Oracle® Secure Backup

Reference

Release 10.1

B14236-03

January 2007

ORACLE®

Oracle Secure Backup Reference, Release 10.1

B14236-03

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Preface

This Preface contains these topics:

Audience

This book is intended for system administrators and database administrators who perform backup and restore operations. To use this document, you need to be familiar with the operating system environment on which you plan to use Oracle Secure Backup. To perform Oracle database backup and restore operations, you should also be familiar with Oracle backup and recovery concepts, including Recovery Manager (RMAN).

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Related Documents

For more information about using Oracle Secure Backup, see the following Oracle resources:

- *Oracle Secure Backup Administrator's Guide*

  This book describes how to use Oracle Secure Backup to perform backup and restore operations. The book is oriented to the Oracle Secure Backup Web tool, which is a Web-based GUI interface.

- *Oracle Secure Backup Installation Guide*

  This book describes how to install Oracle Secure Backup. The book is relevant for both file system and database backup and restore operations.

- *Oracle Secure Backup Migration Guide*

  This book explains how to migrate from Reliaty Backup to Oracle Secure Backup. It also explains how to migrate to Oracle Secure Backup from versions of Legato Storage Manager and Legato Single Server Version previously bundled with Oracle Database.

For more information about database backup and recovery, including the Recovery Manager (RMAN) utility, see the following Oracle resources:

- *Oracle Database Backup and Recovery Basics*

  This book provides an overview of database backup and recovery and discusses backup and recovery strategies. It provides instructions for basic backup and recovery of your database using Recovery Manager (RMAN).

- *Oracle Database Backup and Recovery Advanced User's Guide*

  This book covers more advanced database backup and recovery topics, including performing user-managed backup and recovery for those who choose not to use RMAN.

The Oracle Secure Backup product site is located at the following URL:

`http://www.oracle.com/technology/products/secure-backup`

The Oracle Secure Backup download site is located at the following URL:

`http://www.oracle.com/technology/software`

Conventions

This section describes the conventions used in the text and code examples of this manual. It describes:

- Conventions in Text

Conventions in Text

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Conventions in Syntax Diagrams

Syntax diagrams indicate legal syntax for Oracle Secure Backup commands. Syntax diagrams are displayed in a monospace (fixed-width) font and are preceded with a heading as shown in the following example:

clean::=

```
clean [ --drive/-D drivename ] [ --force/-f ] [--use/-u element-spec ]
```

The following table describes typographic conventions used in syntax diagrams.

Convention	Meaning	Example
`[ ]`	Brackets enclose optional items from which you can choose one or none. A space is included after a beginning bracket and before a closing bracket for improved readability. Note that a comma-delimited list of tokens following a command option cannot be separated by spaces unless the entire string is enclosed within quotes.	`cancel•job [ --quiet/-q | --verbose/-v ] [ --tag/-t tag[,tag]... ]`
`{ }`	Braces are required items for which you need to select one of the enclosed values. Each value is separated by a vertical bar (`|`). A space is included after a beginning brace and before a closing brace for improved readability. Note that a comma-delimited list of tokens following a command option cannot be separated by spaces unless the entire string is enclosed within quotes.	`disc•overdev { --host/-h hostname }... { * | dbname[,dbname]... }`
`|`	A vertical bar represents a choice of two or more options within brackets or braces. Enter exactly one of the options.	`ls [ --long/-l | --short/-s ]`
`--text/-text`	A slash separating two flags, each preceded by one or two dashes, indicates an either-or choice between semantically equivalent options. For example, `--in/-i` represents a choice between the `--in` and `-i` flags.	`[ --level/-l backup-level ]`

Convention	Meaning	Example
`...`	Horizontal ellipsis points indicate that the preceding syntax item can be repeated. Note that spaces are not permitted between comma-delimited items.	`sho•w [ variable-name ]...`
•	A bullet within command syntax indicates that the characters between the bullet and the terminating whitespace can be omitted for convenience.	`inv•entory`
Italics	Italicized text indicates placeholders or variables for which you must supply particular values.	`chkds dataset-file-name ...`

Conventions in Code Examples

Code examples illustrate Oracle Secure Backup command-line statements. They are displayed in a monospace (fixed-width) font and separated from normal text as shown in this example:

```
ob> backup --dataset homedir.ds --go
```

The following table describes typographic conventions used in examples.

Convention	Meaning	Example
`courier`	Courier typeface indicates command line entries, system output display, options and arguments that you enter, executables, filenames, and directory names.	`ob> cdds /mydatasets`

`Bold`	Bold typeface distinguishes user input from command output in examples in cases where the two could be confused.	`ob> mkds --nq --input mydataset.ds`
		`Input the new dataset contents.  Terminate with an EOF or a line containing just a dot (".").`
		`include host brhost2`
		`include path /home`
		`.`

.
.
.
	Vertical ellipsis points in an example mean that information not directly related to the example has been omitted.	`ob> lsvol --library lib1`
		`Inventory of library lib1:`
		`.`
		`.`
		`.`
		`    in    dte:          vacant`

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About obtool

This chapter explains how to use the `obtool` command-line interface. The following topics are covered:

- obtool Invocation
- obtool Online Help
- obtool Command Categories

obtool Invocation

This section explains how to invoke the `obtool` utility, which is a command-line interface to Oracle Secure Backup. You can obtain online help about `obtool` invocation options by running the following command at the operating system prompt:

```
% obtool help invocation
```

The `obtool` utility displays the following output:

```
obtool invocation:
Usage: To enter interactive mode:
       obtool [<cl-option>]...]
Usage: To execute one command and exit:
       obtool [<cl-option>]... <command> [<option>]... [<argument>]...
Usage: To display program version number and exit:
       obtool --version/-V
Usage: To create a new administrative domain with this machine acting as the
       administrative server:
       obtool --initnewdomain [--adminpassword/-A passwd] [--force]
       [--nullpassword/-N] [--verbose/-v]
```

The following sections explain the `obtool` invocation options in more detail.

obtool Login

The first time you invoke the `obtool` utility, you are required to establish your identity as an Oracle Secure Backup user. If you have not yet established a user identity, then `obtool` prompts you for a user name and password, as shown in the following example:

```
% obtool
Oracle Secure Backup 10.1
login:
```

On a new installation, Oracle Secure Backup creates the `admin` user automatically and prompts you for the password.

See Also:

- "User Commands" on page 1-17 for information on setting up user identities
- "Policy Commands" on page 1-14 for more information about the `security/loginduration` policy

Login and Preauthorization

After you have logged into `obtool`, Oracle Secure Backup stores your identity in a login token located in the `/admin/config/user` subdirectory. The information for each user is stored in a separate file. The lifetime of the login token is controlled by the loginduration security policy.

The Oracle Secure Backup command-line tools authenticate users either with an explicit login or with a preauthorization. In the latter case, access is authorized only for the specified operating system user on the specified host. You can create a preauthorization by specifying `--preauth` on the mkuser command.

When you invoke an Oracle Secure Backup command-line tool, it finds the user ID according to the following rules of precedence:

1. If you specify an explicit user ID, then the user ID is used for the operation. You must specify the correct password for this user ID.
2. If you do not specify a user ID, and if an applicable login token exists that indicates that this user has a persistent explicit login, then Oracle Secure Backup uses the user ID associated with this token for the operation. Note that persistent tokens are never created for sessions that have been preauthorized.
3. If you do not specify a user ID, and if no applicable persistent login token exists, then Oracle Secure Backup attempts to find a matching preauthorization. If no preauthorization exists, then some command-line tools prompt for a user ID, whereas others fail and exit.

The rules for locating a matching preauthorization are the same for both command-line operations and RMAN backup and restore operations. If two or more preauthorizations could match, then Oracle Secure Backup prioritizes matches as shown in Table 1–1.

Table 1–1 Priority of Preauthorization Matching

priority	hostname	userid	domain
1	explicitly specified	explicitly specified	explicitly specified
2	*	explicitly specified	explicitly specified
3	*	explicitly specified	unspecified
4	*	unspecified	unspecified

obtool Interactive Mode

To use `obtool` in interactive mode, enter `obtool` at the operating system command line once.

obtool Syntax for Interactive Mode

Use the following syntax when invoking `obtool` in interactive mode:

```
obtool [ cl-option ]...
```

Table 1–2 describes the legal substitutions for the *cl-option* placeholder.

Table 1–2 cl-option

Option	Meaning
`--longerrors/-E`	Shows error messages in long form. See also "errors" on page C-2.
`--norc/-n`	Does not execute commands from `.obtoolrc`. You can put a sequence of `obtool` commands in this file for `obtool` to execute whenever it is invoked. By default, `obtool` automatically searches for `.obtoolrc` in the current directory. If this file is not found *and* if the `HOME` environment variable is defined, then `obtool` searches for the file in the `HOME` directory. When the file is located, `obtool` reads the file before it enters interactive mode.
`--verbose/-v`	Displays extra informational messages. See also "verbose" on page C-4.

Command Execution in Interactive Mode

After a successful login to `obtool`, the following prompt is displayed:

```
ob>
```

You can enter the commands described in Chapter 2, "obtool Commands" at the `obtool` prompt. Note that some commands provide an `--nq` option, which specifies that no confirmation message should be displayed after you execute the command. If you do not include the `--nq` option for these commands, then `obtool` prompts you for confirmation. You must enter one of the values shown in Table 1–3 at the confirmation prompt.

Table 1–3 Values for Confirmation Message

Value	Meaning
`y`	Perform the operation on the object named in the query.
`n`	Do not perform the operation on the object named in the query and proceed to the next selection (if any).
`q`	Do not perform the operation on the object named in the query and stop processing this command immediately. Note that objects for which you have already answered `y` have been affected.
`a`	Perform the operation on the object named in the query and on all objects that the command has not yet included in a query. Note that objects for which you have already answered `n` will not be affected.
`?`	Display brief help text and then redisplay the prompt.

In the prompt, the item in brackets (`[...]`) indicates the default if you do not reply to the prompt.

Input Redirection in Interactive Mode

In interactive mode, you can redirect input to a script containing multiple `obtool` commands. This technique is useful if you need to run the same series of `obtool`

commands on a regular basis. The syntax is as follows, where *pathname* is the path name of a file containing `obtool` commands:

```
ob> < pathname
```

For example, you can create a file called `mycommands.txt` with the following content:

```
# begin mycommands.txt
lsdev --long
lshost --long
# end
```

You can redirect the `obtool` input to this script as follows:

```
ob> < /home/mycommands.txt
```

Exiting obtool

Use the exit command to exit `obtool`, as shown in the following example:

```
ob> exit
```

obtool Noninteractive Mode

To execute commands in `obtool` noninteractively, use the following syntax:

```
obtool  [ cl-option ]... command-name [ option ]... [ argument ]...
```

The following example executes the `obtool` lsdev command and then returns to the operating system prompt:

```
% obtool lsdev
library    lib1            in service
  drive 1  tape1           in service
library    lib2            in service
  drive 1  tape2           in service
```

Note: If the escape character is set to the ampersand (`&`) character (see "escape" on page C-2), and if you specify `&` as part of a file name when running `obtool` commands noninteractively, then enclose the file name within single quotes. For example:

```
obtool cd -h phred '/home/markb&patti'
```

Because the ampersand character is within single quotes, it is not interpreted and is considered part of the file name.

You can also redirect input to `obtool` when in noninteractive mode. For example, you can create a file called `mycommands.txt` with the following content:

```
# begin mycommands.txt
lsdev --long
lshost --long
# end
```

You can redirect the `obtool` input to this script as follows:

```
obtool < /home/mycommands.txt
```

You can also nest redirection files. For example, you can create a second command file called `mycommands2.txt` and then edit `mycommands.txt` as follows to redirect input from `mycommands2.txt`:

```
# begin mycommands.txt
lsdev --long
lshost --long
# redirect input to second command file
< /home/mycommands2.txt
# end
```

> **Note:** In the following sections, all examples of `obtool` commands are shown with a preceding `ob>` as if you were executing in interactive mode. If you are executing a single command, replace `ob>` with `obtool`.

obtool Administrative Domain Configuration

When you run `installob` and specify a host as the administrative server, Oracle Secure Backup implicitly initializes the administrative domain. Initializing the domain means assigning the host the role of administrative server within the domain.

