQL or PL/SQL statements that perform a specific task. A package is a group of related functions, procedures, cursors, and variables. For information about stored procedures, functions, and packages, see the *Oracle7 Server Concepts* and the *Oracle7 Server Application Developer's Guide*. For information on PL/SQL, see the *PL/SQL User's Guide and Reference*.

The following figure illustrates the Packages object list.

The screenshot shows the Oracle Server Manager interface with the 'Packages' tab selected. The interface includes a menu bar (File, Edit, Window, Help) and a toolbar with icons for Storage, Security, Instance, Recovery, Schema, and Replication. Below the toolbar are several sub-tabs: Optimizer, Explain Plans, Snapshots, Snapshot Logs, Links, Synonyms, Packages (selected), Triggers, and Constraints. The main area displays a table of package objects.

Name	Type	Status	Modified
IOUGDEMO.CUSTOMER\$RP	Package	Valid	27-DEC-94
IOUGDEMO.CUSTOMER\$RP	Package Body	Valid	27-DEC-94
IOUGDEMO.CUSTOMER\$RR	Package	Valid	27-DEC-94
IOUGDEMO.CUSTOMER\$RR	Package Body	Valid	27-DEC-94
IOUGDEMO.ITEM\$RP	Package	Valid	27-DEC-94
IOUGDEMO.ITEM\$RP	Package Body	Valid	27-DEC-94
IOUGDEMO.ITEM\$RR	Package	Valid	27-DEC-94
IOUGDEMO.ITEM\$RR	Package Body	Valid	27-DEC-94
IOUGDEMO.ORDERS\$RP	Package	Valid	27-DEC-94
IOUGDEMO.ORDERS\$RP	Package Body	Valid	27-DEC-94
IOUGDEMO.ORDERS\$RR	Package	Valid	27-DEC-94
IOUGDEMO.ORDERS\$RR	Package Body	Valid	27-DEC-94
IOUGDEMO.ORDER_LINE\$RP	Package	Valid	27-DEC-94
IOUGDEMO.ORDER_LINE\$RP	Package Body	Valid	27-DEC-94
IOUGDEMO.ORDER_LINE\$RR	Package	Valid	27-DEC-94
IOUGDEMO.ORDER_LINE\$RR	Package Body	Valid	27-DEC-94
IOUGDEMO.REP\$WHAT_AM_I	Package	Valid	27-DEC-94

Figure 7 – 3 Package Object List

Package Object List

The columns of the Package object list are described below:

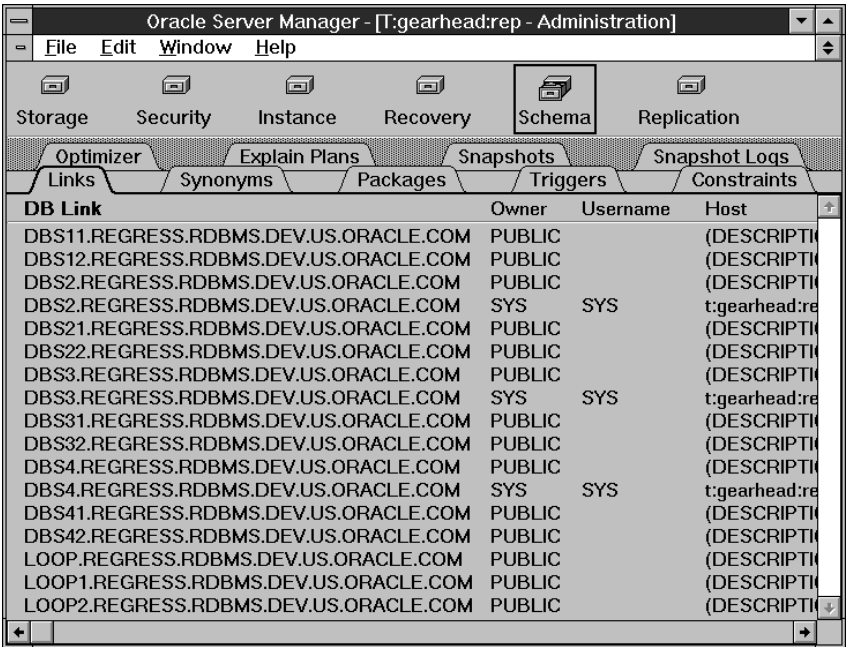
Name	Object owner and name of the object.
Type	Type of object: Function, Package, Package Body, or Procedure.
Status	Status of the object: Valid or Invalid (needs to be recompiled).
Modified	Date the object was last modified as the result of a DDL (Data Definition Language) command, including GRANT and REVOKE.

The Links Folder

When you click the Links folder tab, the Links folder opens and the Link object list appears. The Link object list contains information about the database links defined in the database.

A database link allows you to access a remote database. For information about database links, see the *Oracle7 Server Concepts*.

The following figure illustrates the Link object list.



The screenshot shows the Oracle Server Manager interface with the 'Links' folder tab selected. The table below represents the data shown in the 'DB Link' list.

DB Link	Owner	Username	Host
DBS11.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
DBS12.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
DBS2.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
DBS2.REGRESS.RDBMS.DEV.US.ORACLE.COM	SYS	SYS	t:gearhead:re
DBS21.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
DBS22.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
DBS3.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
DBS3.REGRESS.RDBMS.DEV.US.ORACLE.COM	SYS	SYS	t:gearhead:re
DBS31.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
DBS32.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
DBS4.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
DBS4.REGRESS.RDBMS.DEV.US.ORACLE.COM	SYS	SYS	t:gearhead:re
DBS41.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
DBS42.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
LOOP.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
LOOP1.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)
LOOP2.REGRESS.RDBMS.DEV.US.ORACLE.COM	PUBLIC		(DESCRIPTION=...)

Figure 7 – 4 Link Object List

Link Object List

The columns of the Link object list are described below:

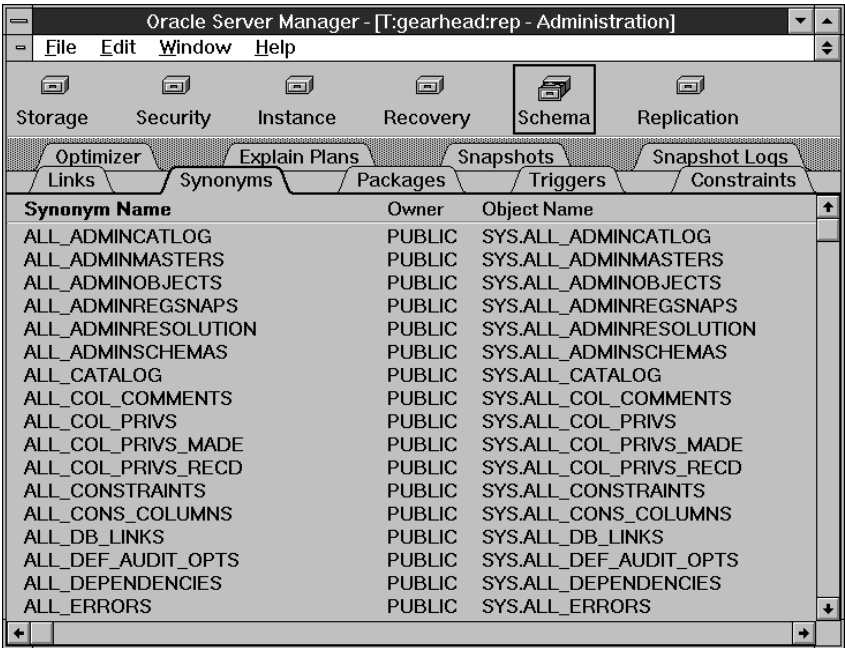
DB Link	Name of the database link.
Owner	Owner of the database link.
Username	Name of the user to log in as on the remote database.
Host	SQL*Net service name for the remote database.
Created	Date on which the link was created.

The Synonyms Folder

When you click the Synonyms folder tab, the Synonyms folder opens and the Synonym object list appears. The Synonym object list contains information about the synonyms defined in the database.

A synonym is an alias for a table, view, snapshot, sequence, procedure function, package, or another synonym. For information about synonyms, see the *Oracle7 Server Concepts*.

The following figure illustrates the Synonym object list.

The screenshot shows the Oracle Server Manager interface. The title bar reads "Oracle Server Manager - [T:gearhead:rep - Administration]". The menu bar includes "File", "Edit", "Window", and "Help". Below the menu bar is a toolbar with icons for Storage, Security, Instance, Recovery, Schema (highlighted), and Replication. A secondary toolbar contains tabs for Optimizer, Explain Plans, Snapshots, and Snapshot Logs. The main area displays a list of synonyms under the "Synonyms" tab. The list has three columns: "Synonym Name", "Owner", and "Object Name". The list contains 18 entries, all owned by "PUBLIC".

Synonym Name	Owner	Object Name
ALL_ADMINCATLOG	PUBLIC	SYS.ALL_ADMINCATLOG
ALL_ADMINMASTERS	PUBLIC	SYS.ALL_ADMINMASTERS
ALL_ADMINOBJECTS	PUBLIC	SYS.ALL_ADMINOBJECTS
ALL_ADMINREGSNAPS	PUBLIC	SYS.ALL_ADMINREGSNAPS
ALL_ADMINRESOLUTION	PUBLIC	SYS.ALL_ADMINRESOLUTION
ALL_ADMINSCHEMAS	PUBLIC	SYS.ALL_ADMINSCHEMAS
ALL_CATALOG	PUBLIC	SYS.ALL_CATALOG
ALL_COL_COMMENTS	PUBLIC	SYS.ALL_COL_COMMENTS
ALL_COL_PRIVS	PUBLIC	SYS.ALL_COL_PRIVS
ALL_COL_PRIVS_MADE	PUBLIC	SYS.ALL_COL_PRIVS_MADE
ALL_COL_PRIVS_RECD	PUBLIC	SYS.ALL_COL_PRIVS_RECD
ALL_CONSTRAINTS	PUBLIC	SYS.ALL_CONSTRAINTS
ALL_CONS_COLUMNS	PUBLIC	SYS.ALL_CONS_COLUMNS
ALL_DB_LINKS	PUBLIC	SYS.ALL_DB_LINKS
ALL_DEF_AUDIT_OPTS	PUBLIC	SYS.ALL_DEF_AUDIT_OPTS
ALL_DEPENDENCIES	PUBLIC	SYS.ALL_DEPENDENCIES
ALL_ERRORS	PUBLIC	SYS.ALL_ERRORS

Figure 7 - 5 Synonym Object List

Synonym Object List

The columns of the Synonym object list are described below:

Synonym Name	Name of the synonym.
Owner	Owner of the synonym.
Object Name	Owner and name of the object referenced by the synonym.
DB Link	Name of database link used in a synonym for a remote object.

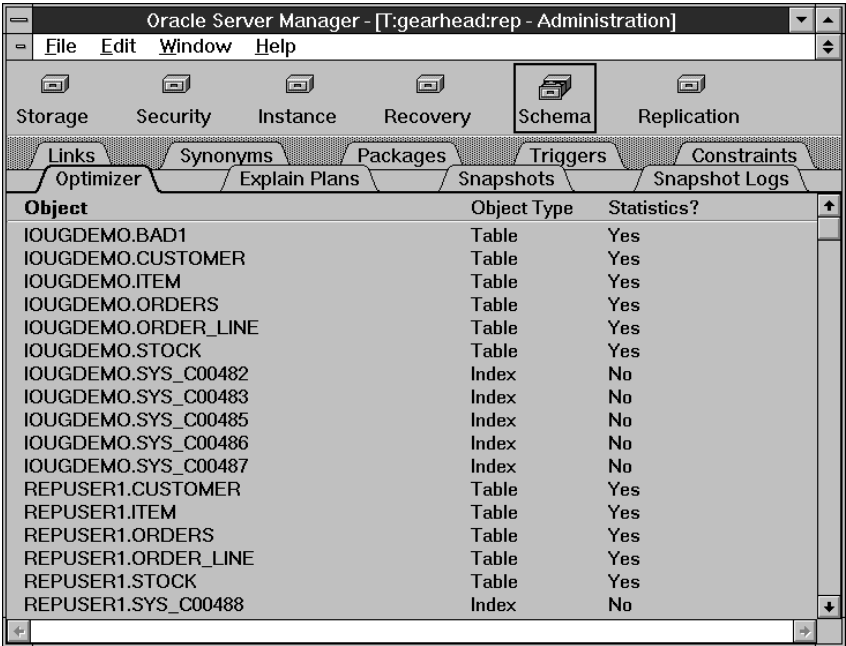
The Optimizer Folder

When you click the Optimizer folder tab, the Optimizer folder opens and the Optimizer object list appears. The Optimizer object list contains information about the optimizer statistics generated for objects in the database. The Optimizer object list shows whether statistics have been generated for tables, clusters, and indexes in the database.

The Oracle optimizer chooses the execution plan for a SQL statement. When using the cost-based approach, the optimizer can utilize statistics for the objects accessed in the SQL statement. You generate these statistics using the ANALYZE command.

For information about the optimizer and generating statistics, see the *Oracle7 Server Concepts* and the ANALYZE command in the *Oracle7 Server SQL Reference*.

The following figure illustrates the Optimizer object list.

The screenshot shows the Oracle Server Manager interface. The title bar reads "Oracle Server Manager - [T:gearhead:rep - Administration]". The menu bar includes "File", "Edit", "Window", and "Help". Below the menu bar is a toolbar with icons for Storage, Security, Instance, Recovery, Schema, and Replication. The "Schema" icon is highlighted. Below the toolbar is a row of tabs: "Links", "Synonyms", "Packages", "Triggers", and "Constraints". Below this is another row of tabs: "Optimizer", "Explain Plans", "Snapshots", and "Snapshot Logs". The "Optimizer" tab is selected. The main area displays a table with three columns: "Object", "Object Type", and "Statistics?". The table lists various database objects and their statistics status.

Object	Object Type	Statistics?
IOUGDEMO.BAD1	Table	Yes
IOUGDEMO.CUSTOMER	Table	Yes
IOUGDEMO.ITEM	Table	Yes
IOUGDEMO.ORDERS	Table	Yes
IOUGDEMO.ORDER_LINE	Table	Yes
IOUGDEMO.STOCK	Table	Yes
IOUGDEMO.SYS_C00482	Index	No
IOUGDEMO.SYS_C00483	Index	No
IOUGDEMO.SYS_C00485	Index	No
IOUGDEMO.SYS_C00486	Index	No
IOUGDEMO.SYS_C00487	Index	No
REPUSER1.CUSTOMER	Table	Yes
REPUSER1.ITEM	Table	Yes
REPUSER1.ORDERS	Table	Yes
REPUSER1.ORDER_LINE	Table	Yes
REPUSER1.STOCK	Table	Yes
REPUSER1.SYS_C00488	Index	No

Figure 7 – 6 Optimizer Object List

Optimizer Object List	The columns of the Optimizer object list are described below:
Object	The owner and name of the object.
Object Type	Object type: Table, Cluster, or Index.
Statistics?	Whether or not statistics have been generated for the object.

The Explain Plans Folder

When you click the Explain Plans folder tab, the Explain Plans folder opens and the Explain Plan object list appears. The Explain Plan object list contains a list of the SQL statements that have execution plans stored in the table PLAN_TABLE.

You can use the EXPLAIN PLAN command to generate the execution plan for a particular SQL statement. The execution plan is stored in a table, which by default is called PLAN_TABLE. For information about execution plans and the EXPLAIN PLAN command, see the *Oracle7 Server Concepts*, the *Oracle7 Server Application Developer's Guide*, and the *Oracle7 Server SQL Reference*.

The following figure illustrates the Explain Plan object list.

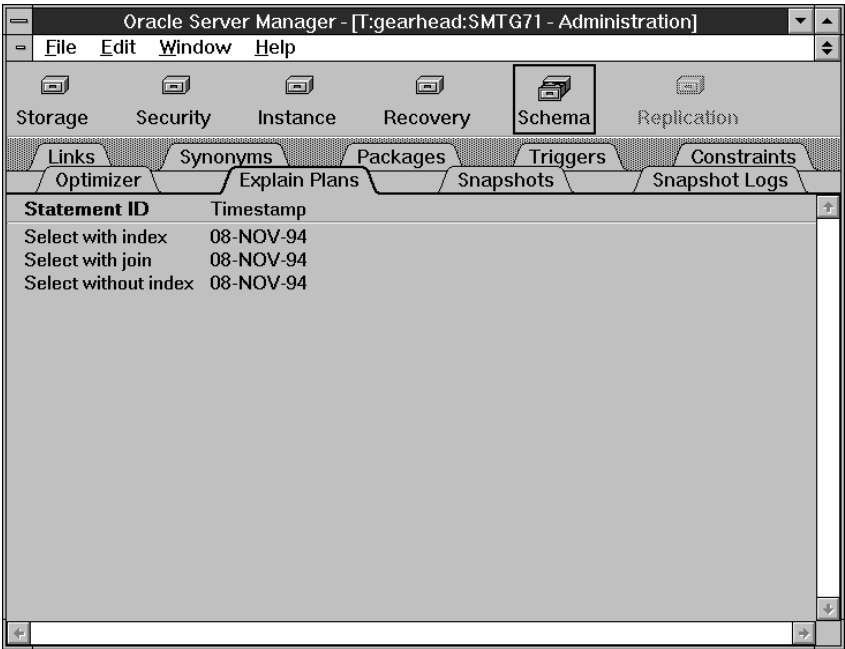




Figure 7 – 7 Explain Plan Object List

Explain Plan Object List

The columns of the Explain Plan object list are described below:

Statement ID	Identifier for the SQL statement (can be null).
Timestamp	Date the EXPLAIN PLAN command was executed for the statement.

 **Attention:** The information displayed in the Explain Plan object list is from the table named PLAN_TABLE belonging to the schema SYS. Server Manager does not display information from any other plan tables. If SYS does not own a PLAN_TABLE or if you do not have access to SYS.PLAN_TABLE, you cannot open the Explain Plans folder.

 **Additional Information:** You can run the script UTLXPLAN.SQL to create a PLAN_TABLE. The location of the script UTLXPLAN.SQL is platform dependent. For information about running UTLXPLAN.SQL, see your operating system-specific Oracle documentation.

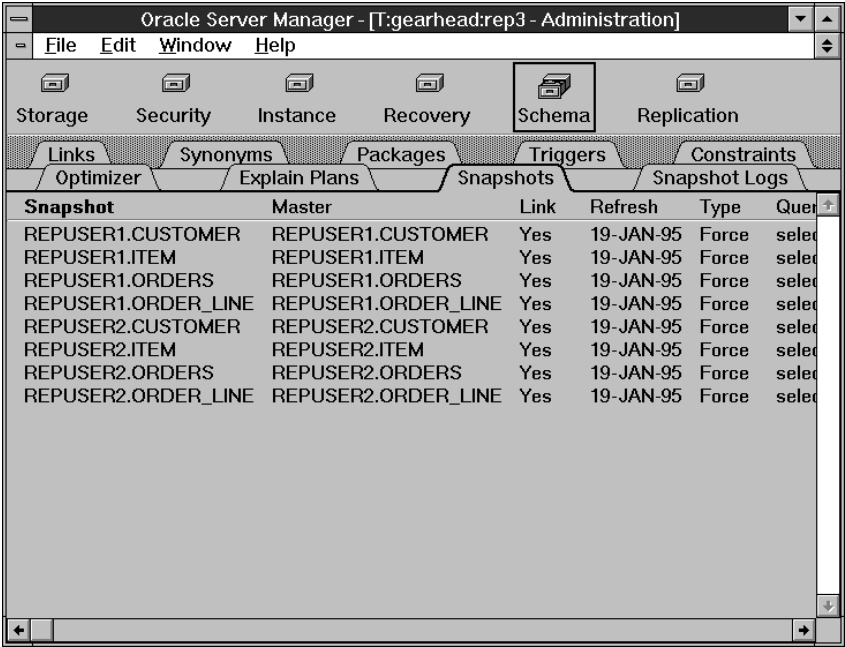
The Snapshots Folder

When you click the Snapshots folder tab, the Snapshots folder opens and the Snapshot object list appears. The Snapshot object list contains information about the snapshots created in the database.

A snapshot contains the results of a query of one or more tables or views. The queried tables or views are called the master tables of the snapshot and are often located on remote databases. The snapshot is stored in a table, and can be queried by way of a view defined on the table.

For information about snapshots, see the *Oracle7 Server Concepts* and the *Oracle7 Server Application Developer's Guide*.

The following figure illustrates the Snapshot object list.

The screenshot shows the Oracle Server Manager interface with the 'Schema' tab selected. Under the 'Schema' tab, the 'Snapshots' sub-tab is active. A table titled 'Snapshot Object List' is displayed, showing details for various snapshots. The table has columns for Snapshot, Master, Link, Refresh, Type, and Queried. The data rows list snapshots for REPUSER1 and REPUSER2, all created on 19-JAN-95 with a 'Force' refresh type. The 'Queried' column is partially visible and contains the word 'select' for each row.

Snapshot	Master	Link	Refresh	Type	Queried
REPUSER1.CUSTOMER	REPUSER1.CUSTOMER	Yes	19-JAN-95	Force	select
REPUSER1.ITEM	REPUSER1.ITEM	Yes	19-JAN-95	Force	select
REPUSER1.ORDERS	REPUSER1.ORDERS	Yes	19-JAN-95	Force	select
REPUSER1.ORDER_LINE	REPUSER1.ORDER_LINE	Yes	19-JAN-95	Force	select
REPUSER2.CUSTOMER	REPUSER2.CUSTOMER	Yes	19-JAN-95	Force	select
REPUSER2.ITEM	REPUSER2.ITEM	Yes	19-JAN-95	Force	select
REPUSER2.ORDERS	REPUSER2.ORDERS	Yes	19-JAN-95	Force	select
REPUSER2.ORDER_LINE	REPUSER2.ORDER_LINE	Yes	19-JAN-95	Force	select

Figure 7 – 8 Snapshot Object List

Snapshot Object List

The columns of the Snapshot object list are described below:

Snapshot	Owner of the snapshot and the name of the view associated with the snapshot.
Master	Owner and name of the snapshot's master table.
Link	Whether or not a database link to the master site is used in the snapshot specification.
Refresh	Date of the last refresh (at the master site).
Type	Type of refresh for automatic refreshes: Complete, Fast, or Force.
Query	Original query defining the snapshot.



Attention: You cannot sort the Snapshot object list on the Query column.

The Snapshot Logs Folder

When you click the Snapshot Logs folder tab, the Snapshot Logs folder opens and the Snapshot Log object list appears. The Snapshot Log object list contains information about the snapshot logs created in the database.

A snapshot log is a table associated with the master table of a snapshot. The snapshot log contains information about changes made to its associated master table. The information in the snapshot log is used to refresh the snapshot. For information about snapshot logs, see the *Oracle7 Server Concepts* and the *Oracle7 Server Administrator's Guide*.

The following figure illustrates the Snapshot Log object list.

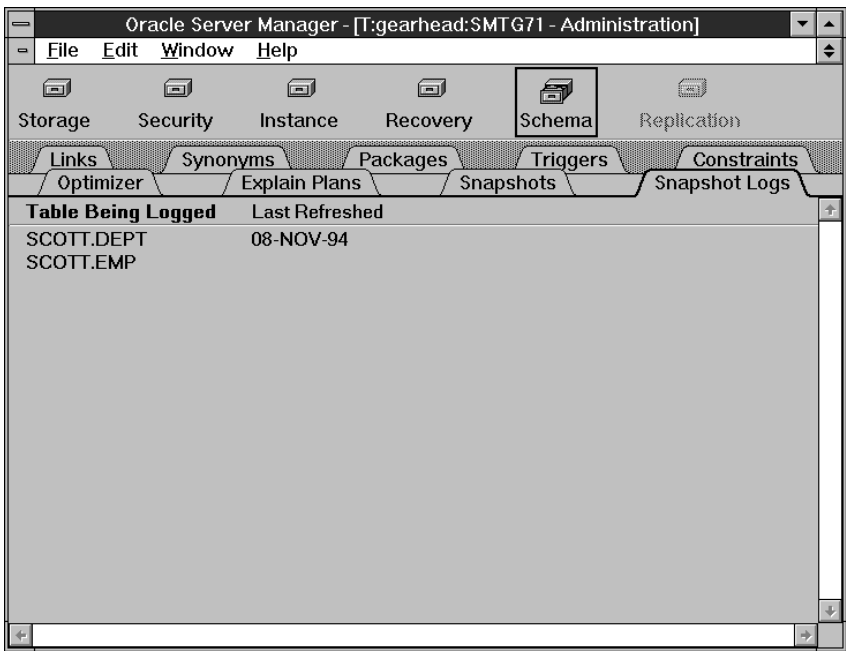


Figure 7 – 9 Snapshot Log Object List

Snapshot Log Object List

The columns of the Snapshot Log object list are described below:

Table Being Logged	Owner of the snapshot log and master table of the log.
Last Refreshed	Date snapshot was last refreshed (one date for each snapshot defined on the master table).

Managing a Replication Environment

This chapter describes how to use Server Manager to manage your symmetric replication site. This chapter assumes that you have read Chapter 2, “Overview of the Administration Manager” and are familiar with the interface elements of the Administration Manager. It also assumes that you have read *Oracle7 Server Distributed Systems, Volume II* and are familiar with the symmetric replication facility.

In the Replication drawer, you can manage replicated schemas, replicated objects, the deferred transaction queue, the replication error queue, the replication administration request queue, and the remote databases involved in the replication of each replicated schema. You can also display snapshots that are registered with symmetric replication and information about conflict resolution. This chapter describes the commands available in the Replication drawer’s folders:

- Schemas
- Objects
- Conflict Resolution
- Registered Snapshots
- Masters
- Deferred Transactions
- Errors
- Request Log

The Schemas Folder

When you click the Schemas folder tab, the Schemas folder opens and the Schema object list and menu appear. The Schema object list contains information about the replicated schemas in the local database.

For more information about replicated schemas, see *Oracle7 Server Distributed Systems, Volume II*.

The following figure illustrates the Schema object list.

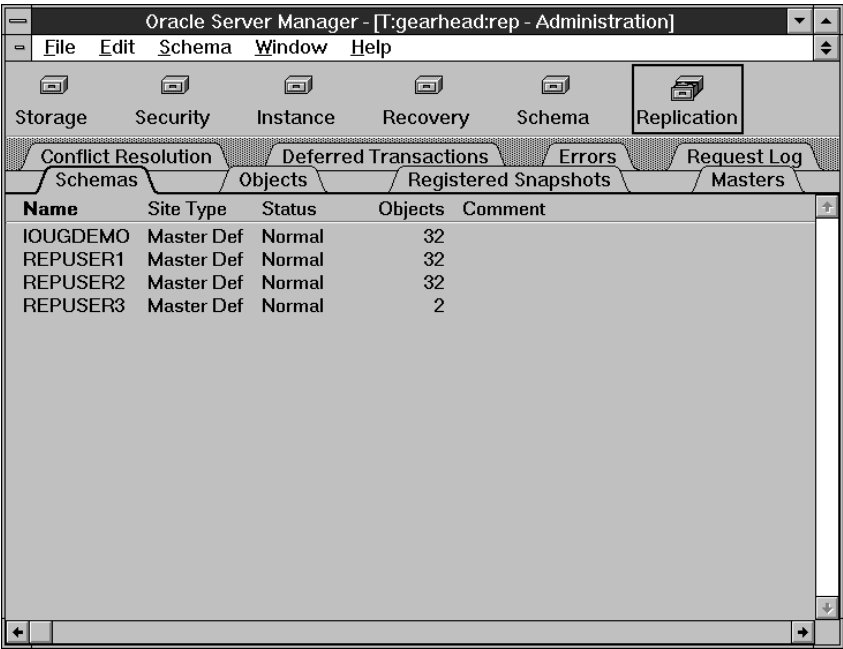


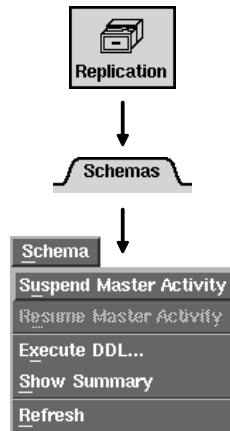
Figure 8 – 1 Schema Object List

Schema Object List

The columns of the Schema object list are described below:

Name	Name of the replicated schema.
Site Type	Indicates if local database is a Master Definition, Master, or a Snapshot site for the replicated schema.
Status	Indicates if the replicated schema is Normal, Quiescing, or Quiesced.
Objects	Number of replicated objects contained in the schema.
Comment	User comment for the replicated schema.

Suspending Replication Activity for a Schema



If you need to quiesce a schema, you can suspend master activity for the schema. This operation can only be performed at the master definition site of the replicated schema.

When you quiesce a replicated schema, the symmetric replication facility:

- executes all transactions in the local deferred transaction queue
- attempts to quiesce the replicated schema at all sites

Quiescing a master site does not affect any of its snapshot sites. For more information, see *Oracle7 Server Distributed Systems, Volume II*.

To quiesce a replicated schema, select the schema to quiesce from the Schema object list and choose Suspend Master Activity from the Schema menu. The Suspend Master Activity alert box appears.

The following figure illustrates the Suspend Master Activity alert box.

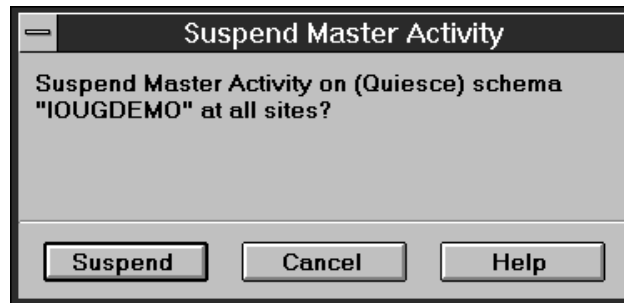


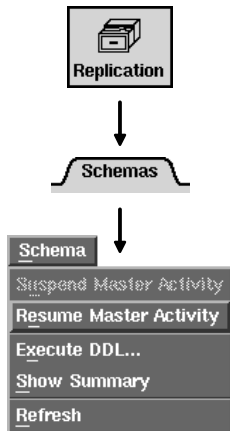
Figure 8 - 2 Suspend Master Activity Alert Box

The request to suspend activity is queued at each remote master site and is listed in the Request Log object list at each affected site. At each site, the request is processed automatically by a job queue process. For information about starting up job queue processes, see the *Oracle7 Server Administrator's Guide*.

Alternatively, you can manually execute the request by choosing Apply Requests for Schema command in the Request menu.

When you Suspend Master Activity for a schema, the status of the schema at the local database initially changes to Quiescing. Its status does not change to Quiesced until the request to suspend activity has been executed at every remote master site of the replicated schema.

Resuming Replication Activity for a Schema



If you need to resume master activity for a schema, you can unquiesce the schema. This operation can only be performed at the Master Definition site of the replicated schema. To unquiesce a replicated schema, select the schema to be unquiesced from the Schema object list and choose Resume Master Activity from the Schema menu. The Resume Master Activity alert box appears.

The following figure illustrates the Resume Master Activity alert box.

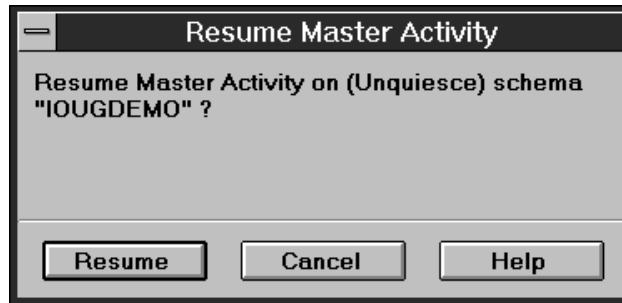


Figure 8 – 3 Resume Master Activity Alert Box

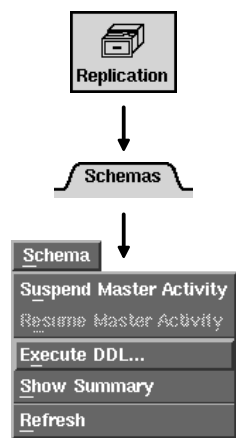
The request to resume activity is queued at each remote site and is listed in the Request Log object list. At each site, the request is executed automatically by a job queue process. For information about starting up job queue processes, see the *Oracle7 Server Administrator's Guide*.

Alternatively, you can manually execute the request using the Apply Requests for schema command of the Request menu.

Once you execute the Resume Master Activity operation, the schema's status at the local database immediately changes to Normal. The status of a remote site changes to Normal once the request to resume activity is executed at the site.

Note: The status of the master definition site can change to Normal before all remote sites have executed their requests to resume activity.

Executing DDL Statements



To execute DDL statements in a replicated schema on one or more databases, select the schema from the Schema object list and choose Execute DDL from the Schema menu. This operation can only be performed at the Master Definition site of a replicated schema. The Execute DDL property sheet appears.

The Execute DDL property sheet consists of the following pages:

- Master Databases
- DDL Text

The following figure illustrates the Master Databases page.

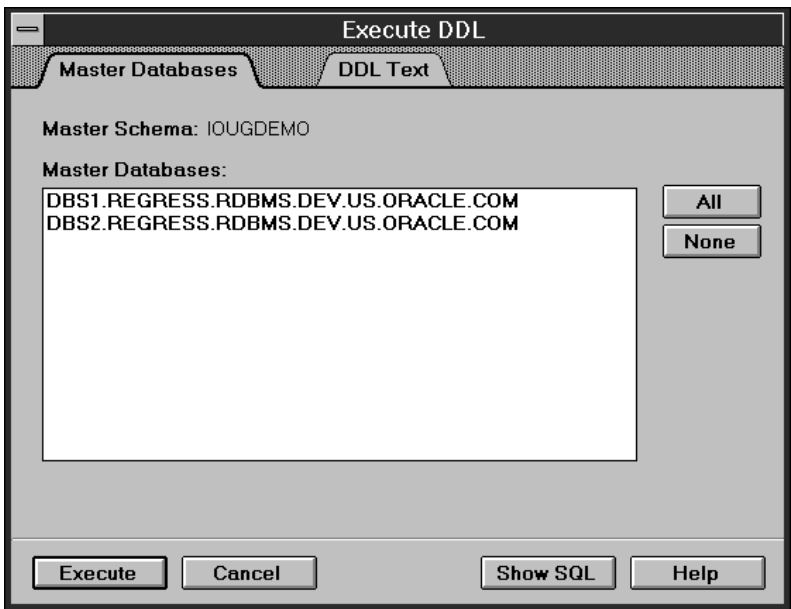


Figure 8 – 4 Master Databases Page of the Execute DDL Property Sheet

Execute DDL: Master Databases Page

The Master Databases page of the Execute DDL property sheet is described below:

Master Schema	Schema in which to perform the DDL. This is a read-only text field to provide information to the user.
Master Databases	Databases on which to execute the DDL. This is a scrolling list that allows users to select one or more items.
All	Select all master databases from the list.
None	Deselect all master databases from the list.

Execute DDL: DDL Text Page

On the DDL Text page of the Execute DDL property sheet, you can specify the DDL statement to be executed. A semicolon is not needed to terminate the DDL statement and will cause an error if included. The following figure illustrates the DDL Text page.

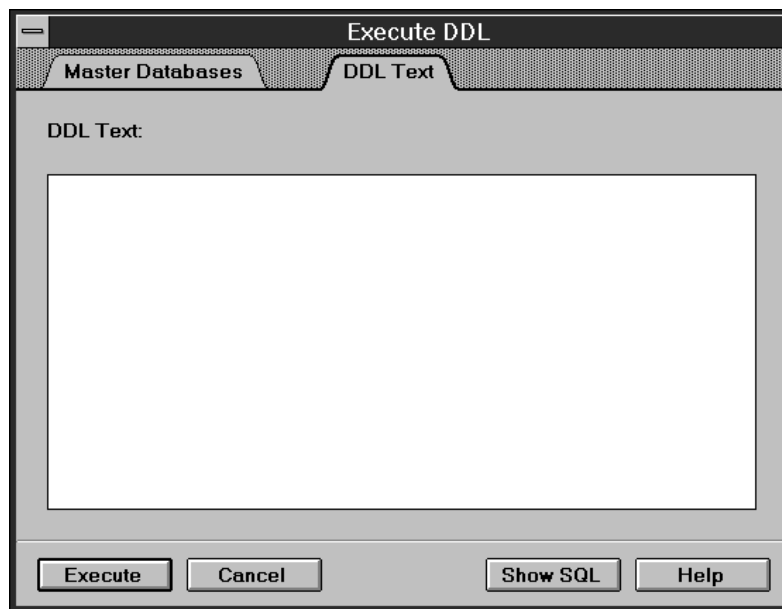
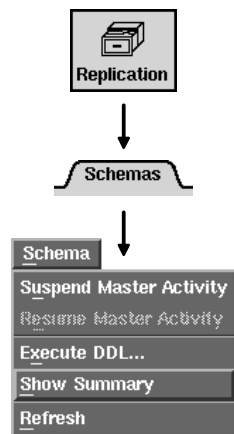


Figure 8 – 5 DDL Text Page of the Execute DDL Property Sheet

The DDL Text page displays the DDL statement to be executed.

**Replication
Environment Summary**



To obtain information about a replicated schema and the replication environment, choose Show Summary from the Schema menu. The Replication Environment Summary window appears.

The summary is visually and logically separated into three sections. The first section provides information at the database level. The second provides information at the schema level. And the last section provides site-dependent information (information related to Master, Master Definition or Snapshot sites).

The following figure illustrates the Replication Environment Summary window.