In some circumstances, you may need to initialize a new domain or reinitialize an old domain. You can use the following syntax to establish the local host as the administrative server for a new Oracle Secure Backup administrative domain:

```
obtool --initnewdomain [--adminpassword/-A passwd] [--force]
       [--nullpassword/-N] [--verbose/-v]
```

If the local host is already established as an administrative server, then specifying `--force` causes the host to reinitialize itself. The `--force` option is useful when you have forgotten your password.

obtool Version Number

To display program version number and exit, use the following syntax:

```
obtool --version/-V
```

obtool Online Help

Table 1–4 displays the online help options for the `obtool` utility.

Table 1–4 Online Help Options

Help topic	Command
A list of help topics	`help` topics
Help for a specific topic	`help` *topic-name*
Usage for a specific command	`help` *command-name*
Usage for all commands related to a topic	`help` *topic-name* usage
Single glossary term	`help` <*term*>
Glossary of all terms used for a topic	`help` *topic-name* glossary

For example, enter the following command to view help topics:

```
ob> help topics
```

Online help is available for the topics listed in Table 1–5.

Table 1–5 Command Topics for Oracle Secure Backup

Topic	Description
advanced	Advanced and seldom-used commands
backups	Data backup operations
backupwindow	Backup window definition
browser	File system browser
checkpoint	Checkpoint management
class	User class rights
daemon	Daemon (service) display and control
dataset	Dataset descriptions
device	Device configuration
fs	File system operations for NAS devices
host	Host configuration
invocation	`obtool` invocation options
job	Scheduler job management
library	Library and volume management operations
mediafamily	Media family configuration
miscellany	Miscellaneous commands
piece	Backup piece display
policy	Defaults and policies configuration
ssel	Database backup storage selector
restores	Data restore operations
schedule	Schedule configuration
section	Backup section database commands
snapshot	Snapshot management for NAS devices
summary	Summary report scheduling configuration
user	User configuration
variables	Variables that affect `obtool`'s operation

obtool Topics

For a list of commands on a particular topic, enter `help` followed by the topic name. For example, execute the following command to display help about the class commands:

```
ob> help class
```

Sample output appears below:

```
Class definition commands:
chclass             change the attributes of a user class
lsclass             list the names and attributes of one or more user classes
mkclass             define a user class
renclass            assign a new name to a user class
rmclass             remove a user class from the administrative domain
```

obtool Command Syntax

For the syntax of a particular command, enter `help` followed by the command name. For example, enter the following command to display help for the lssection command:

```
ob> help lssection
```

The command displays the following output:

```
Usage: lssection [--long | --short] [--noheader/-H] [--incomplete/-i]
                 [--oid/-o <oid-list>]...
                 [ { {--vid/-v <vid-list>} | {--void/-V <oid-list>} }
                 [--file/-f <filenumber-list>]...]
```

You can also display help for placeholders in the syntax. For example, you can display the help for the *vid-list* placeholder as follows:

```
ob> help <vid-list>
```

The command displays the following output:

```
<vid-list>          one or more volume IDs (<vid>s), each separated by a comma
```

obtool Glossary

For a glossary of terms for a topic, enter the keyword `help`, the topic name, and then the keyword `glossary`. For example, the following command displays the keyword glossary for the snapshot commands:

```
ob> help snapshot glossary
```

Sample output appears below:

```
<filesystem-name>   the logical or physical name of a file system that is
                    logically connected to a host
<hostname>          a name of a host assigned by the user via mkhost or renhost
<numberformat>      the format in which to display large numbers, one of:
                        friendly      displays large values in "KB", "MB", ...
                        precise       shows precise values (with commas)
                        plain         like precise, but eschews commas
                        (unspecified) uses "numberformat" variable or, if
                                      unset, "friendly"
```

The remaining sections describe the `obtool` commands.

obtool Command Categories

Chapter 2, "obtool Commands" organizes `obtool` commands alphabetically. Like the `obtool` online help, this section categorizes commands into the following categories:

- Backup Commands
- Backup Piece Commands
- Backup Window Commands

- Browser Commands
- Checkpoint Commands
- Class Commands
- Daemon Commands
- Database Backup Storage Selector Commands
- Dataset Commands
- Device Commands
- File System Command
- Host Commands
- Job Commands
- Library Commands
- Media Family Commands
- Miscellaneous Commands
- Policy Commands
- Preferred Network Interface Commands
- Restore Commands
- Schedule Commands
- Section Commands
- Snapshot Commands
- Summary Commands
- User Commands
- Variable Commands

Backup Commands

Commands in this category enable you to create, display, and delete file system backups requests.

The `obtool` utility includes the following commands for file system backups:

- backup
- lsbackup
- rmbackup

Backup Piece Commands

Commands in this category enable you to list and remove Recovery Manager (RMAN) backup pieces. A backup piece is a physical file in an Oracle proprietary format. An RMAN backup piece is created on tape as a backup image.

The `obtool` utility includes the following backup piece commands:

- lspiece
- rmpiece

Backup Window Commands

Commands in this category enables you to configure backup windows. A backup window defines the times during which scheduled backups will run. You can identify a single backup window that applies to all days of the week (a default backup window), or fine-tune backup windows based on specific days or dates.

> **Note:** If no backup windows are identified, then scheduled backups will *not* run. The default backup window is daily 00:00-24:00.

The `obtool` utility includes the following backup window commands:

- addbw
- chkbw
- lsbw
- rmbw
- setbw

Browser Commands

Commands in this category enable you to browse the Oracle Secure Backup catalog. Each time Oracle Secure Backup performs a scheduled or on-demand backup, it records the name and attributes of each file system object it backs up. It writes this data to a repository — an Oracle Secure Backup catalog — stored on the administrative server file system. Oracle Secure Backup maintains a discrete backup catalog for each client in your administrative domain.

When you browse a backup catalog, Oracle Secure Backup presents the data in the form of a file system tree as it appeared on the client from which the data was saved. For example, if you backed up the `/home/myfile.f` file located on `myhost`, the backup catalog for `myhost` represents the contents of the backup image as `/home/myfile.f`.

At the root of the backup catalog file system appears the super-directory, which contains all files and directories saved from the top-most file system level. The super-directory provides you with a starting point from which to access every top-level file system object stored in the backup catalog.

The `obtool` utility includes the following browser commands:

- cd
- ls
- lsbu
- pwd

Checkpoint Commands

Commands in this category enable you to list and remove checkpoints. Checkpoints are position markers created periodically during restartable Network Attached Storage (NAS) backups to provide a location on the tape to which an interrupted backup can return and resume.

A backup is restartable if it meets the following conditions:

- The backup client is a Network Appliance filer running Data ONTAP 6.4 or later.
- The backup image is saved to a tape drive controlled by an NDMP server version 3 or later.
- The restartablebackups operations policy is enabled.
- The backup has reached a point from which it can be restarted.

At the beginning of each backup job, Oracle Secure Backup automatically determines whether the backup can be restarted from a mid-point. If so, Oracle Secure Backup periodically establishes a checkpoint that it can later use to restart the backup. When each new checkpoint is recorded, the previous checkpoint is discarded. You can control checkpoint behavior with the fullbackupcheckpointfrequency, incrbackupcheckpointfrequency, and maxcheckpointrestarts operations policies.

Note: If you use the restartable backups feature, then ensure that the `/tmp` directory on the administrative server is on a partition that maintains at least 1 GB of free space.

The `obtool` utility includes the following checkpoint commands:

- lscheckpoint
- rmcheckpoint

Class Commands

Commands in this category enable you to configure classes. A class defines a set of rights that are granted to a user. You can assign multiple users to a class, each of whom is a member of exactly one class. A class is similar to a UNIX group, but it defines a finer granularity of access rights tailored to the needs of Oracle Secure Backup.

Oracle Secure Backup automatically predefines a number of classes, which are described in Appendix B, "Classes and Rights". You can perform the same operations on these classes as on user-defined classes.

The `obtool` utility includes the following class commands:

- chclass
- lsclass
- mkclass
- renclass
- rmclass

Daemon Commands

Commands in this category enable you to configure Oracle Secure Backup daemons. A daemon is a process or service that runs in the background and performs a specified operation at predefined times or in response to certain events.

The `obtool` utility includes the following daemon commands:

- ctldaemon
- lsdaemon

Database Backup Storage Selector Commands

Commands in this category enable you to manage Oracle configuration data.

Oracle configuration data is stored in a database backup storage selector. Storage selectors are created, named, and modified by a user belonging to a class with the modify configuration right. As with other configuration objects such as hosts, devices, and users, storage selectors are stored on the administrative server.

Storage selectors give users fine-grained control over database backup operations. Oracle Secure Backup uses the information encapsulated in storage selectors when interacting with Recovery Manager (RMAN). As explained in Appendix E, "RMAN Media Management Parameters", you can override storage selectors by specifying media management parameters in RMAN.

The `obtool` utility includes the following Oracle configuration commands:

- chssel
- lsssel
- mkssel
- renssel
- rmssel

Dataset Commands

Commands in this category enable you to create and configure Oracle Secure Backup datasets. A dataset file is an editable file that describes which hosts and paths that Oracle Secure Backup should back up.

Oracle Secure Backup stores and manages dataset files on the administrative server file system. Like Windows and UNIX file systems, Oracle Secure Backup datasets are organized in a naming tree. You can optionally create dataset directories to help you organize your data definitions. You can nest directories 10 levels deep.

The `samples` subdirectory of the Oracle Secure Backup home contains sample dataset files. Before you begin to define datasets, you can view these dataset files to get an idea of how to define a strategy for constructing your own.

For more details about datasets, see *Oracle Secure Backup Administrator's Guide*.

The `obtool` utility includes the following dataset commands:

- catds
- cdds
- chkds
- edds
- lsds
- mkds
- pwdds
- rends
- rmds

Device Commands

Commands in this category enable you to configure devices for use with Oracle Secure Backup. A device is a tape drive or tape library identified by a user-defined device name.

The `obtool` utility includes the following device commands:

- borrowdev
- chdev
- discoverdev
- dumpdev
- lsdev
- mkdev
- mountdev
- pingdev
- rendev
- resdev
- returndev
- rmdev
- unmountdev
- unresdev

File System Command

The lsfs command enables you to list file systems on an NDMP-accessed NAS device.

Host Commands

Commands in this category enable you to configure one or more hosts. A host is a machine that is accessible through TCP/IP in the Oracle Secure Backup administrative server network; a host is identified by a hostname paired with an IP address.

The `obtool` utility includes the following host commands:

- chhost
- lshost
- mkhost
- pinghost
- renhost
- rmhost
- updatehost

Job Commands

Commands in this category enable you to manage jobs, which are backup or restore operations that you have defined with the backup or restore commands.

The `obtool` utility includes the following job commands:

- canceljob
- catxcr
- lsjob
- rmjob
- rpyjob
- runjob

Library Commands

Commands in this category enable you to manage the contents of a tape library. A library is a medium changer that accepts SCSI commands to move media between storage locations and tape drives.

Most library commands accept either the `--library/-L` or `--drive/-D` option, depending on the operation requested. These options interact in the following ways:

- If a command requires a library, then you can specify either a library or a drive because the identity of a drive uniquely identifies a library.
- If a command requires a drive, then you must specify a drive because a library name is sometimes insufficient to uniquely identify a drive.

If you specify neither a library nor a drive, then `obtool` uses the library and drive variables (see Appendix C, "obtool Variables").

The `obtool` utility includes the following library commands:

- clean
- closedoor
- exportvol
- extractvol
- identifyvol
- importvol
- insertvol
- inventory
- labelvol
- loadvol
- lsvol
- movevol
- opendoor
- reusevol
- unlabelvol
- unloadvol

Media Family Commands

Commands in this category enable you to configure media families. A media family is a named classification of backup volumes that share the following characteristics:

- Volume ID sequence
- Expiration policy
- Write-allowed time period, which is called the volume write window

Write windows and expiration policies give you control over tape recycling. The default for both settings is to allow tapes to be written to indefinitely and kept forever. Setting limits enables you to overwrite tapes automatically at predetermined intervals.

Oracle Secure Backup is installed with a default content-managed media family named `RMAN-DEFAULT`. If no media family specified in an RMAN job and no matching backup storage selector exists, then RMAN uses `RMAN-DEFAULT`. You cannot delete or rename this default media family, although you can change specified attributes with `chmf`.

The `obtool` utility includes the following media family commands:

- chmf
- lsmf
- mkmf
- renmf
- rmmf

Miscellaneous Commands

The `obtool` utility includes the following miscellaneous commands:

- exit
- id
- logout
- quit

Policy Commands

Commands in this category enable you to create and manage policies. Defaults and policies are configuration data that control how Oracle Secure Backup operates within an administrative domain. You can use policies to tailor many characteristics of Oracle Secure Backup. Appendix A, "Defaults and Policies" contains a complete list of policies and policy classes.

Policies are grouped into policy classes. Each class contains policies that describe a particular area of Oracle Secure Backup operation. Use the lsp command display a list of classes and policies.

The `obtool` utility includes the following policy commands:

- addp
- cdp
- lsp
- pwdp
- resetp
- rmp
- setp

Preferred Network Interface Commands

Commands in this category enable you to configure a preferred network interface (PNI). A network can have multiple physical connections between a client and the server performing an operation on behalf of the client. For example, a pair of hosts can maintain both Ethernet and FDDI connections. The PNI commands enable you to specify which of the server's network interfaces should transmit data for each client.

The `obtool` utility includes the following preferred network interface commands:

- lspni
- mkpni
- rmpni

Restore Commands

Commands in this category enable you to manage restore jobs.

The `obtool` utility includes the following restore commands:

- lsrestore
- restore
- rmrestore

Schedule Commands

Commands in this category enable you to configure a backup schedule to tell Oracle Secure Backup when to back up file system data. In the backup schedule you describe the following:

- Triggers that indicate when the backups should occur. You an specify the days of the week, month, quarter, or year on which you want to the backup to occur and the time in each day that a backup should begin.
- Name of each dataset file describing the data to back up. Oracle Secure Backup uses the host and path names, exclusion rules, and other information from each dataset file.
- Name of a media family to use. Oracle Secure Backup uses media families to assign selected characteristics to the backup.

The `obtool` utility includes the following schedule commands:

- chsched
- lssched
- mksched
- rensched
- rmsched

Section Commands

Commands in this category enable you to manage backup sections. When Oracle Secure Backup performs a backup (either file system or database), it creates a backup image on one or more tapes. A backup section is the portion of a backup image that occupies one physical volume. A backup image that fits on a single volume consists of one backup section.

The `obtool` utility includes the following schedule commands:

- lssection
- rmsection
- unrmsection

Snapshot Commands

Commands in this category enable you to manage snapshots. A snapshot is a consistent copy of a volume or a file system. Snapshots are supported only for Network Appliance filers running Data ONTAP 6.4 or later.

The `obtool` utility includes the following snapshot commands:

- lssnap
- mksnap
- rensnap
- rmsnap

Summary Commands

Commands in this category enable you to configure job summaries. A job summary is a generated text file report that indicates whether backup and restore operations were successful. A job summary schedule is the user-defined schedule according to which Oracle Secure Backup generates job summaries.

Oracle Secure Backup can generate and email job summaries detailing the status of backup and restore jobs. You can configure Oracle Secure Backup to generate one or more of these summaries. For each summary, you can choose the following:

- The schedule according to which Oracle Secure Backup produces the summary
- The start of the time period the summary spans (the end time is always the summary generation time)
- The users to whom the summary is emailed

Each job summary contains the following sections:

- Pending jobs
- Ready and running jobs
- Successful jobs
- Unsuccessful jobs

The `obtool` utility includes the following job summary commands:

- chsum
- lssum
- mksum
- rensum
- rmsum

User Commands

Commands in this category enable you to configure user accounts for logging into and using Oracle Secure Backup. To configure users, you must be belong to a class with the modify administrative domain's configuration right.

The `obtool` utility includes the following user commands:

- chuser
- lsuser
- mkuser
- renuser
- rmuser

Variable Commands

Commands in this category enable you to maintain a number of internal variables that control Oracle Secure Backup operation. See Appendix C, "obtool Variables" for a complete list of `obtool` variables. You can also access this list in online help by executing the following command:

```
ob> help var
```

The `obtool` utility includes the following variable commands:

- set
- show
- unset

2

obtool Commands

This chapter describes the `obtool` commands in alphabetical order.

addbw

Purpose

Use the `addbw` command to add a new backup window, which is a time and day range, to an existing list of backup windows.

> **See Also:** "Backup Window Commands" on page 1-9 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `addbw` command.

Syntax

addbw::=

```
addbw { --times/-t time-range[,time-range]... }
day-specifier[,day-specifier]...
```

Semantics

--times/-t *time-range* ...
Defines a time-of-day range. Refer to "time-range" on page 3-38 for a description of the *time-range* placeholder.

***day-specifier* ...**
Defines the day ranges for the backup window. Refer to "day-specifier" on page 3-15 for a description of the *day-specifier* placeholder.

Example

Example 2–1 creates backup windows so that backups can run from 8 a.m. to 8 p.m. on weekends and any time other than 8 a.m. to 8 p.m. on weekdays.

Example 2–1 Adding Backup Windows

```
ob> addbw --times 00:00-08:00 mon-fri
ob> addbw --times 20:00-24:00 mon-fri
ob> addbw --times 08:00-20:00 weekend
```

addp

Purpose

Use the addp command to add a variable name-value pair to a policy.

See Also:

- "Policy Commands" on page 1-14 for related commands
- Appendix A, "Defaults and Policies" for a complete list of policies and policy classes

Prerequisites

You must have the modify administrative domain's configuration right to use the addp command.

Syntax

addp::=

```
addp policy-name { member-name member-value }...
```

Semantics

policy-name
Specifies the name of a policy or a class of policies.

member-name ...
Specifies the user-assigned name of a policy, usually an environment variable name.

member-value ...
Specifies the user-assigned value of a policy, usually an environment variable value.

Example

Example 2–2 uses the addp command to set the VERBOSE environment variable for the backupev policy in the ndmp class.

Example 2–2 Enabling Verbose Output from the NDMP Data Service

```
ob> pwdp
/
ob> lsp ndmp
authenticationtype              negotiated                  [default]
backupev                        (none)                      [default]
backuptype                      (host type specific)        [default]
password                        (not set)                   [default]
port                            10000                       [default]
protocolversion                 (as proposed by server)     [default]
restoreev                       (none)                      [default]
username                        root                        [default]
ob> addp  ndmp/backupev VERBOSE y
ob> lsp ndmp/backupev
backupev                        VERBOSE        y
```

backup

Purpose

Use the `backup` command to create a file system backup request. File system backups are distinct from database backups, which are initiated by Recovery Manager (RMAN).

Backup requests are held locally in `obtool` until you execute the `backup` command with the `--go` option. Oracle Secure Backup forwards the requests to the scheduler, at which time the requests become jobs and are eligible to run.

Backups made with the `backup` command are called on-demand backups. On-demand backups run one-time-only and run either immediately or at a specified time in the future. In contrast, scheduled backups run according to a user-specified schedule, which you create with the mksched command.

Each time it performs a backup, Oracle Secure Backup records the name and attributes of each file system object that it backs up. It writes this data to the Oracle Secure Backup catalog, which is stored on the administrative server. Oracle Secure Backup maintains a discrete backup catalog for each client in the administrative domain.

See Also:

- "Backup Commands" on page 1-8 for commands relating to on-demand backups
- "Schedule Commands" on page 1-15 for commands relating to scheduled backups
- "Browser Commands" on page 1-9 for commands that enable you to browse the contents of the backup catalog of any client
- "Dataset Commands" on page 1-11 to learn how to create and manage dataset files and directories
- "Job Commands" on page 1-12 to learn how to display and manage backup jobs
- "Media Family Commands" on page 1-13 to learn how to create and manage media families

Prerequisites

You must have the perform backups as privileged user right if you specify the `--privileged` option. Otherwise, you must have the perform backups as self right.

Syntax

backup::=

```
bac•kup [ --level/-l backup-level ] [ --priority/-p schedule-priority ]
[ --at/-a date-time ] [ --family/-f media-family-name ]
[ --restrict/-r restriction[,restriction]... ]
[ --privileged/-g | --unprivileged/-G ]
[ --expirerequest/-x duration] [ --quiet/-q ]
{ --dataset/-D dataset-name... | --go }
```

Semantics

--level/-l *backup-level*
Identifies a backup level. The default level is 0. Refer to "backup-level" on page 3-5 for a description of the *backup-level* placeholder.

--priority/-p *schedule-priority*
Assigns a schedule priority to a backup. The default priority is 100. Refer to "schedule-priority" on page 3-33 for a description of the *schedule-priority* placeholder.

--at/-a *date-time*
Specifies the date and optional time to perform the backup. By default the backup is eligible to run immediately. If you specify a future date, then the backup is eligible to run at the date and time specified rather than immediately. Refer to "date-time" on page 3-12 for a description of the *date-time* placeholder.

--family/-f *media-family-name*
Defines the media family to be used for the backup. If you do not specify a media family, then Oracle Secure Backup defaults to the `null` media family. In this case, the volume has no expiration time and its write window remains open forever. By default, `VOL` is used for the volume ID prefix, as in the volume ID `VOL000002`.

--restrict/-r *restriction* ...
Defines a device, host, or device/host pair in the administrative domain that identifies one or more acceptable devices for the backup. Refer to "restriction" on page 3-31 for a description of the *restriction* placeholder.

In the absence of a device restriction, the backup runs on the first available device. You can specify the restriction as a device name (as assigned by mkdev or chdev) or as an attachment for a device.

--privileged/-g
Requests that the backup run in privileged mode.

On Linux and UNIX hosts, a privileged backup runs under the `root` operating system identity. For example, Oracle Secure Backup user `joeblogg` runs under operating system account `root`. On Windows systems, the backup runs under the same account as the Oracle Secure Backup service on the Windows client.

--unprivileged/-G
Requests that the backup run in unprivileged mode (default).

When you create an Oracle Secure Backup user with the mkuser command, or modify a user with the chuser command, you associate an operating system user with the Oracle Secure Backup user. When an Oracle Secure Backup user makes an unprivileged backup or restore of a host, the host is accessed by means of the operating system user identity associated with the Oracle Secure Backup user. For example, assume Linux user `jblogg` is associated with Oracle Secure Backup user `joeblogg`. If you log on to `obtool` as `joeblogg` and initiate an unprivileged backup of a Linux host, then the backup runs under operating system account `jblogg` and backs up only those files accessible to `jblogg`.

--expirerequest/-x *duration*
Deletes the backup job if it is not executed within the specified *duration* after the job first becomes eligible to run. If you specify the `--at` option, then the time period begins at the date and time specified by `--at`; if you do not specify the `--at` option, then the time period begins when you execute the `backup` command.

Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

--quiet/-q
Does not display job ID or status information when a backup job is dispatched to the scheduler. Use this option in conjunction with the `--go` option.

--dataset/-D *dataset-name* ...
Identifies the dataset file, which is a file that defines the data to be backed up, or dataset directory. If you specify the name of a dataset directory, then it is equivalent to naming all of the dataset files contained within the directory tree. The `--dataset` and `--go` options are not mutually exclusive.

By default, file system backups initiated by `obtool` do not cross mount points. Refer to "Dataset Statements" on page D-2 to learn about mount point statements that you can use in dataset files.

--go
Sends all backup requests that are queued in the request queue to the Oracle Secure Backup scheduler. Backup requests are held locally in `obtool` until you execute `backup` with the `--go` option or exit `obtool`. If you exit `obtool` without specifying `--go`, then all queued backup requests are discarded. `obtool` warns you before deleting the requests.

If two users log in to `obtool` as the same Oracle Secure Backup user, and if one user creates backup requests (but not does not specify `--go`), then the other user does not see the requests when issuing lsbackup.

When backup requests are forwarded to the scheduler, the scheduler creates a job for each backup request and adds it to the job list. At this time, the jobs are eligible for execution. If the `--at` option was specified for a job, then this job is not eligible for execution until the specified time arrives.