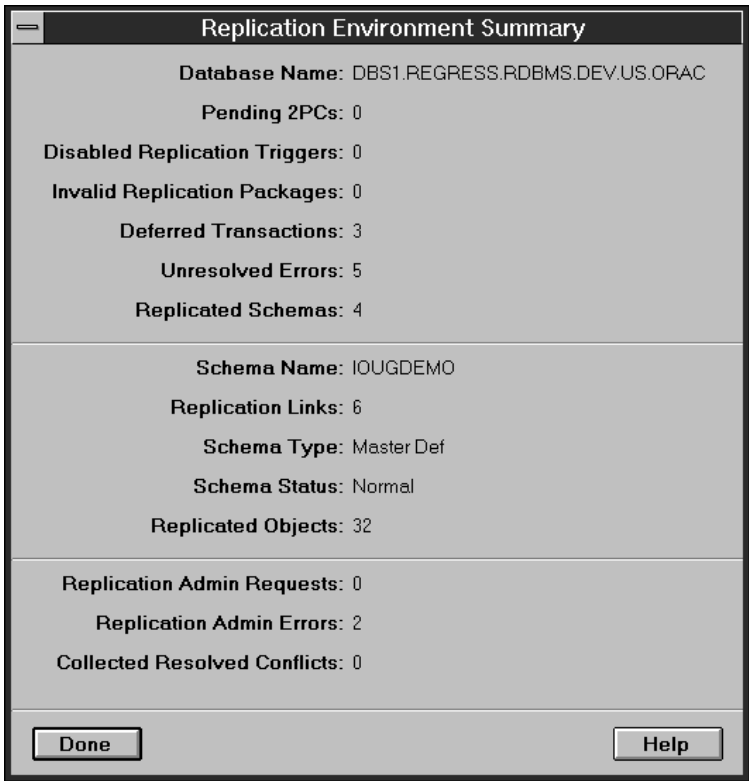


Figure 8 – 6 Replication Environment Summary Window

The Replication Environment Summary window is described below:

Database information:

Database Name	Global name of the local database.
Pending 2PCs	Number of pending two-phase commits. Some replication operations require the use of two phase commits. For more information, see <i>Oracle7 Server Distributed Systems, Volume II</i> .
Disabled Replication Triggers	Number of disabled triggers used for replication. If a replication trigger is disabled, then the table supported by that trigger is not replicated.
Invalid Replication Packages	Number of invalid packages used for replication. If a replication package is invalid, then the table supported by that package will not receive updates from remote databases.
Deferred Transactions	Number of entries in the deferred transaction queue.
Unresolved Errors	Number of entries in the error queue.
Replicated Schemas	Number of replicated schemas at the local database.

Schema information:

Schema Name	Name of the selected schema.
Replication Links	Number of remote masters participating in replicating the selected schema.
Schema Type	Site type of the local database for the selected schema: Master Def, Master, or Snapshot.
Schema Status	Status of the selected schema at the local site: Normal, Quiescing, or Quiesced.
Replicated Objects	Number of replicated objects owned by the selected schema.

Master Definition or Master site information:

Replication Admin Requests	Number of entries in the replication administration queue.
Replication Admin Error	Number of replication administration requests that have caused an error.
Collected Resolved Conflicts	Statistical information collected for conflict resolution.

Snapshot site information:

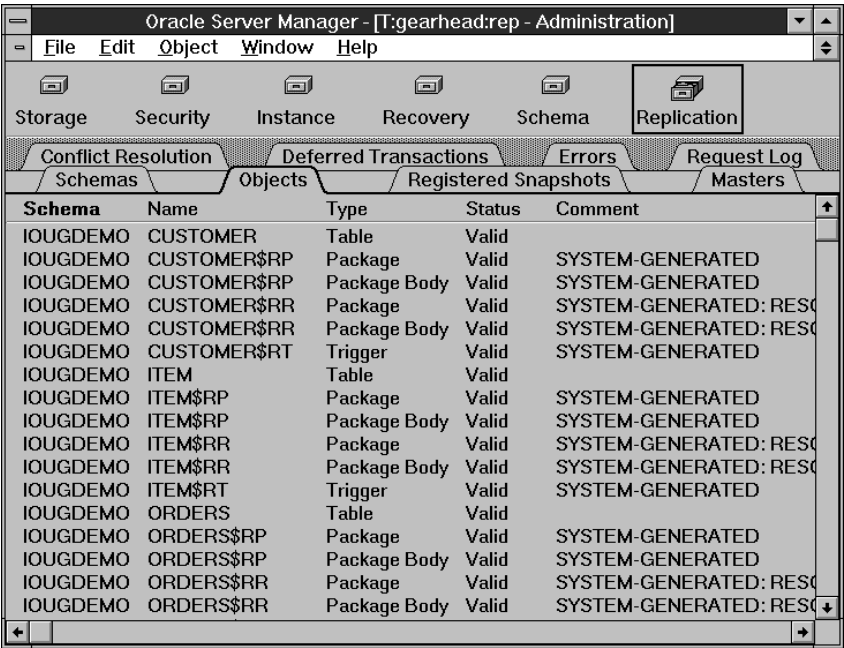
Refresh Master	Database in which the master schema for the selected snapshot schema is located.
Refresh Groups	Number of refresh groups at the local database.
Broken Refresh Groups	Number of broken refresh groups at the local database. Broken refresh groups will no longer refresh automatically.

The Objects Folder

When you click the Objects folder tab, the Objects folder opens and the Object object list and menu appear. The Object object list contains information about the replicated objects in the local database.

For more information about replicated objects, see *Oracle7 Server Distributed Systems, Volume II*.

The following figure illustrates the Object object list.



The screenshot shows the Oracle Server Manager interface with the 'Replication' tab selected. The 'Objects' sub-tab is active, displaying a table of replicated objects. The table has five columns: Schema, Name, Type, Status, and Comment. The data is organized by schema, with 'IOUGDEMO' being the primary schema shown. The objects include tables, packages, package bodies, triggers, and snapshots, all with a 'Valid' status. Comments for many objects indicate they are 'SYSTEM-GENERATED' or 'SYSTEM-GENERATED: RESC'.

Schema	Name	Type	Status	Comment
IOUGDEMO	CUSTOMER	Table	Valid	
IOUGDEMO	CUSTOMER\$RP	Package	Valid	SYSTEM-GENERATED
IOUGDEMO	CUSTOMER\$RP	Package Body	Valid	SYSTEM-GENERATED
IOUGDEMO	CUSTOMER\$RR	Package	Valid	SYSTEM-GENERATED: RESC
IOUGDEMO	CUSTOMER\$RR	Package Body	Valid	SYSTEM-GENERATED: RESC
IOUGDEMO	CUSTOMER\$RT	Trigger	Valid	SYSTEM-GENERATED
IOUGDEMO	ITEM	Table	Valid	
IOUGDEMO	ITEM\$RP	Package	Valid	SYSTEM-GENERATED
IOUGDEMO	ITEM\$RP	Package Body	Valid	SYSTEM-GENERATED
IOUGDEMO	ITEM\$RR	Package	Valid	SYSTEM-GENERATED: RESC
IOUGDEMO	ITEM\$RR	Package Body	Valid	SYSTEM-GENERATED: RESC
IOUGDEMO	ITEM\$RT	Trigger	Valid	SYSTEM-GENERATED
IOUGDEMO	ORDERS	Table	Valid	
IOUGDEMO	ORDERS\$RP	Package	Valid	SYSTEM-GENERATED
IOUGDEMO	ORDERS\$RP	Package Body	Valid	SYSTEM-GENERATED
IOUGDEMO	ORDERS\$RR	Package	Valid	SYSTEM-GENERATED: RESC
IOUGDEMO	ORDERS\$RR	Package Body	Valid	SYSTEM-GENERATED: RESC

Figure 8 – 7 Object Object List

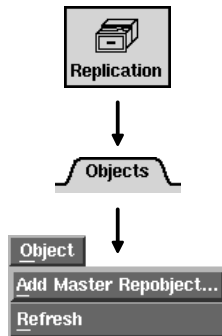
Object Object List

The columns of the Object object list are described below:

- Schema Owner of the replicated object.
- Name Name of the replicated object.
- Type Replicated object type. Valid types are table, trigger, package, package body, snapshot, and index.

Status	Status of the replicated object. Possible states are create, compare, valid, dropped, and error.
Comment	User comments for the object. If the object was generated by symmetric replication, it will be noted in this column.

Adding Replicated Objects to a Master Schema



To add objects to a replicated schema, choose Add Master Repobject from the Object menu. The Add Master Replication Objects property sheet appears.

The Add Master Replication Objects property sheet consists of one page, called the Object Specifications page. The following figure illustrates the Object Specifications page.

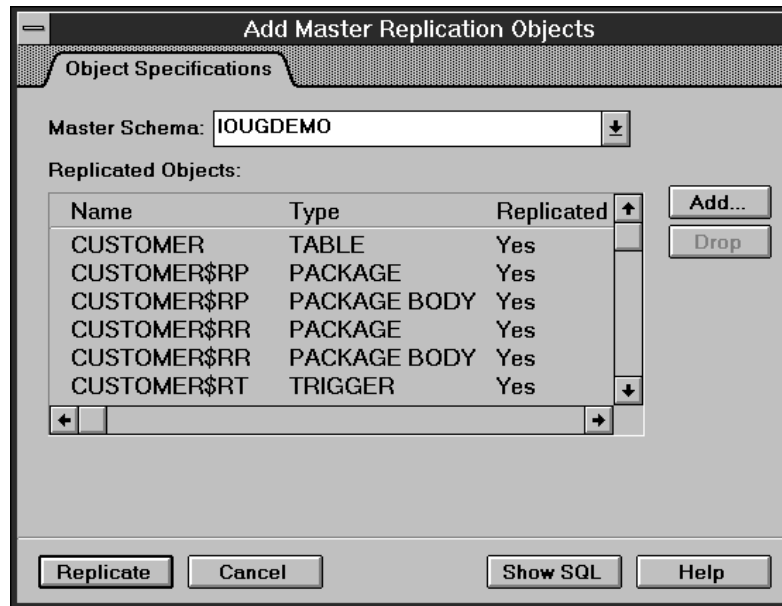


Figure 8 – 8 Object Specifications Page of the Add Master Replication Objects Property Sheet

Add Master Replication
Objects: Object
Specifications Page

The Object Specifications page of the Add Master Replication Objects property sheet is described below:

Master Schema	Schema in which to add replicated objects.						
Replicated Objects	Multi-column scrolling list containing objects to replicate. The Replicated Objects multi-column scrolling list contains the following columns: <table><tr><td>Name</td><td>Name of the object.</td></tr><tr><td>Type</td><td>Object type.</td></tr><tr><td>Replicated</td><td>Whether or not the object is replicated.</td></tr></table>	Name	Name of the object.	Type	Object type.	Replicated	Whether or not the object is replicated.
Name	Name of the object.						
Type	Object type.						
Replicated	Whether or not the object is replicated.						
Add	Displays the Add Objects dialog box, which allows you to select a set of objects to replicate. For a description of the Add Object dialog box, see page 8 – 12.						
Drop	Drop the object selected in the Replicated Objects multi-column scrolling list.						

Add Objects Dialog Box

To select a set of objects to replicate, click Add on the Object Specifications page. The Add Objects dialog box appears. The following figure illustrates the Add Objects dialog box.

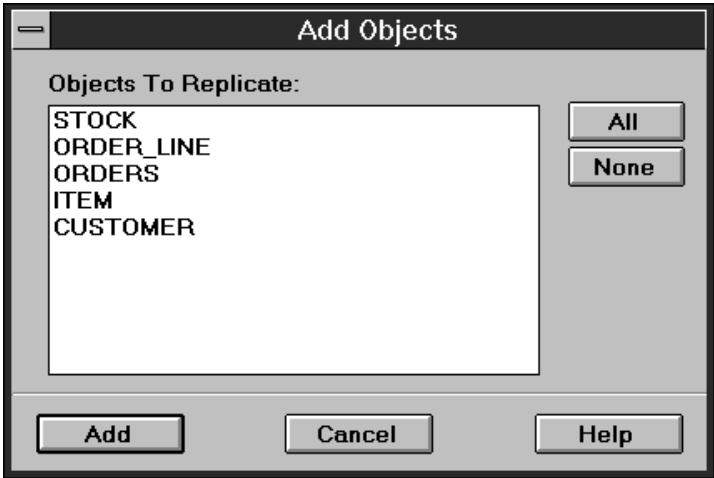


Figure 8 – 9 Add Objects Dialog Box

The Add Objects dialog box is described below:

Objects to Replicate	Set of objects in the selected schema that are not being replicated. You can select one or more objects from the Objects to Replicate scrolling list.
----------------------	---

All	Select all objects from the list.
-----	-----------------------------------

None	Deselect all objects from the list.
------	-------------------------------------

This operation can only be applied from a master definition site. To add objects to the replicated schema, the schema must be Quiesced.

Replication support for the selected objects is generated automatically. See “Suspending Replication Activity for a Schema” on page 8 – 3 for a description of how quiesce a schema.

The Registered Snapshots Folder

When you click the Registered Snapshots folder tab, the Registered Snapshots folder opens and the Registered Snapshot object list appears. The Registered Snapshot object list contains information about the snapshots that have been registered as replicated objects in the local database.

For more information about snapshots and replicated objects, see *Oracle7 Server Distributed Systems, Volume II*.

The following figure illustrates the Registered Snapshot object list.

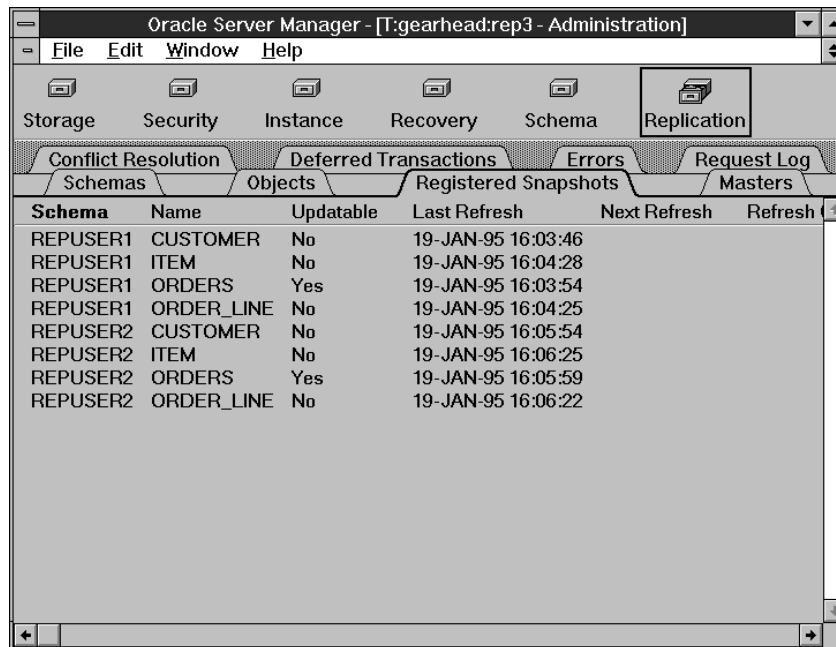


Figure 8 – 10 Registered Snapshot Object List

Registered Snapshot Object List

The columns of the Registered Snapshot object list are described below:

Schema	Owner of the snapshot.
Name	Name of the snapshot.
Updatable	Indicates if the snapshot is updatable or read-only.
Last Refresh	Time when the snapshot was last refreshed.
Next Refresh	Next time the snapshot will be refreshed.
Refresh Group	Name of the refresh group to which the snapshot belongs.
Table	Name of the snapshot base table.
Error Code	Oracle error code of the error returned the last time an automatic refresh was attempted.
Comment	User comments for the snapshot.

The Masters Folder

When you click the Masters folder tab, the Masters folder opens and the Master object list and menu appear. The Master object list contains information about the remote databases involved in the replication of each schema.

For more information about replicated schemas and master sites, see *Oracle7 Server Distributed Systems, Volume II*.

The following figure illustrates the Master object list.

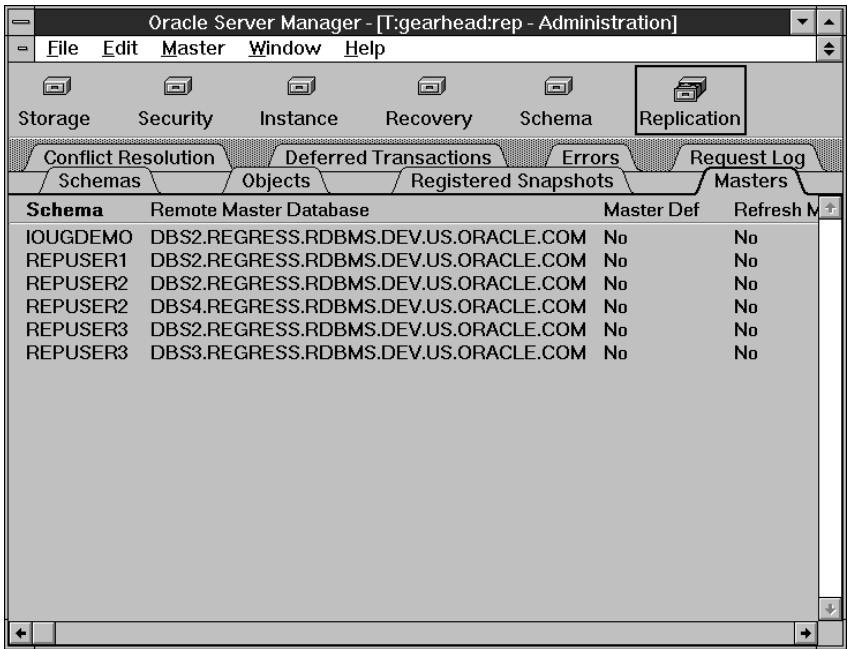


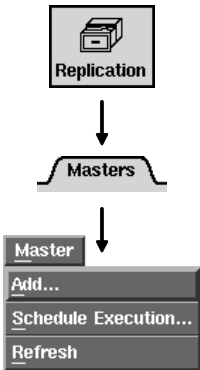
Figure 8 – 11 Master Object List

Master Object List

The columns of the Master object list are described below:

- Schema
- Name of the replicated schema.
- Remote Master Database
- Remote database that is involved in the replication of the schema.

Adding a Master Database to the Replication Environment



Master Def	Whether or not the remote database is the master definition site for the replicated schema.
Refresh Master	For snapshot sites, whether or not the remote database is the current refresh master.
Comment	User comments for the remote master database.

To add master sites to a schema, choose Add from the Master menu. The Add Remote Master Database property sheet appears.

The Add Master Database property sheet consists of one page, called the Master Specifications page. The following figure illustrates the Master Specifications page.

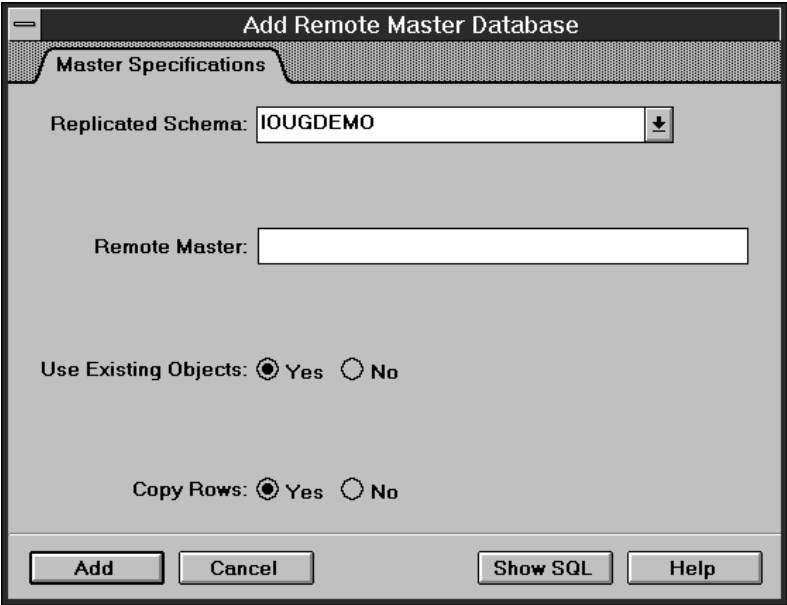


Figure 8 – 12 Master Specifications Page of the Add Remote Master Database Property Sheet

Add Remote Master Database: Master Specifications Page

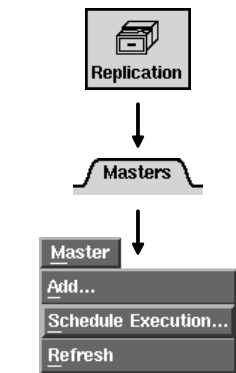
The Master Specifications page of the Add Remote Master Database property sheet is described below:

Replicated Schema	Schema for which to add a remote master database. Use the pop-up menu to specify the schema.
Remote Master	Database link to the new remote master.

Use Existing Objects	<p>Whether or not to use existing objects.</p> <p>Click Yes to use the existing database objects at the new master site. If the object does not exist, it is created automatically.</p> <p>Click No to create the object if it does not exist. If the object exists, raise the <i>duplicateobject</i> exception.</p>
Copy Rows	<p>Whether or not to use data from the master definition site.</p> <p>Click Yes to populate tables with data from the master definition site.</p> <p>Click No if you plan to load the data yourself. You must ensure that the data is identical to that at the master site.</p> <p>This operation can only be applied from a master definition site. The status of the schema must be quiescing.</p>

Additional Information: For information about the *duplicateobject* exception and about specifying Use Existing Objects and Copy Rows, see *Oracle7 Server Distributed Systems, Volume II*.

Scheduling Automatic Execution of the Deferred Transaction Queue



To schedule when deferred transactions are executed at a remote site, choose Schedule Execution from the Master menu. The Schedule Execution property sheet appears.

The Schedule Execution property sheet consists of one page, called the Schedule Specification page. The following figure illustrates the Schedule Specification page.

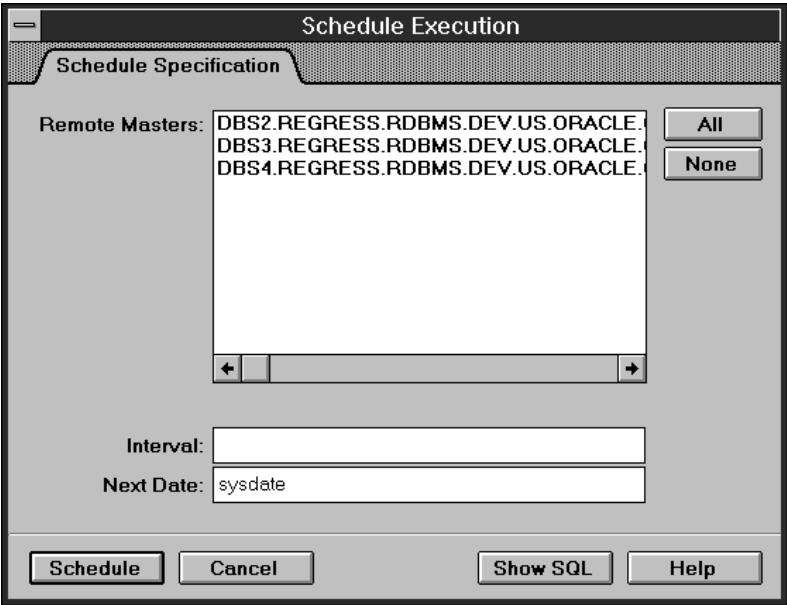


Figure 8 – 13 Schedule Specification Page of the Schedule Execution Property Sheet

Schedule Execution:
Schedule Specification
Page

The Schedule Specification page of the Schedule Execution property sheet is described below:

Remote Masters	Scrolling list containing the set of remote masters in the replication environment. Select the remote master site(s) for which you want to schedule execution of the deferred transactions.
All	Selects all master databases from the list.
None	Deselects all master databases from the list.
Interval	Interval at which the Deferred Transaction queue is executed. For example, to execute every 6 hours enter "sysdate + 1/4".
Next Date	Next time to execute the queue.

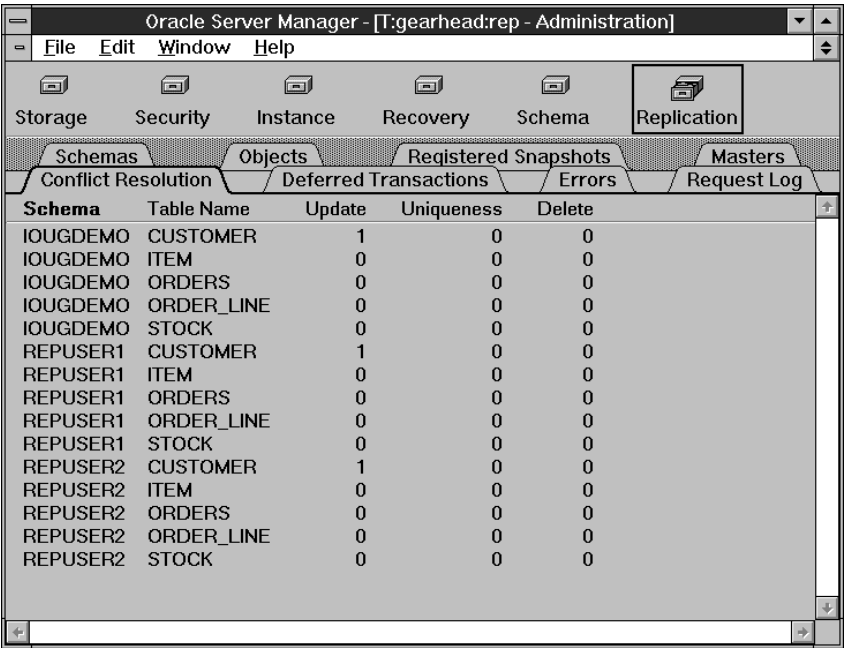
Deferred transactions are executed by job queue processes. For information about job queue processes, see the *Oracle7 Server Administrator's Guide*.

The Conflict Resolution Folder

When you click the Conflict Resolution folder tab, the Conflict Resolution folder opens and the Conflict Resolution object list appears. The Conflict Resolution object list contains information about each type of conflict resolution method defined on a replicated table.

For more information about declarative conflict resolution, see *Oracle7 Server Distributed Systems, Volume II*.

The following figure illustrates the Conflict Resolution object list.

The screenshot shows the Oracle Server Manager interface. The title bar reads "Oracle Server Manager - [T:gearhead:rep - Administration]". The menu bar includes "File", "Edit", "Window", and "Help". Below the menu bar is a toolbar with icons for "Storage", "Security", "Instance", "Recovery", "Schema", and "Replication". The "Replication" icon is highlighted. Below the toolbar are several tabs: "Schemas", "Objects", "Registered Snapshots", "Masters", "Conflict Resolution", "Deferred Transactions", "Errors", and "Request Log". The "Conflict Resolution" tab is selected. The main area displays a table with the following data:

Schema	Table Name	Update	Uniqueness	Delete
IOUGDEMO	CUSTOMER	1	0	0
IOUGDEMO	ITEM	0	0	0
IOUGDEMO	ORDERS	0	0	0
IOUGDEMO	ORDER_LINE	0	0	0
IOUGDEMO	STOCK	0	0	0
REPUSER1	CUSTOMER	1	0	0
REPUSER1	ITEM	0	0	0
REPUSER1	ORDERS	0	0	0
REPUSER1	ORDER_LINE	0	0	0
REPUSER1	STOCK	0	0	0
REPUSER2	CUSTOMER	1	0	0
REPUSER2	ITEM	0	0	0
REPUSER2	ORDERS	0	0	0
REPUSER2	ORDER_LINE	0	0	0
REPUSER2	STOCK	0	0	0

Figure 8 – 14 Conflict Resolution Object List

Conflict Resolution Object List

The columns of the Conflict Resolution object list are described below:

Schema	Owner of the replicated table.
Table Name	Name of the replicated table.
Update	Number of Update conflict resolution methods declared on the replicated table.
Uniqueness	Number of Uniqueness conflict resolution methods declared on the replicated table.
Delete	Number of Delete conflict resolution methods declared on the replicated table.

The Deferred Transactions Folder

When you click the Deferred Transactions folder tab, the Deferred Transactions folder opens and the Deferred Transaction object list and menu appear. The Deferred Transaction object list contains summary information about the deferred transaction queue at the local database.

For more information about deferred transactions, see *Oracle7 Server Distributed Systems, Volume II*.

The following figure illustrates the Deferred Transaction object list.

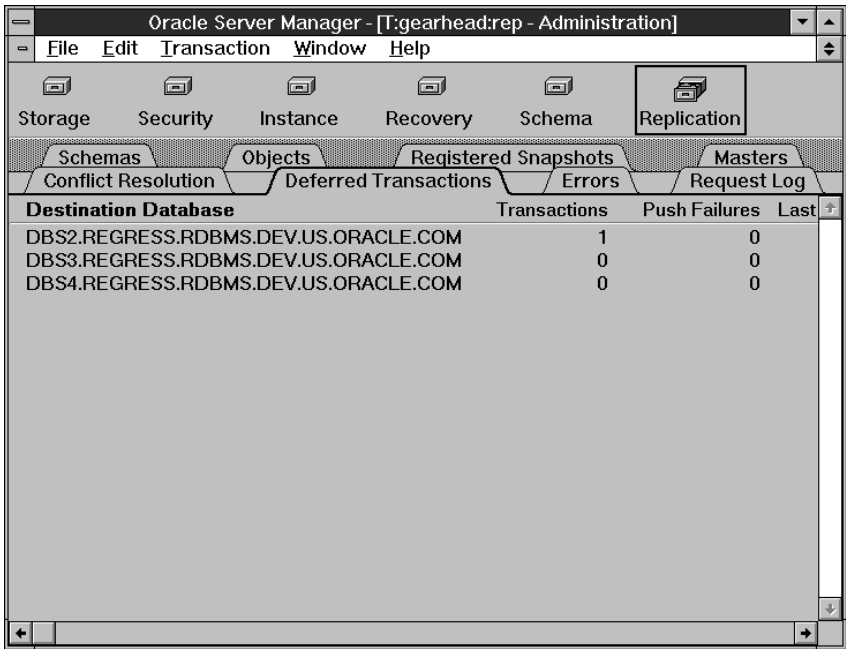


Figure 8 – 15 Deferred Transaction Object List

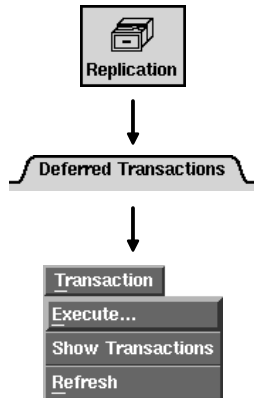
Deferred Transaction Object List

The columns of the Deferred Transaction object list are described below:

Destination Database	Destination target of the deferred transactions.
Transactions	Number of transactions queued for the destination database.
Push Failures	Number of failed attempts at scheduling the deferred transaction queue.

Last Push	Last time the queue was successfully executed.
Job Broken	Broken status of the job queues process scheduled to execute the queue at user-defined intervals.

Manually Executing Queued Transactions



Symmetric replication uses the job queues facility to execute the deferred transaction queue automatically at user-defined intervals. In the event that the job queues process is not able to perform its task, it becomes necessary to execute the queues manually.

Optionally, you may wish to execute the queues manually to produce deterministic behavior. To execute the deferred transaction queue, select the destination database in the Deferred Transaction object list and choose Execute from the Transaction menu. The Execute Deferred Transactions property sheet appears.

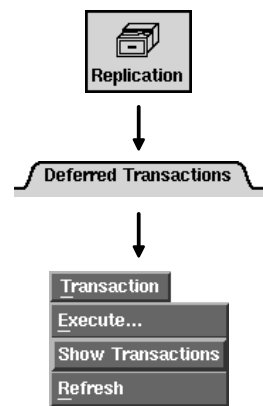
The Execute Deferred Transactions property sheet consists of one page, called the Deferred Transactions page.

The following figure illustrates the Deferred Transactions page.

Figure 8 – 16 Deferred Transactions Page of the Execute Deferred Transactions Property Sheet

Execute Deferred Transactions: Deferred Transactions Page

Showing Detailed Information about Deferred Transactions



The Deferred Transactions page is described below:

Destination	Database in which to execute the transactions.
On Error: Continue	Continue execution after errors, such as conflicts, are encountered.
On Error: Stop	Stop execution when the first error is encountered.
Transaction Count	Stop execution after this number of transactions. A null value indicates that there is no limit on the number of transactions being executed.
Execution Seconds	Stop execution after this many seconds. A null value indicates that there is not limit on the amount of time permitted for execution.

The Deferred Transaction object list only presents summary information about the number of deferred transactions queued for each destination. To show the individual transactions, choose Show Transactions from the Transaction menu. The Deferred Transactions dialog box appears. The following figure illustrates the Deferred Transactions dialog box.

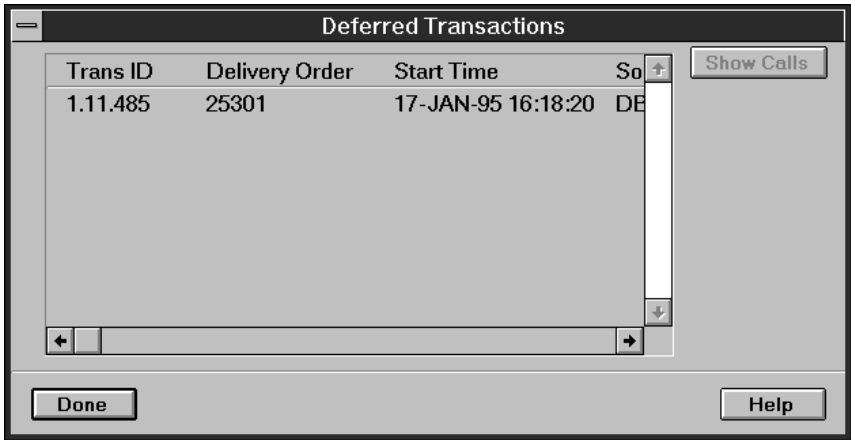


Figure 8 – 17 Deferred Transactions Dialog Box

The columns of the multi-column scrolling list in the Deferred Transactions dialog box are described below:

Trans ID	Transaction identifier.
Delivery Order	System Change Number (SCN) of the transaction. The SCN uniquely identifies the transaction.
Start Time	Starting time of the transaction.
Source Database	Source database of the transaction.
Transaction Comment	Comment on the transaction.

To display the calls and arguments of a deferred transaction, double-click a queued transaction or select a queued transaction and click Show Calls in the Deferred Transactions dialog box. The Deferred Calls dialog box appears.

Deferred Calls Dialog Box The Deferred Calls dialog box is illustrated below.

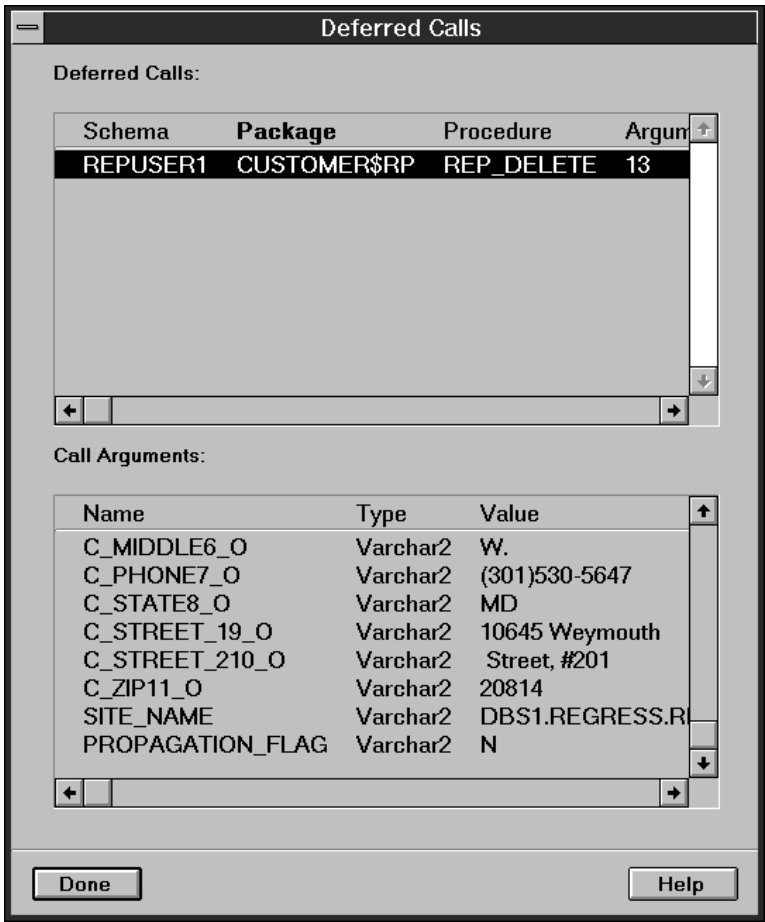


Figure 8 – 18 Deferred Calls Dialog Box

The columns of the Deferred Calls multi-column scrolling list are described below:

Schema	Owner of the called procedure.
Package	Package containing the called procedure.
Procedure	Called procedure.
Arguments	Number of procedure arguments.

To display the arguments of a call, select a deferred call from the Deferred Calls list. The arguments for the selected call appear in the Call Arguments list.

The columns of the Call Arguments multi-column scrolling list are described below:

Name	Name of the argument.
Type	Argument type. All arguments are valid Oracle7 datatypes.
Value	Argument Value.

The Errors Folder

When you click the Errors folder tab, the Errors folder opens and the Error object list and menu appear. The Error object list contains information about the transactions that encountered errors while executing at the local database. For more information about replication errors, see *Oracle7 Server Distributed Systems, Volume II*. The following figure illustrates the Error object list.

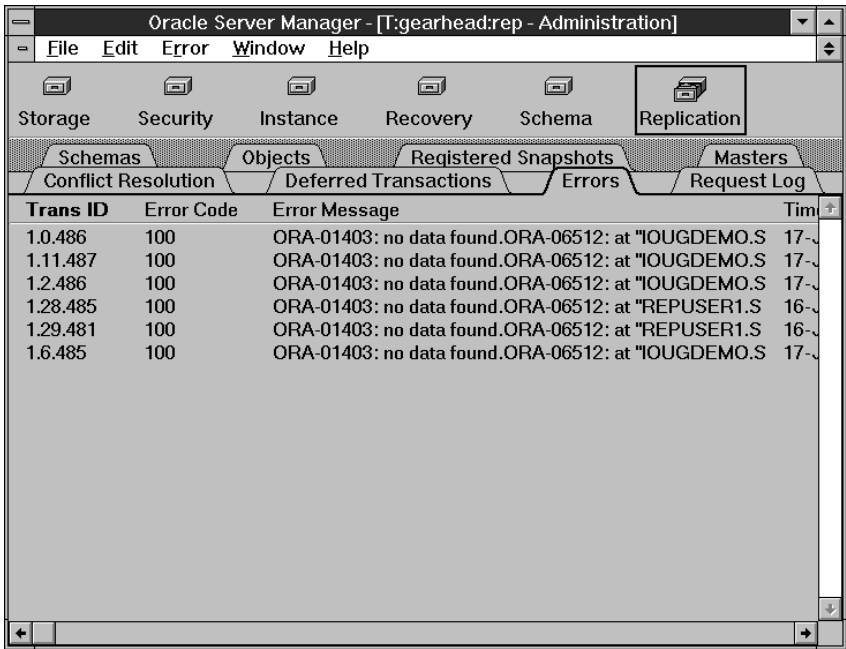



Figure 8 – 19 Error Object List

Error Object List

The columns of the Error object list are described below:

- Trans ID Transaction identifier.
- Error Number Oracle error code.
- Error Message Message text.
- Time Occurred Time error occurred.
- Call Number Unique identifier of the call.