Oracle Secure Backup assigns each on-demand backup job an identifier consisting of the username of the logged in user, a slash, and a unique numerical identifier. An example of a job identifier for an on-demand backup is `sbt/233`.

Example

Example 2–3 illustrates a privileged backup with a priority 10. The data to be backed up is defined by the `home.ds` file. Assume that this file contains the following entries, which specify that the `/home` directory on `brhost2` should be backed up:

```
include host brhost2
include path /home
```

The backup is scheduled to run at 10 p.m. on June 14.

Example 2–3 Making a Full Backup

```
ob> backup --level full --at 2005/06/14.22:00 --priority 10 --privileged
--dataset home.ds --go
Info: backup request 1 (dataset home.ds) submitted; job id is admin/6.
```

Example 2–4 creates two on-demand backup requests, one for dataset `datadir.ds` and the other for dataset `datadir2.ds`, and restricts each to a different tape drive. The `backup --go` command forwards the requests to the scheduler. The lsjob command displays information about the jobs.

Example 2–4 Restricting Backups to Different Devices

```
ob> backup --level 0 --restrict tape1 --dataset datadir.ds
ob> backup --level 0 --restrict tape2 --dataset datadir2.ds
ob> backup --go
Info: backup request 1 (dataset datadir.ds) submitted; job id is admin/8.
Info: backup request 2 (dataset datadir2.ds) submitted; job id is admin/9.
ob> lsjob --long admin/8 admin/9
admin/8:
    Type:                   dataset datadir.ds
    Level:                  full
    Family:                 (null)
    Scheduled time:         none
    State:                  completed successfully at 2005/05/17.16:30
    Priority:               100
    Privileged op:          no
    Run on host:            (administrative server)
    Attempts:               1
admin/9:
    Type:                   dataset datadir2.ds
    Level:                  full
    Family:                 (null)
    Scheduled time:         none
    State:                  completed successfully at 2005/05/17.16:30
    Priority:               100
    Privileged op:          no
    Run on host:            (administrative server)
    Attempts:               1
```

borrowdev

Purpose

Use the `borrowdev` command to borrow a drive.

You use the `borrowdev` command if a backup or restore job is requesting assistance. You can reply to the input request by using the rpyjob command, but this technique can be cumbersome for multiple commands because `obtool` issues a new prompt after each command. The `borrowdev` command temporarily overrides the device reservation made by the requesting job and enables you to execute arbitrary library or drive commands. You can use the returndev command to release the drive and use the catxcr or rpyjob commands to resume the job.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `borrowdev` command.

Syntax

borrowdev::=

```
bor•rowdev drive-name ...
```

Semantics

drive-name
Specifies the name of the drive that you want to borrow.

Example

In Example 2–5, backup job `admin/6` is not proceeding. Executing the catxcr command reveals that Oracle Secure Backup cannot find a usable tape for the backup.

Example 2–5 Displaying the Transcript for a Hanging Backup

```
End of tape has been reached.  Please wait while I rewind and unload the tape. The Volume ID of the
next tape to be written is VOL000007. The tape has been unloaded.

obtar: couldn't perform auto-swap - can't find usable volume in library (OB device mgr)
   Enter a command from the following list:
       load <n>     .. load the tape from element <n> into the drive
       unload <n>   .. unload the tape from the drive into element <n>
       help         .. display other commands to modify drive's database
       go           .. to use the tape you selected
       quit         .. to give up and abort this backup or restore
:
```

Assume that you press the Enter key to return to the `obtool` prompt. In Example 2–6, you insert a new tape into slot 2 of the library, borrow the tape drive, load the volume from slot 2 into the drive, and then release the drive with the returndev command.

Example 2–6 Borrowing a Tape Drive

```
ob> lsvol --long
Inventory of library lib1:
    in    mte:           vacant
    in    1:             volume VOL000006, barcode ADE201, oid 116, full
    in    2:             vacant
    in    3:             vacant
    in    4:             vacant
    in    dte:           vacant
ob> insertvol unlabeled 2
ob> borrowdev tape1
ob> loadvol 2
ob> returndev tape1
```

In Example 2–7, you execute the catxcr command for the job and then enter `go` at the prompt to resume the backup.

Example 2–7 Resuming a Job After Borrowing a Device

```
ob> catxcr admin/6.1
admin/6.1: 2005/04/11.18:36:44
_____________________________________________________________________
admin/6.1: 2005/04/11.18:36:44
admin/6.1: 2005/04/11.18:36:44         Transcript for job admin/6.1 running on brhost2
.
.
.
admin/6.1: Backup started on Mon Apr 11 2005 at 18:36:44
admin/6.1: Volume label:
admin/6.1:    Enter a command from the following list:
admin/6.1:        load <n>     .. load the tape from element <n> into the drive
admin/6.1:        unload <n>   .. unload the tape from the drive into element <n>
admin/6.1:        help         .. display other commands to modify drive's database
admin/6.1:        go           .. to use the tape you selected
admin/6.1:        quit         .. to give up and abort this backup or restore
admin/6.1: :
admin/6.1: : go
```

canceljob

Purpose

Use the `canceljob` command to cancel a pending or running job. You can display these jobs by specifying the `--pending` or `--active` options on the lsjob command.

Canceling a job aborts the job if it is running, then marks its job record as "canceled." Oracle Secure Backup considers canceled jobs as no longer eligible to be run. If you cancel a job that has subordinates, then each of its subordinate jobs is also canceled.

See Also: "Job Commands" on page 1-12 for related commands

Prerequisites

If you are attempting to cancel another user's jobs, then you must have the right to modify any job, regardless of its owner. If you are attempting to cancel your own jobs, then you must have the right to modify any jobs owned by user.

Syntax

canceljob::=

```
cancel•job [ --quiet/-q | --verbose/-v ] job-id ...
```

Semantics

--quiet/-q
Suppresses output.

--verbose/-v
Displays verbose output.

job-id ...
Specifies the job identifier of the job to be canceled. You can display job identifiers with the lsjob command.

Example

Example 2–8 displays a pending job and then cancels it.

Example 2–8 Cancelling a Backup Job

```
ob> lsjob --pending
Job ID           Sched time  Contents                       State
---------------- ----------- ------------------------------ ----------------------
sbt/8            03/21.18:00 dataset fullbackup.ds          future work
ob> canceljob sbt/8
Info: canceled job sbt/8.
ob> lsjob --pending
ob>
```

catds

Purpose

Use the `catds` command to list the contents of a dataset file created with the mkds command.

See Also: "Dataset Commands" on page 1-11 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `catds` command.

Syntax

catds::=

```
catds dataset-file-name ...
```

Semantics

dataset-file-name ...
Specifies the name of a dataset file. Refer to "dataset-file-name" on page 3-9 for a descriptions of the *dataset-file-name* placeholder.

Example

Example 2–9 displays the contents of the dataset file named `basicsummary.ds`, which is a sample dataset file included with Oracle Secure Backup.

Example 2–9 Displaying the Contents of a Dataset

```
ob> catds basicsummary.ds
#  SAMPLES/basicsummary, pfg, 03/01/02
#  review of basic dataset statements

#  This dataset ties together all of the features introduced
#  thusfar. It describes the root file systems and a couple of
#  specific directories on the /home file system of each host.
#  For each directory tree, it excludes any file ending in
#  ".a" and ".o".

include dataset admin/default_rules # get domain defaults from
                                    # this file

include host sporky                 # back up these 3 hosts,
include host sparky
include host spunky

include path /                      # saving these file systems and
include path /home/software         # directories on each host
include path /home/doc

include optional pathlist /pl.qr    # read additional names from
                                    # this pathlist file on each
                                    # named host, if it exists
```

```
exclude name *.a                    # but in each tree, don't save
                                    # files ending
exclude name *.o                    # in these suffixes
```

catxcr

Purpose

Use the `catxcr` command to display one or more job transcripts. Oracle Secure Backup maintains a running transcript for each job. The transcript describes the details of the job's operation. Oracle Secure Backup creates this transcript when dispatching the job for the first time and updates it as the job progresses. When a job requires operator assistance, Oracle Secure Backup prompts for assistance by using the transcript.

See Also: "Job Commands" on page 1-12 for related commands

Prerequisites

If you are attempting to list another user's jobs, you must have the right to list any job, regardless of its owner. If you are attempting to list your own jobs, you must have the right to list any jobs owned by user.

If you are attempting to respond to another user's jobs, you must have the right to modify any job, regardless of its owner. If you are attempting to respond to your own jobs, you must have the right to modify any jobs owned by user.

Syntax

catxcr::=

```
catx•cr [ --level/-l msglevel ] [ --noinput/-N ] [ --msgno/-m ]
[ --start/-s msgno | --head/-h nlines | --tail/-t nlines ]
[ --follow/-f ] job-id ...
```

Semantics

--level /-l *msglevel*

Displays only lines with *msglevel* or higher message levels. You can specify *msglevel* either numerically or by name. The default level is 4 (request), which are the normal messages generated by Oracle Secure Backup.

Each message that Oracle Secure Backup writes to a transcript is tagged with a message number and a message level. The message number indicates the position of the message in the transcript.

Note: The message number may not correspond to the physical line number because a given message can span multiple physical lines.

The message level identifies the content of the message as being in one of the ordered categories shown in Table 2–1.

Table 2–1 Message Levels

Msg Number	Msg Name	Msg Description
0	debug2	debug (extra output) message
1	debug1	debug message

Table 2–1 (Cont.) Message Levels

Msg Number	Msg Name	Msg Description
2	verbose	verbose mode output
3	info	informational message
4	request	messaged requested by user
5	summary	operational summary message
6	warning	warning message
7	error	error message (operation continues)
8	abort	error message (operational is canceled)
9	fatal	error message (program terminates)

--noinput/-N
Suppresses input requests. By default, when a request for input is recognized, `catxcr` pauses and enables you to respond to the prompt. Specifying this option suppresses this action.

--msgno/-m
Prefixes each line with its message number.

--start/-S *msgno*
Starts displaying at the line whose message number is *msgno*.

--head/-h *nlines*
Displays the first *nlines* of the transcript. If `--level` is not specified, then `obtool` uses `--level 4` as a default, which means that *nlines* is a count of the default level (or higher). If `--level` is specified, then *nlines* is a count of lines of the specified level or higher.

--tail *nlines*
Displays the last *nlines* of the transcript. If `--level` is not specified, then `obtool` uses `--level 4` as a default, which means that *nlines* is a count of the default level (or higher). If `--level` is specified, then *nlines* is a count of lines of the specified level or higher.

--follow/-f
Monitors the transcript for growth continually and displays new lines as they appear. By default, the `catxcr` command displays the requested number of lines and terminates. You can exit from `--follow` mode by pressing Ctrl-C.

***job-id* ...**
Specifies job identifiers of jobs whose transcripts are to be displayed. If a *job-id* refers to a job that has dependent jobs, then `obtool` displays transcripts of all dependent jobs. When `catxcr` displays multiple transcripts, it prefixes each line with its *job-id*. Execute the lsjob command to display job identifiers.

Example

Example 2–10 displays the transcript for a job whose ID is `sbt/1.1`.

Example 2–10 Displaying a Job Transcript

```
ob> catxcr sbt/1.1
2005/03/21.10:19:39
```

```
_____________________________________________________________________________
2005/03/21.10:19:39
2005/03/21.10:19:39         Transcript for job sbt/1.1 running on stadv07
2005/03/21.10:19:39
Volume label:
    Volume tag:          ADE202
    Volume ID:           RMAN-DEFAULT-000001
    Volume sequence:     1
    Volume set owner:    root
    Volume set created: Mon Mar 21 10:19:39 2005
    Media family:        RMAN-DEFAULT
    Volume set expires: never; content manages reuse
```

In Example 2–5, backup job `admin/6` is not proceeding. In Example 2–11, executing `catxcr` reveals that Oracle Secure Backup cannot find a usable tape for the backup. The most common cause of this problem is lack of eligible tapes in the library.

You can respond to this situation by pressing the Enter key to return to the `obtool` prompt or opening a new window. Use the borrowdev command to gain control of the drive. After making a tape available with the unlabelvol or insertvol command, complete the job by executing `catxcr` and then `go`.

Example 2–11 Displaying the Transcript for a Hanging Backup

```
End of tape has been reached.  Please wait while I rewind and unload the tape. The Volume ID of the
next tape to be written is VOL000007. The tape has been unloaded.

obtar: couldn't perform auto-swap - can't find usable volume in library (OB device mgr)
   Enter a command from the following list:
       load <n>     .. load the tape from element <n> into the drive
       unload <n>   .. unload the tape from the drive into element <n>
       help         .. display other commands to modify drive's database
       go           .. to use the tape you selected
       quit         .. to give up and abort this backup or restore
:
```

Example 2–12 continually displays the transcript for job `sbt/1.1`. The example disables input requests and displays all message levels.

Example 2–12 Displaying a Job Continuously

```
ob> catxcr --noinput --follow --level 0 sbt/1.1
```

Example 2–13 displays all errors and warnings for jobs `admin/1.1` and `admin/2`.

Example 2–13 Displaying Warnings for a Job

```
ob> catxcr --level warning admin/1.1 admin/2
```

cd

Purpose

Use the `cd` command to change the directory that you are browsing in the Oracle Secure Backup catalog. Options to the `cd` command affect subsequent ls and restore commands.

Browsing the catalog is equivalent to browsing the contents of backup images. The `obtool` utility displays the contents of the images in a directory structure much like a live file system. You can only browse directories whose contents have been backed up.

See Also: "Browser Commands" on page 1-9 for related commands

Prerequisites

The rights needed to run the `cd` command depend on the browse backup catalogs with this access setting for the class.

Syntax

cd::=

```
cd [ --host/-h hostname ] [ --viewmode/-v viewmode ]
[ --select/-s data-selector[,data-selector]... ]
[ pathname ]
```

Semantics

--host/-h *hostname*
Defines the name of the host machine assigned with the mkhost or renhost commands. You must set the host before you can browse its file system in the Oracle Secure Backup catalog. You can also use the set `host` command to set the host.

--viewmode/-v *viewmode*
Specifies the mode in which to view directory contents in the Oracle Secure Backup catalog. The `cd` command remains in *viewmode* until you change it to a new setting.

Valid values for *viewmode* are as follows:

- `exact` makes visible only those directory entries that match the data selector.
- `inclusive` makes visible all entries regardless of the current data selector (default).

--select/-s *data-selector* ...
Specifies the Oracle Secure Backup catalog data that applies to an operation. Refer to "data-selector" on page 3-7 for the *data-selector* placeholder.

Note that the data selector values specified by `cd` do not have an effect on the lsbu command, which lists all backups unless a *data-selector* is specified by `lsbu`.

pathname
Specifies the path name to browse in the Oracle Secure Backup catalog.

Example

Example 2–14 sets the host to `brhost2`, changes into the root directory of the Oracle Secure Backup catalog, and displays its contents.

Example 2–14 Changing Directories

```
ob> cd --host brhost2
ob> cd /
ob> ls
/home
```

cdds

Purpose

Use the `cdds` command to change the dataset directory on the administrative server. This command enables you to move up and down a dataset directory tree.

See Also: "Dataset Commands" on page 1-11 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `cdds` command.

Syntax

cdds::=

```
cdds [ dataset-dir-name ]
```

Semantics

dataset-dir-name

Specifies the name of a dataset directory into which you want to change. Refer to "dataset-dir-name" on page 3-8 for a descriptions of the *dataset-dir-name* placeholder.

Example

Example 2–15 lists the contents of the top-level directory, changes into the `mydatasets` subdirectory, and then shows the name of the current directory.

Example 2–15 Making a Dataset Directory

```
ob> lsds
Top level dataset directory:
mydatasets/
ob> cdds /mydatasets
ob> pwdds
/mydatasets
```

cdp

Purpose

Use the `cdp` command to set the identity of the current policy or policy class. Policies are represented in a directory structure with `/` as root and the policy classes as subdirectories. You can use `cdp` to navigate this structure and pwdp and lsp to display policy information.

See Also:

- "Policy Commands" on page 1-14 for related commands
- Appendix A, "Defaults and Policies" for a complete list of policies and policy classes

Prerequisites

You must have the display administrative domain's configuration right to use the `cdp` command.

Syntax

cdp::=

```
cdp [ policy-name ]
```

Semantics

policy-name

Specifies the name of a policy or a class of policies. If omitted, then `obtool` sets the current policy to "/".

Example

Example 2–16 uses the pwdp, lsp, and `cdp` commands to browse the policies and find the value for the daemon policy `webautostart`.

Example 2–16 Browsing Policy Information

```
ob> pwdp
/
ob> lsp
daemons              daemon and service control policies
devices              device management policies
index                index catalog generation and management policies
local                Oracle Secure Backup configuration data for the local machine
logs                 log and history management policies
media                general media management policies
naming               WINS host name resolution server identification
ndmp                 NDMP Data Management Agent (DMA) defaults
operations           policies for backup, restore and related operations
scheduler            Oracle Secure Backup backup scheduler policies
security             security-related policies
testing              controls for Oracle Secure Backup's test and debug tools
ob> cdp daemons
ob> lsp
```

```
auditlogins                     no                          [default]
obixdmaxupdaters                2                           [default]
obixdrechecklevel               structure                   [default]
obixdupdaternicevalue           0                           [default]
webautostart                    yes
webpass                         (set)
windowscontrolcertificateservice no                         [default]
ob> cdp webautostart
ob> lsp
webautostart                    yes
```

chclass

Purpose

Use the `chclass` command to change the attributes of a user class.

See Also:

- "Class Commands" on page 1-10 for related commands
- Appendix B, "Classes and Rights" for a descriptions of the default Oracle Secure Backup classes and rights

Prerequisites

You must have the modify administrative domain's configuration right to use the `chclass` command.

Syntax

chclass::=

```
chcl•ass [ --modself/-m { yes | no } ] [ --modconfig/-M { yes | no } ]
[ --backupself/-k { yes | no } ] [ --backuppriv/-K { yes | no } ]
[ --restself/-r { yes | no } ] [ --restpriv/-R { yes | no } ]
[ --listownjobs/-j { yes | no } ] [ --modownjobs/-J { yes | no } ]
[ --listanyjob/-y { yes | no } ] [ --modanyjob/-Y { yes | no } ]
[ --mailinput/-i { yes | no } ] [ --mailerrors/-e { yes | no } ]
[ --querydevs/-q { yes | no } ] [ --managedevs/-d { yes | no } ]
[ --listconfig/-L { yes | no } ] [ --browse/-b browserights ]
[ --orauser/-o { yes | no } ] [ --orarights/-O oraclerights ]
classname ...
```

Semantics

See "mkclass" on page 2-131 for descriptions of the options.

classname ...
The name of the class to be modified. Class names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Example

Example 2–17 lists users who do have the ability to run backups with administrator privileges, grants this privilege to `user`, and then confirms that the grant was successful.

Example 2–17 Changing Classes

```
ob> lsclass --backuppriv yes
admin
operator
ob> chclass --backuppriv yes user
ob> lsclass --backuppriv yes
admin
operator
user
```

chdev

Purpose

Use the `chdev` command to change the attributes of a configured tape drive or library. Use the mkdev command to configure a device.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `chdev` command.

Syntax

Syntax 1

Use the following syntax to reconfigure a tape drive.

chdev::=

```
chd•ev [ --attach/-a aspec[,aspec]... ]
[ --addattach/-A aspec[,aspec]... ] [ --rmattach/-R aspec[,aspec]... ]
[ --inservice/-o | --notinservice/-O ] [ --wwn/-W wwn ]
[ --library/-l devicename ] [ --dte/-d dte ]
[ --blockingfactor/-f bf ] [ --maxblockingfactor/-F maxbf ]
[ --automount/-m { yes | no }  ] [ --erate/-e erate ]
[ --current/-T se-spec ] [ --uselist/-u se-range ]
[ --usage/-U duration ] [ --queryfreq/-q queryfrequency ]
[ --serial/-N serial-number ] [ --model/-L model-name ]
devicename ...
```

Syntax 2

Use the following syntax to reconfigure a tape library.

chdev::=

```
chd•ev [ --attach/-a aspec[,aspec]... ]
[ --addattach/-A aspec[,aspec]... ] [ --rmattach/-R aspec[,aspec]... ]
[ --inservice/-o | --notinservice/-O ] [ --wwn/-W wwn ]
[ --autoclean/-C { yes | no }  ] [ --cleanemptiest/-E { yes | no }  ]
[ --cleaninterval/-i { duration | off } ]
[ --barcodereader/-B { yes | no | default } ]
[ --barcodesrequired/-b { yes | no }  ] [ --unloadrequired/-Q { yes | no }  ]
[ --serial/-N serial-number ] [ --model/-L model-name ]
devicename ...
```

Semantics

The following options enable you to reconfigure a tape drive or library. Refer to "mkdev" on page 2-135 for descriptions of options not included in this section.

--addattach/-A *aspec* ...
Adds a device attachment for a tape drive or library. Refer to "aspec" on page 3-2 for a description of the *aspec* placeholder.

--rmattach/-R *aspec* ...
Removes a device attachment for a tape drive or library. Refer to "aspec" on page 3-2 for a description of the *aspec* placeholder.

--usage/-U *duration*
Specifies the amount of time a drive has been used since it was last cleaned. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

The mkdev command enables you to request a cleaning cycle for a specific interval. Specify the `--usage` option on `chdev` to initialize the configured interval to reflect drive usage since the last cleaning.

devicename ...
Specifies the name of the library or tape drive to be reconfigured. Refer to "devicename" on page 3-16 for the rules governing device names.

Examples

Example 2–18 reconfigures tape drive `tape1` in library `lib1`. The `chdev` command specifies the following:

- The tape drive is in service.
- The error rate is 16 (the default is 8).
- The blocking factor is 256, which means that `obtool` writes blocks of size 128K.
- Tapes can be automounted.

Note that the command line has been reformatted to fit on the page.

Example 2–18 Reconfiguring a Tape Drive

```
ob> lsdev --long tape1
tape1:
    Device type:            tape (virtual)
    Model:                  [none]
    Serial number:          [none]
    In service:             yes
    Library:                lib1
    DTE:                    1
    Automount:              yes
    Error rate:             8
    Query frequency:        [undetermined]
    Debug mode:             no
    Blocking factor:        (default)
    Max blocking factor:    (default)
    Current tape:           4
    Use list:               all
    Drive usage:            33 seconds
    Cleaning required:      no
    UUID:                   42e073da-5a39-1028-92bf-000cf1d9be50
    Attachment 1:
        Host:               brhost3
        Raw device:         /dev/tape1
ob> chdev --type tape --erate 16 --blockingfactor 256
--maxblockingfactor 256 tape1
```

Example 2–19 reconfigures a tape library called `lib1`. The `chdev` command specifies the following:

- The tape library is in service.

- There is no barcode reader.
- The interval between automatic cleaning cycles is 30 hours.
- `obtool` should use the fullest cleaning tape for cleaning.

Note that the command line has been reformatted to fit on the page.

Example 2–19 Reconfiguring a Tape Library

```
ob> lsdev --long --nohierarchy lib1
lib1:
    Device type:            library
    Model:                  [none]
    Serial number:          [none]
    In service:             yes
    Debug mode:             no
    Barcode reader:         default (hardware-selected)
    Barcodes required:      no
    Auto clean:             no
    Clean interval:         (not set)
    Clean using emptiest:   no
    UUID:                   f088f234-8d46-1027-90e1-000cf1d9be50
    Attachment 1:
        Host:               brhost3
        Raw device:         /dev/lib1
ob> chdev --type library --inservice --barcodereader no --barcodesrequired no
--autoclean yes --cleanemptiest no --cleaninterval 30hours lib1
ob> lsdev --long --nohierarchy lib1
lib1:
    Device type:            library
    Model:                  [none]
    Serial number:          [none]
    In service:             yes
    Debug mode:             no
    Barcode reader:         no
    Barcodes required:      no
    Auto clean:             yes
    Clean interval:         30hours
    Clean using emptiest:   yes
    UUID:                   f088f234-8d46-1027-90e1-000cf1d9be50
    Attachment 1:
        Host:               brhost3
        Raw device:         /dev/lib1
```

chhost

Purpose

Use the `chhost` command to change the attributes of a configured Oracle Secure Backup host. Use the mkhost command to configure a host.