Source Database	Database originating the transaction.
Destination Database	Database link used to address the destination database.

 **Attention:** Before resolving an error, you may need to disable replication. For more information, see *Oracle7 Server Distributed Systems, Volume II*.

Manually Re-executing Failed Transactions

When the error condition that stopped execution of a transaction has been resolved, execution of the transaction can be attempted again. To re-execute a transaction, select the transaction in the Error object list and choose Re-execute Transaction from the Error menu. The Re-execute Error alert box appears as shown in the following figure.

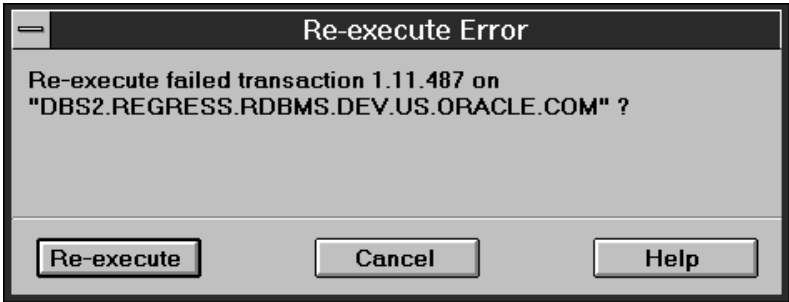
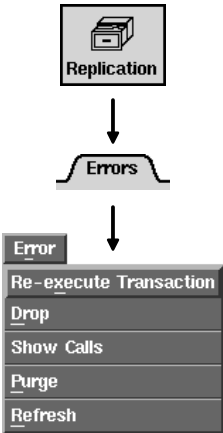


Figure 8 – 20 Re-execute Error Alert Box

The Re-execute Error alert box indicates the associated transaction and the database from which the transaction originated.

Dropping an Failed Transaction

To drop an error, select the associated transaction from the Error object list and choose Drop from the Error menu. The Drop Error alert box appears as shown in the following figure.

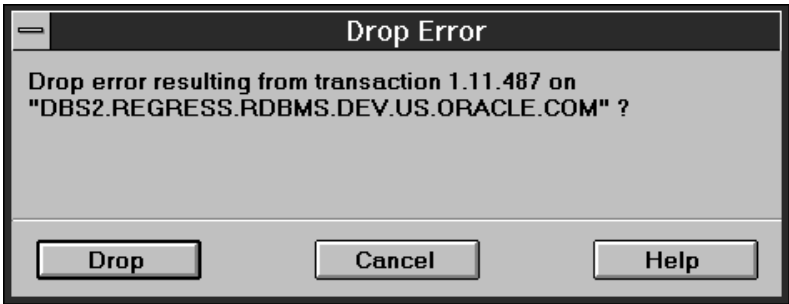
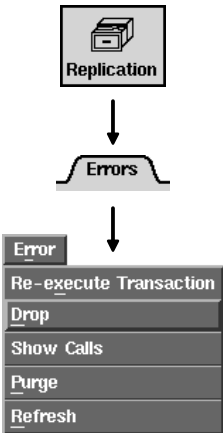
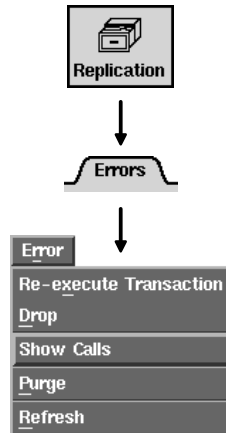


Figure 8 – 21 Drop Error Alert Box

The Drop Error alert box indicates the associated transaction and the database from which the transaction originated. Dropping the error drops the transaction and the calls and arguments associated with the transaction from the local database.

Show Detailed Information about Unresolved Errors



To display the calls and arguments of the failed transaction, select the transaction from the Error object list and choose Show Calls from the Error Menu. The Deferred Calls dialog box appears as shown in the following figure.

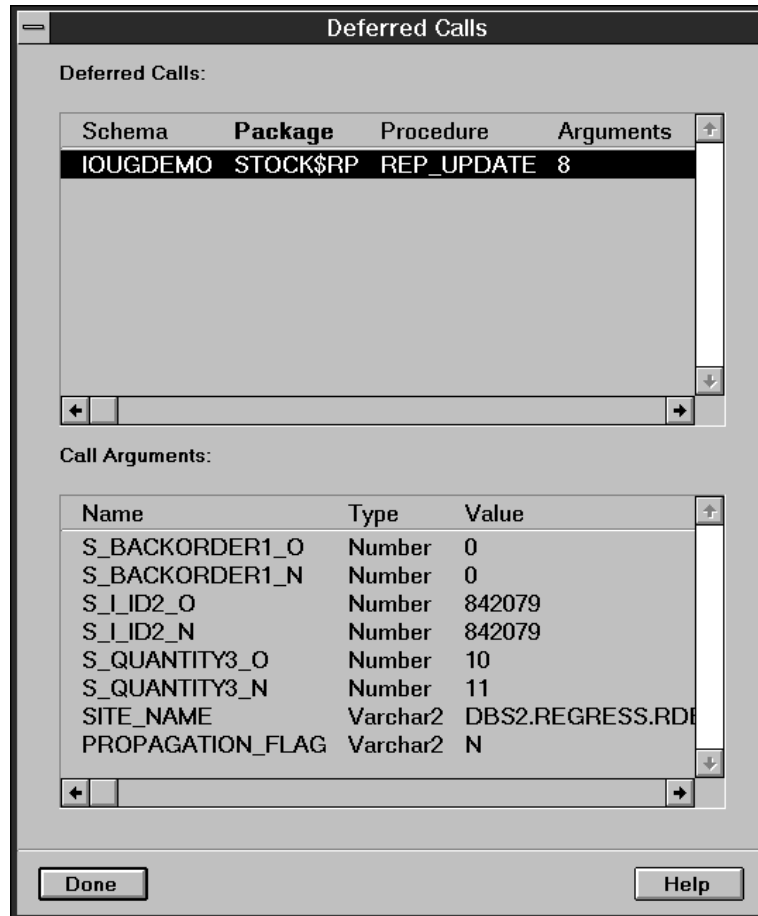


Figure 8 – 22 Deferred Calls Dialog Box

The columns of the Deferred Calls multi-column scrolling list are described below:

Schema	Owner of the called procedure.
Package	Package containing the called procedure.
Procedure	Called procedure.
Arguments	Number of procedure arguments.

To show the arguments of a call, select a deferred call from the Deferred Calls multi-column scrolling list. The arguments for the selected call appear in the Call Arguments list.

The columns of the Call Arguments multi-column scrolling list are described below:

Name	Name of the argument.
Type	Argument type. All arguments are valid Oracle7 datatypes.
Value	Argument Value.

Purging the Error Queue

To drop the entire contents of the error queue, choose Purge from the Error menu. The Purge Errors alert box appears as shown in the following figure.

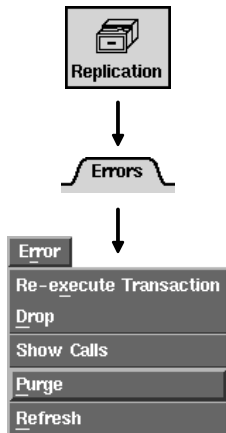


Figure 8 – 23 Purge Errors Alert Box

After the errors are dropped, all of the calls associated with the errors are dropped.



Warning: Once you purge the error queue, you cannot recover the errors.

The Request Log Folder

When you click the Request Log folder tab, the Request Log folder opens and the Request Log object list and menu appear. The Request Log object list contains information about replication administration requests.

For more information about replication administration requests, see *Oracle7 Server Distributed Systems, Volume II*.

The following figure illustrates the Request Log object list.

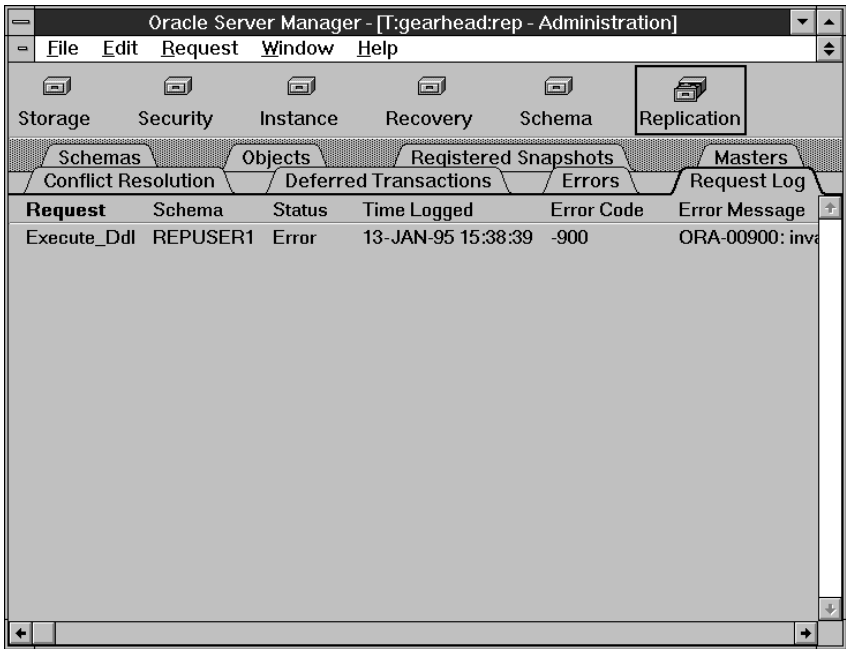


Figure 8 – 24 Request Log Object List

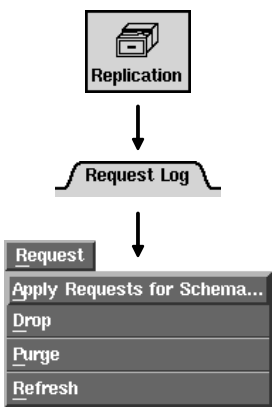
Request Log Object List

The columns of the Request Log object list are described below:

Request	Replication administrative procedure name.
Schema	Name of the replicated schema associated with the request.
Status	Status of the request. Possible states are Ready, Do_Callback, Await_Callback, and Error.
Time Logged	Time the request was made.
Error Code	Indicates the Oracle error code if the request produced an error.

Error Message	Error message indicating the error that occurred while applying the request.
Source Database	Database in which the request originated.
User	User who made the request.
Trans ID	Transaction identifier.
Object	Referenced object name of the request, if applicable.
Role	Role of the database making the request. Possible values are Master and Master Def.

Manually Applying Administrative Requests



Symmetric replication uses the job queues facility to execute the replication administration queue automatically at user-defined intervals. In the event that the job queues process is not able to perform its task, it becomes necessary to execute the queues manually.

Optionally, you may wish to execute the queues manually to produce deterministic behavior. To execute the replication administration queue, choose Apply Requests for Schema from the Request menu. The Apply Administration Requests property sheet appears.

The Apply Administration Requests property sheet consists of one page, called the Administration Requests page. The following figure illustrates the Apply Administration Requests property sheet.



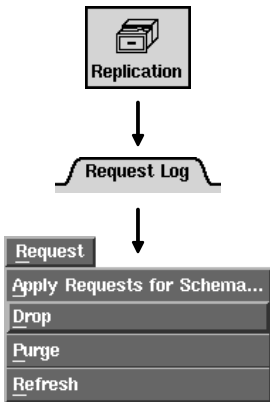
Figure 8 – 25 Apply Requests Page of the Apply Administration Requests Property Sheet

Apply Requests
Transactions: Apply
Administration Requests

The Administration Requests page is described below:

Master Schema	Replicated schema for which to apply the administration requests.
All Masters	Notifies the job queues process at all remote databases involved in the replication of the master schema.
Local Database	Apply requests only to the local database.

Dropping Administrative Requests



To drop an administration request that is no longer needed, select the request to be dropped and choose Drop from the Request menu. The Drop Administration Request alert box appears. The following figure illustrates the Drop Administration Request alert box.

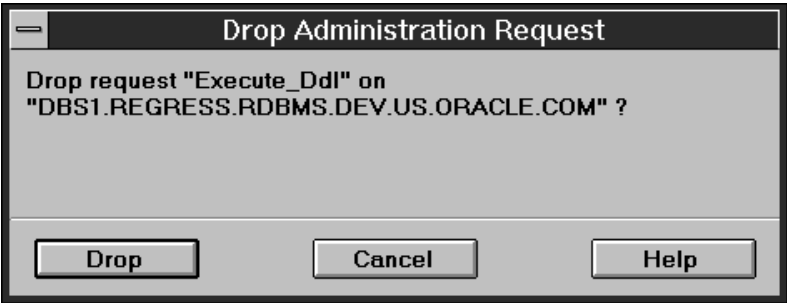
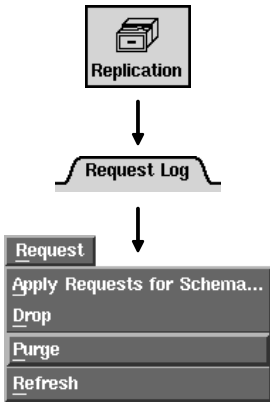


Figure 8 – 26 Drop Request Alert Box

The Drop Administration Request alert box indicates the administrative request procedure name and the database from which the request was made.

Purging the Replication Administration Request Queue



To drop the entire contents of the administration request queue, choose Purge from the Request menu. The Purge Requests alert box appears as shown in the following figure.

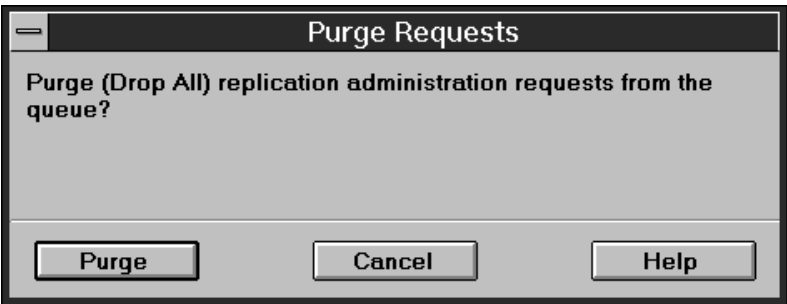


Figure 8 – 27 Purge Requests Alert Box

 **Warning:** Once you purge the request queue, you cannot recover the purged requests.

PART

III

The SQL Worksheet

Using the SQL Worksheet

This chapter describes how to use the SQL Worksheet, which is part of Server Manager. It explains how to:

- Start a SQL Worksheet
- Enter and edit commands in a SQL Worksheet
- Execute commands from a SQL Worksheet
- Access commands you executed previously
- Save your work
- Run scripts from a SQL Worksheet
- Start a System Monitor from a SQL Worksheet

The SQL Worksheet

Using the SQL Worksheet, you can enter, edit, and execute SQL and PL/SQL code. You can also execute the Server Manager commands described in Appendix A, “Server Manager Command Reference.” You can also run scripts from the SQL Worksheet. The SQL Worksheet maintains a history of the commands you have issued, so you can easily retrieve and re-execute previous commands.

Starting a SQL Worksheet

You can start a SQL Worksheet from any Server Manager window by choosing New Worksheet from the File menu. The new worksheet is connected to the same database as the window from which you started the SQL Worksheet.

Using the SQL Worksheet

A SQL Worksheet window consists of the following elements:

- Input pane
- Output pane
- Split bar
- Execute button
- Command History button
- Run Script button
- Worksheet pull-down menu

The following figure illustrates a SQL Worksheet window.

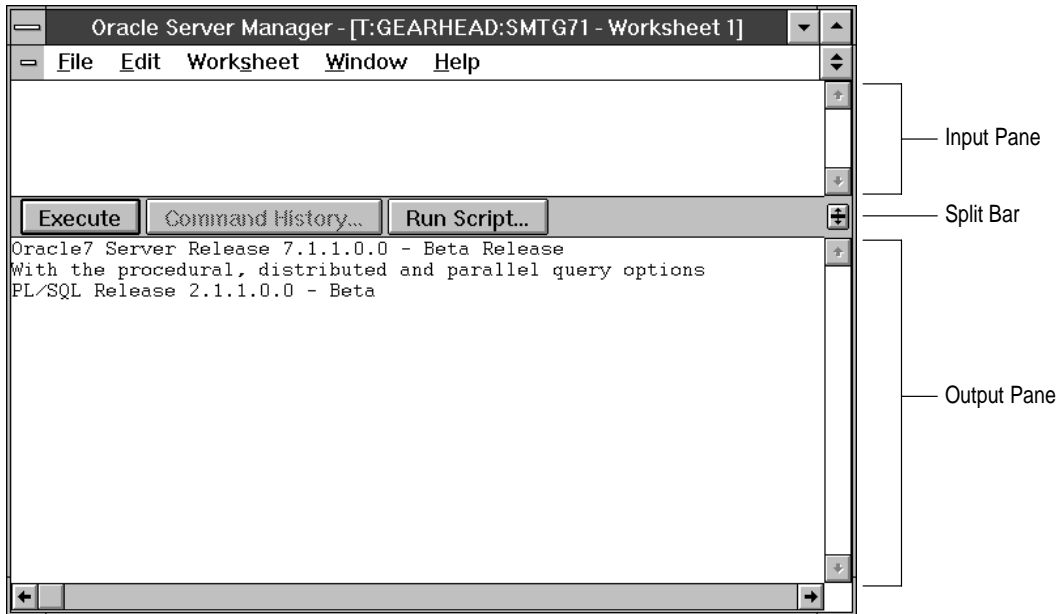


Figure 9 – 1 SQL Worksheet Window

The SQL Worksheet window is described below:

Input Pane	Upper window pane. Enter and edit commands in the input pane.
Output Pane	Lower window pane. Displays recently executed commands and output. Server Manager stores the last 32 KB of output for display in the output pane. The actual amount stored may vary by operating system.
Split Bar	Adjusts the relative sizes of the panes. Click the button and drag the split bar vertically to resize the panes.
Execute	Executes the command in the input pane. See “Executing Commands in the SQL Worksheet” on page 9 – 6 for information about executing commands in a SQL Worksheet.

Command History	Displays the Command History dialog box, which displays previously executed commands. See “Using the Command History” on page 9 – 9 for information about using the command history.
Run Script	Allows you to select and execute a script. See “Running Scripts from the SQL Worksheet” on page 9 – 12 for information about running scripts from a SQL Worksheet.

The Worksheet Menu The following figure illustrates the Worksheet pull-down menu.



Figure 9 – 2 Worksheet Pull-Down Menu

The Worksheet menu items are described below:

Command History	Displays the Command History dialog box, which displays previously executed commands. Equivalent to the Command History button. See “Using the Command History” on page 9 – 9 for information about using the command history.
Execute	<p>Executes the command in the input pane. Equivalent to the Execute button or the Enter key. If there are multiple commands in the input pane, commands are executed up to the first terminator (; or /).</p> <p>See “Executing Commands from the SQL Worksheet” on page 9 – 6 for information about executing commands in a SQL Worksheet.</p>

Run Script	Allows you to select and execute a script. Equivalent to the Run Script button. See “Running Scripts from the SQL Worksheet” on page 9 – 12 for information about running scripts from a SQL Worksheet.
Spool	Writes output to a specified file. See “Saving Your Work” on page 9 – 11 for information about spooling the output of a SQL Worksheet.
Stop Spooling	Closes the previously opened spool file.
Clear Lines Off Top	Clears the lines that have scrolled off the top of the output pane.
Write Log	Writes the output pane, including lines that have scrolled off the pane, to a specified file. See “Saving Your Work” on page 9 – 11 for information about saving the output pane.
Write Selection	Writes selected text to a specified file. Text can be selected from the input or output pane. See “Saving Your Work” on page 9 – 11 for information about saving selected text.
Previous Command	Retrieves the previous command from the command history and enters it in the input pane. The retrieved command replaces the entire contents of the input pane. You can execute Previous Command repeatedly to work back through the command history. Previous Command is unavailable if you have currently retrieved the oldest command from the command history.
Next Command	Retrieves the next command from the command history and enters it in the input pane. The retrieved command replaces the entire contents of the input pane. Next Command is unavailable if you have currently retrieved the most recent command from the command history.



Suggestion: Use the keyboard shortcuts to quickly access and execute commands from the command history.

Executing Commands in the SQL Worksheet

Server Manager executes commands you have entered in the input pane of a SQL Worksheet.

Entering Commands in the Input Pane

You can enter SQL, PL/SQL, and Server Manager commands in the input pane of a SQL Worksheet. A command entered in the input pane can contain tabs or carriage returns.

All standard text editing capabilities are available in the input pane of a SQL Worksheet. You can edit text in the input pane using the mouse, keyboard functions, and the Edit menu. In addition, you can select text from the output pane and paste it into the input pane.

Executing Commands in the Input Pane

To execute the command you have entered in the input pane, click Execute. You can also execute the command by choosing Execute from the Worksheet menu.

When you execute a command, the command and its output appear in the output pane. However, if you set the parameter ECHO to off, only the output of the command is displayed. For information about setting Server Manager parameters, see the SET command in Appendix A, “Server Manager Command Reference.”

The following figure illustrates executing a SQL statement in a worksheet.

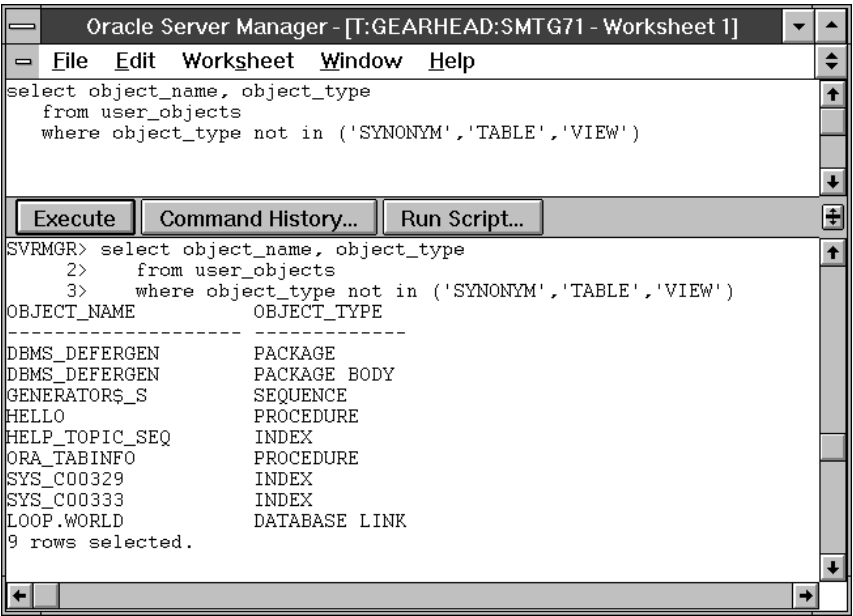


Figure 9 – 3 Executing a Command in the SQL Worksheet

After you execute a command, the command remains in the input pane, but is selected, as shown in Figure 9 – 3. You can then type in the next command, and it replaces the previous command. You do not need to delete the previous command unless you are running Server Manager under Windows.

Executing Server Manager Commands

In a SQL Worksheet you can execute the Server Manager commands described in Appendix A, “Server Manager Command Reference.” Some of these commands behave differently when executed in a SQL Worksheet than when executed in line mode. These commands are summarized below:

@	Displays the standard file selection dialog box when you issue the @ command without specifying a filename.
CONNECT	Displays the Connect dialog box when you issue the CONNECT command without specifying complete connect information. For information about the Connect dialog box, see Chapter 1, “Overview of Server Manager.”
HELP	Displays the Help window.
SPOOL	Displays the standard file selection dialog box for your platform when you issue the SPOOL command without specifying a filename.
RECOVER	If recovery is needed, displays the Recover dialog box when you issue the RECOVER command without arguments. Otherwise, an error message is generated.
EXIT	Closes the worksheet.

Note: The line mode command HOST is not available in the SQL Worksheet.



OSDoc

Additional Information: For information about the standard file selection dialog box for your system, see your operating system-specific documentation.

Connecting from a Worksheet

When you start a SQL Worksheet, you are automatically connected to the same database as the window from which you started the worksheet. You can change this connection by issuing the CONNECT command from the input pane of the worksheet. The title of the SQL Worksheet window also changes to reflect your new connection.

If you execute the CONNECT command from the input pane without any arguments, the Connect dialog box appears. You can use the Connect dialog box to specify a new connection for that worksheet. For a description of the Connect dialog box, see Chapter 1, “Overview of Server Manager.” You can also specify the connection using arguments in the CONNECT command. For a description of the CONNECT command and its syntax, see Appendix A, “Server Manager Command Reference.”

Note: The SQL Worksheet also contains the File pull-down menu, which is described in Chapter 1. When you choose Connect from the File menu, the Connect dialog box also appears. However, when you choose Connect from the File menu, you are not changing your worksheet connection. In this case, the connection you are specifying is for a new Administration window.

Performing Recovery from the SQL Worksheet

When you issue the RECOVER command from a SQL Worksheet, the Recovery dialog box appears, if recovery is needed. The following figure illustrates the Recovery dialog box.

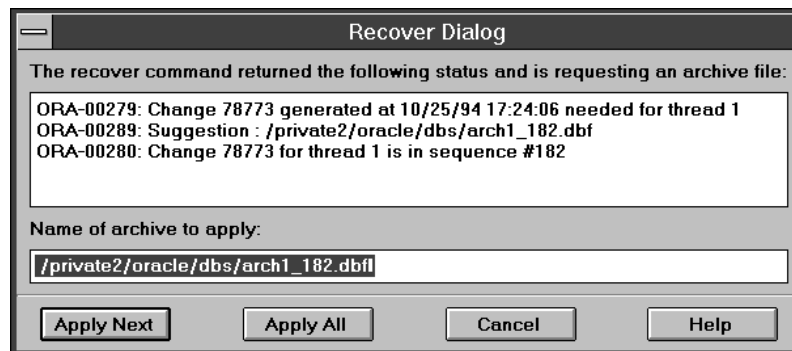


Figure 9 – 4 Recovery Dialog Box

From the Recovery dialog box, you can apply the next log file, apply all the log files, or cancel recovery. You can specify the name of the log file to apply or apply the default. For more information about the Recovery dialog box, see Chapter 6, “Backing Up and Recovering the Database.”

Using the Command History

A SQL Worksheet maintains a history of the last 20 commands you have issued in that worksheet. To bring up the Command History dialog box, click Command History or choose Command History from the Worksheet menu.

The Command History dialog box contains a scrolling list of the commands in the worksheet's command history. The following figure illustrates the Command History dialog box.

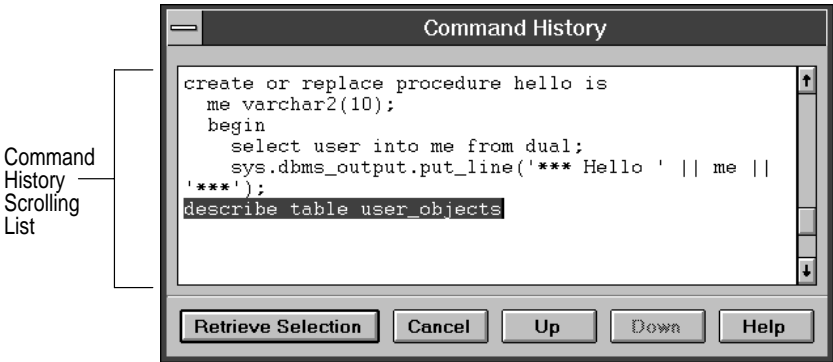


Figure 9 – 5 Command History Dialog Box

The Command History dialog box is described below:

Retrieve Selection	Retrieves the selected command, or selected portion of a command, from the command history scrolling list and enters it in the input pane. See “Retrieving a Selection from the Command History” on page 9 – 10 for more information about retrieving commands.
Cancel	Closes the dialog box without retrieving any text.
Up	Selects the previous command in the command history.
Down	Selects the next command in the command history.
Help	Displays help information for the Command History dialog box.

Retrieving a Selection from the Command History

To retrieve an entire command from the Command History dialog box, position the cursor anywhere within the command and click Retrieve Selection. Alternatively, you can select the entire command and click Retrieve Selection.

To retrieve only a portion of a command from the Command History dialog box, select the text you wish to retrieve and click Retrieve Selection.

The text retrieved from the Command History dialog box is entered in the worksheet's input pane. If no text is selected in the input pane, the retrieved text is inserted at the cursor position. If you have selected text in the input pane, then the retrieved text replaces the selected text.

After you have retrieved text from the command history, you can edit or execute the command, as desired.

Retrieving a Command Using the Worksheet Menu

You can also retrieve commands without using the Command History dialog box. The Previous Command and Next Command menu items retrieve commands from the command history and enter them in the input pane, completely replacing the existing contents of the input pane. For more information on the Previous Command and Next Command menu items, see "The Worksheet Menu" on page 9 – 5.

Saving Your Work

The Spool, Write Log, and Write Selection menu items allow you to save the work you have performed in a SQL Worksheet. Each of these Worksheet menu commands displays your platform's standard file selection dialog box, which you can use to specify the file in which to save your work.

The Spool menu item saves all output to a specified file. Server Manager continues to save the output of your worksheet until you choose Stop Spooling from the menu.

The Write Log menu item writes the current contents of your worksheet's output pane to a specified file. The output pane contains the last 32 KB of output and the last 100 lines of text. The actual amount may vary by operating system.

Any text that has scrolled out of the output pane is also written to the file. However, if you have used the Clear Lines Off Top menu item to clear any lines from the output pane, those lines are not written to the file.

The Write Selection menu item writes any text you have selected to a specified file. You can select text from the input or output pane.



OSDoc

Additional Information: Server Manager appends a file extension, such as .log or .txt, to the name of each file created by the Spool, Write Log, and Write Selection commands. These file extensions are operating system-dependent. Refer to your operating system-specific Oracle documentation for information about the file extensions for your system.

Running Scripts from the SQL Worksheet

From a SQL Worksheet, you can run any script that contains SQL, PL/SQL, or Server Manager commands. There are three ways to run scripts from a SQL Worksheet:

- Clicking Run Script
- Choosing Run Script from the Worksheet menu
- Executing the Server Manager @ command from the input pane

Click the Run Script button or choose Run Script from the menu to bring up your platform's standard file selection dialog box, which you can then use to select a script to run.

You can also run a script from the input pane of a worksheet by entering an @ command followed by the script name. The following figure illustrates running a script from the input pane of a worksheet. If you enter an @ command without a script name, your platform's standard file selection dialog box appears to allow you to specify a script name.

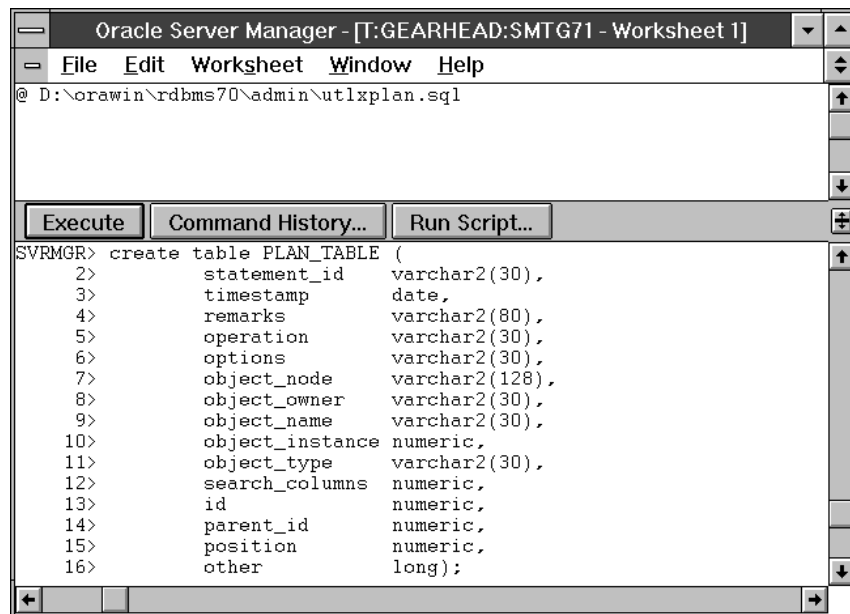


Figure 9 – 6 Running a Script from the Input Pane

Note: In a script you can run other scripts. In the original script you can include the line @@second_scriptname to run another script called second_scriptname. The @@ command indicates that the second script is in the same directory as the original script.

Starting a Monitor from the SQL Worksheet

You can start any of the System Monitors from a SQL Worksheet using the Server Manager MONITOR command. If you issue the MONITOR command without specifying a monitor type, the Monitor dialog box appears. You can then select the type of monitor to start.

You can also issue the MONITOR command followed by the name of the monitor you want to start. For example, the statement MONITOR LOCK starts a lock monitor. For a list of the monitor names and abbreviations, see Table 1 – 4 on page 1 – 25.

You may start only one monitor of each type for each connection to an instance. If you try to start a monitor that has already been started, Server Manager brings that monitor window forward.

For a description of the System Monitors and the Monitor dialog box, see Part IV, “System Monitors.”

PART

IV

System Monitors

Overview of the System Monitors

This chapter describes the basic elements and operation of the System Monitors, which are part of Server Manager. It explains how to:

- Start a System Monitor
- View the monitor's statistics
- Sample statistics
- Filter statistics


The System Monitors

The System Monitors allow you to collect and inspect performance statistics. You can collect these statistics as frequently as you like by setting specific collection intervals.

Table 10 – 1 describes the monitors available in Server Manager. For a detailed description of each monitor, see Chapter 11, “Monitoring System Performance.”

Using the System Monitors

Because the System Monitors utilize information in the dynamic performance tables, you must have access to these tables to use the monitors. To grant all users access to the dynamic performance tables used by the System Monitors, the database administrator can run the script UTLMONTR.SQL. This script grants access to these tables to PUBLIC.

 **Additional Information:** The location of the UTLMONTR.SQL script is platform dependent. For information about running UTLMONTR.SQL, see your operating system-specific documentation.

You can also grant specific users access to the individual views used by each monitor. For a list of the views used by each monitor, see Chapter 11, “Monitoring System Performance.”

For monitors that include statistics related to time, you may want to set the initialization parameter TIMED_STATISTICS to TRUE. When TIMED_STATISTICS is TRUE, Oracle gathers timed-based statistics. If TIMED_STATISTICS is FALSE, statistics related to time are set to zero. For example, the statistics for read time and write time in the File I/O Monitor are not collected if TIMED_STATISTICS is FALSE.

For more information about the TIMED_STATISTICS parameter and setting initialization parameters, see the *Oracle7 Server Administrator's Guide*.

<i>Monitor Name</i>	<i>Monitor Function</i>
Circuit Monitor	Displays information about the shared servers' virtual circuits, through which users connect to the database.
Dispatcher Monitor	Displays information about the shared server's dispatcher processes.
File I/O Monitor	Displays the read and write activity for each file in the database.
Latch Monitor	Displays the latches on shared internal data structures in the SGA.
Library Cache Monitor	Displays the activity in and the effectiveness of the library cache.
Lock Monitor	Displays current database locks.
Process Monitor	Displays all background and user processes currently accessing the database through the current instance.
Queue Monitor	Displays information on the multi-threaded server's message queues.
Rollback Monitor	Displays the current status of rollback segments.
Session Monitor	Displays statistics and information for each user session in the current instance.
Shared Server Monitor	Displays statistics for the shared server processes.
SQL Area Monitor	Displays the memory used to process SQL statements that have been or are being executed.
System I/O Monitor	Displays the percentage of I/O activity generated by each background and user process that is accessing the database through the current instance.
System Statistics Monitor	Displays runtime statistics for the system.
Table Access Monitor	Displays objects being accessed and the session Id that is accessing them.
Tablespace Monitor	Displays information about the tablespaces created in the database.

Table 10 – 1 System Monitors

Starting a Monitor

You can start a monitor from any Server Manager window by choosing Monitor from the File menu. You can also start a monitor by executing the MONITOR command in a SQL Worksheet. For information on starting a monitor from a worksheet, see Chapter 9, “Using the SQL Worksheet.”

When you start a monitor, the monitor is connected to the same database as the window from which you started the monitor and shows statistics for that database instance.

When you choose Monitor from the File menu or execute the MONITOR command from a SQL Worksheet, the Monitor dialog box appears. The following figure illustrates the Monitor dialog box.

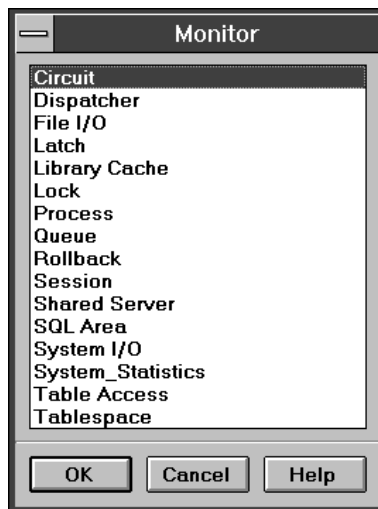


Figure 10 – 1 Monitor Dialog Box

In the Monitor dialog box, you select the type of monitor to start, and then click OK to start the monitor. You can also start a monitor by double-clicking its type in the scrolling list.

If the monitor you selected has already been started, Server Manager brings that window to the front. You may run only one monitor of each type for each instance to which you are connected.

Common Interface Elements

Although each monitor type has its own window, most of the elements and functions of the monitor windows are the same. This section describes these common features. For a detailed description of each monitor window, see Chapter 11, “Monitoring System Performance.”

The following figure illustrates a monitor window. Only the left–most columns are displayed. To view additional columns, you need to scroll the column list to the right.

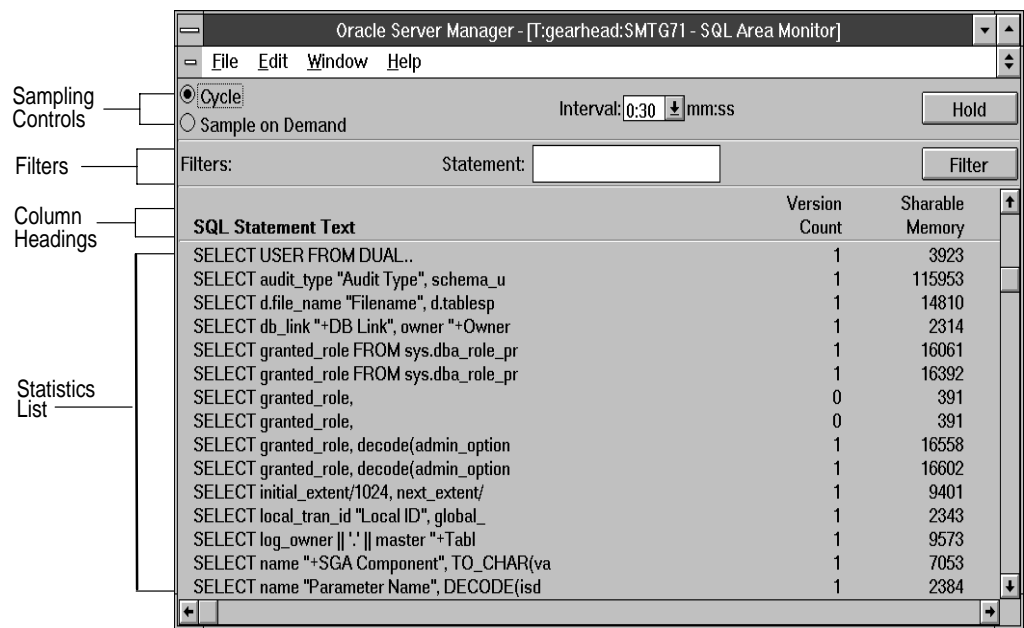


Figure 10 – 2 A Monitor Window

Statistics Lists

When you open a monitor window, a statistics list appears. The statistics list contains the statistics displayed in the monitor.

By default, the statistics are sorted on the first column. You can sort a statistics list on another column by clicking that column heading. A column name appears in bold to indicate that the statistics list is sorted on that column.

A few monitors contain columns on which you cannot sort the statistics list. When you click the column heading for one of these columns, the statistics list is not sorted again.

Note: When you click a column heading to sort on that column, a new sample is automatically taken.

Sampling Controls

The statistics in a monitor can be sampled cyclically (the default) or on demand. To sample cyclically, click Cycle. Use the Interval pop-up menu to set the sampling interval. The default sampling interval is 30 seconds.

The following figure illustrates setting the sampling interval.

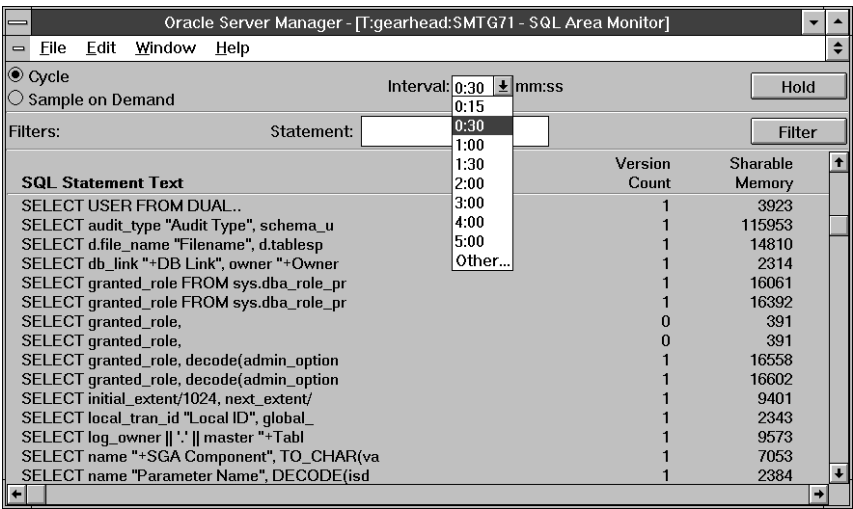


Figure 10 – 3 Setting the Sampling Interval

The Interval pop-up menu contains several predefined sampling intervals that you can select from. You can also specify a different interval by choosing Other from the Interval pop-up menu.

When you choose Other, the Other Interval dialog box appears. The following figure illustrates the Other Interval dialog box.

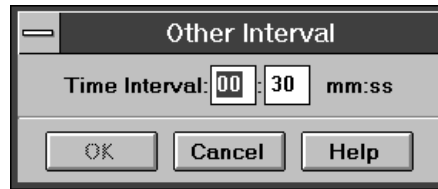


Figure 10 – 4 Other Interval Dialog Box

In the Other Interval dialog box, you can specify a sampling interval in minutes and seconds. The minimum sampling interval is 15 seconds. The maximum is 100 minutes and 39 seconds, which you can express as 99 minutes and 99 seconds in the Other Interval dialog box.

When sampling cyclically, clicking the Hold button allows you to suspend sampling. The Hold button is replaced with a Resume button and the current statistics are not refreshed. To resume sampling, click Resume.

To sample statistics on demand, click Sample on Demand. The Hold button is replaced by a Sample button. Click Sample each time you want to sample statistics. The following figure illustrates sampling on demand.

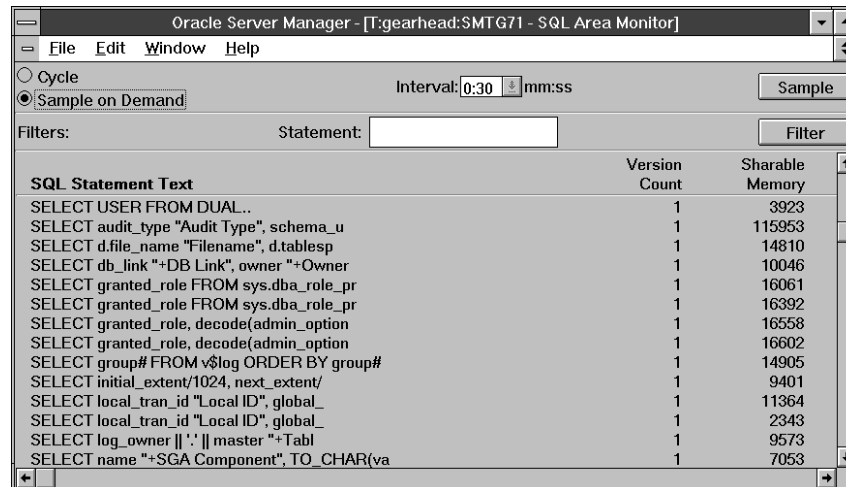


Figure 10 – 5 Sampling on Demand

Filtering Statistics

Some monitors provide filtering, which allows you to specify the objects for which to display statistics. To use filtering, enter text string(s) in the filter text entry field(s) and click Filter. Clicking Filter establishes the filtering and takes a new sample. Figure 10 – 6 shows an example of using filters in a monitor.

For non-numeric filters, you may use the SQL wildcard characters underscore () and percent sign (%). An underscore represents a single character; a percent sign represents any number of characters. A percent sign is implicitly added to the end of a filter text string.

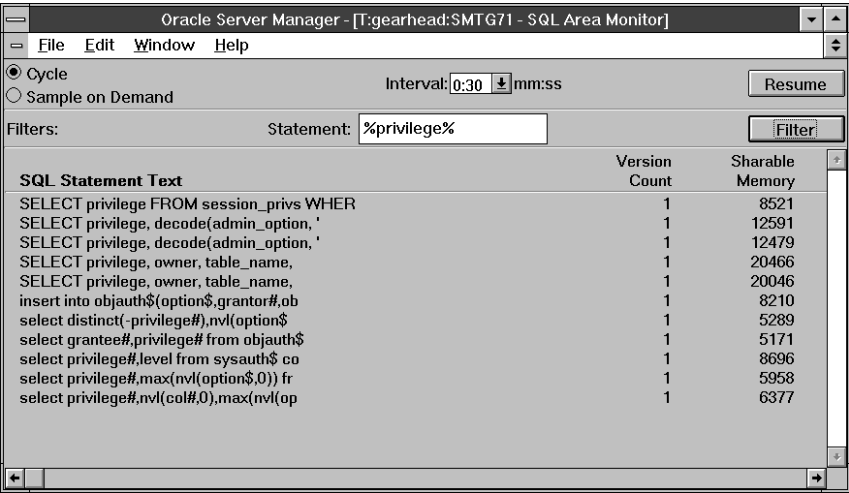


Figure 10 – 6 Using Filters in a Monitor

In the filtering example in Figure 10 – 6, note that the percent sign wildcard character is used in the Statement filter. Statistics are displayed only for statements that contain the text string “privilege”.

When there is more than one filter field, the filters are AND-ed together. That is, only statistics that match all the filters are displayed.

By default, the filter text entry fields are empty. If a filter text entry field is empty, then all values match that filter.

Monitoring System Performance

This chapter describes each of the System Monitors available in Server Manager. This chapter assumes that you have read Chapter 10, “Overview of the System Monitors,” and are familiar with the interface elements of a monitor window. See Chapter 10 for a description of how to start a monitor.

For each monitor, this chapter describes the statistics displayed in the monitor, the filters available in the monitor, the command to invoke the monitor from a worksheet, and the performance tables on which the monitor’s view is based.

The System Monitors described in this chapter are:

- Circuit
- Dispatcher
- File I/O
- Latch
- Library Cache
- Lock
- Process
- Queue
- Rollback
- Session
- Shared Server
- SQL Area
- System I/O
- System Statistics
- Table Access
- Tablespace

The Circuit Monitor

The Circuit Monitor displays information about virtual circuits. A virtual circuit is a connection to an instance through a dispatcher and the shared server currently processing the user’s request.

The following figure illustrates the left-most columns of the Circuit Monitor.

Circuit	Dispatcher Name	Server	Session SID	Session Serial #	Status	Queue
D419B0C	D018		8	21	NORMAL	NONE
D419B39	D004		11	38	NORMAL	NONE
D419B67	D006		16	27	NORMAL	NONE
D419B94	D003		14	35	NORMAL	NONE
D419BEE	D009		17	6	NORMAL	NONE
D419C1C	D011		18	6	NORMAL	NONE
D419C49	D013		19	30	NORMAL	NONE
D419C76	D005		15	54	NORMAL	NONE
D419CA3	D010		20	54	NORMAL	NONE
D419CD1	D014		21	29	NORMAL	NONE
D419CFE	D030		249	142	NORMAL	NONE
D419D2B	D008		24	80	NORMAL	NONE
D419D58	D009		568	13	NORMAL	NONE
D419D86	D022		541	181	NORMAL	NONE
D419DB3	D008		142	320	NORMAL	NONE
D419DE0	D015		45	1364	NORMAL	NONE
D419E0D	D020		13	208	NORMAL	NONE
D419F3B	D019		27	337	NORMAL	NONE

Figure 11 – 1 Circuit Monitor

The Circuit Monitor is described below:

Circuit	Address of the virtual circuit.
Dispatcher Name	Name of the dispatcher associated with the virtual circuit.
Server	Name of the shared server currently associated with the virtual circuit.
Session SID	Identifier for the session bound to the virtual circuit.

Session Serial #	Session serial number, used to uniquely identify a session's objects. Guarantees that session-level commands are applied to the correct session objects if the session ends and another session begins with the same session identifier.	
Status	Status of the circuit:	
	BREAK	Currently interrupted.
	EOF	About to be removed.
	OUTBOUND	A link to a remote database.
	NORMAL	Normal circuit into the local database.
Queue	Name of the queue the circuit is currently on:	
	COMMON	Waiting for request to be picked up by a server process.
	DISPATCHER	Waiting for the dispatcher process.
	SERVER	Waiting for server to finish processing request.
	OUTBOUND	Waiting to establish an outbound connection.
	NONE	Idle circuit.
Messages	Total number of messages that have gone through the circuit.	
Bytes	Total number of bytes that have gone through the circuit.	

SQL Worksheet Equivalent

To start the Circuit Monitor from a SQL Worksheet, you can use the following Server Manager command:

```
MONITOR CIRCUIT
```

Required Views

To use the Circuit Monitor, you must have access to:

- V\$CIRCUIT
- V\$DISPATCHER
- V\$SESSION
- V\$SHARED_SERVER

The Dispatcher Monitor

The Dispatcher Monitor displays information about dispatcher processes.

The following figure illustrates the left-most columns of the Dispatcher Monitor.

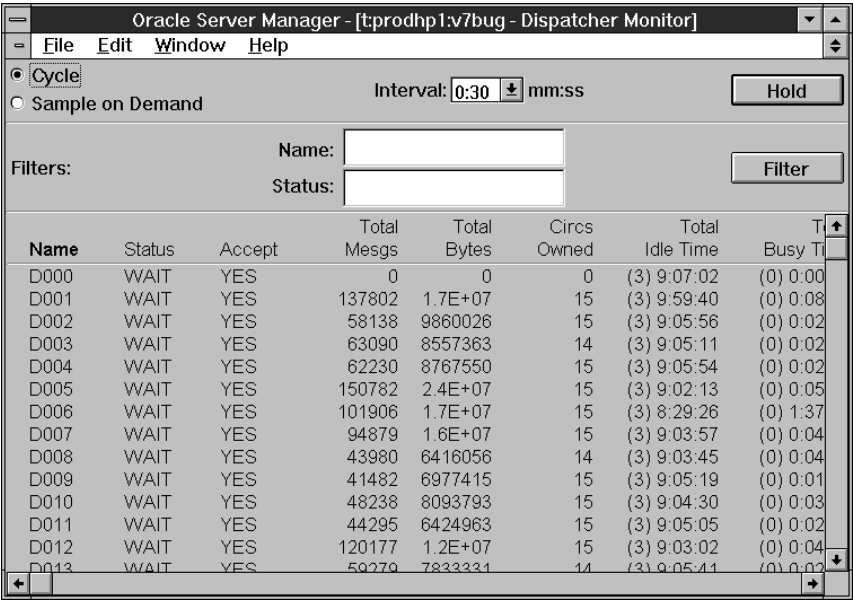


Figure 11 – 2 Dispatcher Monitor

The Dispatcher Monitor is described below:

Name	Name of the dispatcher process
Status	Status of the dispatcher process:
WAIT	Idle.
SEND	Sending a message.
RECEIVE	Receiving a message.
CONNECT	Establishing a connection.
DISCONNECT	Handling a disconnect request.
BREAK	Handling a break.
OUTBOUND	Establishing an outbound connection.

Accept	Whether this dispatcher is accepting new connections.
Total Mesgs	Total number of messages processed by the dispatcher.
Total Bytes	Total size in bytes of the messages processed by the dispatcher.
Circs Owned	Number of virtual circuits owned by the dispatcher.
Total Idle Time	Total idle time for the dispatcher, expressed in: (Days) Hours : Minutes : Seconds
Total Busy Time	Total busy time for the dispatcher, expressed in: (Days) Hours : Minutes : Seconds
Load	The fraction of its lifetime that the dispatcher has been busy: $\text{Busy Time} / (\text{Busy Time} + \text{Idle Time})$

Filters

The following filters are available in the Dispatcher Monitor:

Name	Filter for dispatcher name. Monitor displays information for dispatchers whose names match the Name filter.
Status	Filter for dispatcher status. Monitor displays information for dispatchers with the specified status.

SQL Worksheet Equivalent

To start the Dispatcher Monitor from a SQL Worksheet, you can use the following Server Manager command:

```
MONITOR DISPATCHER
```

Required Views

To use the Dispatcher Monitor, you must have access to:

- V\$DISPATCHER

The File I/O Monitor

The File I/O Monitor contains one row for each file in the database and summarizes the read and write activity for each file. Only Oracle files are shown in the File I/O Monitor.

The following figure illustrates the left-most columns of the File I/O Monitor.

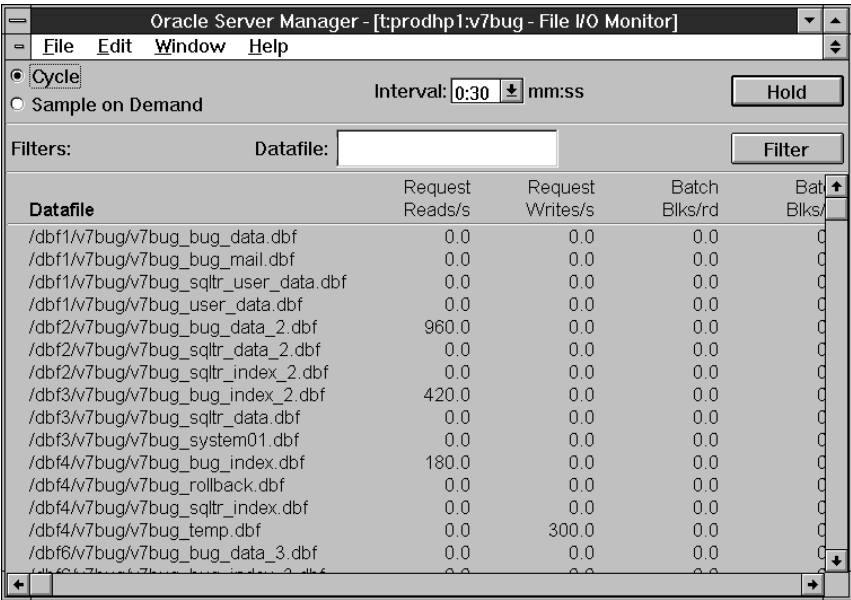


Figure 11 – 3 File I/O Monitor

The File I/O Monitor is described below:

Datafile	Name of the database file.
Request Reads/s	Number of physical reads per second since the last sample.
Request Writes/s	Number of physical writes per second since the last sample.
Batch Blks/rd	Number of physical blocks per read since the last sample.
Batch Blks/wt	Number of physical blocks per write since the last sample.
Resp Time ms/rd	Time per read, if TIMED_STATISTICS is TRUE.
Resp Time ms/wt	Time per write, if TIMED_STATISTICS is TRUE.



Attention: Statistics related to time are not collected unless the parameter `TIMED_STATISTICS` is set to `TRUE`. For information about setting parameters, see the *Oracle7 Server Administrator's Guide*.

Filters

The following filter is available in the File I/O Monitor:

Datafile	Filter for the name of the database file. Monitor displays information for files whose names match the Datafile filter.
----------	---

SQL Worksheet Equivalent

To start the File I/O Monitor from a SQL Worksheet, you can use the following Server Manager commands:

```
MONITOR FILE I/O
MONITOR FILE
```

Required Views

To use the File I/O Monitor, you must have access to:

- `V$DBFILE`
- `V$FILESTAT`

Interpreting File I/O Statistics

If the values of Request Reads or Request Writes are high for all files on a given drive, you should consider restructuring your database to allocate database files and tablespaces across additional disk drives.

The product of Request Writes/s and Batch Blks/rd is the amount of data written to the file per second. If this value is high relative to the capacity of the corresponding disk, then you should consider changing the disk to one with a higher transfer rate.

When an index is generated or a `SELECT` statement is issued, a temporary sort file may be created. Look for excessive I/O to such files. Consider increasing the parameter `SORT_AREA_SIZE` or assigning different temporary tablespaces to different groups of users. For information about setting parameters, see the *Oracle7 Server Administrator's Guide*.

The Latch Monitor

The Latch Monitor displays statistics for the latches in the system. Latches are low-level locks on shared internal structures.

The following figure illustrates the left-most columns of the Latch Monitor.

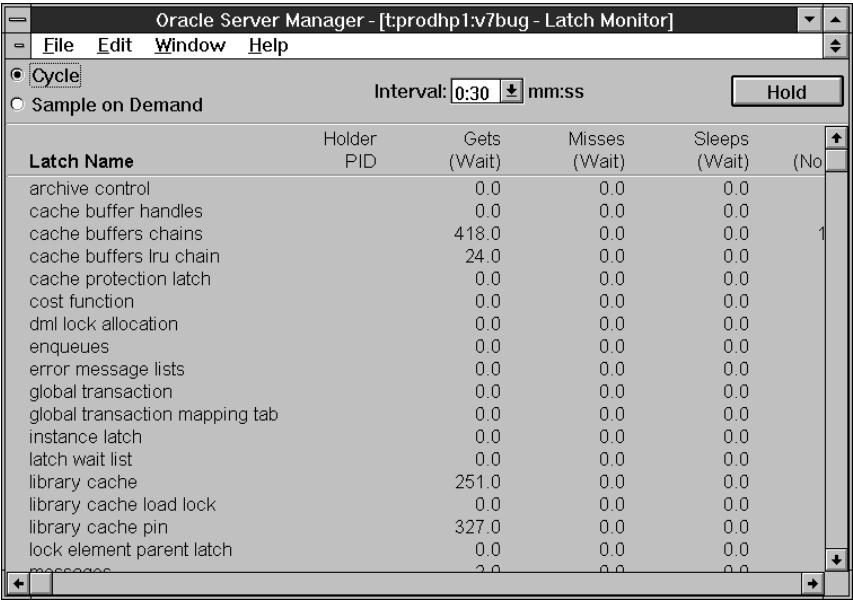


Figure 11 – 4 Latch Monitor

The Latch Monitor is described below:

Latch Name	Name of the latch.
Holder PID	Process identifier for process currently holding the latch.
Gets (Wait)	Number of times, since the last sample, a process acquired the latch on its first attempt, but had to wait before acquiring it.
Misses (Wait)	Number of times, since the last sample, a process acquired the latch after failing on its first attempt.
Sleeps (Wait)	Number of times, since the last sample, a process went to sleep while waiting for the latch.

Gets (No Wait)	Number of times, since the last sample, a process acquired the latch without waiting.
Misses (No Wait)	Number of times, since the last sample, a process failed to acquire the latch and did not wait.



Attention: In the Latch Monitor you can only sort on the Latch Name and Holder PID columns.

SQL Worksheet Equivalent

To start the Latch Monitor from a SQL Worksheet, you can use the following Server Manager command:

```
MONITOR LATCH
```

Required Views

To use the Latch Monitor, you must have access to:

- VSLATCH
- VSLATCHHOLDER
- VSLATCHNAME

The Library Cache Monitor

The Library Cache Monitor displays statistics about performance of the library cache. The library cache contains shared cursors and is part of the shared pool in the SGA.

The following figure illustrates the left-most columns of the Library Cache Monitor.

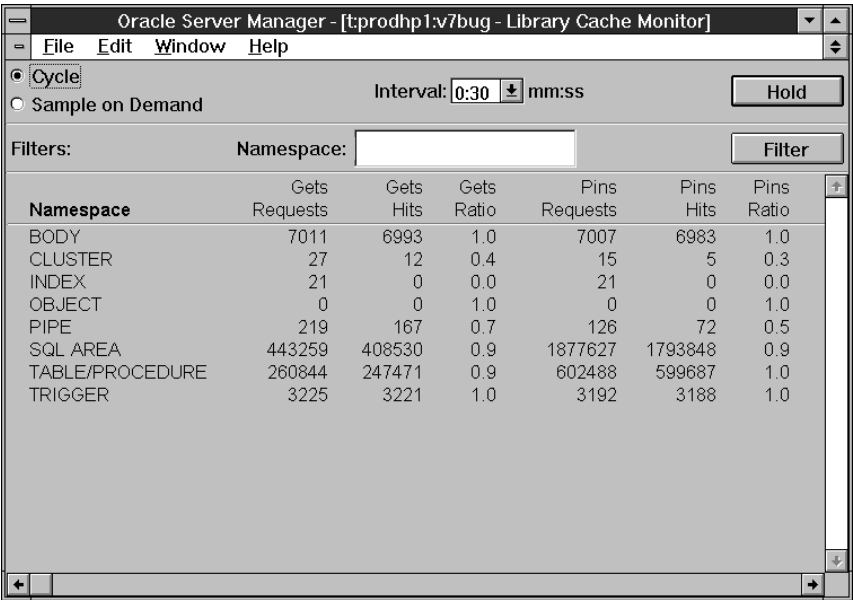


Figure 11 – 5 Library Cache Monitor

The Library Cache Monitor is described below:

Name Space	<div>Name of the library cache item. Statistics for the following Name Space items reflect activity for SQL statements and PL/SQL blocks:<ul style="list-style-type: none">• SQL AREA• TABLE/PROCEDURE• BODY• TRIGGERStatistics for other Name Space items reflect activity for object definitions Oracle uses for dependency maintenance.</div>
------------	---

Gets Requests	Number of times the system requests handles to library objects belonging to the name space.
Gets Hits	<p>Number of times the requested handle is already allocated in the cache.</p> <p>If the handle is not already allocated, it is a miss. The handle is then allocated and inserted into the cache.</p>
Gets Ratio	<p>Number of Gets Hits divided by Gets Requests.</p> <p>Values close to 1 indicate that most of the handles the system has tried to get were in the cache.</p>
Pins Requests	Number of times the system issues pin requests for library objects in the cache to access them.
Pins Hits	Number of times the system pinned and accessed objects that were already allocated and initialized in the cache. Otherwise, it is a miss, and the system has to allocate the object in the cache and initialize it.
Pins Ratio	<p>Number of Pins Hits divided by Pins Requests.</p> <p>Values close to 1 indicate that most of the objects the system has tried to pin and access were in the cache.</p>
Reloads	Number of times library objects had to be reinitialized and reloaded with data because they had been aged out or invalidated.
Invalidations	Number of times that non-persistent library objects, such as shared SQL areas, have been invalidated.

Filters

The following filter is available in the Library Cache Monitor:

Name Space	Filter for the type of library cache object. Monitor displays statistics only for those objects in name spaces that match the Name Space filter.
------------	--

SQL Worksheet Equivalent

To start the Library Cache Monitor from a SQL Worksheet, you can use the following Server Manager commands:

```
MONITOR LIBRARYCACHE  
MONITOR LIBRARY
```

Required Views

To use the Library Cache Monitor, you must have access to:

- V\$LIBRARYCACHE

The Lock Monitor

The Lock Monitor displays information about locks that are held and locks that are requested.

The following figure illustrates the left-most columns of the Lock Monitor.

Username	Session ID	Serial Number	Lock Type	Resource ID 1	Resource ID 2	Mode Held
BCHOY	361	48	TM	868	0	SS
BCHOY	361	48	TX	1376267	14554	X
CGAMBA	253	172	TM	868	0	SS
CGAMBA	253	172	TX	851971	14583	X
KYCHEN	193	204	TM	868	0	SS
KYCHEN	193	204	TX	1114130	15625	X
LCHIDAMB	387	78	TM	868	0	SS
LCHIDAMB	387	78	TX	983041	14774	X
MSIMON	264	25	TM	868	0	SS
MSIMON	264	25	TX	524304	15570	X
OPS\$BHIRANO	571	11	TM	868	0	SS
OPS\$BHIRANO	571	11	TX	786456	14760	X
OPS\$DKARIS	323	240	TM	868	0	SS
OPS\$DKARIS	323	240	TX	589825	16269	X
OPS\$IIPURI	91	421	TM	868	0	SS
OPS\$IIPURI	91	421	TX	937895	15595	X

Figure 11 – 6 Lock Monitor

The Lock Monitor is described below:

Username	Oracle user associated with the session that is holding or requesting the lock.
Session ID	Identifier for the session that is holding or requesting the lock.
Serial Number	Session serial number, used to uniquely identify a session's objects. Guarantees that session-level commands are applied to the correct session objects if the session ends and another session begins with the same session identifier.

Lock Type	Type of lock being held or requested. User locks, which are locks obtained by user applications, are described below: TM DML enqueue lock. TX Transaction enqueue lock. UL User supplied lock. All other locks are system locks, which are held for extremely short periods of time.
Resource ID 1	Identifier for resource being locked.
Resource ID 2	Additional identifier for resource being locked.
Mode Held	Mode in which the lock is held, or NONE if waiting for the lock. The lock modes are described below: SS Row share. SX Row exclusive. S Share. SSX Share row exclusive. X Exclusive.
Mode Requested	Mode in which lock has been requested, or NONE if the lock has been acquired. See the lock modes defined above.

Filters	The following filter is available in the Lock Monitor: Username Filter for the user associated with the session that is holding or requesting the lock. Monitor displays lock information only for users whose names match the Username filter.
----------------	---

SQL Worksheet Equivalent	To start the Lock Monitor from a SQL Worksheet, you can use the following Server Manager command: MONITOR LOCK
---------------------------------	---

Required Views	To use the Lock Monitor, you must have access to: <ul style="list-style-type: none"> • V\$LOCK • V\$SESSION
-----------------------	---

The Process Monitor

The Process Monitor shows the background and user processes for the instance.

The following figure illustrates the left–most columns of the Process Monitor.

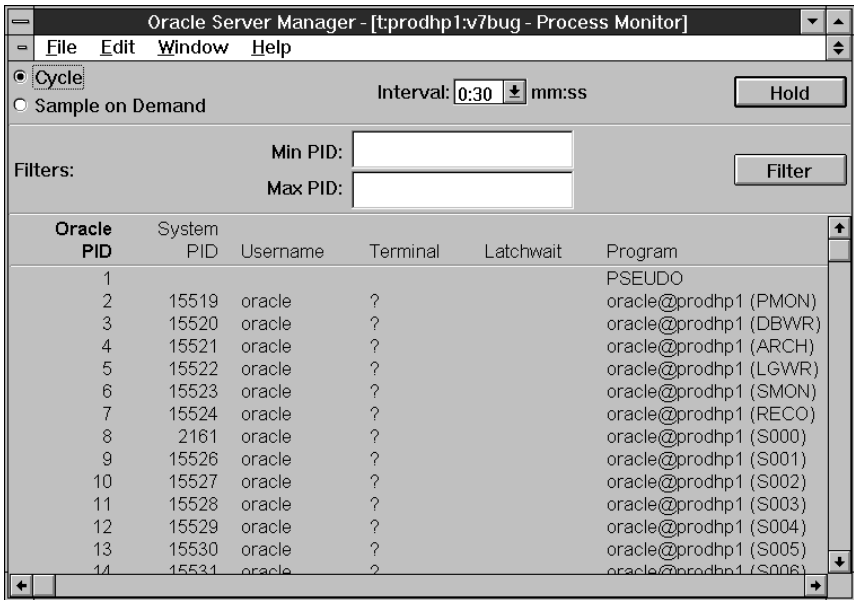


Figure 11 – 7 Process Monitor

The Process Monitor is described below:

Oracle PID	Oracle process identifier.
System PID	Operating system process identifier.
Username	Username associated with the operating system process.
Terminal	Operating system terminal, if any.
Latchwait	Address of the latch the process is waiting for, or null if not waiting for a latch.
Program	Name of the program the process is executing.

Filters

The following filters are available in the Process Monitor:

Min PID	Minimum process ID. Monitor displays processes with ID numbers greater than or equal to Min PID.
Max PID	Maximum process ID. Monitor displays process with ID numbers less than or equal to Max PID.

SQL Worksheet Equivalent

To start the Process Monitor from a SQL Worksheet, you can use the following Server Manager command:

```
MONITOR PROCESS
```

Required Views

To use the Process Monitor, you must have access to:

- V\$PROCESS

The Queue Monitor

The Queue Monitor displays information about the queues used in the multi-threaded server.

The following figure illustrates the left-most columns of the Queue Monitor.

Process Address	Queue Type	Current Queued	Total Queued	Average Wait(sec)
00	COMMON	0	1236461	0
00	OUTBOUND	0	0	0
D513AAD8	DISPATCHER	0	77367	0
D513AC64	DISPATCHER	0	0	0
D513ADF0	DISPATCHER	0	32787	0
D513AF7C	DISPATCHER	0	34700	0
D513B108	DISPATCHER	0	72649	0
D513B294	DISPATCHER	0	79336	0
D513B420	DISPATCHER	0	58184	0
D513B5AC	DISPATCHER	0	57149	0
D513B738	DISPATCHER	0	24014	0
D513B8C4	DISPATCHER	0	23984	0
D513BA50	DISPATCHER	0	27907	0
D513BBDC	DISPATCHER	0	24548	0
D513BD68	DISPATCHER	0	63895	0
D513BEF4	DISPATCHER	0	31379	0
D513C080	DISPATCHER	0	28951	0
D513C20C	DISPATCHER	0	42235	0

Figure 11 – 8 Queue Monitor

The Queue Monitor is described below:

Process Address	Address of the process that owns the queue.
Queue Type	The type of queue: COMMON Request queue. OUTBOUND Queue used by remote servers. DISPATCHER Response queue.
Current Queued	Number of items in the queue.
Total Queued	Total number of items that have ever been in the queue.
Average Wait (sec)	Average time an item waits in the queue, in seconds.

SQL Worksheet Equivalent

To start the Queue Monitor from a SQL Worksheet, you can use the following Server Manager command:

```
MONITOR QUEUE  
MONITOR Q
```

Required Views

To use the Queue Monitor, you must have access to:

- VSQUEUE

The Rollback Monitor

The Rollback Monitor displays statistics and information about online rollback segments. The following figure illustrates the left–most columns of the Rollback Monitor.

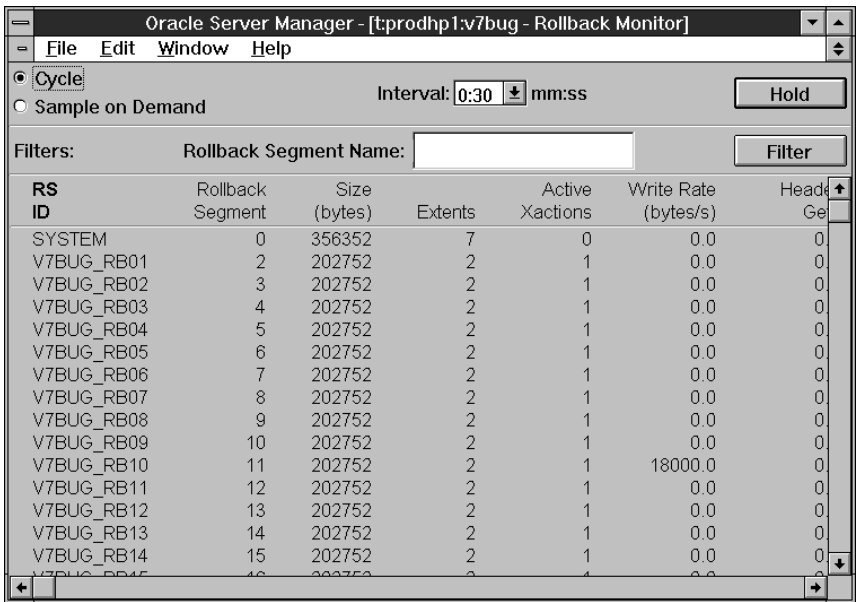


Figure 11 – 9 Rollback Monitor

The Rollback Monitor is described below:

RS ID	Name of the rollback segment.
Rollback Segment	Rollback segment number.
Size (bytes)	Size of the rollback segment, in bytes.
Extents	Number of extents in the rollback segment.
Active Xactions	Number of active transactions using the rollback segment.
Write Rate (bytes/s)	Rate at which bytes were written to the rollback segment since the last sample.
Header Gets	Number of times the rollback segment's header was accessed since the last sample.
Header Waits	Number of times a process had to wait to access the rollback segment's header since the last sample.
Optimal Size	Optimal size of the rollback segment.

HWM Size	High water mark for the rollback segment (the largest size the rollback segment has grown to), in bytes.
Average Active	Current average size of active extents (extents that contain uncommitted transaction data), in bytes.
Average Shrink	Total size of freed extents divided by number of shrinks, in bytes.
Wraps	Number of times the rollback segment wraps from one extent to another.
Extends	Number of times the rollback segment was extended and allocated a new extent.
Shrinks	Number of times the rollback segment shrank, deallocating one or more extents.



Attention: In the Rollback Monitor you can sort on the RS ID, Rollback Segment, Size, Extends, Active Xactions, Optimal Size, HWM Size, Average Active, Average Shrink, Wraps, Extends, and Shrinks columns.

Filters

The following filter is available in the Rollback Monitor:

Rollback Segment Name	Filter for the rollback segment name. Monitor displays information only for rollback segments whose names match the Rollback Segment Name filter.
-----------------------	---

SQL Worksheet Equivalent

To start the Rollback Monitor from a SQL Worksheet, you can use the following Server Manager command:

```
MONITOR ROLLBACK
```

Required Views

To use the Rollback Monitor, you must have access to:

- VSROLLNAME
- VSROLLSTAT

Interpreting Rollback Statistics

When you have multiple rollback segments, the values in the Header Gets column should be roughly equal for all rollback segments. This indicates that the rollback segments are being accessed evenly.

If the value in the Extends column is high, you may want to create additional rollback segments or increase the size of current segments.

A high value in the Header Waits column indicates contention for the headers of rollback segments. In this case, you should consider adding more rollback segments.

The Session Monitor

The Session Monitor displays information about users' sessions.

The following figure illustrates the left-most columns of the Session Monitor.

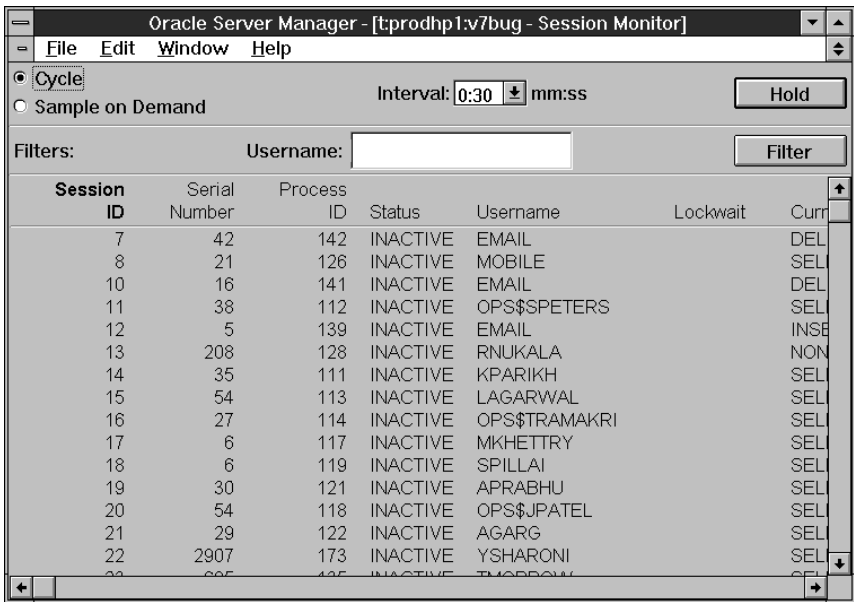


Figure 11 – 10 Session Monitor

The Session Monitor is described below:

Session ID	Identifier for the session.
Serial Number	Session serial number, used to uniquely identify a session's objects. Guarantees that session-level commands are applied to the correct session objects if the session ends and another session begins with the same session identifier.
Process ID	Oracle identifier for the process that owns the session.
Status	Status of the session: ACTIVE, INACTIVE, KILLED.
Username	Oracle user associated with the session.
Lockwait	Address of the lock the session is waiting for, or null if not waiting for a lock.

Current Statement Command currently executing.

Filters

The following filter is available in the Session Monitor:

Username	Filter for the user associated with the session. Monitor displays information for sessions whose users match the Username filter.
----------	---

SQL Worksheet Equivalent

To start the Session Monitor from a SQL Worksheet, you can use the following Server Manager command:

```
MONITOR SESSION
```

Required Views

To use the Session Monitor, you must have access to:

- V\$PROCESS
- V\$SESSION

The Shared Server Monitor

The Shared Server Monitor displays information about shared server processes.

The following figure illustrates the left-most columns of the Shared Server Monitor.