See Also: "Host Commands" on page 1-12 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `chhost` command.

Syntax

chhost::=

```
chh•ost [ --access/-a { ob | ndmp } ] [ --inservice/-o | --notinservice/-O ]
[ [ --role/-r role[,role]... ] |
  [ --addrole/-R role[,role]... ] |
  [ --rmrole/-E role[,role]... ] ]
[ [ --ip/-i ipname[,ipname]... ] |
  [ --addip/-I ipname[,ipname]... ] |
  [ --rmip/-P ipname[,ipname]... ] ]
[ --ndmpauth/-A authtype ]
[ { --ndmppass/-p ndmp-password } | --queryndmppass/-q | --dftndmppass/-D ]
[ --ndmpport/-n portnumber ] [ --ndmppver/-v protover ]
[ --ndmpuser/-u ndmp-username ] [ --nocomm/-N ]
[ --ndmpbackuptype/-B ndmp-backup-type ]
[ [ --backupev/-w evariable-name=variable-value ]...
  { [ --addbackupev/-W evariable-name=variable-value ]... |
    [ --rmbackupev/-x evariable-name ]... } ]
[ [ --restoreev/-y evariable-name=variable-value ]... |
  { [ --addrestoreev/-Y evariable-name=variable-value ]...
    [ --rmrestoreev/-z evariable-name ]... } ]
hostname ...
```

Semantics

Refer to "mkhost" on page 2-143 for options not included in this section.

--access/-a { ob | ndmp }
Specifies an access method for the host. Your choices are:

- `ob`

  Use this option if the host has Oracle Secure Backup installed (UNIX, Linux, or Windows machine) and uses the Oracle Secure Backup internal communications protocol to communicate.

- `ndmp`

  Use this option if the host does not have Oracle Secure Backup installed (for example, a filer/NAS device) and uses the network data management protocol (NDMP) to communicate.

--addrole/-R *role* ...
Adds a new role to a host. Refer to "role" on page 3-32 for a description of the *role* placeholder.

--rmrole/-E *role* ...
Removes a role from a host. Refer to "role" on page 3-32 for a description of the *role* placeholder.

--addip/-I *ipname* ...
Adds a new IP address to a host machine.

--rmip/-P *ipname* ...
Removes an IP address from a host machine.

--nocomm/-N
Suppresses communication with the host machine. This option is useful when you have a host that is no longer connected to their network, but you have tape backups of the host that you may want to restore in the future.

--addbackupenv/-W *evariable-name=variable-value* ...
Adds the specified NDMP backup environment variables.

--rmbackupenv/-x *evariable-name* ...
Removes the specified NDMP backup environmental variables.

--addrestoreenv/-Y *evariable-name=variable-value* ...
Adds the specified NDMP restore environmental variables.

--rmrestoreenv/-z *evariable-name* ...
Removes the NDMP restore environmental variables.

***hostname* ...**
Specifies the name of the host machine for which you want to make configuration changes.

Example

Example 2–20 removes the role of `mediaserver` from host `dlsun1976`.

Example 2–20 Changing a Host

```
ob> lshost
brhost2          client                          (via OB)   in service
brhost3          mediaserver,client              (via OB)   in service
dlsun1976        mediaserver,client              (via OB)   in service
ndmphost1        client                          (via NDMP) in service
stadv07          admin,mediaserver,client        (via OB)   in service
ob> chhost --rmrole mediaserver dlsun1976
ob> lshost dlsun1976
dlsun1976        client                          (via OB)   in service
```

chkbw

Purpose

Use the `chkbw` command to check for the existence of a backup window. This command determines whether at least one backup window is available during which backups can run.

If any backup windows exist, then the command generates no output. If no backup windows exist, then the command generates the following output:

```
Note: no backup windows are configured.  Scheduled backups will not run.
```

> **See Also:** "Backup Window Commands" on page 1-9 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `chkbw` command.

Syntax

chkbw::=

```
chkbw
```

Example

Example 2–21 checks whether backup windows exist. In this example, no windows are configured.

Example 2–21 Checking for the Existence of Backup Windows

```
ob> chkbw
Note: no backup windows are configured.  Scheduled backups will not run.
```

chkds

Purpose

Use the `chkds` command to check the syntax in a dataset file. The command generates no output when there are no syntax errors; otherwise, it issues an error. Empty files generate a warning.

See Also: "Dataset Commands" on page 1-11 for related commands

Prerequisites

You must have the display administrative domain's configuration right to run the `chkds` command.

Syntax

chkds::=

```
chkds dataset-file-name ...
```

Semantics

dataset-file-name ...
Specifies the name of a dataset file. Refer to "dataset-file-name" on page 3-9 for a descriptions of the *dataset-file-name* placeholder.

Example

Example 2–22 creates a dataset file with bad syntax and then checks it.

Example 2–22 Checking a File for Syntax

```
ob> mkds --nq --input badsyntax.ds
Input the new dataset contents.  Terminate with an EOF or a line
containing just a dot (".").
icnlude host brhost2
.
Error: the following problems were detected in dataset badsyntax.ds:
   1: icnlude host brhost2
Error: "icnlude" - unknown keyword
ob> chkds badsyntax.ds
Error: the following problems were detected in dataset badsyntax.ds:
   1: icnlude host brhost2
Error: "icnlude" - unknown keyword
```

Example 2–23 creates two dataset files and then checks them.

Example 2–23 Checking Files for Syntax

```
ob> mkds --nq --input empty.ds
Input the new dataset contents.  Terminate with an EOF or a line
containing just a dot (".").
.
ob> mkds --nq --input goodsyntax.ds
Input the new dataset contents.  Terminate with an EOF or a line
containing just a dot (".").
```

```
include host brhost2
include path /home
.
ob> chkds empty.ds goodsyntax.ds
Warning: dataset empty.ds is empty
```

chmf

Purpose

Use the `chmf` command to alter the attributes of a media family. A media family is a named classification of backup volumes.

> **See Also:** "Media Family Commands" on page 1-13 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `chmf` command.

Usage Notes

Attributes in a media family are applied to a volume in the media family at volume creation time. The media family attributes are part of the volume's attributes. After data is first written to the volume, you cannot change the volume attributes other than by rewriting the volume. If you change the media family attributes, then these changes do not apply to any volumes that have already been created in this family.

Oracle Secure Backup includes a default content-managed media family named `RMAN-DEFAULT`. You cannot delete or rename this media family, although you can reset any options except for the following:

- `--writewindow`
- `--retain`
- `--contentmanaged`

Syntax

chmf::=

```
chmf [ --writewindow/-w duration ] [ --retain/-r duration ]
[ [ --vidunique/-u ] | [ --vidfile/-F vid-pathname ] |
  [ --viddefault/-d  | [ --vidfamily/-f media-family-name ] ]
[ [--inputcomment/-i ] | [ --comment/-c comment ] ]
[ --contentmanaged/-C ] [ --append/-a ] [ --noappend/-A ]
media-family-name...
```

Semantics

Refer to "mkmf" on page 2-148 for descriptions of options that are not included in this section.

--inputcomment/-i
Allows input of an optional comment for the media family. After you execute `chmf --inputcomment`, `obtool` prompts you to enter the comment. Terminate the comment with a period (`.`) on a line by itself.

--comment/-c *comment*
Specifies information that you want to store with the media family. If you choose to embed blanks in the comment, then surround the comment with quotes.

media-family-name ...
Specifies the name of the media family that you want to change.

Example

Example 2–24 creates a time-managed media family called `full_bkup`. The write window for volumes in the volume is 7 days. Because the retention period is 28 days, a volume in the media family expires 35 days after Oracle Secure Backup first writes to it. The example then changes the retention period from 7 days to 10 days.

Example 2–24 Changing Properties of a Media Family

```
ob> mkmf --vidunique --writewindow 7days --retain 28days full_bkup
ob> lsmf --long full_bkup
full_bkup:
    Write window:           7 days
    Keep volume set:        28 days
    Appendable:             yes
    Volume ID used:         unique to this media family
ob> chmf --writewindow 10days full_bkup
ob> lsmf --long full_bkup
full_bkup:
    Write window:           10 days
    Keep volume set:        28 days
    Appendable:             yes
    Volume ID used:         unique to this media family
```

chsched

Purpose

Use the `chsched` command to change an existing backup schedule.

> **See Also:** "Schedule Commands" on page 1-15 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `chsched` command.

Syntax

chsched::=

```
chsc•hed [ --dataset/-D dataset-name[,dataset-name]... ]
[ --adddataset/-A dataset-name[,dataset-name]... ]
[ --rmdataset/-R dataset-name[,dataset-name]... ]
[ --comment/-c comment | --inputcomment/-i ]
[ --priority/-p schedule-priority ]
[ --restrict/-r restriction[,restriction]... ]
[ --addrestrict/-E restriction[,restriction]... ]
[ --rmrestrict/-T restriction[,restriction]... ]
[ [ --addtrigger/-a ] |
[ --chtrigger/-h trigger-number[,trigger-number]... ] |
[ --rmtrigger/-m trigger-number[,trigger-number]... ] ]
[ [ --day/-d day-date ] [ --time/-t time ]
[ --level/-l backup-level ] [ --family/-f media-family-name ]
[ --expires/-x duration ] ]...
schedulename...
```

Semantics

Refer to the "mksched" on page 2-154 command for option descriptions not included in this section.

--dataset/-D *dataset-name* ...
Specifies the dataset that you want to include in the backup job.

--adddataset/-A *dataset-name* ...
Adds a dataset to the current schedule.

--rmdataset/-R *dataset-name* ...
Removes a dataset from the current schedule.

--addrestrict/-E *restriction* ...
Adds another drive to be used by the backup. Refer to "restriction" on page 3-31 for a description of the *restriction* placeholder.

--rmrestrict/-T *restriction* ...
Removes a restriction from a schedule. Refer to "restriction" on page 3-31 for a description of the *restriction* placeholder.

--addtrigger/-a
Adds a trigger to the schedule. A trigger is a user-defined period in time or sets of times that causes a scheduled backup to run. You must specify the `--day` option when adding a trigger. If you specify `--day` but do not specify a time, then the time defaults to 00:00.

--chtrigger/-h *trigger-number* ...
Edits the specified trigger in the schedule. Specify the `--long` option on the lssched command to obtain trigger numbers.

--rmtrigger/-m *trigger-number* ...
Removes a trigger from the schedule. Specify the `--long` option on the lssched command to obtain trigger numbers.

***schedulename* ...**
Specifies the name of the backup schedule.

Example

Example 2–25 adds a weekday trigger to a full backup scheduled to run every Sunday. The example then changes the Sunday trigger to run at noon instead of 8 a.m.

Example 2–25 Changing a Backup Schedule

```
ob> lssched --long
full_backup:
    Dataset:                fullbackup.ds
    Priority:               5
    Trigger 1:
        Day/date:           sundays
        At:                 08:00
        Backup level:       full
        Media family:       (null)
ob> chsched --addtrigger --day "mon tue wed thu fri" --family full --expires
30days --time 04:00 full_backup
ob> lssched --long
full_backup:
    Dataset:                fullbackup.ds
    Priority:               5
    Trigger 1:
        Day/date:           sundays
        At:                 08:00
        Backup level:       full
        Media family:       (null)
    Trigger 2:
        Day/date:           weekdays
        At:                 04:00
        Backup level:       full
        Media family:       full
        Expires after:      30 days
ob> chsched --chtrigger 1 --time 12:00 full_backup
ob> lssched --long
full_backup:
    Dataset:                fullbackup.ds
    Priority:               5
    Trigger 1:
        Day/date:           sundays
        At:                 12:00
        Backup level:       full
        Media family:       (null)
```

```
Trigger 2:
    Day/date:           weekdays
    At:                 04:00
    Backup level:       full
    Media family:       full
    Expires after:      30 days
```

chssel

Purpose

Use the `chssel` command to change an Oracle database backup storage selector that you previously created with the mkssel command.