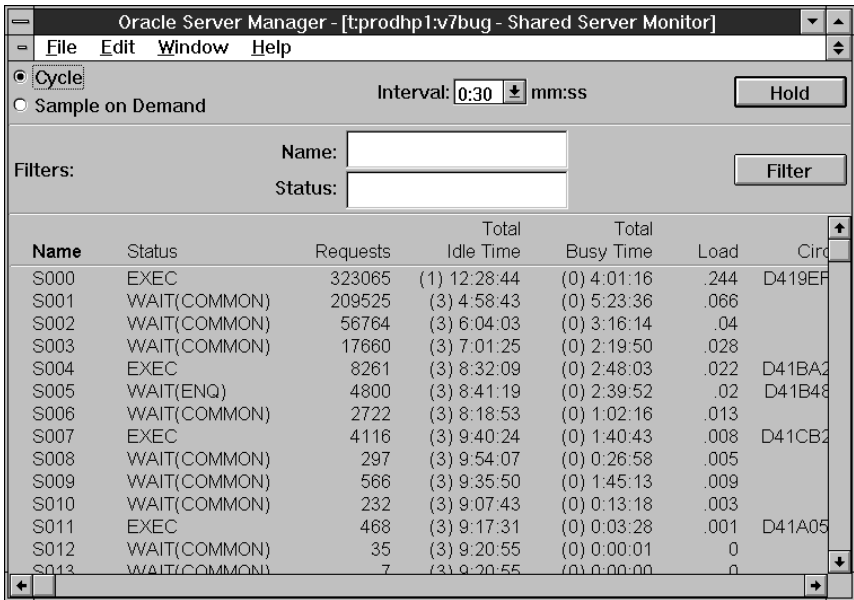


Figure 11 – 11 Shared Server Monitor

The Shared Server Monitor is described below:

Name	Name of the shared server process.
Status	Status of the shared server process.
EXEC	Executing SQL.
WAIT (ENQ)	Waiting for a lock.
WAIT (SEND)	Waiting to send data to the user.
WAIT (COMMON)	Idle, waiting for a user request.
WAIT (RESET)	Waiting for a circuit to reset after a break.
QUIT	Terminating.

Requests	Total number of requests taken from the request queue by the server.
Total Idle Time	Total idle time for the server, expressed in: (Days) Hours : Minutes : Seconds
Total Busy Time	Total busy time for the server, expressed in: (Days) Hours : Minutes : Seconds
Load	The fraction of its lifetime that the server has been busy: $\text{Busy Time} / (\text{Busy Time} + \text{Idle Time})$
Circuit	The address of the circuit that the server is currently serving.

Filters

The following filters are available in the Shared Server Monitor:	
Name	Filter for shared server name. Monitor displays information for servers whose names match the Name filter.
Status	Filter for the shared server status. Monitor displays information for servers with the specified status.

SQL Worksheet Equivalent

To start the Shared Server Monitor from a SQL Worksheet, you can use the following Server Manager commands:

```

MONITOR SHAREDSEVER
MONITOR SHARED

```

Required Views

To use the Shared Server Monitor, you must have access to:

- V\$SHARED_SERVER

The SQL Area Monitor

The SQL Area Monitor displays information about shared cursors in the library cache. Each shared cursor contains information used to execute its SQL statement or PL/SQL block. Each row in the monitor shows statistics for one shared cursor.

The following figure illustrates the left-most columns of the SQL Area Monitor.

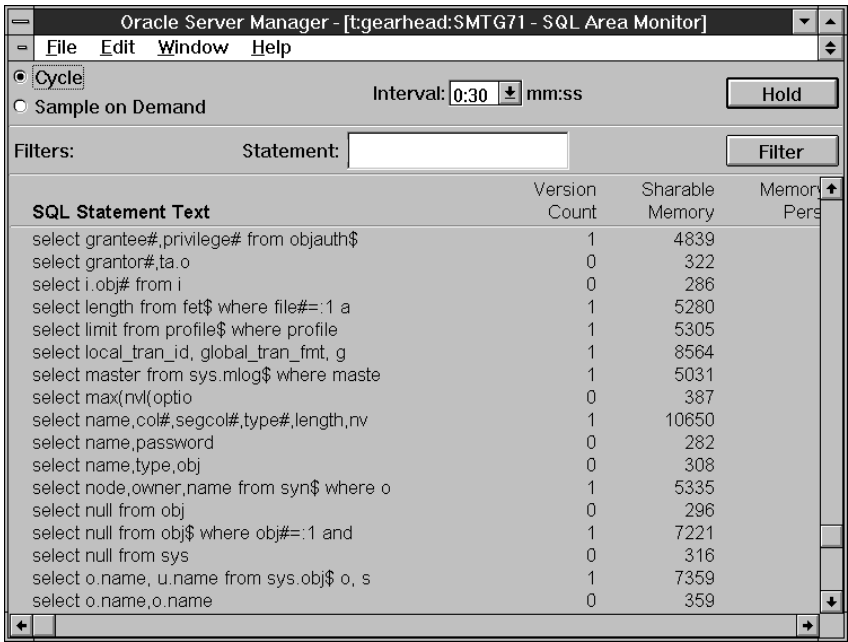


Figure 11 – 12 SQL Area Monitor

The SQL Area Monitor is described below:

SQL Statement Text	Text of the cursor’s SQL statement or the PL/SQL anonymous code.
Version Count	Number of different versions of the cursor The same text might be used by different users, each on their own version of an object. For example, if users SCOTT and BLAKE own EMP tables and execute the statement <code>SELECT * FROM emp</code> , they each have a different version of the cursor.
Sharable Memory	Amount of memory in bytes that can be shared between users.

Memory/User Persistent	For each user, the amount of memory in bytes that persists for the life of the cursor. Persistent memory is retained between executions of the statement.
Memory/User Runtime	For each user, the amount of memory in bytes that is needed only during execution. Runtime memory exists only while the statement is being executed.

Filters

The following filter is available in the SQL Area Monitor:

Statement	Filter for the statement text. Monitor displays information for cursors whose text matches the Statement filter.
-----------	--

SQL Worksheet Equivalent

To start the SQL Area Monitor from a SQL Worksheet, you can use the following Server Manager commands:

```
MONITOR SQLAREA
MONITOR SQL
```

Required Views

- To use the SQL Area Monitor, you must have access to:
- V\$SQLAREA

The System I/O Monitor

The System I/O Monitor displays the percentage of input/output activity generated by background and user processes accessing the database. The statistics shown are relative distributions among the processes, not precise counts of I/O operations.

The following figure illustrates the left-most columns of the System I/O Monitor.

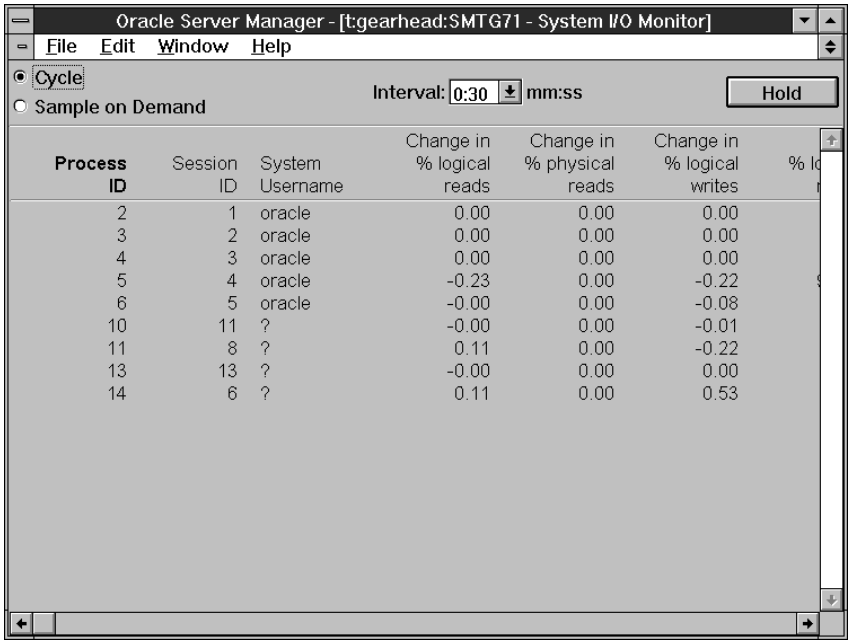


Figure 11 – 13 System I/O Monitor

The System I/O Monitor is described below:

Process ID	Oracle process identifier.
Session ID	Session identifier.
System Username	Username associated with the system process.
Change in % logical reads	Change in the percentage logical reads for the process since the last sample.
Change in % physical reads	Change in the percentage physical reads for the process since the last sample.
Change in % logical writes	Change in the percentage logical writes for the process since the last sample.

Total % logical reads	Logical reads for the process as a percentage of all logical reads since startup.
Total % physical reads	Physical reads for the process as a percentage of all physical reads since startup.
Total % logical writes	Logical writes for the process as a percentage of all logical writes since startup.



Attention: In the System I/O Monitor you can only sort on the Process ID, Session ID, and System Username columns.

SQL Worksheet Equivalent

To start the System I/O Monitor from a SQL Worksheet, you can use the following Server Manager commands:

```
MONITOR SYSTEMI/O
MONITOR SIO
```

Required Views

To use the System I/O Monitor, you must have access to:

- V\$PROCESS
- V\$SESSION
- V\$SESS_IO

The System Statistics Monitor

The System Statistics Monitor displays the runtime statistics on system use and performance for the current instance.

The following figure illustrates the left-most columns of the System Statistics Monitor.

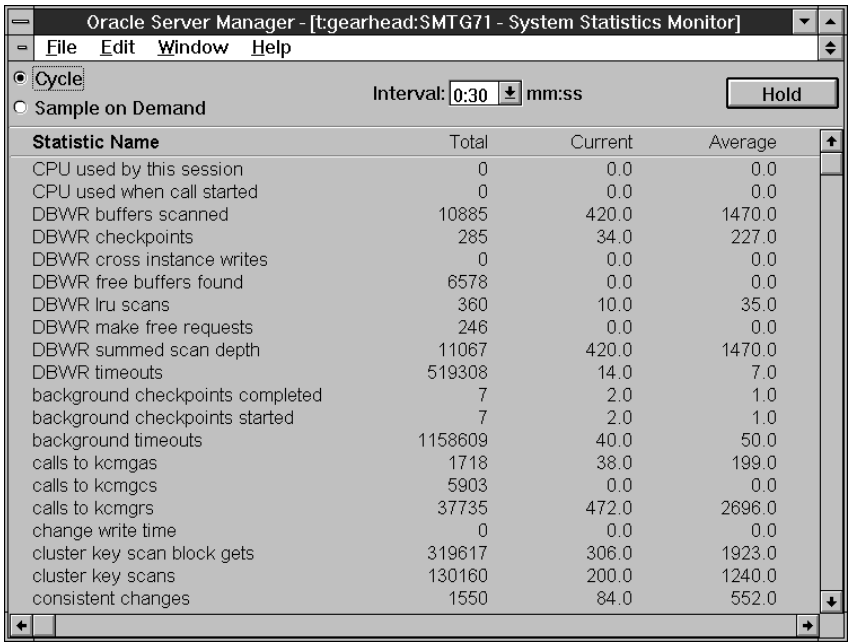


Figure 11 – 14 System Statistics Monitor

The System Statistics Monitor is described below:

Statistic Name	Name of the statistic.
Total	Cumulative value of the statistic.
Current	Value of the statistic since the last sample.
Average	Average value of the statistic since you started the monitor.
Minimum	Minimum value of the statistic since you started the monitor.
Maximum	Maximum value of the statistic since you started the monitor.

 **Attention:** In the System Statistics Monitor you can only sort on the Statistic Name and Total columns.

SQL Worksheet
Equivalent

To start the System Statistics Monitor from a SQL Worksheet, you can use the following Server Manager command:

```
MONITOR SYSTEMSTATISTICS
MONITOR SS
```


Required Views

To use the System Statistics Monitor, you must have access to:

- V\$SYSSTAT

Interpreting System
Statistics

Most statistics in the System Statistics Monitor are shown as rates per second. The exceptions are noted in the statistics descriptions at the end of this section.

 **Attention:** Statistics related to time are not collected unless the parameter TIMED_STATISTICS is set to TRUE. For information about setting parameters, see the *Oracle7 Server Administrator's Guide*.

System Statistics

The following tables describe the system statistics shown in the System Statistics Monitor.

User Statistics

User statistics provide information on CPU and resource use by Oracle users, and also the calls, commits, and rollbacks the users initiate. The System Statistics Monitor covers all sessions. The following table describes the user statistics.

<i>User Statistic</i>	<i>Description</i>
CPU used by this session	Amount of CPU time used in 1/100's of a second.
logons cumulative	On a systemwide basis, the number in the CURRENT column is the number of new logons this cycle and always equals the corresponding number in current logons. On a per-process basis, this number is always 0 or 1. The number in the TOTAL column is the number of processes that have ever logged on and is cumulative from the last warm start.
opened cursors cumulative	The total number of cursors that have been opened.
logons current	The number of current logons.
opened cursors current	The number of cursors that are currently open.

Table 11 – 1 User Statistics, continued on next page

<i>User Statistic</i>	<i>Description</i>
cursor authentications	The number of times that cursor privileges have been verified, either for a SELECT or because privileges were revoked from an object, causing all users of the cursor to be re-authenticated.
session logical reads	The number of logical disk reads that were satisfied either from the cache or by a physical read from the disk.
session pga memory max	Maximum amount of PGA memory ever used.
session uga memory max	Maximum amount of system memory ever used.
session pga memory	Amount of PGA memory currently in use.
recursive calls	The number of recursive calls including data dictionary operations. A high number indicates that information is not being found often enough in the dictionary cache. This could be because parsing is occurring (too) often or because the cache is not large enough. You should consider increasing the initialization parameter SHARED_POOL_SIZE.
recursive cpu usage	The amount of CPU time (in 1/100's of a second) that was spent updating internal tables while processing user SQL statements; for example, time spent doing space allocation. A high value indicates a lot of data dictionary work.
session connect time	The total elapsed time that the session has been connected to the server, in 1/100's of a second.
session uga memory	Amount of used session memory.
session stored procedure space	The number of bytes allocated to stored procedures used in the session.
user calls	The number of user calls processed.

Table 11 – 1 User Statistics, continued on next page

<i>User Statistic</i>	<i>Description</i>
user commits	The number of transactions for this process or systemwide. This number should equal USER CALLS minus USER ROLLBACKS.
user rollbacks	The number of rollbacks for this process.

Table 11 – 1 User Statistics

Redo Statistics

Redo statistics provide information on the redo log files. The following table describes the redo statistics.

<i>Redo Statistic</i>	<i>Description</i>
redo blocks written	The total number of redo blocks written.
redo buffer allocation retries	The total number of retries necessary to allocate space in the redo buffer. Retries are needed either because the redo writer has fallen behind or because an event such as a log switch is occurring.
redo entries	The number of redo entries generated.
redo entries linearized	The number of entries less than or equal to REDO_ENTRY_PREBUILD_THRESHOLD. Building these entries requires additional CPU time but increases concurrency on multiple-user systems.
redo log space requests	Number of times LGWR was given a request to write a redo log buffer.
redo log space wait time	Time spent waiting for log space (in 1/100's of a second). A very high or rapidly increasing value may indicated a problem with log archiving.
redo log switch interrupts	The count of times an instance log-switch was requested by another instance when running in parallel mode.
redo ordering marks	Number of extra SCN's allocated to maintain ordering of redo logs, as a result of blocks migrating from one instance's cache to another. The count of these <i>pings</i> is a measurement of cross-talk between instances when running in parallel mode. If this value is very high, it may indicate a need for a better separation of instance-activities.
redo size	The amount of redo generated in bytes.

Table 11 – 2 Redo Statistics, continued on next page

<i>Redo Statistic</i>	<i>Description</i>
redo small copies	The total number of entries less than or equal to LOG_SMALL_ENTRY_MAX_SIZE. These entries are copied under the protection of the allocation latch, eliminating the necessity of the copy latch. This statistic generally is applicable to only multiple-processor systems.
redo wastage	Cumulative total of unused bytes that were written to the log. The redo buffer is flushed periodically even when not completely filled, so this value may be nonzero.
redo write time	Cumulative elapsed time spent on log I/O.
redo writes	The total number of redo writes.

Table 11 – 2 Redo Statistics

Enqueue Statistics

Enqueue statistics provide information about the locks. The following table describes the enqueue statistics.

<i>Enqueue Statistic</i>	<i>Description</i>
enqueue requests	Number of times an enqueue (lock) was requested.
enqueue waits	The number of times an enqueue request resulted in a wait. Enqueue requests minus enqueue waits is the number of no-wait enqueue requests.
enqueue timeouts	The number of times an enqueue (lock) request was not granted within the allotted wait time. A very large or rapidly increasing value indicates a high degree of internal contention. Tuning may be required.
enqueue conversions	Number of enqueue locks converted to a different mode; for example, from shared to exclusive.
enqueue releases	Number of times an enqueue (lock) was released. This statistic should keep pace with enqueue requests.
enqueue deadlocks	The number of process deadlocks that occurred due to enqueues (locks) for DDL operations.

Table 11 – 3 Enqueue Statistics

Cache statistics provide information on I/O cache performance. The following table describes the cache statistics.

<i>Cache Statistic</i>	<i>Description</i>
background checkpoints completed	The number of times DBWR completes a checkpoint.
background checkpoints started	The number of times DBWR starts a checkpoint.
buffer busy waits	The number of times that a user process wanted a buffer in a mode that is incompatible with the current use of that buffer. A high value indicates block level contention.
busy wait time	Amount of time spent in buffer busy waits in 1/100's of a second.
change write time	Amount of time spent waiting for redo buffer space, inserting redo information into the buffer, and allocating an SCN, if needed, in 1/100's of a second.
consistent changes	The number of log changes to produce read-consistent blocks.
consistent gets	The number of logical reads in read-consistent mode. The sum of this number and db block gets equals logical reads.
cross instance CR read	The number of times the current instance had to do a consistent read in parallel mode. These tend to be slow, since every instance is told to write out the block. Instance functions should be arranged so that this value is kept small.
db block changes	The number of logical changes to current database blocks.
db block gets	The number of requests for the current copy of a block. This number plus consistent gets equals logical reads.
DBWR buffers scanned	The number of buffers in the lru scanned by DBWR when looking for dirty buffers to flush to disk. This count includes both dirty and clean buffers. Divide by "DBWR lru scans" to get the average number of buffers scanned.

Table 11 – 4 Cache Statistics, continued on next page

<i>Cache Statistic</i>	<i>Description</i>
DBWR checkpoints	The number of times DBWR was notified to do a checkpoint.
DBWR cross instance writes	The number of blocks written for cross-instance calls so that another instance could do a consistent read.
DBWR exchange waits	Used in the Parallel Server only, the number of times the DBWR was requested to exchange blocks between instances. Useful only when shown for the DBWR process.
DBWR free buffers found	The number of buffers that DBWR found already clean when requested to make free buffers. Divide by “DBWR make free requests” to find the average number of reusable buffers at the end of the lru. This value is only incremented when the lru is scanned in response to a make-free request.
DBWR lru scans	The number of times DBWR does a scan of the lru queue looking for more buffers to write. This includes times when the scan is made to fill out a batch being written for another purpose, such as a checkpoint, so it will always be equal to or greater than “DBWR make free requests”.
DBWR make free requests	The number of requests received by DBWR to make more free buffers for the lru. This includes the times that DBWR sends such a request to itself.
DBWR summed scan depth	Sum of the current scan depth for each scan of the lru by DBWR when DBWR is looking for dirty buffers. The actual number of buffers scanned may be less than the scan depth, as a result of dirty buffers being placed in the dirty queue by foreground processes. Divide by “DBWR lru scans” to find the average scan depth. Compare this value with the value calculated from “DBWR buffers scanned” to see how much scanning is actually performed.
DBWR timeouts	The number of timeouts at which DBWR had been idle since the last timeout. These are the times that DBWR looked for buffers to idle write.

Table 11 – 4 Cache Statistics, continued on next page

<i>Cache Statistic</i>	<i>Description</i>
dirty buffers inspected	Number of modified buffers found in the cache. If this value is very large or increasing rapidly, then DBWR is not working fast enough. Tuning may be required.
exchange deadlocks	The number of times that a process detected a potential deadlock when exchanging two buffers and so raised an internal, restartable error. Index operations are the only operations that perform exchanges. If this number is high, increase the parameters GC_DB_LOCKS and DB_BLOCK_BUFFERS.
free buffer inspected	The number of buffers skipped in the buffer cache to find a free buffer. High values potentially indicate that user processes are doing too much work and DBWR not enough.
free buffer requested	The total number of free buffers needed.
free buffer waits	The number of times a process needed a free buffer (to read from the disk or to make a read-consistent block) and a free buffer was not available.
free wait time	Time spent waiting for a free buffer, in 1/100's of a second. If this value is very large, or rapidly increasing, then DBWR is not keeping pace with database activity, and tuning may be indicated.
hash latch wait gets	The number of times latches had to be obtained using waits rather no-wait gets. If this value is large, or rapidly increasing, you can increase the number of hash latches.
lock element waits	The number of waits for a parallel cache lock.
physical reads	The number of actual reads of database blocks from disk.
physical writes	The number of actual writes to disk made by DBWR. For multiple-user systems, this value is always 0, except for DBWR.
redo synch time	The amount of time waiting for redo logs to be written after a COMMIT in 1/100's of a second.
redo synch writes	The number of times the redo is forced to disk, usually for transaction commit.

Table 11 – 4 Cache Statistics, continued on next page

<i>Cache Statistic</i>	<i>Description</i>
remote instance undo requests	The number of times this instance acquired an SS lock on undo from another instance in order to perform a consistent read.
remote instance undo writes	The number of times this instance wrote a dirty undo block so another instance could read it.
summed dirty queue length	The number of buffers pending for writing. If this value is large, or increasing rapidly, then increase the write-batch size.
write complete waits	The number of times a process waited for DBWR to write a current block before making a change.
write requests	The number of multi-block writes performed.
write wait time	The amount of time spent waiting for DBWR to finish writing a block in the buffer cache before being allowed to change it.

Table 11 – 4 Cache Statistics

Parallel Server Statistics

Parallel Server statistics provide information on the Parallel Server. The following table describes the Parallel Server statistics.

<i>Parallel Server Statistic</i>	<i>Description</i>
cross instance CR read	The number of times the current instance had to do a consistent read in parallel mode. These tend to be slow, since every instance is told to write out the block. Instance functions should be arranged so that this value is kept small.
DBWR cross instance writes	The number of blocks written for cross-instance calls so that another instance could do a consistent read.
global lock converts (asynchronous)	The number of instance locks that were converted from one mode to another, during which other tasks were enabled.
global lock converts (non-asynchronous)	The number of instance locks that were converted from one mode to another, during which no other tasks could run.
global lock converts time	The amount of time spent waiting for instance lock conversion in 1/100's of a second.

Table 11 – 5 Parallel Server Statistics, continued on next page

<i>Parallel Server Statistic</i>	<i>Description</i>
global lock gets (asynchronous)	The number of instance locks that were acquired when other tasks could be enabled during the wait.
global lock gets (non-asynchronous)	The number of instance locks that were acquired when other tasks could run during the wait.
global lock get time	The amount of time spent waiting to acquire instance locks in 1/100's of a second.
global lock releases (asynchronous)	The number of instance locks that were released when other tasks could be enabled during the wait.
global lock releases (nonasynchronous)	The number of instance locks that were released when other tasks could run during the wait.
global lock release time	The amount of time spent waiting to release instance locks in 1/100's of a second.
hash latch wait gets	The number of times latches had to be obtained using waits rather than no-wait gets. If this value is large, or rapidly increasing, you can increase the number of hash latches.
lock element waits	The number of waits for a parallel cache lock
next SCNs gotten without going to DLM	The number of SCNs obtained without resorting to Distributed Lock management. To measure the effectiveness of the Parallel Server's SCN cache, divide this value by the total number of SCN gets as given by the user statistic "user commits". This gives the percentage of SCN gets satisfied from the cache.
remote instance undo requests	The number of times this instance acquired an SS lock on undo from another instance in order to perform a consistent read.
remote instance undo writes	The number of times this instance wrote a dirty undo block so another instance could read it.

Table 11 – 5 Parallel Server Statistics

The SQL tuning statistics provide information on SQL tuning and table characteristics. The following table describes the SQL tuning statistics.

<i>SQL Tuning Statistic</i>	<i>Description</i>
cluster key scans	The number of full table scans or clustered tables performed by fetching rows using the cluster key.
cluster key scan block gets	The number of blocks read while performing full table scans or clustered tables using the cluster key.
table fetch by rowid	The number of logical rows fetched from a table.
table fetch continued row	The number of additional physical fetches required to access broken rows. Divide this number by “table fetch by rowid” for a percentage of broken rows, where rows with multiple breaks count as multiple broken rows.
table scan rows gotten	The number of rows fetched during full table scans.
table scan blocks gotten	Number of logical block reads during table scans.
table scans (long tables)	The number of long table scans. All blocks in excess of the value specified by the parameter SMALL_TABLE_THRESHOLD are immediately resumed, instead of aging out of the lru queue.
table scans (short tables)	The number of full table scans of short tables. All of the table’s blocks are aged out of the lru queue in normal fashion. These tables are smaller than the value of SMALL_TABLE_THRESHOLD.
parse count	The number of SQL statements parsed.
parse time cpu	The amount of CPU time spent parsing SQL statements, in 1/100’s of a second.
parse time elapsed	The amount of elapsed time spent parsing SQL statements, in 1/100’s of a second.
sorts (disk)	The number of disk sorts. Each disk sort requires the memory specified by the SORT_AREA_SIZE parameter.

Table 11 – 6 SQL Tuning Statistics, continued on next page

<i>SQL Tuning Statistic</i>	<i>Description</i>
sorts (rows)	The number of rows sorted.
sorts (memory)	The number of in-memory sorts. Sorts remain in memory when the total required sort space is less than the value specified by the SORT_AREA_RETAINED_SIZE parameter.

Table 11 – 6 SQL Tuning Statistics

Internal Statistics

The remaining statistics are for internal use. At times, some of these statistics may be needed by Oracle personnel to assist in problem identification and resolution.

The Table Access Monitor

The Table Access Monitor lists database objects that are being accessed and the sessions that are accessing them.

The following figure illustrates the left-most columns of the Table Access Monitor.

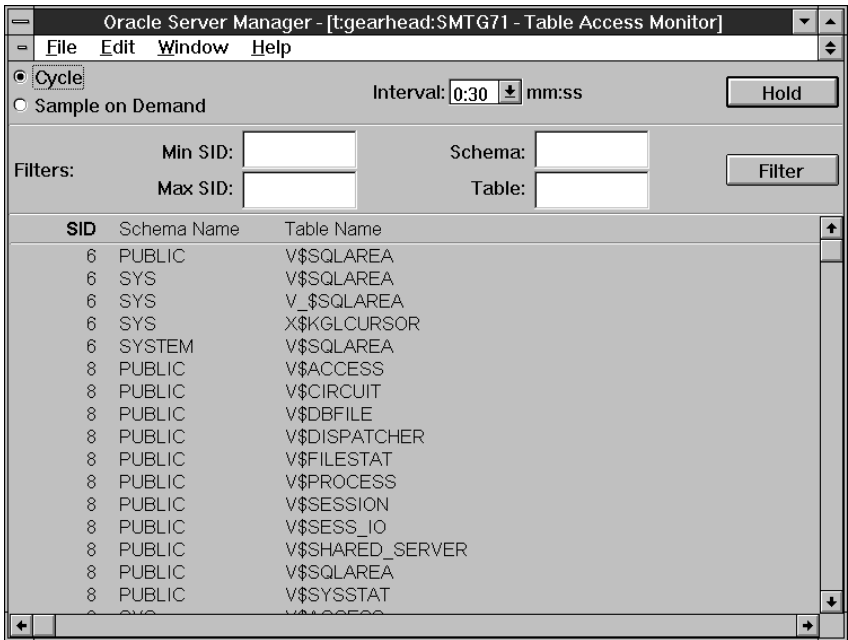


Figure 11 – 15 Table Access Monitor

The Table Access Monitor is described below:

SID	Identifier for the session currently accessing the object.
Schema Name	Owner of the object being accessed.
Table Name	Name of the object being accessed.

Filters

The following filters are available in the Table Access Monitor:

Min SID	Minimum session ID. Monitor displays sessions with ID numbers greater than or equal to Min SID.
Max SID	Maximum session ID. Monitor displays sessions with ID number less than or equal to Max SID.

Schema	Filter for owner name. Monitor displays information for objects whose owners match the Schema filter.
Table	Filter for object names. Monitor displays information for objects whose names match the Table filter.

SQL Worksheet Equivalent

To start the Table Access Monitor from a SQL Worksheet, you can use the following Server Manager commands:

```
MONITOR TABLEACCESS
MONITOR TABLE
```

Required Views

To use the Table Access Monitor, you must have access to:

- V\$ACCESS

Interpreting Table Access Statistics

Use the Session Monitor to look up the user associated with a particular SID listed in the Table Access Monitor.

The Tablespace Monitor

The Tablespace Monitor displays information about the tablespaces in the database.

The following figure illustrates the left-most columns of the Tablespace Monitor.

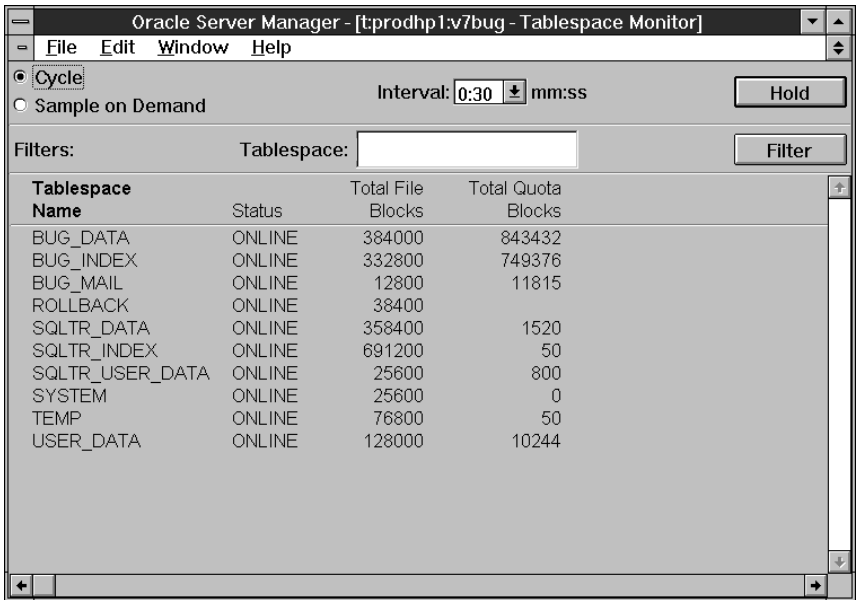


Figure 11 – 16 Tablespace Monitor

The Tablespace Monitor is described below:

Tablespace Name	Name of the tablespace.
Status	Status of the tablespace: ONLINE or OFFLINE.
Total File Blocks	Size of the tablespace in database blocks.
Total Quota Blocks	Number of database blocks currently allocated to users' objects in the tablespace.

Filters

The following filter is available in the Tablespace Monitor:

Tablespace	Filter for the tablespace name. Monitor displays information for tablespaces whose names match the Tablespace filter.
------------	---

SQL Worksheet Equivalent

To start the Tablespace Monitor from a SQL Worksheet, you can use the following Server Manager command:

```
MONITOR TABLESPACE
```

Required Views

To use the Tablespace Monitor, you must have access to:

- DBA_TABLESPACES
- DBA_TS_QUOTAS
- DBA_DATA_FILES

PART

V

Line Mode

CHAPTER

12

Using Server Manager in Line Mode

This chapter describes how to use Server Manager in line mode. Line mode is useful for performing unattended operations, such as running nightly batch jobs or scripts. In addition, you can use line mode when a graphical device is unavailable.

Starting Server Manager in Line Mode

You start up Server Manager in line mode by typing the appropriate command at the operating system prompt. For example, on some systems the command `svrmgrl` starts up Server Manager in line mode.

You can also start up Server Manager in line mode and execute a script. For example, to execute the script `SMSTART.SQL`, enter the following at the operating system prompt.

```
svrmgrl command=@smstart
```



OSDoc

Additional Information: The exact command for starting up Server Manager in line mode depends on your platform. For information about starting up Server Manager in line mode, see your operating system-specific Oracle documentation.

Using Server Manager in Line Mode

In line mode you can execute the Server Manager commands described in Appendix A, “Server Manager Command Reference.” In addition, you can execute SQL statements and PL/SQL code.

Entering Server Manager Commands

Single-line Server Manager commands do not require punctuation or terminators. A Server Manager command may span more than one line if you use a backslash (\) at the end of each line to indicate a continuation.

Entering SQL or PL/SQL Code

You can enter single-line or multiple-line SQL statements in line mode. Continuation characters are not needed in multiple-line SQL statements. To end a SQL statement and execute it, either type a semicolon (;) at the end of the statement or type a slash (/) by itself on the last input line.

To execute PL/SQL code, type a slash (/) by itself on the last input line.

Running Scripts

In line mode you can also run scripts using the `@` command. For example, to run the script `TEST.SQL`, issue the statement `@test`. If you do not specify a script name, Server Manager prompts you for one, as in the following example:

```
SVRMGR> @  
Name of script file: test
```

PART

VI

Reference

A

Server Manager Command Reference

This appendix describes the Server Manager commands available in line mode. These commands can also be used in a SQL Worksheet, although some of these commands behave differently when used in a worksheet. See Chapter 8, “Using the SQL Worksheet,” for information about using Server Manager commands in a SQL Worksheet.

Server Manager Commands

The Server Manager commands described in this appendix are:

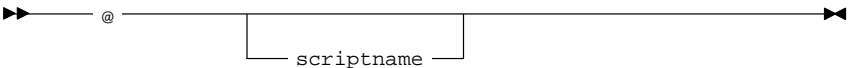
- @
- ARCHIVE LOG
- CONNECT
- DESCRIBE
- DISCONNECT
- EXECUTE
- EXIT
- HELP
- HOST
- MONITOR
- PRINT
- RECOVER
- REMARK
- SET
- SHOW
- SHUTDOWN
- SPOOL
- STARTUP
- VARIABLE

@ (at symbol)

Purpose Run scripts containing SQL, PL/SQL, and Server Manager commands.

Prerequisites You must have previously created the script and stored it as an operating system file.

Syntax @ command ::=



where:

scriptname The name of an operating system file that contains a script of statements recognized by Server Manager.


Line Mode Behavior In line mode, if you omit the *scriptname* argument, Server Manager prompts you for the script name.

SQL Worksheet Behavior In a SQL Worksheet, if you omit the *scriptname* argument, Server Manager brings up the standard file selection dialog box for your system. You can then select the script file.

Usage Notes This command enables you to run scripts of statements. To insert comments in the script, use the REMARK command described in “REMARK” on page A – 19. To spool the output, use the SPOOL command before running or within the script. The SPOOL command is described in “SPOOL” on page A – 31.

Do not use the @ command alone within a script unless you specify the full path name of the script.

To run other scripts from within a script, you can use the @@ command. In the original script include the line @@*second_scriptname* to run another script called *second_scriptname*. The @@ command indicates that the second script is in the same directory as the original script.

 **Additional Information:** For information about the standard file selection dialog box for your system, see your operating system-specific documentation.

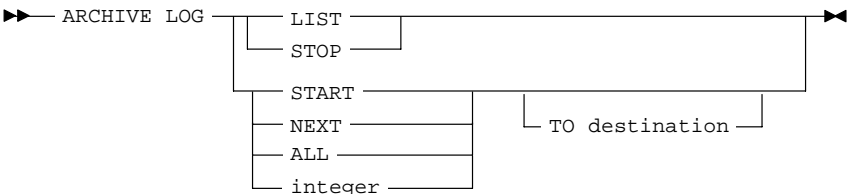
ARCHIVE LOG

Purpose Start or stop automatic archiving of online redo log files, manually (explicitly) archive specified redo log files, or display information about redo log files.

Note: This command applies only to the current instance. To specify archiving for a different instance or for all instances in a Parallel Server, use the SQL command ALTER SYSTEM.

Prerequisites You must be connected to an open Oracle database as INTERNAL, SYSOPER, or SYSDBA.

Syntax ARCHIVE LOG command ::=



where:

LIST Requests a display that shows the range of redo log files to be archived, the current log file group's sequence number, and the current archive destination (specified by either the optional command text or by the initialization parameter LOG_ARCHIVE_DEST).

If you are using both ARCHIVELOG mode and automatic archiving, the display might appear like:

Database log mode	Archive Mode
Automatic archival	Enabled
Archive destination	DISK9:ARCH
Oldest online log sequence	30
Next log sequence to archive	33
Current log sequence	33

Because the log sequence number of the current log group and the next log group to archive are the same, automatic archival has archived all log groups up to the current one.

If you are using ARCHIVELOG but have disabled automatic archiving, the last three lines might look like:

```
Oldest online log sequence          30
Next log sequence to archive        30
Current log sequence                 33
```

If you are using NOARCHIVELOG mode, the “next log sequence to archive” line is suppressed.

The log sequence increments every time LGWR begins to write to another redo log file group; it does not indicate the number of logs being used. Every time an online redo log file group is reused, the contents are assigned a new log sequence number.

STOP	Disables automatic archival. If the instance is still in ARCHIVELOG mode and all redo log file groups fill, database operation is suspended until a redo log file is archived (for example, until you enter the command ARCHIVE LOG NEXT or ARCHIVE LOG ALL).
START	Enables automatic archiving. Starts the background process ARCH, which performs automatic archiving as required. If ARCH is started and a filename is supplied, the filename becomes the new default archive destination. ARCH automatically starts on instance startup if the initialization parameter LOG_ARCHIVE_START is set to TRUE.
NEXT	Manually archives the next online redo log file group that has been filled but not yet archived.
ALL	Manually archives all filled, but not yet archived, online log file groups.
<i>integer</i>	Causes archival of the online redo log file group with log sequence number <i>n</i> . You can specify any redo log file group that is still online. An error occurs if the log file cannot be found online or the sequence number is not valid. This option can be used to re-archive a log file group.

'destination'

Specifies the destination device or directory in an operating system. Specification of archive destination devices is installation-specific; see your platform-specific Oracle documentation for examples of specifying archive destinations. On many operating systems, multiple log files can be spooled to the same tape.

If not specified in the command line, the archive destination is derived from the initialization parameter LOG_ARCHIVE_DEST. The command ARCHIVE LOG START *'destination'* causes the specified device or directory to become the new default archive destination for all future automatic or manual archives. A destination specified with any other option is a temporary destination that is in effect only for the current (manual) archive. It does not change the default archive destination for subsequent automatic archives.



OSDoc

Additional Information: For information about specifying archive destinations, see your platform-specific Oracle documentation.

Usage Notes

If an online redo log file group fills and none are available for reuse, database operation is suspended. The condition can be resolved by archiving a log file group.

Examples

```
ARCHIVE LOG START
```

Starts up the archiver process and begins automatic archiving, using the archive destination specified in LOG_ARCHIVE_DEST.

```
ARCHIVE LOG STOP
```

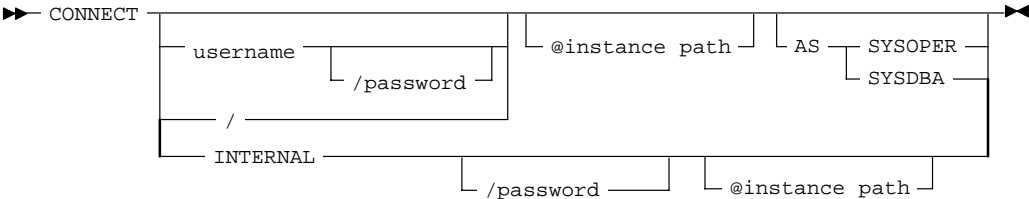
Stops automatic archiving.

```
ARCHIVE LOG 1001 'DISK9:[TEMPARCH]TEMP'
```

Archives the log file group with the sequence number 1001 to the destination specified. 'TEMP' specifies the prefix of the filename on the destination device; the remainder of the filename is dependent on the initialization parameter LOG_ARCHIVE_FORMAT, which specifies the filename format for archived redo log files.

CONNECT

Purpose	Connect to a database using the specified username.
Prerequisites	Only valid username/password combinations can successfully connect. The AS clause allows users to connect to an instance with a default schema of SYS for database administration. Users connecting as SYSOPER or SYSDBA must have the necessary privileges to access the SYS schema.
Syntax	CONNECT command ::=



where:

<i>username</i>	Any valid Oracle username for the current database. It can be a null string. If neither username nor INTERNAL is specified, you are prompted for a username and password.
<i>password</i>	The password corresponding to the specified username. <i>Password</i> can be a null string.
<i>instance-path</i>	A valid specification for an instance/database combination. If an instance is specified, it becomes the current instance for the duration of the connection. It does not become the default instance for subsequent connections.
SYSOPER/ SYSDBA	The AS clause allows privileged connections by users who have been granted SYSOPER or SYSDBA system privileges, if using a password file, or their operating system equivalents, if using OS authentication.
/	Uses operating system authentication.
INTERNAL	Connects as username SYS via keyword INTERNAL. Should be used rarely and only by the DBA for certain maintenance purposes; requires operating system privileges. CONNECT

INTERNAL is supported for backwards compatibility only.

Line Mode Behavior In line mode, if you omit the *password*, Server Manager prompts you for one. If you omit both the *username* and *password*, Server Manager prompts you for both.

SQL Worksheet Behavior In a SQL Worksheet, if you omit the *username* argument, Server Manager brings up the Connect dialog box.

Usage Notes If only the Oracle username is specified, the password is requested using the prompt “Password:”. The entered password is not echoed.

CONNECT can be used without a DISCONNECT to connect to another username.

The connect is always accompanied by the opening of a cursor.

You can specify an instance path for a remote instance when connecting. If you attempt a connection to a remote instance, authentication occurs on the remote node, so you must have the appropriate privileges on the remote node.

Connecting as SYSOPER or SYSDBA over a Non-Secure Connection To connect to Oracle as a privileged user over a non-secure connection, you must satisfy the following conditions:

- The server to which you are connecting must have a password file.
- You must be granted the SYSOPER or SYSDBA system privilege.
- You must connect using a username and password.

For information about creating a password file, see the *Oracle7 Server Concepts* and the *Oracle7 Server Administrator's Guide*,

Connecting as SYSOPER or SYSDBA over a Local or Secure Connection To connect to Oracle as a privileged user over a local or a secure connection, you must satisfy either of the following sets of conditions:

- You can connect using a password file, provided you meet the criteria outlined above.
- If the server is not using a password file, or you have not been granted SYSOPER or SYSDBA and are therefore not in the password file, your operating system name must be authenticated by the operating system for a privileged connection. This form of authentication is system-specific.



OSDoc

Additional Information: For information about operating system authentication, see your operating system-specific Oracle documentation.

Examples To connect to an instance on the current default node, enter:

```
CONNECT
```

To connect to an instance on the current node as username SCOTT with password TIGER, enter:

```
CONNECT scott/tiger
```

To use a password file to connect to an instance on the current node as a privileged user named SCOTT with password TIGER, enter:

```
CONNECT scott/tiger AS SYSDBA
```

Note that your default schema is now SYS, not SCOTT.

To perform the same connection using OS authentication, enter:

```
CONNECT / AS SYSDBA
```

To connect to an instance on a different node as username SCOTT with password TIGER, enter:

```
CONNECT scott/tiger@instance-path
```

**Connecting as
INTERNAL**

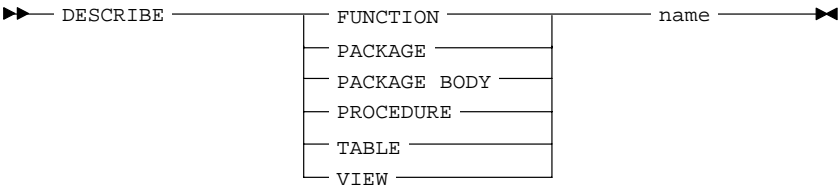
Using Server Manager you can connect as INTERNAL to a release 7.0 database. CONNECT INTERNAL is supported for backwards compatibility only. For information on how to use CONNECT INTERNAL, refer to your *Oracle7 Server Administrator's Guide*.

DESCRIBE

Purpose Describe a function, package, package body, procedure, table, or view.

Prerequisites You must be currently connected to a database.

Syntax DESCRIBE command ::=



where:

name The name of the object to describe.

Usage Notes	Procedures inside of packages cannot be described with this command.
Example	<p>A command like</p> <pre>DESCRIBE PROCEDURE scott.addemp</pre> <p>produces output similar to the following example:</p> <pre>PROCEDURE SCOTT.ADEMP (EMPNO INTEGER, ENAME VARCHAR2, SAL NUMBER(9,2))</pre>

DISCONNECT

Purpose	Disconnect from an Oracle server.
Prerequisites	You must be currently connected to a database.
Syntax	DISCONNECT command ::=
Usage Notes	<p>►———— DISCONNECT —————◄</p> <p>Upon disconnection, line mode reverts to the current default host machine after closing all open cursors and committing any uncommitted transactions.</p>
Example	DISCONNECT

EXECUTE

Purpose	Executes a one-line PL/SQL statement.
Prerequisites	You must be currently connected to a database. You must also have privileges to use any stored procedures, packages, package variables, and functions referenced with this command.
Syntax	EXECUTE command ::=
	►———— EXECUTE — PL/SQL block —————◄

Usage Notes You can execute only one line of PL/SQL code with the EXECUTE command. If you wish to execute a PL/SQL block with many lines, you must use the format:

```
BEGIN
    [PL/SQL BLOCK]
END;
```

You can reference any command line mode bind variables in PL/SQL statements by preceding the variable name with a colon. The example below illustrates the use of bind variables with the VARIABLE, EXECUTE, and PRINT commands.

Example

```
VARIABLE balance NUMBER
EXECUTE :balance := get_balance(34056)
PRINT balance
BALANCE
-----
4678.24
```

EXIT

Purpose Exits Server Manager line mode or closes a SQL Worksheet.

Prerequisites None.

Syntax EXIT command ::=



Line Mode Behavior The EXIT command leaves line mode unconditionally, commits the current transaction, and returns to the operating system prompt.

SQL Worksheet Behavior The EXIT command commits the current transaction and closes the worksheet.

Example

```
EXIT
```

HELP

Purpose	Displays help information.
Prerequisites	None.
Syntax	HELP command ::=

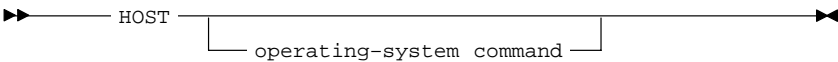


Line Mode Behavior	Displays simplified syntax descriptions for some commands.
SQL Worksheet Behavior	Brings up the Help window.

Example `HELP`

HOST

Purpose	Execute an operating system command without exiting line mode. The HOST command is not available in a SQL Worksheet.
Prerequisites	None.
Syntax	HOST command ::=



Usage Notes This command is particularly useful for listing files that are currently of interest to the database administrator, or for editing files to be run while in line mode. Your operating system may also support additional symbols or characters to invoke operating system commands.

If you omit the operating system command and enter simply HOST, you temporarily exit line mode on the assumption you want to run multiple operating system commands.



OSDoc

Additional Information: To return to line mode after executing a HOST command, you must use an operating system-specific entry. Refer to your operating system-specific Oracle documentation for more information.

Example For VMS:

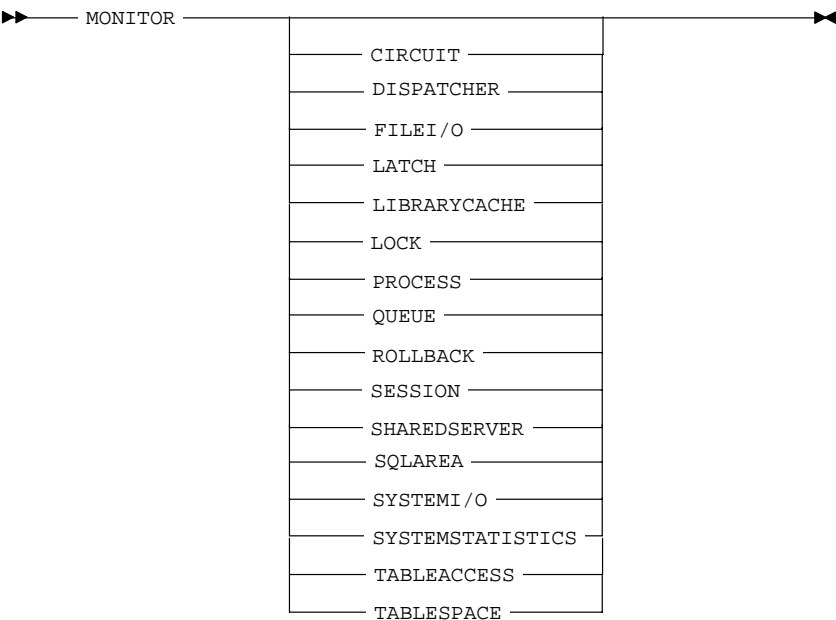
HOST TYPE INIT.ORA

For UNIX:

HOST cat INIT.ORA

MONITOR

- Purpose** Start a System Monitor. The MONITOR command is not available in line mode.
- Prerequisites** To use monitors, you must have access to the dynamic performance tables used by the type of monitor you select. For information about the monitors and the performance tables they use, see Part IV, “System Monitors.”
- Syntax** MONITOR command ::=



where:

CIRCUIT	Starts the Circuit monitor.
DISPATCHER	Starts the Dispatcher monitor.
FILEI/O	Starts the File I/O monitor.
LATCH	Starts the Latch monitor.
LIBRARYCACHE	Starts the Library Cache monitor.
LOCK	Starts the Lock monitor.
PROCESS	Starts the Process monitor.
QUEUE	Starts the Queue monitor.
ROLLBACK	Starts the Rollback Segment monitor.
SESSION	Starts the Session monitor.
SHAREDSEVER	Starts the Shared Server monitor.
SQLAREA	Starts the SQL Area monitor.
SYSTEMI/O	Starts the System I/O monitor.
SYSTEMSTATISTICS	Starts the System Statistics monitor.
TABLEACCESS	Starts the Table Access monitor.
TABLESPACE	Starts the Tablespace monitor.

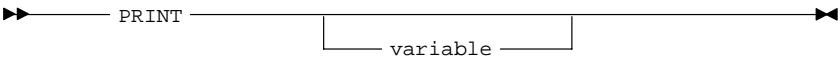
For a list of the monitor names and abbreviations, see Table 1 – 4 on page 1 – 25.

Usage Notes

When you enter the MONITOR command without specifying a monitor type, Server Manager brings up the monitor dialog box. Select the type of monitor to start from the scrolling list in the monitor dialog box.

PRINT

Purpose	Print the value of a variable defined with the VARIABLE command.
Prerequisites	None.
Syntax	PRINT command ::=



where:

<i>variable</i>	The name of a variable defined by the VARIABLE command.
-----------------	---

Usage Notes

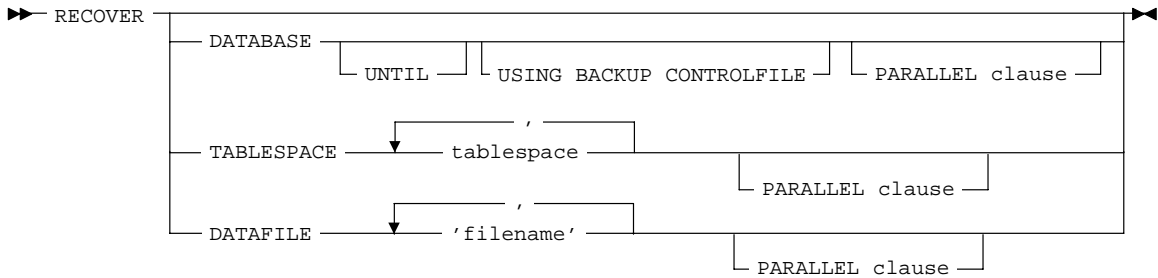
Bind variables referenced with the print command do not need to be preceded by a colon. You can use the PRINT command to display variables defined only in the current line mode session. The SET CHARWIDTH and SET NUMWIDTH commands can affect the display of the PRINT command.

If no variable name is specified all currently defined variables are printed.

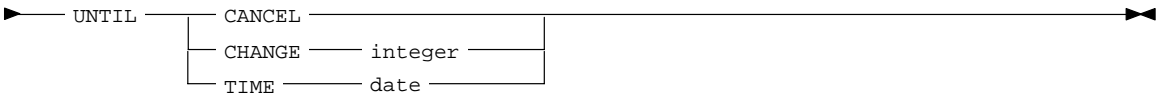
Examples	<pre>PRINT balance BALANCE ----- 4687.24 SET CHARWIDTH 10 PRINT ename ENAME ----- SCOTT</pre>
-----------------	--

RECOVER

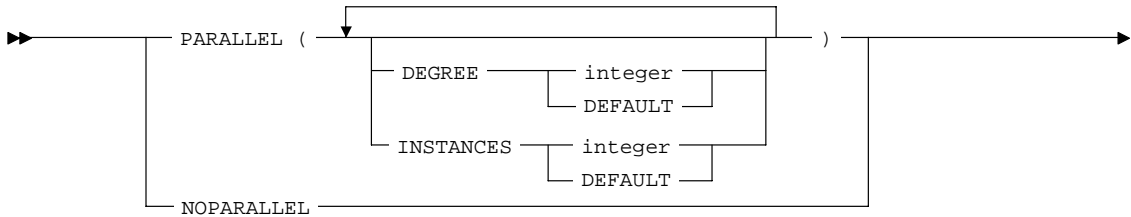
Purpose	Performs media recovery on one or more tablespaces, one or more datafiles, or the entire database.
Prerequisites	You must be connected to the Oracle server as INTERNAL, SYSOPER, or SYSDBA. You cannot use the RECOVER command when connected via the multi-threaded server.
Syntax	RECOVER command ::=



UNTIL clause ::=



PARALLEL clause ::=



where:

DATABASE	Specifies recovering the entire database.
USING BACKUP CONTROL FILE	Specifies that a backup of the control file is being used instead of the current control file.
TABLESPACE <i>tablespace</i>	Specifies recovering a particular tablespace. <i>Tablespace</i> is the name of a tablespace in the current database. You may recover up to 16 tablespaces in one statement.
DATAFILE <i>filename</i>	Specifies recovering a particular datafile. You can specify any number of datafiles.
UNTIL CANCEL	Specifies an incomplete, cancel-based recovery. Recovery proceeds by prompting you with the suggested filenames of archived redo log files, and recovery completes when you specify CANCEL instead of a filename.
UNTIL CHANGE <i>integer</i>	Specifies an incomplete, change-based recovery. The <i>integer</i> is the number of the SCN following the last change to which you wish to recover. For example, if you want to restore your database up to the transaction with an SCN of 9, you would specify UNTIL CHANGE 10.
UNTIL TIME <i>date</i>	Specifies an incomplete, time-based recovery. Use single quotes, and use the following format: 'YYYY-MM-DD:HH24:MI:SS'.
PARALLEL	DEGREE specifies the number of recovery processes used to apply redo entries to datafiles on each instance. An integer specified for DEGREE overrides the initialization parameter RECOVERY_PARALLELISM. DEGREE DEFAULT indicates that twice the number of datafiles being recovered is the number of recovery processes to use. INSTANCES specifies the number of instances to use for parallel recovery. The number of recovery processes specified with DEGREE is used on each instance, thus the total number of recovery processes is the integer specified with DEGREE multiplied by the integer specified with INSTANCES. INSTANCES is only pertinent for the Oracle Parallel Server.



OSDoc

INSTANCES DEFAULT or not including the INSTANCES keyword causes has operating system-specific consequences. Consult your Oracle operating system documentation for a description of the default behavior of the INSTANCES DEFAULT specification.

NOPARALLEL Specifies that recovery is to proceed serially. Note that a specification of PARALLEL(DEGREE 1 INSTANCES 1) is equivalent to specifying the NOPARALLEL keyword.

The PARALLEL keyword overrides the RECOVERY_PARALLELISM initialization parameter. The number specified with the PARALLEL keyword is the number of recovery processes used to apply redo entries to datafiles.

SQL Worksheet Behavior

In a SQL Worksheet, if you issue the RECOVER command without arguments, Server Manager brings up the Recover dialog box. For a description of the Recover dialog box, see Chapter 9, “Using the SQL Worksheet.”

Usage Notes

To perform media recovery on an entire database (all tablespaces), the database must be mounted EXCLUSIVE and closed.

To perform media recovery on a tablespace, the database must be mounted and open, and the tablespace must be offline.

To perform media recovery on a datafile, the database can remain open and mounted with the damaged datafiles offline (unless the file is part of the SYSTEM tablespace).

Before using the RECOVER command you must have restored good copies of the damaged datafile(s) from a previous backup. Be sure you can access all archived and online redo log files dating back to when that backup was made.

When another log file is required during recovery, a prompt suggests the names of files that are needed. The name is derived from the values specified in the initialization parameters LOG_ARCHIVE_DEST and LOG_ARCHIVE_FORMAT. You should restore copies of the archived redo log files needed for recovery to the destination specified in LOG_ARCHIVE_DEST, if necessary. You can override the initialization parameters by setting the LOGSOURCE variable.

During recovery you can accept the suggested log name by hitting return, cancel recovery by entering CANCEL instead of a log name, or enter AUTO for automatic file selection without further prompting.

If you have enabled autorecovery (that is, SET AUTORECOVERY ON), recovery proceeds without prompting you with filenames. Status messages are displayed when each log file is applied.

When normal media recovery is done, a completion status is returned.

For more information on recovery and the RECOVER command, see the *Oracle7 Server Administrator's Guide*.

Examples

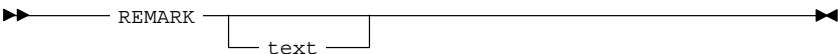
```
RECOVER DATABASE
RECOVER DATABASE UNTIL TIME 30-AUG-90:04:32:00
RECOVER TABLESPACE ts_one, ts_two
RECOVER DATAFILE 'data1.db'
```

REMARK

Purpose Enter a comment, typically in SQL script files.

Prerequisites None.

Syntax REMARK command ::=



Usage Notes Primarily for batch use of line mode. The comment is ignored by line mode and by Oracle. REMARK can be shortened to REM.

REM must be the first non-blank character string in the line.

Examples

Examples of valid comments embedded in a SQL file follow:

```
REM    This command file is used to create a
REM    database. Edit it to fill in file names
REM    and sizes, and invoke it from line mode.
REM
REM
CREATE DATABASE dbname ....
    /* This is a SQL comment */ ...
    ...
    ;
```

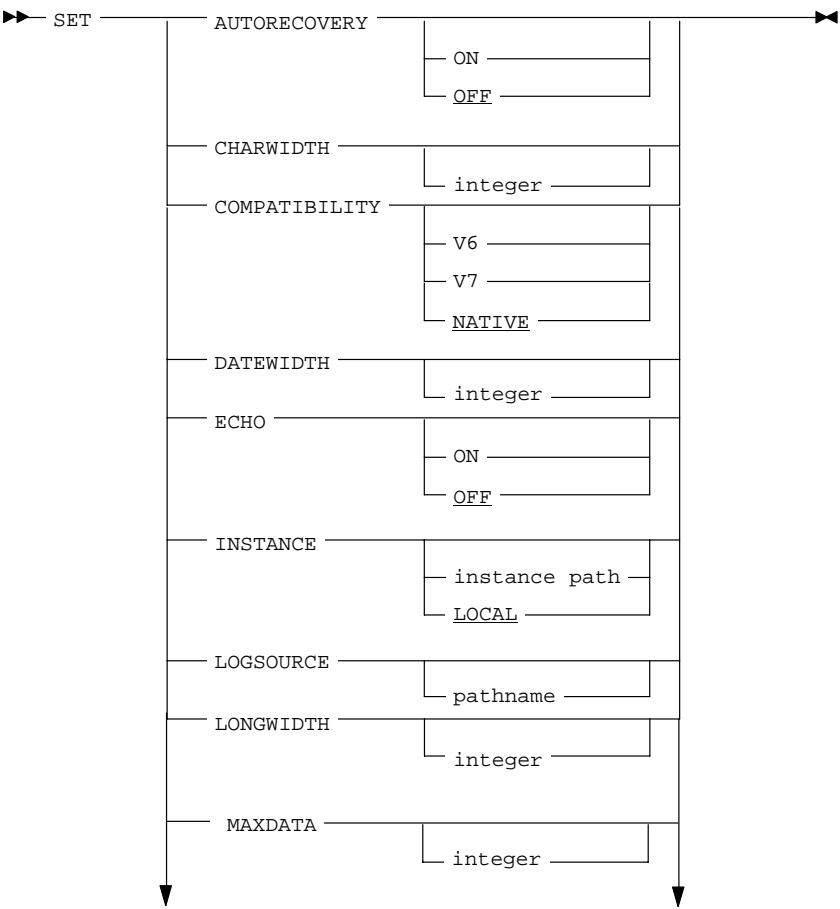
REMARKs are recognized by SQL*Plus, as well as by line mode. They are used to put comments between SQL statements, while SQL comments (/*...*/) are used to place comments within statements.

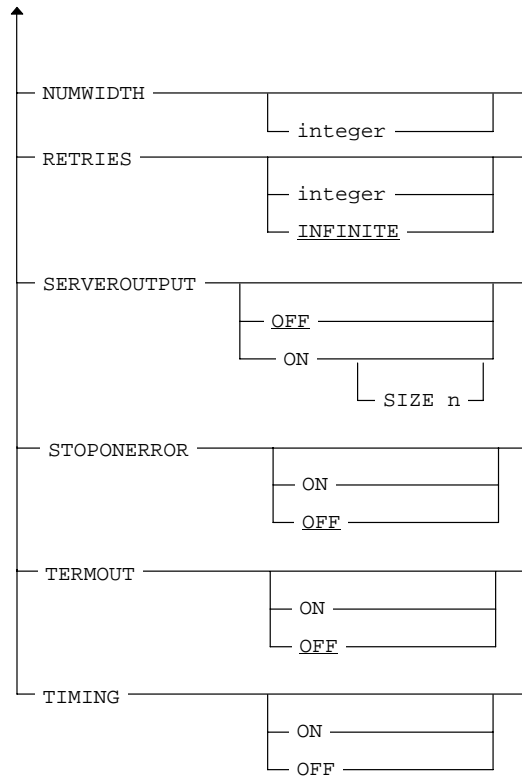
SET

Purpose Set or change characteristics of the current command line mode session.

Prerequisites None.

Syntax SET command ::=







where:

AUTO- RECOVERY

Specifying ON causes the RECOVER command to automatically apply the default filenames of archived redo log files needed during recovery. No interaction is needed when AUTORECOVERY is set to ON, provided the necessary files are in the expected locations with the expected names. The filenames used when AUTORECOVERY is ON are derived from the values of the initialization parameters LOG_ARCHIVE_DEST and LOG_ARCHIVE_FORMAT.

OFF, the default option, requires that you enter the filenames manually or accept the suggested default filename given.

CHARWIDTH <i>integer</i>	Sets the column display width for CHAR data. If entered with no argument, returns the setting to the default. The default is 80; the range of values is operating system-specific.
COMPATIBILITY	<p>Sets compatibility mode to V6, V7, or NATIVE. The compatibility mode setting affects the specification of character columns, integrity constraints, and rollback segment storage parameters. NATIVE matches the version of the database.</p> <p>CHAR Columns: When creating tables in Version 6 compatibility mode, CHAR columns are variable length. In Oracle7, such column definitions are fixed length.</p> <p>Integrity Constraints: In Version 6 compatibility mode, the Version 6 syntax is still recognized, and the Oracle7 syntax is disabled. For V6 mode, table constraints on CREATE TABLE statements are specified with V6 syntax:</p> <pre>CREATE TABLE {UNIQUE PRIMARY KEY} CONSTRAINT</pre> <p>and specified constraints are disabled by default. For V7 mode, table constraints are specified with Oracle7 syntax:</p> <pre>CREATE TABLE CONSTRAINT {UNIQUE PRIMARY KEY}</pre> <p>and they are enabled.</p> <p>Rollback Segment Parameters: Version 6 compatibility mode allows PCTINCREASE and MAXEXTENTS to be specified for rollback segments, as well as for other segments. Although the specifications are ignored, the syntax is allowed. (Use of these parameters is not recommended. They exist only for backward compatibility.)</p> <p>Bind Variables: Bind variables of type VARCHAR2 are given type CHAR in Version 6 compatibility mode.</p>

DATEWIDTH <i>integer</i>	Sets the column display width for DATE data. If entered with no argument, the setting returns to the default. The default is 9; the range of values is operating system-specific.
ECHO	<p>ON enables echoing of commands entered from command files. OFF, the default, disables echoing of commands.</p> <p>In a SQL Worksheet the default is ECHO ON.</p>
INSTANCE <i>instance-path</i>	<p>Changes the default instance for your session to the specified instance path. Does not connect to a database. The default instance is used for commands when no instance is specified.</p> <p>Any commands preceding the first use of SET INSTANCE communicate with the default instance.</p>
 OSDoc	<p>To reset the instance to the default value for your operating system, you can either enter SET INSTANCE with no <i>instance-name</i> or SET INSTANCE LOCAL. See your operating system-specific Oracle documentation for a description of how to set the initial default instance.</p>
 OSDoc	<p>This command may only be issued when SQL*Net is running. You can use any valid SQL*Net connect string as the specified instance path. See your operating system-specific Oracle documentation for a complete description of how your operating system specifies SQL*Net connect strings. The maximum length of the instance path is 64 characters.</p>
LOGSOURCE <i>pathname</i>	Specifies the location from which archive logs are retrieved during recovery. The default value is set by the LOG_ARCHIVE_DEST initialization parameter. Issuing the SET LOGSOURCE command without a pathname restores the default location.
LONGWIDTH <i>integer</i>	Sets the column display width for LONG data. If entered with no argument, the setting returns to the default. The default is 80; the range of values is operating system-specific.

MAXDATA <i>integer</i>	Sets the maximum data size. Indicates the maximum data that can be received in a single fetch during a SELECT statement. The default is 20480 bytes (20K). The maximum is operating system-specific.
NUMWIDTH <i>integer</i>	Sets the column display width for NUMBER data. If entered with no argument, the setting returns to the default. The default is 10; the range of values is operating system-specific.
RETRIES <i>integer / INFINITE</i>	Sets the number of tries that are attempted when the RETRY option is used with the STARTUP command (see “STARTUP” on page A – 34). INFINITE, the default, specifies an infinite number of retries.
SERVEROUTPUT	<p>ON enables debugging output from stored procedures that use DBMS_OUTPUT PUT and PUT_LINE commands. OFF disables output.</p> <p>You can specify the size in bytes of the message buffer using the syntax SIZE <i>n</i>. That is the total number of bytes of all messages sent that can be accumulated at one time. The minimum is 2,000 bytes. If the buffer fills before calls to the get-message routines make room for additional message bytes, an error is returned to the message-sending program.</p>
STOPONERROR	Specifying ON indicates that if a command file is running and an error occurs, execution should terminate. OFF disables STOPONERROR.
TERMOUT	ON, the default, enables terminal output for SQL commands. OFF disables terminal output. Useful for preventing output to terminal when spooling output to files. Note that nothing appears on the terminal until SET TERMOUT ON is used.
TIMING	ON displays parse, execute, and fetch times (CPU and elapsed) for each SQL statement executed. OFF, the default, does not display timing information.

Examples

```
SET INSTANCE D:DEV-PROD
SET TIMING ON
SET LONGWIDTH 132
SET NUMWIDTH 20
SET CHARWIDTH 5
```

Either of the following commands can be used to revert to the initial default host:

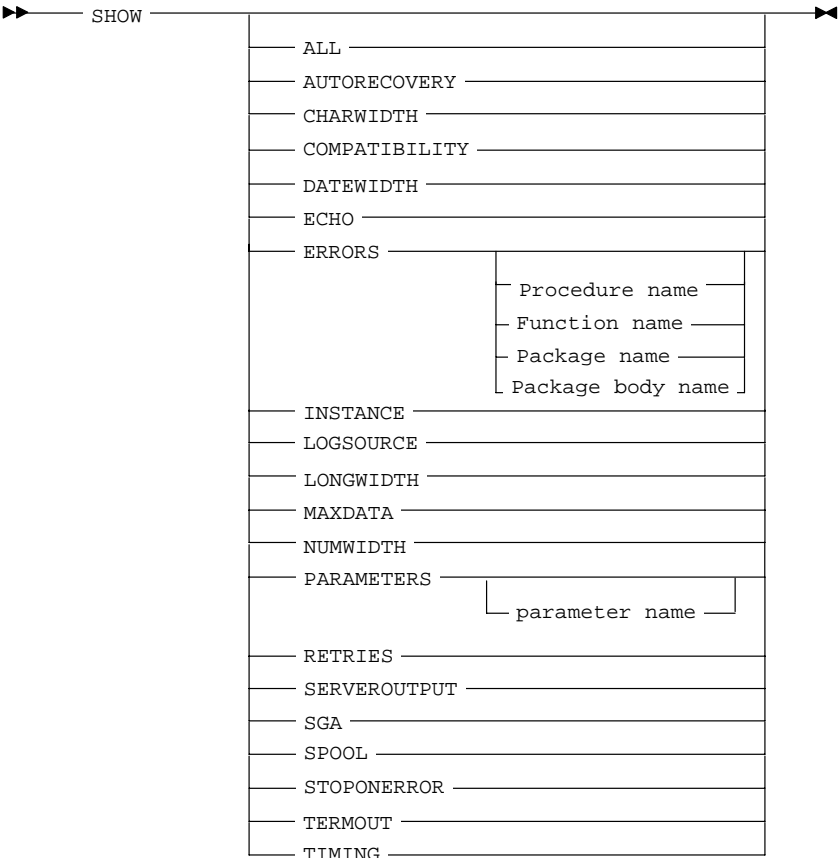
```
SET INSTANCE
SET INSTANCE LOCAL
```

SHOW

Purpose Show settings currently in effect.

Prerequisites None.

Syntax SHOW command ::=



where:

ALL	Shows all settings except for ERRORS, PARAMETERS, and SGA.
AUTORECOVERY	Shows whether or not autorecovery is enabled.
CHARWIDTH	Shows the column display width for CHAR data.
COMPATIBILITY	Shows the sessions compatibility mode: V6, V7, or NATIVE.
DATEWIDTH	Shows the column display width for DATE data.
ECHO	Shows whether or not commands from command files are echoed.
ERRORS	<p>Shows the errors generated from the last compilation of a procedure, package, or function, if any. This option displays the line number, column number, and the error message generated. Use the SHOW ERRORS command if line mode error 72 is returned after compiling a package.</p> <p>The SET CHARWIDTH command can be used to expand or truncate the display from the SHOW ERRORS command.</p>
INSTANCE	Shows the connect string for the default instance. SHOW INSTANCE returns the value LOCAL if you have not used SET INSTANCE or if you have used the LOCAL option of the SET INSTANCE command.
LOGSOURCE	Shows the current setting for archive log location. Displays DEFAULT if the default setting is in effect, as specified by the LOG_ARCHIVE_DEST initialization parameter.
LONGWIDTH	Shows the column display width for LONG data.
MAXDATA	Shows the maximum data size.
NUMWIDTH	Shows column display width for NUMBER data.

PARAMETERS Displays the current values for one or more initialization parameters. You can use a string after the command to see a subset of parameters whose names include that string. For example, if you enter:

SHOW PARAMETERS COUNT

you would see:

NAME	TYPE	VALUE
-----	-----	-----
db_file_multiblock_read_count	integer	12
spin_count	integer	0

The SHOW PARAMETERS command, without any string following the command, displays all initialization parameters.

- RETRIES** Displays the number of retries that will be attempted when restarting an instance in parallel mode. (See the RETRY option in “STARTUP” on page A – 34.)
- SERVEROUTPUT** Displays ON if output from stored procedures and functions is enabled. Otherwise, displays OFF. SERVEROUTPUT is reset to OFF if you issue a CONNECT command.
- SGA** Displays information about the current instance’s System Global Area.
- SPOOL** If spooling is enabled, displays the name of the output spool file. Otherwise, displays OFF.
- STOPONERROR** Displays whether or not errors encountered during execution of command files should stop execution of the file.
- TERMOUT** Shows if output to the terminal is enabled.
- TIMING** Shows whether or not the parse, execute, and fetch times (CPU and elapsed) for each SQL statement executed are shown.

Usage Notes

SHOW with no arguments is the same as SHOW ALL.

Examples

SHOW TIMING

returns a display such as:

Timing OFF

SHOW ALL

returns a display like:

Instance	local
Spool	OFF
Timing	OFF
Termout	ON
Echo	OFF
Stoponerror	OFF
Autorecovery	OFF
Logsource	<default>
Maxdata	20480
Numwidth	10
Charwidth	80
Longwidth	80
Datewidth	9
Labwidth	32
Compatibility	NATIVE
Retries	infinite
Server Output	OFF

SHOW SGA

returns a display like:

Total Shared Global Area	4612820	bytes
Fixed Size	36376	bytes
Variable Size	4445372	bytes
Database Buffers	122880	bytes
Redo Buffers	8192	bytes

SHOW ERRORS PACKAGE BODY name

returns a display like:

ERRORS FOR PACKAGE BODY name:

LINE/COL	ERRORS

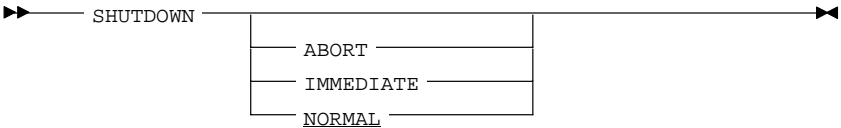
...	

SHUTDOWN

Purpose Shut down a currently running Oracle instance, optionally closing and dismounting a database.

Prerequisites You must be connected to a database as INTERNAL, SYSOPER, or SYSDBA. You cannot be connected via a multi-threaded server.

Syntax SHUTDOWN command ::=




where:

ABORT Proceeds with the fastest possible shutdown. Does not wait for calls to complete or users to disconnect. Does not close or dismount the database, but does shut down the instance. Requires instance recovery on next startup. You must use this option if a background process terminates abnormally.

IMMEDIATE Does not wait for current calls to complete, prohibits further connects, and closes and dismounts the database. Finally, shuts down the instance. Does not wait for connected users to disconnect. Does not require instance recovery on next startup.

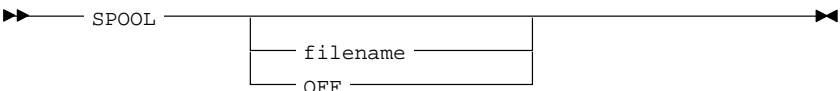
NORMAL Waits for currently connected users to disconnect from the database, prohibits further connects, and closes and dismounts the database. Finally, shuts down the instance. Does not require instance recovery on next startup. NORMAL is the default option.

 **Attention:** In Server Manager/GUI, the Administration Manager, SQL Worksheet, and System Monitors create separate connections when you start them. If you have any of these windows open, remember to close them before performing a shutdown in normal mode. Otherwise, the shutdown will not complete.

Usage Notes	SHUTDOWN with no arguments is equivalent to SHUTDOWN NORMAL.
Example	SHUTDOWN Database closed. Database dismounted. Oracle instance shut down.

SPOOL


Purpose	Enable or disable spooling of output to a specified file.
Prerequisites	None.
Syntax	SPOOL command ::=



- where:
- filename* Any valid name for a spool file. If not specified, the file type or file extension is LOG. If a file by the specified name exists, an error is generated.
 - OFF Closes the previously opened spool file.

SQL Worksheet Behavior	In a SQL Worksheet, if you issue the SPOOL command without specifying a filename, Server Manager brings up the standard file selection dialog box for your system.
------------------------	--

Usage Notes	If you do not specify a file, Server Manager prompts you for a filename.
-------------	--


OSDoc

Additional Information: The default filename is operating system specific. Refer to your operating system-specific Oracle documentation for the default filename on your operating system. To see whether you are currently spooling, enter SHOW SPOOL.

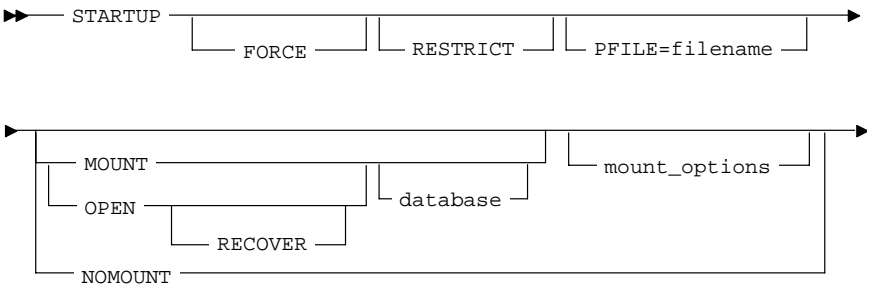
Example	To create a file named NOV2.LOG, enter: SPOOL NOV2
---------	---

STARTUP

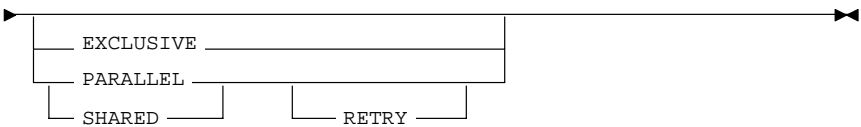
Purpose Start an Oracle instance with several options, including mounting and opening a database.