> **See Also:** "Database Backup Storage Selector Commands" on page 1-11 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to run the `chssel` command.

Syntax

chssel::=

```
chss•el  [ --dbname/-d { * | dbname[,dbname]... } ]
[ --adddbname/-D { * | dbname[,dbname]... } ]
[ --rmdbname/-E { dbname[,dbname]... } ]
[ --dbid/-i  { * | dbid[,dbid]... } ]
[ --adddbid/-I  { * | dbid[,dbid]... } ]
[ --rmdbid/-J { * | dbid[,dbid]... } ]
[ --host/-h  { * | hostname[,hostname]... } ]
[ --addhost/-H  { * | hostname[,hostname]... } ]
[ --rmhost/-K  { * | hostname[,hostname]... } ]
[ --content/-c { * | content[,content]... } ]
[ --addcontent/-C { * | content[,content]... } ]
[ --rmcontent/-F { * | content[,content]... } ]
[ --restrict/-r restriction[,restriction]... ]
[ --addrestrict/-R restriction[,restriction]... ]
[ --rmrestrict/-S restriction[,restriction]... ]
[ --copynum/-n { * | 1 | 2 | 3 | 4 } ]
[ --family/-f media-family ]
[ --waittime/-w duration ]
sselname ...
```

Semantics

--dbname/-d *dbname* ...
Replaces the current database names for the storage selector with the specified *dbname* values.

--adddbname/-D *dbname* ...
Adds the specified *dbname* values to the databases currently associated with the storage selector.

--rmdbname/-E *dbname* ...
Removes the specified *dbname* values from the databases currently associated with the storage selector.

--dbid/-i *dbid* ...
Replaces the current database IDs for the storage selector with the specified *dbid* values.

--adddbid/-I *dbid* ...
Adds the specified *dbid* values to the database IDs currently associated with the storage selector.

--rmdbid/-J *dbid* ...
Removes the specified database IDs from the storage selector.

--host/-h *hostname* ...
Replaces the current hosts for the storage selector with the specified *hostname* values.

--addhost/-H *hostname* ...
Adds the specified *hostname* values to the hosts currently associated with the storage selector.

--rmhost/-K *hostname* ...
Removes the specified *hostname* values from the hosts currently associated with the storage selector.

--content/-c *content* ...
Replaces the current content types for the storage selector with the specified content types. Refer to "content" on page 3-6 for a description of the *content* placeholder.

--addcontent/-C *content* ...
Adds the specified content types to the content types currently associated with the storage selector.

--rmcontent/-F *content* ...
Removes the specified content types from the content types currently associated with the storage selector.

--restrict/-r *restriction* ...
Replaces the current device restrictions in the storage selector with the specified *restriction* values. Refer to "restriction" on page 3-31 for a description of the *restriction* placeholder.

--addrestrict/-R *restriction* ...
Adds the specified *restriction* values to the storage selector.

--rmrestrict/-S *restriction* ...
Removes the specified *restriction* values from the storage selector.

--copynumber/-n * | 1 | 2 | 3 | 4
Specifies the copy number to which this storage selector applies. The copy number must be an integer in the range 1 to 4. An asterisk (*) specifies that the storage selector applies to any copy number.

--family/-f *media-family*
Replaces the current media family for the storage selector with the specified family. You create media families with the mkmf command.

--waittime/-w *duration*
Replaces the current resource availability time for the storage selector with the specified duration. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

***sselname* ...**
Specifies one or more names of storage selectors to modify.

Example

Example 2–26 creates a backup storage selector named `ssel_full` that specifies that the entire database should be backed up. The example then changes the storage selector to include archived redo logs.

Example 2–26 Adding Content Types to a Database Backup Storage Selector

```
ob> mkssel --dbid 1557615826 --host brhost2 --content full --family f1 ssel_full
ob> lsssel --long

ssel_full:
    Content:             full
    Databases:           [all]
    Database ID:         1557615826
    Host:                brhost2
    Restrictions:        [none]
    Copy number:         [any]
    Media family:        f1
    Resource wait time:  1 hour
    UUID:                b5774d9e-92d2-1027-bc96-000cf1d9be50
ob> chssel --addcontent archivelog ssel_full
ob> lsssel --long

ssel_full:
    Contents:            archivelog, full
    Databases:           [all]
    Database ID:         1557615826
    Host:                brhost2
    Restrictions:        [none]
    Copy number:         [any]
    Media family:        f1
    Resource wait time:  1 hour
    UUID:                b5774d9e-92d2-1027-bc96-000cf1d9be50
```

chsum

Purpose

Use the `chsum` command to change a job summary schedule.

> **See Also:** "Summary Commands" on page 1-16 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to run the `chsum` command.

Syntax

chsum::=

```
chsu•m [ --days/-d produce-days[,produce-days]... ]
[ --reporttime/-t time ]
[ --mailto/-m email-target[,email-target]... ]
[ --addmailto/-a email-target[,email-target]... ]
[ --rmmailto/-r email-target[,email-target]... ]
[ [ --covers/-c duration ] |
[ --since/-s "summary-start-day[ ]time" ] ]
[ --backup/-B { yes | no }  ] [ --restore/-R { yes | no } ]
[ --orabackup/-b { yes | no } ] [ --orarestore/-e { yes | no } ]
[ --scheduled/-S { yes | no } ] [ --user/-U { yes | no } ]
[ --subjobs/-J { yes | no } ] [ --superseded/-D { yes | no } ]
summary-name ...
```

Semantics

Refer to "mksum" on page 2-160 for options not included in this section.

--addmailto/-a *email-target*[,*email-target*] ...
Adds additional email addresses to the job summary schedule.

--rmmailto/-r *email-target*[,*email-target*] ...
Removes email addresses from the job summary schedule.

***summary-name* ...**
Specifies the name of the job summary schedule.

Example

```
ob> lssum
weekly_report            Wed at 12:00
ob> chsum --addmailto jim@company.com --days Wed,Fri --reporttime 12:00
weekly_report
ob> lssu --long
weekly_report:
    Produce on:              Wed Fri at 12:00
    Mail to:                 lance@company.com jim@company.com
    In the report, include:
        Backup jobs:             yes
        Restore jobs:            yes
        Scheduled jobs:          yes
```

```
User jobs:              yes
Subordinate jobs:       yes
Superseded jobs:        no
```

chuser

Purpose

Use the `chuser` command to change the attributes of an Oracle Secure Backup user.

See Also: "User Commands" on page 1-17 for related commands

Prerequisites

If you need to modify the attributes of any Oracle Secure Backup user, including yourself, then you must have the modify administrative domain's configuration right. To modify only your own password and given name, then you must have the right to modify own name and password.

Syntax

chuser::=

```
chu•ser [ --class/-c userclass ]
[ --password/-p password | --querypassword/-q ]
[ --unixname/-U unix-user ] [ --unixgroup/-G unix-group ]
[ --adddomain/-d { windows-domain | * },windows-account[,windows-password ] ]...
[ --rmdomain/-r { windows-domain | * } ] [ --ndmpuser/-N { yes | no } ]...
[ --email/-e emailaddr ] [ --givenname/-g givenname ]
[ --preauth/-h preauth-spec[,preauth-spec]... ]
[ --addpreauth/-H preauth-spec[,preauth-spec]... ]
[ --rmpreauth/-X preauth-spec[,preauth-spec]... ]
username ...
```

Semantics

Refer to "mkuser" on page 2-163 for descriptions of `chuser` options not included in this section.

--adddomain/-d { *windows-domain* | * },*windows-account*,*windows-password*
Adds Windows domain information to the user account. If the new domain is different from an existing domain in the user object, then `--adddomain` adds an entry for the new domain. If the domain name in `--adddomain` is same as an existing domain in the user object, then `--adddomain` replaces the existing information. Refer to the `--domain` option of the mkuser command for more information.

--rmdomain/-r { *windows-domain* | * }
Removes a Windows domain.

--preauth/-h *preauth-spec*[,*preauth-spec*]...]
Authorizes the specified Oracle Secure Backup user identity for the specified operating system user on the specified host. Refer to "preauth-spec" on page 3-28 for a description of the *preauth-spec* placeholder.

Specifying the `--preauth` option replaces any existing preauthorization data. You can reset the preauthorization for a user by specifying an empty string, for example, `--preauth ""`.

--addpreauth/-H *preauth-spec*[,*preauth-spec*]...]
Adds preauthorization objects and preauthorizes Oracle Backup access, but does *not* replace existing preauthorization data. You can add preauthorizations only if you have

the `modify administrative domain configuration` right. Typically, only a user in the `admin` class has this right.

Refer to "preauth-spec" on page 3-28 for a description of the *preauth-spec* placeholder.

If you specify *os-username* as a Windows account name, then you must state the Windows domain name explicitly either as wild-card or a specific name. Duplicate preauthorizations are not permitted. Preauthorizations are duplicates if they have the same hostname, userid, and domain.

--rmpreauth/-X *preauth-spec*[,*preauth-spec*]...]
Removes preauthorized access to the specified Oracle Backup user from the specified host or operating system user. Preauthorization attributes, if specified, are ignored. Refer to "preauth-spec" on page 3-28 for a description of the *preauth-spec* placeholder.

You can remove preauthorizations only if you have the `modify administrative domain configuration` right. Typically, only a user in the `admin` class has this right.

***username* ...**
Specifies the name of the Oracle Secure Backup user to be modified.

Example

Example 2–27 creates user `lashdown`, reassigns this user to the `oracle` class, and then displays information about this user.

Example 2–27 Changing an Oracle Secure Backup User

```
ob> mkuser lashdown --class admin --password "x45y" --givenname "lance" --unixname
lashdown --unixgroup "dba" --preauth stadv07:lashdown+rman+cmdline --ndmpuser no
--email lashdown@company.com
ob> chuser --class oracle lashdown
ob> lsuser --long lashdown
lashdown:
    Password:               (set)
    User class:             oracle
    Given name:             lance
    UNIX name:              lashdown
    UNIX group:             dba
    Windows domain/acct:    [none]
    NDMP server user:       no
    Email address:          lashdown@company.com
    UUID:                   5f437cd2-7a49-1027-8e8a-000cf1d9be50
    Preauthorized access:
        Hostname:           stadv07
        Username:           lashdown
        Windows domain:     [all]
        RMAN enabled:       yes
        Cmdline enabled:    yes
```

clean

Purpose

Use the `clean` command to clean a tape drive.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `clean` command.

Syntax

clean::=

```
clean [ --drive/-D drivename ] [ --force/-f ] [ --use/-u element-spec ]
```

Semantics

--drive/-D *drivename*
Specifies the name of the drive that you want to clean. If you do not specify a tape drive name, then the drive variable must be set.

--force/-f
Forces Oracle Secure Backup to clean the drive. If there is a tape loaded in the drive, then this option unloads the tape, loads the cleaning tape, cleans the drive, and then reloads the tape that was originally in the drive.

--use/-u *element-spec*
Specifies the number of a storage element containing a cleaning tape. If omitted, Oracle Secure Backup chooses a cleaning tape based on the setting of the `--cleanemptiest` option that you specified on the mkdev command. Refer to "se-spec" on page 3-35 for a description of the *se-spec* placeholder.

Example

Example 2–28 informs Oracle Secure Backup that you are inserting an unused cleaning tape into element 4 of library `lib1`. The example uses the cleaning tape in element 4 to clean drive tape1.

Example 2–28 Cleaning a Tape Drive

```
ob> insertvol --library lib1 clean --uses 0 --maxuses 3 4
ob> clean --drive tape1 --force --use 4
```

closedoor

Purpose

Use the `closedoor` command to close the import/export door of a tape library. This command only works for libraries that support it.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `closedoor` command.

Syntax

closedoor::=

```
close•door [ --library/-L libraryname ]
```

Semantics

--library/-L *libraryname*
Specifies the name of the library on which you want to close the door. If you do not specify a library name, then the library variable must be set.

Example

Example 2–29 closes the door of library `lib1`.

Example 2–29 Closing a Library Door

```
ob> closedoor --library lib1
```

ctldaemon

Purpose

Use the `ctldaemon` command to control the operation of an Oracle Secure Backup daemon.