Prerequisites You must be connected to a database as INTERNAL, SYSOPER, or SYSDBA. You cannot be connected via a multi-threaded server.

Syntax STARTUP command ::=



MOUNT_OPTIONS clause ::=



where:

- | | |
|------------------------|--|
| FORCE | Shuts down the current Oracle instance (if it is running) with SHUTDOWN mode ABORT, before restarting it. If the current instance is running and FORCE is not specified, an error results. FORCE is useful while debugging and under abnormal circumstances. It should not normally be used. |
| RESTRICT | Only allows Oracle users with the RESTRICTED SESSION system privilege to connect to the database. Later, you can use the ALTER SYSTEM command to disable the restricted session feature. |
| PFILE= <i>filename</i> | Causes the specified parameter file to be used while starting up the instance. |
| MOUNT | Mounts a database but does not open it. |

OPEN	Mounts and opens the specified database.
NOMOUNT	Causes the database not to be mounted upon instance startup. Cannot be used with SHARED, EXCLUSIVE, PARALLEL, MOUNT, or OPEN.
RECOVER	<p>Specifies that media recovery should be performed, if necessary, before starting the instance. STARTUP RECOVER has the same effect as issuing the RECOVER DATABASE command and starting an instance. Only complete recovery is possible with the RECOVER option.</p> <p>Recovery proceeds, if necessary, as if AUTORECOVERY is set to ON, regardless of whether or not AUTORECOVERY is enabled. If a redo log file is not found in the expected location, recovery continues as if AUTORECOVERY is disabled, by prompting you with the suggested location and name of the subsequent log files that need to be applied. See “Usage Notes” in “RECOVER” on page A – 18 for a description of how to proceed with recovery when AUTORECOVERY is disabled.</p> <p>If recovery fails using the RECOVER option, the database remains mounted and closed.</p>
<i>database</i>	The name of the database to mount or open. If no database name is specified, the database name is taken from the initialization parameter DB_NAME.
EXCLUSIVE	Signifies that the database can only be mounted and opened by the current instance (it cannot be opened simultaneously by multiple instances). Cannot be used with SHARED, PARALLEL, or NOMOUNT. If no mounting option is specified, EXCLUSIVE is assigned by default.
PARALLEL	Must be specified if the database is to be mounted by multiple instances concurrently. Cannot be used with EXCLUSIVE or NOMOUNT. Invalid if the initialization parameter SINGLE_PROCESS is set to TRUE.
SHARED	Synonym for PARALLEL.

RETRY	Specifies that opening the database should be attempted every five seconds if the instance is busy being recovered by another instance. When an instance is being recovered by another instance, the down instance cannot open the database until recovery is complete. If the database cannot be opened for any other reason, RETRY does not attempt to open the database again. This option is only available for instances operating in PARALLEL mode. The number of times RETRY attempts to start the database can be set with the SET RETRIES command (see “RETRIES” in “SET” on page A – 24).
--------------	---

Examples To start an instance using the standard parameter file, mount the default database in exclusive mode, and open the database, enter:

```
STARTUP
```

or enter:

```
STARTUP OPEN databasename EXCLUSIVE
```

To start an instance using the standard parameter file, mount the default database in parallel mode, and open the database, enter:

```
STARTUP PARALLEL  
STARTUP OPEN databasename PARALLEL
```

To restart an instance that went down in parallel mode and may not yet have been recovered by other instances, use the RETRY option:

```
STARTUP PARALLEL RETRY
```

To shut down the current instance, immediately restart it without mounting or opening, and allow only database administrators to connect, enter:

```
STARTUP FORCE NOMOUNT RESTRICT
```

To start an instance using the parameter file TESTPARM without mounting the database, enter:

```
STARTUP PFILE=testparm NOMOUNT
```

To shut down a particular database, immediately restart and open it in parallel mode, allow access only to database administrators, and use the parameter file MYINIT.ORA. enter:

```
STARTUP OPEN databasename PFILE=myinit.ora FORCE SHARED RESTRICT
```

To start up an instance and mount but not open a database, you can use the following sequence of commands (the system's response is also shown):

```
CONNECT INTERNAL
Connected.
```

```
STARTUP NOMOUNT
Oracle instance started.
```

```
ALTER DATABASE MOUNT
Statement processed.
```

At this point, you could run a maintenance command and then open the database, as shown in the following commands:

```
ALTER DATABASE ARCHIVELOG;
Statement processed.
```

```
ALTER DATABASE OPEN;
Statement processed.
```

VARIABLE

Purpose Declare a bind variable for use in the current session with the EXECUTE or PRINT command, or for use with a PL/SQL block.

Prerequisites None.


Syntax VARIABLE command ::=



where:

- name* The name of the bind variable you wish to define.
- type* The datatype of the bind variable. The valid datatypes are NUMBER, CHAR, and VARCHAR2. You can specify a length from 1 to 255 for CHAR, and from 1 to 2,000 for VARCHAR2. If you do not specify a length, CHAR and VARCHAR2 default to the current setting of CHARWIDTH.

Usage Notes Bind variables defined with the VARIABLE command exist until the end of the session. Variables defined in your session cannot be accessed or changed by a different session.

 **Warning:** CHAR variables are fixed length, padded with blanks. VARCHAR2 variables are variable length. You must use CHAR when passing a character variable to a PL/SQL procedure that defines a CHAR parameter. Otherwise, a conversion error results. A PL/SQL procedure that expects a VARCHAR2 variable, on the other hand, will automatically convert a CHAR parameter to the proper form. (In general, it is a good idea to avoid the use of CHAR variables in PL/SQL procedures unless blank-padding is an absolute requirement.)

Note: In V6 compatibility mode, a CHAR variable is variable length, rather than fixed.

Examples VARIABLE balance NUMBER
VARIABLE ename CHAR(20)

APPENDIX

B

Server Manager Messages and Codes

This chapter lists the messages generated by Server Manager. For each message, the probable cause and corrective action are given.

00100–00199: Server Manager Line Mode Parsing Messages

MGR–00100 invalid SPOOL file name

Cause When using the SPOOL command, you entered an invalid file specification or the name of a file that already exists.

Action Specify a valid name for a file that does not currently exist.

MGR–00101 extraneous text at end of command

Cause There were unrecognized commands or other text on the command line.

Action Issue the command without the extraneous text.

MGR–00102 missing LOG keyword

Cause The LOG keyword was missing from the ARCHIVE LOG command.

Action Correct the syntax of the command, then issue the command again.

MGR–00103 illegal ARCHIVE LOG option

Cause An option specified was not LIST, STOP, START, NEXT, ALL, a number, or a filename in the ARCHIVE LOG command.

Action Correct the syntax of the command, then issue the command again.

MGR–00104 illegal RECOVER option

Cause You specified an invalid option. Valid options for the RECOVER command are DATABASE, MANUAL, UNTIL, TABLESPACE, or DATAFILE.

Action Correct the syntax of the command, then issue the command again.

MGR–00105 invalid INSTANCE name

Cause An invalid SQL*Net service name was specified for the instance name.

Action Refer to your Oracle platform–specific documentation for a complete description of specifying SQL*Net service names.

MGR–00106 invalid ECHO switch

Cause An invalid option for the SET ECHO command was specified.

Action Use either ON or OFF as an option for the SET ECHO command.

MGR-00107 invalid TERMOUT switch

Cause An invalid option for the SET TERMOUT command was specified.

Action Use either ON or OFF as an option for the SET TERMOUT command.

MGR-00108 invalid TIMING switch

Cause An invalid option for the SET TIMING command was specified.

Action Use either ON or OFF as an option for the SET TIMING command.

MGR-00109 invalid CYCLE value

Cause An invalid value for the SET CYCLE command was specified.

Action The SET CYCLE command requires a value between 15 seconds and 99:99 (min:sec), inclusive.

MGR-00110 illegal SET option

Cause An invalid option for the SET command was specified.

Action Correct the syntax of the SET command and issue the command again. See the *Oracle Server Manager User's Guide* for the correct syntax.

MGR-00111 illegal SHOW option

Cause An invalid option for the SHOW command was specified.

Action Correct the syntax of the SHOW command and issue the command again. See the *Oracle Server Manager User's Guide* for the correct syntax.

MGR-00113 invalid PFILE name

Cause Server Manager does not recognize the file specified by the PFILE option.

Action Specify a legal parameter file.

MGR-00114 invalid database name

Cause The specified database name is not recognized.

Action Specify a legal database name.

MGR-00115 unexpected end of command

Cause An option was specified without any arguments.

Action Correct the syntax of the command and enter the command again with the appropriate arguments for options that require values.

MGR-00116 illegal SHUTDOWN option

Cause An option was specified that was not NORMAL, IMMEDIATE, or ABORT for the SHUTDOWN command.

Action Correct the syntax of the command, then issue the command again.

MGR-00117 invalid tablespace name

Cause The specified tablespace name was not recognized.

Action Specify a legal tablespace name.

MGR-00118 invalid process identifier or statistics class

Cause Something other than a number for a process identifier, or an invalid class was specified after the MONITOR STATISTICS command.

Action Specify only numbers as process identifiers, or specify a valid class for the MONITOR STATISTICS command.

MGR-00119 illegal STARTUP option

Cause An option was specified that was not DBA, PFILE, EXCLUSIVE, SHARED, MOUNT, OPEN, RECOVER, or NOMOUNT for the STARTUP command.

Action Correct the syntax of the command, then issue the command again.

MGR-00120 invalid STOPONERROR switch

Cause An invalid option was specified for the SET STOPONERROR command.

Action Use either ON or OFF as an option for the SET STOPONERROR command.

MGR-00121 illegal MONITOR option

Cause An illegal option was specified for the MONITOR command.

Action Correct the syntax of the MONITOR command in the *Oracle Server Manager User's Guide* and issue the command again.

MGR-00122 invalid SET numeric parameter

Cause A character or an invalid value was specified when a number was expected as a value for a SET command option.

Action Correct the syntax of the command, use an appropriate number for the option and issue the command again.

MGR-00123 invalid tablespace name list

Cause An invalid string was specified as one of the values in the list of tablespaces in the ARCHIVE LOG command. For example, an empty string is an invalid string.

Action Correct the syntax of the command, use valid tablespace names for all names in the list, then enter the command again.

MGR-00124 invalid ARCHIVE destination

Cause The specified ARCHIVE destination was not recognized.

Action Specify a legal ARCHIVE destination. See the *Oracle Server Manager User's Guide* for the correct syntax.

MGR-00125 integer value overflow

Cause A numeric value was specified that was too large.

Action Use a smaller number.

MGR-00127 invalid combination of STARTUP options

Cause The specified options of the STARTUP command cannot be used simultaneously.

Action Correct the syntax of the STARTUP command and issue the command again. See the *Oracle Server Manager User's Guide* for options that can be used with STARTUP.

MGR-00128 invalid DEBUG switch

Cause The DEBUG switch was not recognized.

Action Specify a legal DEBUG switch. See the *Oracle Server Manager User's Guide* for the correct syntax.

MGR-00129	value out of range (1 – <i>num</i>)
Cause	The specified value was out of range. The valid range is given by the error message.
Action	Use a number within the range specified by this error.
MGR-00131	invalid ARCHIVE TO device
Cause	The specified ARCHIVE TO device was not recognized.
Action	Specify a legal ARCHIVE TO device. See the <i>Oracle Server Manager User's Guide</i> for the correct syntax.
MGR-00132	null hostname/password specified
Cause	"hostname/password" was not specified.
Action	Specify the correct "hostname/password".
MGR-00133	invalid datafile list
Cause	An invalid string was entered as one of the values in the list of datafiles in the ARCHIVE LOG command. For example, an empty string is an invalid string.
Action	Correct the syntax of the command, use valid datafile names for all names in the list, then enter the command again.
MGR-00134	invalid AUTORECOVERY switch
Cause	An invalid option was specified for the SET AUTORECOVERY command.
Action	Use either ON or OFF as options for the SET AUTORECOVERY command.
MGR-00136	bad variable specification
Cause	A variable was incorrectly specified using the VARIABLE command.
Action	Correct the syntax of the command, then issue the command again.
MGR-00137	syntax error in PL/SQL Block
Cause	The PL/SQL block contains a syntax error.
Action	Correct the syntax error.

MGR-00139	invalid ALTER DATABASE option
Cause	The specified ALTER DATABASE option was not recognized.
Action	Specify a legal option. See the <i>Oracle Server Manager User's Guide</i> for the correct syntax.
MGR-00140	invalid COMPATIBILITY switch
Cause	The specified COMPATIBILITY switch was not recognized.
Action	Specify a legal COMPATIBILITY switch. See the <i>Oracle Server Manager User's Guide</i> for the correct syntax.
MGR-00141	invalid RETRIES value
Cause	The specified RETRIES value was not recognized.
Action	Specify a legal RETRIES value. See the <i>Oracle Server Manager User's Guide</i> for the correct syntax.
MGR-00142	cannot recognize object type, owner, or name
Cause	The specified object type, owner, or name was not recognized.
Action	Specify a legal object type, owner, or name.
MGR-00143	variable "<i>name</i>" has not been defined
Cause	The specified variable was not recognized.
Action	Specify an existing variable. You can use the PRINT command to display currently defined variables.
MGR-00144	invalid object type for DESCRIBE
Cause	The specified object type was not TABLE, VIEW, or PROCEDURE.
Action	Check that the object is a table, view, or procedure. If so, check that you specified the correct name and try again. If not, you cannot DESCRIBE the object.
MGR-00145	invalid object name for DESCRIBE
Cause	The specified table, view, stored procedure, or function was not recognized.
Action	Check your spelling and be sure to specify an existing table, view, stored procedure, or function.

MGR-00146 invalid HISTORY value

Cause The specified HISTORY value was not recognized.

Action Specify a legal HISTORY value. See the *Oracle Server Manager User's Guide* for the correct syntax.

MGR-00147 invalid LINES value

Cause The specified LINES value was not recognized.

Action Specify a legal LINES value. See the *Oracle Server Manager User's Guide* for the correct syntax.

00300-00399: Server Manager Line Mode Execution Messages

MGR-00300 internal error code, argument: [num]

Cause You have encountered an internal error in Server Manager.

Action Call Customer Support with the circumstances and complete set of messages leading to the error.

MGR-00301 cannot SET INSTANCE while connected to a database

Cause You used SET INSTANCE while you were connected to a database.

Action Disconnect from the database before using SET INSTANCE if you wish to change the current instance.

MGR-00302 not connected to a database

Cause You must be connected to the database for the requested operation.

Action Connect to the database using a valid username and password before retrying the operation.

MGR-00304 input file I/O error [num]; input aborted

Cause A command file used as input to Server Manager is corrupted or invalid.

Action Check the file before trying the operation again.

MGR-00305	command size exceeds internal buffer size (<i>num</i>)
Cause	The SQL statement size exceeds Server Manager's buffer size.
Action	Shorten the SQL statement by removing extra blanks or by converting intermediate statements to views.
MGR-00306	monitor cycle interval time out of range (1 – <i>num</i>)
Cause	You entered an invalid number for the cycle interval.
Action	Enter a value between 15 seconds and 99:99 (min:sec), inclusive, for the cycle interval.
MGR-00307	cannot open spool file “<i>name</i>”
Cause	Server Manager tried to open a spool file after you entered SPOOL < <i>filename</i> >, but could not open the file. Possible causes are a lack of disk space or inadequate privileges to create a file.
Action	Determine why Server Manager could not create a new file and try the operation again.
MGR-00308	no spool file opened
Cause	You entered SPOOL OFF, but you were not spooling at the time, so there was no file to close.
Action	If you wish to capture session output, first use the SPOOL command to open a file, then enter your commands before closing the file with SPOOL OFF.
MGR-00309	cannot close spool file “<i>name</i>”
Cause	SPOOL OFF could not close the currently open spool file.
Action	Check for operating system circumstances that are preventing the file from being closed.
MGR-00310	cannot open parameter file “<i>name</i>”
Cause	Server Manager cannot locate or open the file specified by the PFILE option, either because the file does not exist or because Server Manager has insufficient privileges to open the file.
Action	Make sure the file exists in a location expected by Server Manager and can be opened.

MGR-00311 data exceeds internal buffer size

Cause The results returned by a SQL query exceed the size of Server Manager's internal buffer.

Action Use the SET command to increase MAXDATA or decrease ARRAYSIZE.

MGR-00312 invalid pid range *num num*

Cause You entered an invalid range. Ranges must be specified using the lower number first. Note: If a valid range includes any currently active process identification numbers, the range will be accepted.

Action Enter a valid range.

MGR-00313 no active processes to monitor

Cause You specified process identification numbers that do not correspond to any currently active processes.

Action Try again by entering process identification numbers that you know to be currently active.

MGR-00314 unable to attach to default host

Cause The default host has not been set up correctly.

Action Use the SET INSTANCE command with a valid host specification to set up a default host.

MGR-00315 cannot open command file "*name*"

Cause Server Manager cannot locate the specified command file.

Action Verify the file's name and Server Manager's access to it before retrying.

MGR-00318 Server Manager command line error [*num*]

Cause You made a syntax or typing error while entering a Server Manager command.

Action Correct the syntax and try again.

MGR-00321 instance name too long

Cause You specified an instance name that may or may not be valid, but is too long (exceeds 127 characters).

Action Verify the name of the desired instance and try again.

MGR-00322	total size of command line parameters exceeds buffer size
Cause	You entered too many command line arguments and the size of the Server Manager buffer was exceeded.
Action	Reduce the number of command line arguments.
MGR-00323	invalid date specification; use DD-MON-YY:HH:MM:SS
Cause	You entered an improper date specification in the RECOVER DATABASE command.
Action	Use a valid date specification. For example: 24-DEC-1988:12:33:26.
MGR-00324	maximum number of tablespaces (<i>num</i>) exceeded; last <i>num</i> ignored
Cause	You specified too many tablespace names in the RECOVER TABLESPACE command. You may only specify up to 16 tablespace names.
Action	Reduce the number of tablespaces. If you want to recover more than 16 tablespaces, use the RECOVER command multiple times.
MGR-00325	read error on parameter file “<i>filename</i>”
Cause	The file you specified using the PFILE option of the STARTUP command is too large (exceeds 8K), the file contains a line that is too long, or another file system error occurred.
Action	Reduce the size of the parameter file before specifying it again or shorten extremely long lines in the file.
MGR-00326	currently no statistics belong to the specified class
Cause	At this time no statistics exist in the class you specified.
Action	None.
MGR-00327	command not available in this mode
Cause	You have specified a command that is not available in this mode.
Action	Do not specify the command in the current mode.
MGR-00328	insufficient privileges for this display
Cause	You do not have sufficient privileges to view the monitor you requested.
Action	Contact your database administrator to obtain the required privileges.

MGR-00329	insufficient privileges for SHOW SGA
Cause	You attempted to use SHOW SGA without sufficient privileges.
Action	Contact your database administrator to obtain the required privileges.
MGR-00330	logsource name too long
Cause	You specified a logsource name that may or may not be valid, but is too long (exceeds 127 characters).
Action	Verify the logsource name and try again.
MGR-00336	insufficient privileges for SHOW PARAMETERS
Cause	You attempted to use SHOW PARAMETERS without sufficient privileges.
Action	Contact your database administrator to obtain the required privileges.
MGR-00337	missing instance name
Cause	Instance name or service name not specified in the CONNECT statement.
Action	Use CONNECT <i>username/password@instance</i> .
MGR-00340	display size exceeded; extra lines truncated
Cause	The monitor display retrieved too many lines.
Action	Increase the granularity of your selection.
MGR-00341	the bind variable <i>name</i> is undefined
Cause	The SQL statement refers to an undefined bind variable.
Action	Use the VARIABLE command to define the bind variable and execute the query again.
MGR-00342	unable to complete internal login
Cause	An attempt was made to complete an internal connection to a database. This connection attempt has failed as a result of the indicated database error.
Action	Correct the database error and try again.
MGR-00343	no such parameter
Cause	SHOW PARAMETER was given a parameter name that does not exist.
Action	Use a different argument with SHOW PARAMETER.

MGR-00360	object to be described does not exist
Cause	The object in a DESCRIBE FUNCTION/PROCEDURE/PACKAGE statement does not exist.
Action	Check that the object name and owner are correct and that the object exists.
MGR-00361	no privilege to describe this object
Cause	You do not have sufficient privileges to describe the object.
Action	The object owner must grant privileges on the object.
MGR-00362	text too long for DESCRIBE
Cause	The object's text is too long for the DESCRIBE command.
Action	The object cannot be used with the DESCRIBE command.
MGR-00363	logic error in DESCRIBE
Cause	You have encountered an internal error in Server Manager.
Action	Call Customer Support with the circumstances and complete set of messages leading to the error.
MGR-00364	out of space for identifier in DESCRIBE
Cause	You have encountered an internal error in Server Manager.
Action	Call Customer Support with the circumstances and complete set of messages leading to the error.
MGR-00365	DESCRIBE PACKAGE BODY is not supported
Cause	Only a package's specification can be described. The keyword BODY cannot be used with DESCRIBE PACKAGE.
Action	Remove the BODY keyword.

01500–01599: Server Manager Internal Messages

MGR–01501 Server Manager has run out of memory

Cause Server Manager was unable to obtain the memory it required.

Action Close some windows or exit and restart Server Manager.

MGR–01503 an invalid argument was sent to a function

Cause An internal Server Manager function was called incorrectly.

Action Call Customer Support with the circumstances and complete set of messages leading to the error.

MGR–01505 user requested cancel

Cause You cancelled out of the middle of a process.

Action None.

MGR–01506 unknown error

Cause Unknown.

Action Call Customer Support with the circumstances and complete set of messages leading to the error.

MGR–01507 unable to open file “*filename*”

Cause Server Manager was unable to open an existing file or create a new one.

Action Check that the file exists and Server Manager can locate the file. Or make sure there is enough free disk space and you have sufficient privileges to create a file.

MGR–01508 unable to close the current file

Cause Server Manager was unable to close a file.

Action Check for operating system circumstances that are preventing the file from being closed.

MGR–01509 unexpected EOF encountered

Cause Server Manager encountered an unexpected End-Of-File marker.

Action Examine the script(s) to determine the problem.

MGR-01523 invalid monitor name: *name*

Cause The entered monitor name is not a valid monitor type.

Action Enter a different monitor name.

02000-02009: Server Manager About Box Messages

MGR-02001 unable to destroy a timer

MGR-02002 unable to create a timer

Cause You have encountered an internal error in Server Manager.

Action Call Customer Support with the circumstances and complete set of messages leading to the error.

MGR-02003 unable to load a window from a resource file

MGR-02004 unable to find a needed resource: masplash.tif

Cause A resource file is missing or corrupted.

Action Check your Oracle platform-specific documentation to make sure Server Manager is installed correctly. Reinstall if necessary. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.

02010–02019: Server Manager Administration Window Internal Messages

Most messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

For other messages in this range, specific actions can be taken. These messages are listed below:

MGR–02011 **a control is missing from a resource**

MGR–02016 **an error occurred while loading a window from the resource file**

MGR–02017 **unable to get subview**

Cause A resource file is corrupted.

Action Check your Oracle platform–specific documentation to make sure Server Manager is installed correctly. Reinstall if necessary. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.

MGR–02019 **an error occurred while accessing help**

Cause An error occurred in Oracle Help.

Action Examine subsequent messages.

02020–02029: Server Manager Event Handler Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

02030–02039: Server Manager Connection List Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

02040–02069: Server Manager Startup Messages

Most messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

For other messages in this range, specific actions can be taken. These messages are listed below:

- MGR–02042** **unable to open resource file: *name***
- MGR–02046** **unable to get a resource**
- MGR–02047** **unable to load window system resources**
- MGR–02051** **an error occurred while initializing Multimedia**
- Cause** The multimedia resource file (*mmmwm.res*) may be missing or corrupted.
- Action** Check your Oracle platform–specific documentation to make sure Server Manager is installed correctly. Reinstall if necessary. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.
- MGR–02056** **unable to load the splash screen from the resource file**
- MGR–02057** **unable to find a necessary resource file**
- Cause** A resource file is corrupted.
- Action** Check your Oracle platform–specific documentation to make sure Server Manager is installed correctly. Reinstall if necessary. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.
- MGR–02059** **unable to open .msb file for product *name*, facility *name***
- Cause** The message file for the specified product and facility cannot be found.
- Action** Check your Oracle platform–specific documentation to make sure Server Manager is installed correctly. Reinstall if necessary. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.

02070–02089: Server Manager Window and Menu Handler Messages

Most messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

For other messages in this range, specific actions can be taken. These messages are listed below:

MGR–02073 an error occurred while connecting to a database

Cause An error occurred while connecting to a database.

Action Examine subsequent messages.

MGR–02076 an error occurred while disconnecting from a database

Cause An error occurred while disconnecting from a database.

Action Examine subsequent messages.

MGR–02083 unable to load the Connect dialog box

Cause A resource file is corrupted.

Action Check your Oracle platform–specific documentation to make sure Server Manager is installed correctly. Reinstall if necessary. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.

02090–02099: Server Manager Utility Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

02100–02109: Server Manager Window Handler Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

02110–02119: Server Manager Root Window Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

02130–02139: Server Manager Administration Window Button and Folder Tab Messages

Most messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

For other messages in this range, specific actions can be taken. These messages are listed below:

- | | |
|------------------|---|
| MGR–02134 | tab “<i>name</i>” failed; maybe catsvrmg.sql not run or not a DBA |
| MGR–02135 | tab “<i>name</i>” failed; maybe insufficient privileges |
| Cause | Either Server Manager was not installed fully, or you do not have access to this information. |
| Action | Run the CATSVRMG.SQL script as SYS, if necessary. Then connect as a user with the DBA role as a default role. |
| MGR–02136 | tab “<i>name</i>” failed, maybe utlxplan.sql not run |
| Cause | The table sys.plan_table does not exist. |
| Action | Run the script UTLXPLAN.SQL as SYS. |

MGR-02137 **tab “*name*” failed, maybe catrepad.sql not run or not a DBA**

Cause Either Server Manager was not installed fully, or you do not have access to this information.

Action Run the catrepad.sql script as SYS, if necessary. Then connect as a user with the DBA role as a default role.

02140–02149: Server Manager Administration Window Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

02150–02159: Server Manager Administration Window SQL Interface Messages

Most messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

For other messages in this range, specific actions can be taken. These messages are listed below:

MGR-02150 **an unrecognized database version was encountered**

Cause You have tried to administer a database version that Server Manager does not support.

Action Consider upgrading your database.

MGR-02151 **a specification for action *string* could not be found**

Cause A resource file is corrupted.

Action Check your Oracle platform-specific documentation to make sure Server Manager is installed correctly. Reinstall if necessary. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.

MGR-02156	Server Manager could not perform action <i>string</i>
MGR-02157	action <i>string</i> failed; maybe catsvrmg.sql not run or not a DBA
MGR-02158	action <i>string</i> failed; maybe insufficient privileges
Cause	Either Server Manager was not installed fully, or you do not have access to this information.
Action	Run the CATSVRMG.SQL script as SYS, if necessary. Then connect as a user with the DBA role as a default role.

02160–02169: Server Manager Administration Window Menu Handler Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

02170–02179: Server Manager Administration Window Lower Pane Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

02180–02189: Server Manager Administration Window Object List Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

02190–02199: Server Manager Administration Window Database Banner Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

03000–03499: Server Manager Monitor Messages

Most messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

For other messages in this range, specific actions can be taken. These messages are listed below:

MGR-03006 **the *monitor_name* could not enable its child views**

MGR-03007 **the *monitor_name* could not disable its child views**

Cause A monitor resource is corrupted.

Action Check your Oracle platform-specific documentation to make sure Server Manager is installed correctly. Reinstall if necessary. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.

MGR-03008 **the *monitor_name* could not be resized**

Cause The monitor was not able to be resized.

Action Examine subsequent messages. A Toolkit error should follow this message.

MGR-03009 **the *monitor_name* could not sort on the selected column**

MGR-03010 **the *monitor_name* cannot set its Cycle radio button**

MGR-03011 **the *monitor_name* cannot set its Sample on Demand radio button**

MGR-03012 **the *monitor_name* cannot reset a button**

Cause A monitor resource is corrupted.

Action Check your Oracle platform-specific documentation to make sure Server Manager is installed correctly. Reinstall if necessary. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.

MGR-03013 **the *monitor_name* cannot complete the filter operation**

Cause Text in the Filter field is invalid.

Action Enter valid text in the Filter field.

MGR-03016	a <i>monitor_name</i> is closing because its SQL command failed
Cause	Connection to the database has been lost during the execution of a SQL command.
Action	Verify that the database is still running and that the network is functioning properly. Attempt to reconnect.
MGR-03017	a <i>monitor_name</i> is closing because its Interval pop-up menu failed
Cause	An error was generated when the Interval pop-up menu was used.
Action	Examine subsequent messages.
MGR-03018	the <i>monitor_name</i> is in an unknown state and could not be removed
Cause	The monitor failed to shut down properly.
Action	Call Customer Support with the circumstances and complete set of messages leading to the error.
MGR-03019	the <i>monitor_name</i> was not found
Cause	A monitor resource is corrupted.
Action	Check your Oracle platform-specific documentation to make sure Server Manager is installed correctly. Reinstall if necessary. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.
MGR-03020	the following title was too long: "<i>name</i>"
Cause	You attempted to create a monitor with a connection name longer than 80 characters.
Action	Shorten your SQL*Net service names.
MGR-03021	a <i>monitor_name</i> is closing because of an error finishing a SQL command
Cause	The monitor lost connection with the database while a SQL command was running.
Action	Verify that the database is still running and that the network is functioning properly. Attempt to reconnect. A more specific error message will follow, probably indicating that the connection state has changed.

- MGR-03022 select a monitor from the scrolling list and click OK**
- Cause** A resource file is missing or corrupted.
- Action** Check your Oracle platform-specific documentation to make sure Server Manager is installed correctly. Reinstall if necessary. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.
-
- MGR-03023 monitor selection failed**
- Cause** An error occurred during the selection of a monitor.
- Action** Examine subsequent messages.
-
- MGR-03024 interval must be at least 15 seconds**
- Cause** User entered an interval less than 15 seconds.
- Action** Enter a valid interval of 15 seconds or more.
-
- MGR-03025 numeric filter fields must contain numeric values**
- Cause** User entered a non-numeric value for a numeric filter field.
- Action** Enter a valid number in the filter field and click filter again.
-
- MGR-03050 a *monitor_name* is closing because of an error in parse/bind/define**
- Cause** An error was encountered when attempting to parse, bind, or define a SQL statement for the monitor.
- Action** Verify that the database is still running and that the network is functioning properly. Attempt to reconnect. A more specific error message will follow, probably indicating that the connection state has changed.
-
- MGR-03051 an error occurred while executing a monitor query**
- MGR-03052 the query for the *monitor_name* failed to execute**
- Cause** An error occurred when the monitor was interacting with the SQL engine.
- Action** Verify that the database is still running and that the network is functioning properly. Attempt to reconnect. A more specific error message will follow, probably indicating that the connection state has changed.

- MGR-03053** **an error occurred after completing a monitor query**
- MGR-03054** **one or more monitors are closing due to a connection problem**
- Cause** The state of the monitor connection has changed as a result of actions taken outside of the monitor subsystem.
- Action** Verify that the database is still running and that the network is functioning properly. Attempt to reconnect. A more specific error message will follow, probably indicating that the connection state has changed.

03500-03536: Server Manager SQL Engine Messages

- MGR-03500** **encountered an unterminated quote**
- Cause** The last command contained an open quote without a matching close quote.
- Action** Correct the quoting and issue the command again.
- MGR-03501** **unable to process so many nested scripts**
- Cause** You have attempted to run a script that in turn tries to run too many nested levels of scripts.
- Action** Restructure your scripts so the nesting depth decreases.
- MGR-03502** **the @@ operator is only allowed within SQL scripts**
- Cause** You attempted to use the @@ operator from the interactive mode.
- Action** The @@ operator is only allowed from within a script. In the interactive mode, use the @ operator to run a SQL script.
- MGR-03503** **could not resolve the symbols in “filename”**
- Cause** The filename you provided for the parameter file contained undefined symbols.
- Action** Check the text of the parameter filename you provided.
- MGR-03504** **CYCLE is no longer a valid global property**
- Cause** You attempted to set the CYCLE property.
- Action** Set the interval in the monitor(s) you are running.

- MGR-03505 *ARRAYSIZE* is no longer a valid global property**
- Cause** You attempted to set the *ARRAYSIZE* property.
- Action** None. Server Manager will fetch as many rows as possible given the current size of the *MAXDATA* buffer.
-
- MGR-03506 expected a number (*num-999999*), not “*string*”**
- Cause** You attempted to set a property (*NUMWIDTH*, *CHARWIDTH*, and so on) to a non-numeric value or a number outside of the legal range.
- Action** Use a value within the specified range.
-
- MGR-03509 corrupted internal Oracle number representation**
- Cause** You attempted to use a bind variable that appears to have been corrupted.
- Action** Call Customer Support with the circumstances and complete set of messages leading to the error.
-
- MGR-03510 corrupted bind variable type [*type*]**
- Cause** You attempted to use a bind variable that appears to have been corrupted.
- Action** Call Customer Support with the circumstances and complete set of messages leading to the error.
-
- MGR-03511 the *HOST* command is not supported in graphical mode**
- Cause** You tried to use the *HOST* command from within a SQL Worksheet.
- Action** Scripts that make use of the *HOST* command must be run from Server Manager line mode.
-
- MGR-03512 spool file “*name*” is already open**
- Cause** You attempted to open a second spool file.
- Action** Use *SPOOL OFF* to close the existing spool file.
-
- MGR-03514 unable to start the database**
- Cause** The cause is listed in subsequent error messages.
- Action** Examine the subsequent errors.

MGR-03515	invalid SERVEROUTPUT switch
Cause	You attempted to set SERVEROUTPUT to something other than ON or OFF.
Action	Use ON or OFF as arguments with SET SERVEROUTPUT.
MGR-03523	no parameter for SHOW ERRORS and no object has been compiled
Cause	You issued a SHOW ERRORS command, but have yet to compile a PL/SQL object.
Action	You can find error information for a specific object by selecting from the ALL_ERRORS view where NAME = <object>.
MGR-03524	unable to shutdown the database
Cause	You attempted to shut down the database without sufficient privileges.
Action	Enable the privileges required for shutdown.
MGR-03525	expected SYSDBA or SYSOPER, not “string”
Cause	You attempted to use the CONNECT AS syntax and specified something other than SYSDBA or SYSOPER.
Action	Correct the syntax and issue the command again. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.
MGR-03534	invalid AUTOPRINT switch
Cause	You attempted to set AUTOPRINT to something other than ON or OFF
Action	Use ON or OFF as arguments with SET AUTOPRINT.
MGR-03536	variable type REFCURSOR not available
Cause	You tried to declare a REFCURSOR variable against a version of server manager which which does not support this variable type.
Action	The version of Server Manager you are running against does not support the REFCURSOR feature. It was most likely compiled against a pre-7.2 database.

04000–04008: Server Manager Worksheet Command Messages

Messages in this range indicate that a SQL Worksheet command failed to execute properly. Other messages will follow the SQL Worksheet command messages. Examine the subsequent messages to determine the proper action.

04009–04099: Server Manager Worksheet Messages

MGR–04017 the attempted font change did not succeed

Cause This action is not available to you.

Action Do not change the font.

MGR–04022 the Write Selection menu item was chosen without a text selection

Cause You chose Write Selection from the Worksheet menu without having any text selected in the input or output panes of a SQL Worksheet.

Action Attempt the command with text selected.

MGR–04024 unable to open specified file: “*name*”

Cause A specified file could not be opened.

Action The file is either invalid or in an unexpected format. Verify the filename and replace the file with a usable file, if necessary.

MGR–04025 the Get File option of the Recover dialog box failed

Cause You specified a filename which was invalid.

Action Specify a valid filename.

MGR–04026 the Apply Recovery Archives dialog box failed

Cause An error occurred in the operation of the Worksheet’s Apply Recovery Archives dialog box.

Action Examine subsequent messages.

MGR-04027 the database is not available

Cause The Oracle database is not accessible from your system.

Action Verify that the database is available and that you have the ability to connect to the database from the current location.

04501–04549: Server Manager Line Mode Messages

MGR-04501 monitors are not available from the line mode Server Manager

Cause You attempted the MONITOR command from Server Manager line mode.

Action Start Server Manager in graphical mode to run monitors.

MGR-04544 invalid parameter format

Cause You gave an invalid command line argument.

Action Start Line mode with the correct arguments. These should be of the format `command=" command"`. Note that the *command* should be in quotes.

MGR-04545 too many parameters

Cause You gave too many parameters on the command line, or your command line parameters may have been parsed separately.

Action Pass in only the supported number of arguments. Make sure they are of the format `command=" command"`. Note that the *command* should be in quotes.

MGR-04546 invalid connect string

Cause Your connect string contained invalid information.

Action Check the syntax of your connect string. It should be "[*username*]
[/*password*] [*@instance path*]".

MGR-04547 duplicate password

Cause Your connect string contained either a null password or multiple password strings.

Action Make sure your connect string only gives a single password. It should be of the form "`/password`".

MGR-04548 null *username/password* not valid with connection name

Cause A connect string with a null *username/password* and a non-null connection name is invalid.

Action You must explicitly specify a null *username/password* using the "/" designator when giving a connection name in the user string. For example:
"/@t:lorax:E".

MGR-04549 null or invalid connection name

Cause Your connect string contained either a null or invalid host string.

Action Check the syntax of your connect string.

05500-05509: Server Manager User Program Interface Messages

MGR-05500 out of unique ids for asynchronous connections

Cause You have too many outstanding asynchronous connections.

Action Close some less important windows or restart Server Manager.

MGR-05501 user string overflow

Cause You have tried to connect using a username that is greater than 30 characters in length.

Action Specify a shorter username.

MGR-05502 password string overflow

Cause You have tried to connect using a password that is greater than 30 characters in length.

Action Specify a shorter password.

MGR-05503 host string overflow

Cause You have tried to connect using a hostname that is greater than 80 characters in length.

Action Use a shorter service name.

- MGR-05504 cannot connect to an Oracle *version_num* instance**
- Cause** You have attempted to connect to an old version of Oracle.
- Action** Server Manager can only run against Version 7 or later. You can upgrade the instance, or use the SQL*DBA included with your release of Oracle.
-
- MGR-05505 cannot perform a CONNECT *usr/pswd* AS *name* to an ORACLE 7.0 instance**
- Cause** You tried to connect to a version 7.0 database AS SYSDBA or AS SYSOPER.
- Action** In Version 7.0 you must CONNECT INTERNAL [/password].
-
- MGR-05506 unable to release an allocated connection**
- Cause** You attempted to close a window which could not be closed.
- Action** Call Customer Support with the circumstances and complete set of messages leading to the error.
-
- MGR-05507 the list of connections has been corrupted**
- Cause** You have encountered an internal error in Server Manager.
- Action** Call Customer Support with the circumstances and complete set of messages leading to the error.

06500-06529: Server Manager Oracle Toolkit II Messages

Most messages in this range indicate that you have encountered an internal error. Call Customer Support with the circumstances and complete set of messages leading to the error.

For other messages in this range, specific actions can be taken. These messages are listed below:

- MGR-06512 Oracle Toolkit II has run out of memory**
- Cause** There is not enough memory.
- Action** Free up or add memory.
-
- MGR-06513 Oracle Toolkit II's client has run out of memory**
- Cause** There is not enough memory.
- Action** Free up or add memory.

- MGR-06518** **Oracle Toolkit II's connection to the window system was refused**
- Cause** The windowing system (usually X Windows) denied permission to connect.
- Action** On X Windows, set the DISPLAY to a server that will allow connections.

06600-06699: Server Manager Oracle Help Messages

Most messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

For other messages in this range, specific actions can be taken. These messages are listed below:

- MGR-06602** **the Oracle Help book is in a format not recognized by object store**
- Cause** The Oracle Help book has not been installed properly or is corrupted.
- Action** Reinstall the help book(s) or the entire product.
- MGR-06603** **Oracle Help has run out of memory**
- Cause** There is not enough memory.
- Action** Free up or add memory.
- MGR-06606** **Oracle Help could not find a help target**
- Cause** The program tried to access an Oracle Help target not contained in the help book(s).
- Action** Reinstall the help book(s) or the entire product. If this does not solve the problem, contact Customer Support with the circumstances and complete set of messages leading to the error.
- MGR-06607** **Oracle Help could not find the specified word**
- Cause** The find operation could not locate the specified word.
- Action** The word does not exist in the Help document. Try another word.

MGR-06608 Oracle Help could not link to external document

Cause External document is either damaged, non-existent, or is not an Oracle Book document.

Action Replace the document or link to a valid document.

MGR-06610 the document is not an Oracle Help document

Cause The Oracle Help book has not been installed properly or has become corrupted.

Action Reinstall the help book(s) or the entire product.

MGR-06611 the document is newer than Oracle Help

Cause The Oracle Help book has not been installed properly or has become corrupted.

Action Reinstall the help book(s) or the entire product. If this does not solve the problem, contact Customer Support with the circumstances and complete set of messages leading to the error.

MGR-06614 Oracle Help encountered an invalid link

Cause The program tried to follow an Oracle Help link not contained in the help book(s).

Action Reinstall the help book(s) or the entire product. If this does not solve the problem, contact Customer Support with the circumstances and complete set of messages leading to the error.

MGR-06618 the string begins with a percent sign

Cause An entered string begins with a percent sign.

Action Remove the percent sign from the beginning of the string.

07001–08529: Server Manager DRUID Messages

MGR-07368 the Username field must contain a valid Oracle username

Cause The text you entered in the Username field is not a valid Oracle username.

Action Check to make sure the value entered conforms to the guidelines for Oracle usernames given in Chapter 2 of the *Oracle7 Server SQL Reference*.

- MGR-07369** **the Password field must contain a password string**
- Cause** You selected Password in the Create/Alter User property sheet, but did not specify a password.
- Action** Select another password option or assign a password to the user.
-
- MGR-07401** **the Composite Limit field must contain a valid number**
- MGR-07402** **the Private SGA field must contain a valid number**
- MGR-07403** **the Reads per Call field must contain a valid number**
- MGR-07404** **the Reads per Session field must contain a valid number**
- MGR-07405** **the Idle Time field must contain a valid number**
- MGR-07406** **the Connect Time field must contain a valid number**
- MGR-07407** **the CPU per Call field must contain a valid number**
- MGR-07408** **the CPU per Session field must contain a valid number**
- MGR-07409** **the Sessions per User field must contain a valid number**
- Cause** The number entered in the indicated field is not valid.
- Action** Check to make sure there are no extraneous alphabetic or punctuation characters in the field. Make sure the value entered is within the range of valid values.
-
- MGR-07410** **the Profile Name field must contain a valid Oracle identifier**
- Cause** The value entered in the Profile Name field is not an Oracle identifier.
- Action** Check to make sure the value entered conforms to the guidelines for Oracle identifiers given in Chapter 2 of the *Oracle7 Server SQL Reference*.
-
- MGR-07537** **the System Change Number field must contain a positive number**
- Cause** The value you have entered in the field is not a valid SCN.
- Action** In general, you should allow Oracle to determine the SCN, so try committing the transaction without specifying an SCN.
-
- MGR-07539** **the Group Number field must contain a valid number**
- Cause** The value in the field is not a number.
- Action** The group number must be a positive number that is not the number of an existing group. When the dialog box appears, Server Manager initializes this field to be one greater than the greatest log file group number.

- MGR-07540 the New File Size field must contain a valid number**
- Cause** The value in this field is not a number.
- Action** Provide a valid positive number.
-
- MGR-07541 at least one file must be specified**
- Cause** You have not specified the name of at least one file.
- Action** Use the New button to bring up the file specification dialog box from which you can select a file.
-
- MGR-07542 the Filename field must contain a valid filename**
- Cause** The field is empty or contains an invalid file.
- Action** Provide a valid filename.
-
- MGR-07543 you must select a log file group in which to place the log file**
- Cause** You have not selected the group into which this log file will be placed.
- Action** Choose one of the provided groups.
-
- MGR-07544 the To field must contain a valid filename**
- Cause** The field is empty or contains an invalid file.
- Action** Provide a valid filename.
-
- MGR-07547 the Name field must contain a valid Oracle identifier**
- Cause** The Name field is empty or contains a value that is not a valid Oracle identifier.
- Action** Check to make sure the value entered conforms to the guidelines for Oracle identifiers given in Chapter 2 of the *Oracle7 Server SQL Reference*.
-
- MGR-07548 you must specify at least one datafile**
- Cause** There are no entries in the list of datafiles.
- Action** Use the New button to bring up a dialog box that will allow you to specify a datafile.

- MGR-07549** **the Initial Extent field must be empty or contain a valid number**
- MGR-07550** **the Next Extent field must be empty or contain a valid number**
- MGR-07551** **the Minimum Extents field must be empty or contain a valid number**
- MGR-07552** **the Maximum Extents field must be empty or contain a valid number**
- MGR-07553** **the Percentage Increase field must be empty or contain a valid number**

Cause The value is not a positive number.

Action Specify a positive number or leave the field empty.

- MGR-07555** **unable to find tablespace information for “*name*”**

Cause Server Manager was unable to find the default storage settings for the chosen tablespace.

Action Refresh the Tablespaces object list and try to alter the tablespace again. If the problem persists, call Customer Support with the circumstances and complete set of messages leading to the error.

- MGR-07556** **the Rollback Segment field must contain a valid Oracle identifier**

Cause The Rollback Segment field is empty or contains a value that is not a valid Oracle identifier.

Action Check to make sure the value entered conforms to the guidelines for Oracle identifiers given in Chapter 2 of the *Oracle7 Server SQL Reference*.

- MGR-07557** **the Optimal field must be empty or contain a valid number**

Cause The value is not a positive number.

Action Specify a positive number or leave the field empty.

- MGR-08049** **the Role Name field must contain a valid Oracle identifier**

Cause The text you entered in the Role Name field is not a valid Oracle identifier.

Action Check to make sure the value entered conforms to the guidelines for Oracle usernames given in Chapter 2 of the *Oracle7 Server SQL Reference*.

- MGR-08050** **with Password selected, a password must be specified**

Cause You selected Password in the Create/Alter Role property sheet, but did not specify a password.

Action Select another password option or assign a password to the role.

MGR-08051	a user or role must be specified
Cause	No user or role was specified in the Grant/Revoke Role dialog box.
Action	Select a user or role from the scrolling list.
MGR-08052	with the Role privilege type selected, a role must be chosen
Cause	With the Role privilege type selected, you clicked the OK button in the Add Privilege to Role dialog box before selecting a role from the Defined Roles scrolling list.
Action	Select a role from the Defined Roles scrolling list or click the Cancel button to exit the dialog box.
MGR-08053	with the System privilege type selected, a privilege must be chosen
Cause	With the System Privileges privilege type selected, you clicked the OK button in the Add Privilege to Role dialog box before selecting a system privilege from the System Privileges scrolling list.
Action	Select a privilege from the System Privileges scrolling list or click the Cancel button to exit the dialog box.
MGR-08054	with the Object privilege type selected, an object must be specified
Cause	With the Object privilege type selected, you clicked the OK button in the Add Privilege to Role dialog box before entering an object in the Object Name field.
Action	Enter an object into the Object Name field or click the Cancel button to exit the dialog box.
MGR-08055	a schema must be chosen
Cause	You clicked the OK button in the Find Schema Object dialog box without selecting a schema from the Schema scrolling list.
Action	Select a schema from the Schema scrolling list or click the Cancel button to exit the dialog box.
MGR-08056	an object must be chosen
Cause	You clicked the OK button in the Find Schema Object dialog box without selecting an object from the Object scrolling list.
Action	Select an object from the Object scrolling list or click the Cancel button to exit the dialog box.

- MGR-08504 the tablespace “*name*” is not offline so this datafile cannot be renamed**
- Cause** You tried to rename a datafile in an online tablespace.
- Action** Take the corresponding tablespace offline and then rename the datafile.
-
- MGR-08505 the tablespace “*name*” is invalid so this datafile cannot be renamed**
- Cause** You tried to rename a datafile in an invalid tablespace.
- Action** Repair the tablespace to make it valid and then rename the datafile.
-
- MGR-08507 the Quota Size field must contain a valid number**
- Cause** A negative number or a non-numeric character was entered in the Quota Size field of the Add/Edit Quota dialog box.
- Action** Enter a valid quota size.
-
- MGR-08510 a user must be specified**
- Cause** No user was specified in the Users scrolling list of the Assign Profile dialog box.
- Action** Specify a user.
-
- MGR-08515 this datafile has already been added to the database and cannot be removed**
- Cause** You tried to remove from a tablespace a datafile which belongs to a tablespace.
- Action** None. A previously added datafile cannot be removed.
-
- MGR-08517 the Object Name field does not contain a valid schema object**
- Cause** You entered a schema object that does not follow proper naming or quoting conventions.
- Action** Enter a valid schema object name.
-
- MGR-08524 a privilege or role must be specified**
- Cause** A Privilege or Role was not specified in the Remove Privilege from User/Role dialog box.
- Action** Select a privilege or role from the list before clicking the Remove button.

09500–09999: Server Manager Help System Messages

Most messages in this range indicate that you have encountered an internal error. Call Customer Support with the circumstances and complete set of messages leading to the error.

For other messages in this range, specific actions can be taken. These messages are listed below:

MGR–09501 help is not available for the active window

Cause The active window does not have a help target. This is probably because it is a system window rather than a Server Manager window.

Action None. Refer to your documentation for the information about which you were looking for help.

MGR–09502 Oracle Help returned an error

Cause Unknown.

Action A second message will include the Oracle Help error. This number should be looked up in the Oracle Help documentation.

MGR–09506 Oracle Help was not able to respond to the user request

Cause Multiple causes; to be clarified by additional error messages.

Action Examine subsequent messages.

MGR–09507 Oracle Help text was not found

Cause The Oracle Help book, mahelp.obd, is not properly installed or slfindfile() cannot find it.

Action Reinstall Oracle Book or verify the response of slfindfile() for your platform.

MGR–09508 the text for target “*string*” was not found

Cause The context string in the maht (help table) did not have a corresponding string in the mahelp.obd book.

Action Call Customer Support with the circumstances and complete set of messages leading to the error. The file mahelp.obd or the maht will need to be modified.

10000–10099: Server Manager National Language Support Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

10500–10599: Server Manager Oracle Toolkit II Resource Manager Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

11000–11499: Server Manager Core Messages

Messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

For other messages in this range, specific actions can be taken. These messages are listed below:

MGR–11401 input error, unable to read input line

Cause An error in reading from the input source occurred. This is most likely because the input line is too long.

Action Try breaking the input line into multiple lines of no more than 1024 bytes per line.

MGR–11402 error while writing output to a file

Cause An error in writing to the output file occurred. This is most likely because the output line is too long.

Action Call Customer Support with the circumstances and complete set of messages leading to the error.

MGR–11403 error while writing output

Cause An error in writing to the output source (generally stdout) occurred. This is most likely because the output line is too long.

Action If this occurred in Server Manager Line Mode, try executing the query in the Server Manager Worksheet.

MGR-11404 error formatting output

Cause An error occurred during the CORE sprintf routine.

Action Call Customer Support with the circumstances and complete set of messages leading to the error.

11500-11999: Server Manager Replication Messages

Most messages in this range indicate that you have encountered an internal error. For these messages, call Customer Support with the circumstances and complete set of messages leading to the error.

For other messages in this range, specific actions can be taken. These messages are listed below:

MGR-11500 you must quiesce the replicated schema before performing the operation

Cause You attempted to alter a master repschema that has not been quiesced.

Action First Suspend Master Activity on the replicated schema, then try again.

MGR-11502 the current operation is only valid for master definition sites

Cause You attempted to use an operation that is only valid for master definition sites.

Action Perform operation on a master definition site.

MGR-11505 the Remote Master field must contain a valid remote database

Cause The operation needs a list of one or more remote masters on which to operate.

Action Specify a list of masters in the Server Manager dialog using multi-select.

MGR-11506 the DDL Text field must contain a valid DDL statement

Cause The operation needs a DDL statement.

Action Enter a DDL statement in the Server Manager dialog.

MGR-11517 the selected Destination Database has no transactions queued for remote execution

Cause You attempted an operation on a Destination Database which has no transactions queued for remote execution.

Action Retry this operation when there are transactions queued for remote execution.

- MGR-11519 the Transaction Count field must contain a positive integer**
- Cause** The number entered in the indicated field is not valid.
- Action** Check to make sure there are no extraneous alphabetic or punctuation characters in the field. Make sure the value entered is within the range of valid values.
-
- MGR-11520 the Execution Seconds field must contain a positive integer**
- Cause** The number entered in the indicated field is not valid.
- Action** Check to make sure there are no extraneous alphabetic or punctuation characters in the field. Make sure the value entered is within the range of valid values.
-
- MGR-11521 the selected deferred transaction has no associated calls**
- Cause** A deferred transaction was queued for execution, but the transaction does not contain any operations (i.e. a null transaction)
- Action** Call Customer Support with the circumstances and complete set of messages leading to the error.
-
- MGR-11523 the deferred call arguments could not be extracted**
- Cause** An error occurred while trying to extract and store the arguments for a call in a deferred transaction.
- Action** Call Customer Support with the circumstances and complete set of messages leading to the error.
-
- MGR-11525 the local database is not a master site**
- Cause** An operation originating from a remote database or locally assumes that the local database is a master site for replication.
- Action** No action can be taken in this case.
-
- MGR-11528 all objects in the chosen schema are already replicated**
- Cause** All the objects in the chosen schema are replicated.
- Action** Choose a different schema or add some more objects to this schema.
-
- MGR-11530 you must select at least one Remote Master from the list**
- Cause** The operation needs a list of one or more remote masters on which to operate.
- Action** Specify a list of masters in the Server Manager dialog using multi-select.

- MGR-11531** **cannot generate replication support for *name*. Table has no PRIMARY KEY.**
- Cause** Replication will not work for tables without a PRIMARY KEY.
- Action** Recreate table with a PRIMARY KEY or call procedure
 DBMS_REPCAT.SET_COLUMNS after CREATE_MASTER_REPOBJECT but
 before GENERATE_REPLICATION_SUPPORT.
- MGR-11532** **you must select at least one Master Database from the list**
- Cause** The operation needs a list of one or more remote masters on which to operate.
- Action** Specify a list of masters in the Server Manager dialog using multi-select.
- MGR-11533** **cannot execute package SYS.DBMS_DEFER_PRINT. Maybe CATREPAD.SQL not run or no EXECUTE privilege**
- Cause** Server manager cannot execute DBMS_DEFER_PRINT.
- Action** Make sure CATREPAD.SQL has been run and the current user has execute
 privileges on DBMS_DEFER_PRINT.
- MGR-11534** **cannot display call arguments for a remote procedure from a snapshot site**
- Cause** Cannot get the call arguments for remote procedure.
- Action** No action is available from a snapshot site.

APPENDIX

C

Compatibility with SQL*DBA

This appendix lists the differences between Oracle7 SQL*DBA and Server Manager.

Functional Differences

<i>Feature</i>	<i>SQL*DBA</i>	<i>Server Manager</i>
DESCRIBE	DESCRIBE <object name>	DESCRIBE <object type> <object name>
DESCRIBE for PL/SQL	Lists information about the procedure's arguments in a tabular form	Lists the definition of the procedure's arguments
PRINT <no args>	Does nothing	Prints all defined variables
PRINT (before connect)	SQLDBA> print a DBA-00302: not connected to a database	SVRMGR> print a A ----- 10
SET COMPATIBILITY NATIVE	Unsupported	Server Manager uses the native SQL of the database to which you are connected
SHOW <no args>	SQLDBA> show show * DBA-00115: unexpected end of command	Prints current Server Manager settings
SPOOL <no args>	SQLDBA> spool File sqldba.log opened... No prompt	SVRMGR> spool Name for the spool file: (svrmgr.log) Prompts for a filename. The default is SVRMGR.LOG.
STARTUP	If any step of STARTUP fails, SQL*DBA backs out and leaves the database in a shutdown state.	If any step of STARTUP fails, Server Manager leaves the database in its current state. For example, if an error is en- countered after the mount stage, Server Manager leaves the database mounted.
VARIABLE a CHAR	Default size is 1	Default size is CHARWIDTH

Table C – 1 Functional Differences, continued on next page

<i>Feature</i>	<i>SQL*DBA</i>	<i>Server Manager</i>
@<no args>	SQLDBA> @ ORA-07225: ... Prints an error	SVRMGR> @ Name of script file: Prompts for the name of the file
Empty line	SQLDBA> garbage 2> SQLDBA> ; SQLDBA>	SVRMGR> garbage 2> 3>; garbage * ORA-00900: invalid SQL statement SVRMGR>

Table C – 1 Functional Differences

Cosmetic Differences

<i>Feature</i>	<i>SQL*DBA</i>	<i>Server Manager</i>
Prompt	SQLDBA>	SVRMGR>
Product Banner	SQL*DBA	Server Manager
Connect to idle instance	SQLDBA> connect internal Connected.	SVRMGR> connect internal Connected to an idle instance.
PRINT <i>a</i>	A ----- 10 1 row selected. The variable name is space padded: "A ".	A ----- 10 The variable name is not space padded: "A". Also, no feedback is listed.

Table C – 2 Cosmetic Differences, continued on next page

Feature	SQL*DBA	Server Manager
SET	SQLDBA> set echo on SQLDBA>	SVRMGR> set echo on Echo ON SVRMGR> Server Manager echoes the new value
Error Message Prefix	DBA-xxxxxx: . . .	MGR-xxxxxx: . . .
Wrapping text	Writes 80 characters and then wraps	Writes the entire width and relies on the display device to deal with wrapping. This is better for wide terminals.

Table C – 2 Cosmetic Differences

Unsupported Options

Feature	SQL*DBA	Server Manager
RECOVERY prompt		FROM <logsource> clause is unsupported
SET FETCHROWS	Limits the total number of rows to fetch	Unsupported
SET FLAGGER...	SET FLAGGER ENTRY	Unsupported: Use the ALTER SESSION SET FLAGGER statement
SHOW FLAGGER	Shows FLAGGER value	Unsupported
SET LABELWIDTH		Unsupported
SET RETRIES		Unsupported
SHOW VARIABLES SHOW VAR	Shows all defined variables	Unsupported: Use the PRINT command with no arguments

Table C – 3 Unsupported Options, continued on next page

<i>Feature</i>	<i>SQL*DBA</i>	<i>Server Manager</i>
SHUTDOWN <i>dbname</i>		Unsupported
VARIABLE <i>a</i> DATE		Unsupported

Table C – 3 Unsupported Options

Obsolete Functionality

Feature	SQL*DBA	Server Manager
SET ARRAYSIZE	Changes the size of each fetch call	No longer used: Server Manager automatically chooses optimum fetch size.
SET CYCLE	Sets the monitor interval	No longer used
SET/SHOW DISPWIDTH	Line mode	No longer used
SET HISTORY	Screen mode	No longer used
SET LINES	Screen mode	No longer used
SET/SHOW LOGWIDTH	Line mode	No longer used
SET TERM	Screen mode	No longer used

Table C – 4 Obsolete Functionality

D

Keyboard Shortcuts

This appendix explains the keyboard shortcuts to use when running Server Manager.

This appendix cover the following topics:

- menu accelerators
- menu mnemonics

Menu Accelerators

This section lists the keyboard combinations you can use with Server Manager. You can use these keyboard combinations instead of the corresponding menu commands.

File Menu

Table 12 – 1 lists the menu accelerators for the File menu.

<i>Keyboard Shortcut</i>	<i>Action</i>
CTRL + O	Brings up the connect dialog box
CTRL + D	Returns to the existing Administration window, or open a new Administration window
CTRL + T	Brings up the SQL Worksheet
CTRL + R	Brings up the Monitors dialog box

Table 12 – 1 Accelerators for the File Menu

Edit Menu

Table 12 – 2 lists the menu accelerators for the Edit menu.

<i>Keyboard Shortcut</i>	<i>Action</i>
CTRL + Z	Undo
CTRL + X	Cut
CTRL + V	Paste
DELETE	Clear
CTRL + A	Select All

Table 12 – 2 Accelerators for the Edit Menu

Help Menu

Table 12 – 3 lists the menu accelerator for the Help menu.

<i>Keyboard Shortcut</i>	<i>Action</i>
F1	Launches context sensitive help for the window currently open

Table 12 – 3 Accelerator for the Help Menu

Worksheet Menu

Table 12 – 4 lists the menu accelerators for the Worksheet menu.

<i>Keyboard Shortcut</i>	<i>Action</i>
CTRL + E	Executes the command in the window pane
CTRL + P	Retrieves the previous command from the command history
CTRL + N	Retrieves the next command from the command history

Table 12 – 4 Accelerators for the Worksheet Menu

Menu Mnemonics

Server Manager offers standard menu mnemonics. This allows you to access menu options using only a few keystrokes.

To use the menu mnemonics, use the following procedure:

1. To access the menu bar, press the ALT key when running under Microsoft Windows or press F10 when running under Motif.
2. To choose the desired menu, type the underlined character in the title of the menu.
3. To execute the desired menu command, press the underlined character in the name of the desired menu item.

Example The following example uses mnemonics to bring up a new SQL Worksheet when running under Windows.

ALT -> F -> W

Pressing 'ALT' highlights the menu bar. Pressing 'F' pulls down the File menu. Pressing 'W' brings up a new SQL Worksheet.

APPENDIX

E

Motif-Specific Operations

This appendix describes operations that are specific to running Server Manager under Motif.

Using Online Help with Server Manager for Motif

Server Manager includes an online Help system that provides you with help information for every window and dialog box. The Help system is context sensitive, but you can also search through help information to find a particular topic.

The Help Dialog Box

When you choose Help from the Help menu or click a Help button, Server Manager displays the Help dialog box. The help information displayed describes your current window or dialog box.

The following figure illustrates the Help dialog box as it appears when opened from the Connect dialog box.

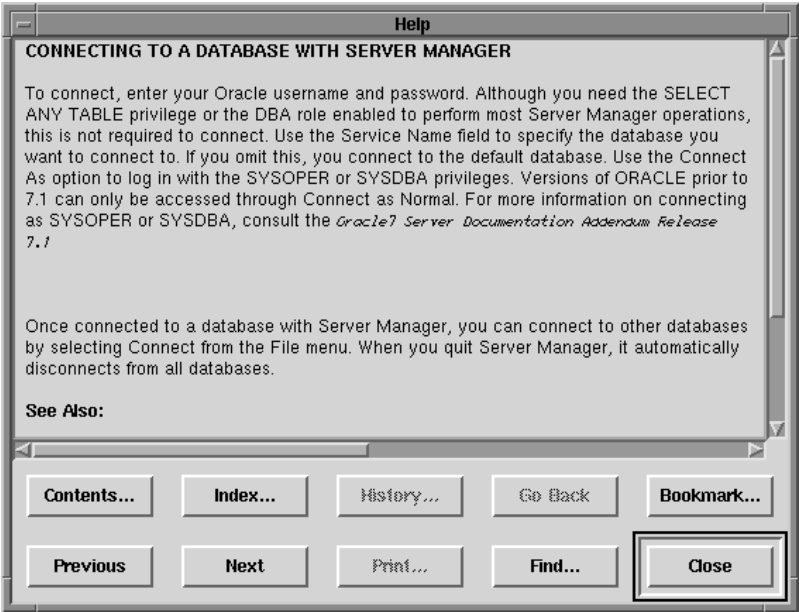


Figure 12 – 1 Help Dialog Box

The elements of the Help dialog box are described below:

Contents	Displays a dialog box listing the titles of each help screen. You may select a title and go directly to that help screen.
Index	Displays a dialog box listing an index for the online Help system. You may select an index topic and go directly to the corresponding help screen.
History	Displays a dialog box listing the titles of the help screens you have viewed previously. You may select a title and go directly to that help screen.
Go Back	Backs up sequentially through the help screens listed in your history.
Bookmark	Marks a place in the help system or allows you to return to the help screen you have marked.
Previous	Goes to the previous help screen.
Next	Goes to the next help screen.
Print	Prints the current help screen.
Find	Searches for all help screens that contain a specified text string.
Close	Closes the Help dialog box.

Searching Through the Help System

You can search for a particular help screen using the Contents, Index, History, or Find commands.

The following figure illustrates the Contents dialog box. The Index and History dialog boxes are similar.

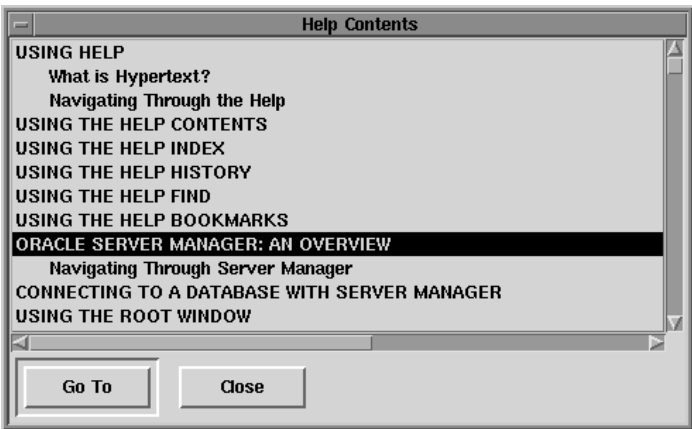


Figure 12 – 2 Contents Dialog Box

In the Contents, Index, or History dialog boxes, you can select a topic from the scrolling list and click Go To to go directly to the corresponding help screen. Click Close to close the dialog box without changing your current help screen.

The following figure illustrates the Find dialog box.

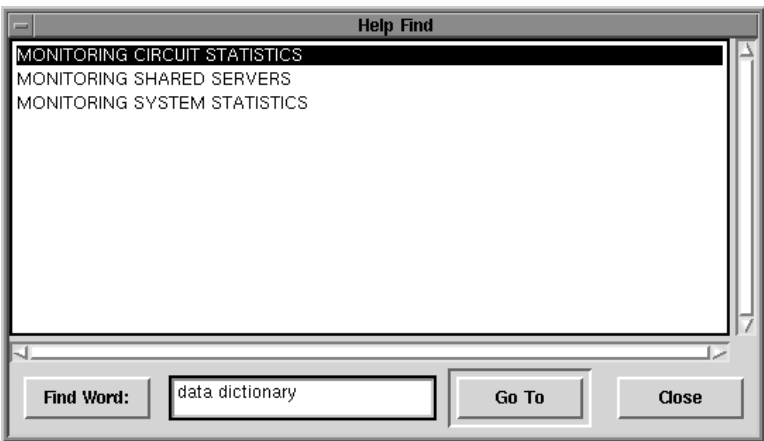


Figure 12 – 3 Find Dialog Box

In the text field of the Find dialog box, you can specify a text string. Click Find Word and the Help system searches for all help screens that contain that text. The titles of those help screens are listed in the scrolling list. You can select a title and click Go To to go directly to that help screen. The Close button closes the dialog box without changing your current help screen.

Using the Bookmark

You can mark a location in the Help system or return to a marked location using the Bookmark command. The following figure illustrates the Bookmark dialog box.

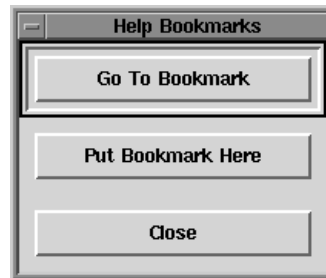


Figure 12 – 4 Bookmark Dialog Box

Click Put Bookmark Here to set a bookmark. Click Go To Bookmark to go to the last location you marked. Click Close to close the dialog box without moving the bookmark or changing your current help screen.

APPENDIX

F

Windows-Specific Operations

This appendix describes operations that are specific to running Server Manager under Microsoft Windows.

Starting Server Manager with Windows File Manager

To start Server Manager using the Windows File Manager, you need to:

- 1. Double-click on the File Manager icon in the Windows Main group. See Figure F – 1.

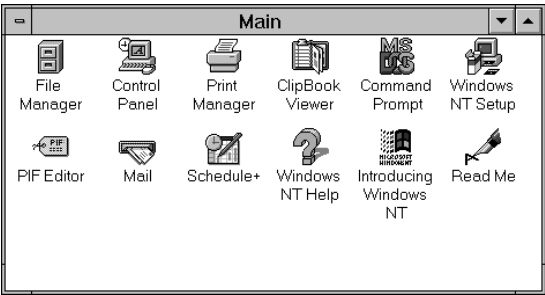


Figure F – 1 The Windows Main Window

- 2. Open the directory where the Server Manager program (SVRMGR21 . EXE) is located. For example, if the default destination was used during the installation, open the C : \ORAWIN\BIN directory. See Figure F – 2.

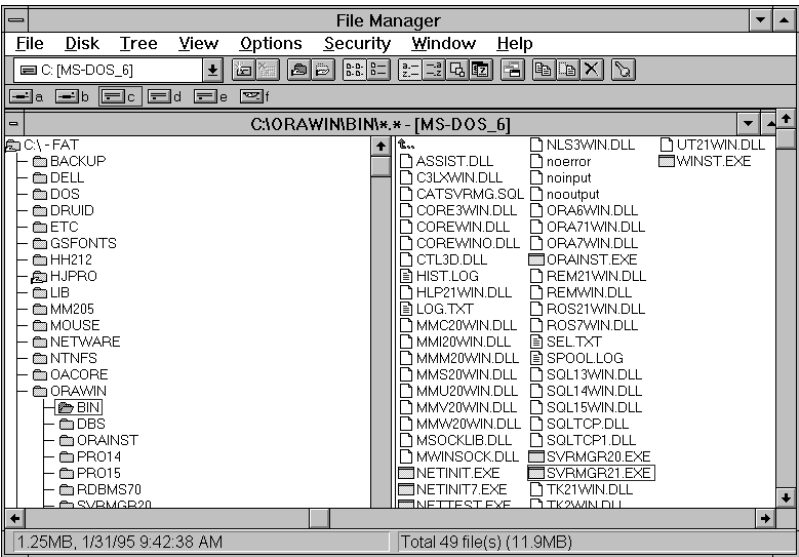


Figure F – 2 The File Manager Window

- 3. Select the Server Manager program name (SVRMGR21 . EXE) from the list of file names.

4. Choose Run from the File Manager File menu. The Server Manager program name (SVRMGR21 . EXE) displays in the Command Line box.
5. Press the Enter key or click the OK button to start Server Manager.

Note: You can bypass steps 4 and 5 by double-clicking on the Server Manager program name in the directory listing.

Starting Server Manager with Windows Program Manager

1. Choose Run from the Program Manager File menu.
2. Click on the Browse button and locate the directory where the Server Manager program (SVRMGR21 . EXE) is located. For example, if the default destination was used during the installation, open the C:\ORAWIN\BIN directory. See Figure F – 3.

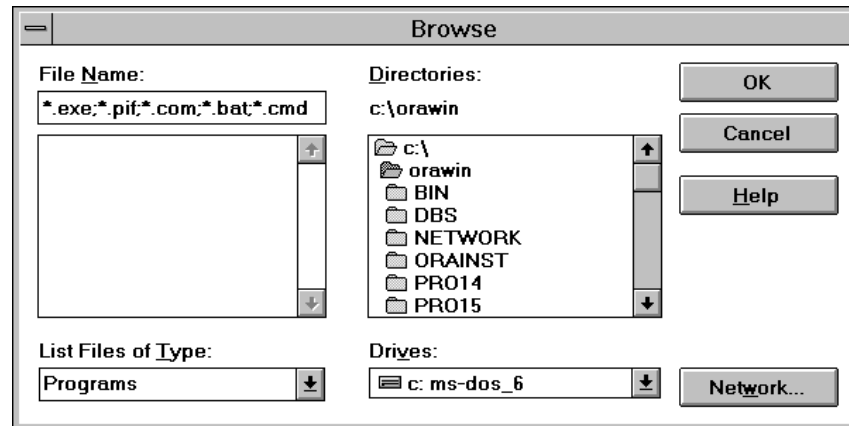


Figure F – 3 The Program Manager Browse Dialog Box

3. Select the Server Manager program name (SVRMGR21 . EXE) from the list of file names, then click on the OK button. The Server Manager program name (SVRMGR21 . EXE) displays in the Command Line box. See Figure F – 4.

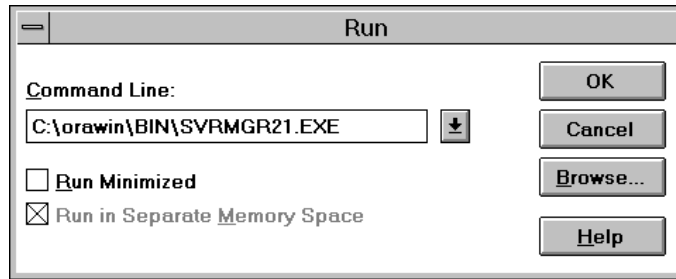


Figure F – 4 The Program Manager Run Dialog Box

4. Click the OK button to start Server Manager.

Starting Server Manager from the Windows MS-DOS Prompt

To start Server Manager from the MS-DOS prompt, you need to:

1. Double-click on the MS-DOS Prompt icon in the Windows Main group. See Figure F – 1 on page F – 2.
2. At the MS-DOS prompt, enter the Server Manager executable filename (SVRMGR21) and press Enter.

Note: If the MS-DOS PATH variable does not include the directory where the Server Manager program (SVRMGR21 . EXE) is located, you need to change to that directory before starting Server Manager. For example, if the default destination was used during the installation, enter `CD C:\ORAWIN\BIN` at the MS-DOS prompt.

Using Launch in Context with Windows File Manager

To start Server Manager using launch in context with Windows File Manager, you need to:

1. Double-click on the File Manager icon in the Windows Main group. See Figure F – 1 on page F – 2.
2. Open the directory where the Server Manager program (SVRMGR21 . EXE) is located. For example, if the default destination was used during the installation, open the C : \ORAWIN\BIN directory. See Figure F – 2 on page F – 2.
3. Select the Server Manager program name (SVRMGR21 . EXE) from the list of file names.
4. Choose Run from the File Manager File menu.
5. Press the right arrow key to deselect the text in the Command Line box, then enter the command-line parameters. See Figure F – 5.

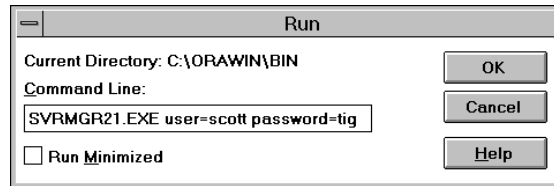


Figure F – 5 The File Manager Run Dialog Box

6. After you have finished entering the parameters, press the Enter key or click the OK button to start Server Manager.

Using Launch in Context with Windows Program Manager

To start Server Manager using launch in context with Windows Program Manager, you need to:

1. Choose Run from the Program Manager File menu.
2. Click on the Browse button and locate the directory where the Server Manager program (SVRMGR21 . EXE) is located. For example, if the default destination was used during the installation, open the C : \ORAWIN\BIN directory. See Figure F – 3 on page F – 3.
3. Select the Server Manager program name (SVRMGR21 . EXE) from the list of file names, then click on the OK button. The Server

Manager program name (SVRMGR21 . EXE) displays in the Command Line box. See Figure F – 4 on page F – 4.

4. Enter command-line parameters in the Command Line box after the Server Manager program name.
5. After you have finished entering the parameters, click the OK button to start Server Manager.

Using Launch in Context with MS-DOS

To start Server Manager using launch in context at the MS-DOS prompt, you need to:

1. Double-click on the MS-DOS Prompt icon in the Windows Main group. See Figure F – 1 on page F – 2.
2. At the MS-DOS prompt, enter the Server Manager executable filename (SVRMGR21) followed by command-line parameters. For example:

```
svrmgr21 user=scott password=tiger service=t:orser:smg71
```

After you have entered all the command-line parameters, press Enter.

Note: If the MS-DOS PATH variable does not include the directory where the Server Manager program (SVRMGR21 . EXE) is located, you need to change to that directory before starting Server Manager. For example, if the default destination was used during the installation, enter `CD C:\ORAWIN\BIN` at the MS-DOS prompt.

G

Operating System Dependencies

This guide occasionally refers to operating system–specific information and Oracle documentation that contains detailed information about using Server Manager on a specific operating system, or about remotely managing an Oracle database on a specific operating system. The Oracle documentation manuals are often called installation or user’s guides, although the exact name may vary on different operating systems.

This appendix lists operating system–specific references within the text of this book.

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