See Also: "Daemon Commands" on page 1-10 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to run the `ctldaemon` command.

Syntax

Syntax 1

Use the following syntax to suspend or resume scheduling.

ctldaemon::=

```
ctlda•emon --command/-c { suspend | resume }
```

Syntax 2

Use the following syntax to send a command to one or more daemons.

ctldaemon::=

```
ctlda•emon --command/-c { dump | reinitialize | debugon | debugoff }
[ --host/-h hostname[,hostname]... ] [ daemon-id ]...
```

Semantics

--command/-c { suspend | resume }
Enables you to temporarily suspend and later resume the `obscheduled` daemon (Syntax 1). You can suspend `obscheduled` for troubleshooting purposes.

--command/-c { dump | reinitialize | debugon | debugoff }
Enables you to send a control command to an Oracle Secure Backup daemon (Syntax 2). Table 2–2 lists the `--command` values.

Table 2–2 Values for --command

Value	Meaning
`dump`	Directs the daemon to dump internal state information to its log file.
`reinitialize`	Directs the daemon to reread configuration data.
`debugon`	Directs the daemon to generate extra debugging information to its log file.
`debugoff`	Cancels debug mode. This is the default state.

--host/-h *hostname* ...
Specifies the name of a host on which the daemon is running. If omitted, then the local host is assumed.

daemon-id ...
Identifies an Oracle Secure Backup daemon, either a process id (PID) or service name. Possible service names are `observiced`, `obscheduled`, `obrobotd`, and `obixd`.

Example

Example 2–30 determines whether the `obscheduled` daemon is in a normal state and then suspends it.

Example 2–30 Suspending the obscheduled Daemon

```
ob> lsdaemon obscheduled
Process  Daemon/                        Listen
     ID  Service      State               port  Qualifier
   9436  obscheduled  normal             42130
ob> ctldaemon --command suspend
ob> lsdaemon obscheduled
Process  Daemon/                        Listen
     ID  Service      State               port  Qualifier
   9436  obscheduled  suspended          42130
```

discoverdev

Purpose

Use the `discoverdev` command to detect NDMP-attached devices. The command also detects changes in configuration for NDMP-attached devices. Based on this information, `discoverdev` automatically updates device configuration for the administrative domain.

Oracle Secure Backup detects and acts on the following kinds of changes:

- Devices that were not previously configured but have appeared. For each such device, Oracle Secure Backup creates a new device with a temporarily-assigned name and configures a device attachment for it.
- Devices that were previously configured for which a new attachment has appeared. Oracle Secure Backup adds an attachment to each existing device.
- Devices that were previously configured for which an attachment has disappeared. Oracle Secure Backup removes the attachment from each device.

Oracle Secure Backup detects multiple hosts connected to the same device by comparing the serial numbers reported by the operating system. Oracle Secure Backup also determines whether any discovered device is accessible by its serial number; if so, it configures each device attachment to reference the serial number instead of any logical name assigned by the operating system.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `discoverdev` command.

Syntax

discoverdev::=

```
disc•overdev { --host/-h hostname }... [ --quiet/-q ] [ --noupdate/-U ]
[ --missing/-m ] [ --verbose/-v ]
```

Semantics

--host *hostname* ...
Identifies the host name on which the discovery is to take place.

--quiet/-q
Suppresses the display of the discovery device status.

--noupdate/-U
Reports changes found during the discovery, but does not make configuration changes.

--missing/-m
Reports devices that were previously discovered but are no longer found.

--verbose/-v
Provides verbose output describing the devices found.

Example

Example 2–31 discovers devices for NDMP host `filer_ethel`.

Example 2–31 Discovering NDMP Devices

```
ob> lshost
filer_ethel      mediaserver,client               (via NDMP) in service
linux_admin      admin,mediaserver,client         (via OB)   in service
lucy             client                           (via NDMP) in service
nt_client        client                           (via OB)   in service
w2k              client                           (via OB)   in service
ob> discoverdev --verbose --host filer_ethel
Info: beginning device discovery for filer_ethel.
Info: connecting to filer_ethel

Info: devices found on filer_ethel:
   Info: ATL     1500            ...
      Info: mc3  attrs= [none]
         Info: WWN: [none]
         Info: SN:  PMC13A0007
   Info: Quantum SDLT220...
      Info: nrst7a  attrs= norewind raw
         Info: WWN: [none]
         Info: SN:  CXB45H1313
   Info: Quantum SDLT220...
      Info: nrst8a  attrs= norewind raw
         Info: WWN: [none]
         Info: SN:  PKB51H0286

   filer_ethel_mc3_2  (new library)
      WWN: [none]
      new attach-point on filer_ethel, rawname mc3

   filer_ethel_nrst7a_2  (new drive)
      WWN: [none]
      new attach-point on filer_ethel, rawname nrst7a

   filer_ethel_nrst8a_2  (new drive)
      WWN: [none]
      new attach-point on filer_ethel, rawname nrst8a
```

dumpdev

Purpose

Use the `dumpdev` command to display device errors logged by Oracle Secure Backup.

Error logs reside on the administrative server in the `admin/log/device` subdirectory path of the Oracle Secure Backup home.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `dumpdev` command.

Syntax

dumpdev::=

```
dumpd•ev [ --since/-s date-time ] [ --clear/-c [ --nq ] [ --nd ] ]
{ --dumpfile/-f path ... | devicename ... }
```

Semantics

--since/-s *date-time*
Limits the display to those errors that have occurred since *date-time*. Refer to "date-time" on page 3-12 for the *date-time* placeholder.

--clear/-c
Deletes the error log after it has been displayed. You are prompted before each log is deleted.

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

--nd
Suppresses the display of the error log. This is useful if you want to clear the error log without displaying it.

--dumpfile/-f *path* ...
Specifies a path name of the file to be dumped. This option is useful if you have saved a device error log file to a file that `dumpdev` would not normally find.

***devicename* ...**
Dumps the error log file associated with *devicename*. Refer to "devicename" on page 3-16 for the rules governing device names.

Example

Example 2–32 dumps the error log for a tape drive named `10h_tape1`.

Example 2–32 Dumping the Error Log for a Tape Drive

```
ob> dumpdev 10h_tape1

Oracle Secure Backup hardware error log for "10h_tape1", version 1
       EXABYTE EXB-85058SQANXR1, prom/firmware id 07J0, serial number 06667256
Tue Jan 10, 2005 at 16:52:26.354 (Eastern Daylight Time) devtype: 14
    obexec: mchamber-pc://./obt0, args to wst__exec: handle=0x0
       accessed via host mchamber-pc: Windows_NT 5.1
       op=16 (eod), buf=0x00, count=1 (0x1), parm=0x00
    cdb: 11 03 00 00 00 00 space, cnt=0 to eod
    sense data:
       70 00 03 FF FF FF FF 15 00 00 00 00 14 00 00 00
       00 00 03 00 00 00 02 56 D8 2A 03 00 00
          ec=0, sk=media err, asc=14, ascq=0
          error is: unrecoverable error
          flags: (none)
    returned status: code=unrecoverable error,
       resid=0 (0x0), checks=0x0 []
```

edds

Purpose

Use the `edds` command to edit an existing dataset file. You can replace the entire contents of a file in one of the following ways:

- Using the `--input/-i` option on the command line, which enables you to input the file on the command line.
- Omitting the `--input/-i` option, which opens a default editor window where you can input data and make changes in the editor. You apply the changes when you exit the editor. The default editor is defined by your `EDITOR` environment variable.

See Also: "Dataset Commands" on page 1-11 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to run the `edds` command.

Syntax

edds::=

```
edds [ --nq ] [ --nocheck/-C ] [ --input/-i ] dataset-file-name
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

--nocheck/-C
Disables syntactic checking of a dataset file for errors.

--input/-i
Enables you to input or replace the entire contents of a dataset file.

dataset-file-name
Specifies the name of a dataset file. Refer to "dataset-file-name" on page 3-9 for a descriptions of the *dataset-file-name* placeholder.

Example

Example 2–33 opens a dataset file that contains bad syntax, replaces its contents with new syntax, and then checks its syntax.

Example 2–33 Checking a File for Syntax

```
ob> catds badsyntax.ds
icnlude host brhost2
ob> edds --nq --input badsyntax.ds
Input the replacement dataset contents.  Terminate with an EOF or a line
containing just a dot (".").
```

```
include host brhost2
include path /home
.
ob> catds badsyntax.ds
include host brhost2
include path /home
ob> chkds badsyntax.ds
```

exit

Purpose

Use the `exit` command to exit `obtool`. This command is functionally identical to the quit command.

> **See Also:** "Miscellaneous Commands" on page 1-14 for related commands

Syntax

quit::=

```
ex•it [ --force/-f ]
```

Semantics

--force/-f

Exits `obtool` even if there are pending backup or restore requests. Specifying `--force` means that pending backup and restore requests are lost.

Normally, you cannot exit `obtool` when there are pending requests. You should submit pending requests to the scheduler by specifying `--go` on the backup or restore commands.

Example

Example 2–34 uses the `--force` option to exit `obtool` when a backup job is pending.

Example 2–34 Exiting obtool

```
ob> backup --dataset fullbackup.ds
ob> exit
Error: one or more backup requests are pending.  Use "quit --force" to
       quit now, or send the requests to the scheduler with "backup --go".
ob> exit --force
```

exportvol

Purpose

Use the `exportvol` command to move one or more volumes to the import/export mechanism for removal from the library. Typically, you export volumes in bulk. This command is supported only for libraries that have import/export slots.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `exportvol` command.

Syntax

exportvol::=

```
exp•ortvol [ --library/-L librayname | --drive/-D drivename ]
{ vol-range | se-range }
```

Semantics

--library/-L *libraryname*
Specifies the name of the library from which you want to export volumes. If a library is specified, then there are no limitations placed on the storage elements to be exported. If there are an insufficient number of vacant import/export elements to fulfill the request, then `obtool` reports that the command could not be fully executed.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

--drive/-D *drivename*
Specifies the name of a tape drive in the library from which you want to export volumes. If a drive is specified, then all of the elements must belong to the use list of the drive.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

vol-range
Specifies the volumes to be exported. Refer to "vol-range" on page 3-40 for a description of the *vol-range* placeholder.

se-range
Specifies the storage elements containing the volumes to be exported. Refer to "se-range" on page 3-34 for a description of the *se-range* placeholder.

Example

Example 2–35 exports volume `VOL000003`. Note that the sample output has been reformatted to fit on the page.

Example 2–35 Exporting a Volume

```
ob> lsvol --drive tape2 --long
Inventory of library lib2:
    in    mte:           vacant
  * in    1:             volume VOL000003, barcode DEV423, oid 111, 47711360 kb
                         remaining
  * in    2:             vacant
  * in    3:             vacant
  * in    4:             vacant
    in    iee1:          vacant
    in    iee2:          vacant
    in    iee3:          vacant
    in    dte:           vacant

  *: in use list
ob> exportvol --library lib2 --volume VOL000003
ob> lsvol --drive tape2 --long
Inventory of library lib2:
    in    mte:           vacant
  * in    1:             vacant
  * in    2:             vacant
  * in    3:             vacant
  * in    4:             vacant
    in    iee1:          volume VOL000003, barcode DEV423, oid 111, 47711360 kb
                         remaining, last se 1
    in    iee2:          vacant
    in    iee3:          vacant
    in    dte:           vacant

  *: in use list
```

extractvol

Purpose

Use the `extractvol` command to notify Oracle Secure Backup that you have manually removed or are removing one or more volumes from the library. You can specify the source of volume you are extracting.

Note that you do not need to use the `extractvol` command if you issue the inventory command after removing the volumes.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `extractvol` command.

Syntax

extractvol::=

```
extr•actvol [ --library/-L librarыname | --drive/-D drivename ]
{ vol-range | se-range }
```

Semantics

--library/-L *libraryname*
Specifies the name of the library from which you want to extract volumes.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

--drive/-D *drivename*
Specifies the name of a tape drive in the library from which you want to extract volumes.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

vol-range
Specifies the volumes to be extracted. Refer to "vol-range" on page 3-40 for a description of the *vol-range* placeholder. Execute the lsvol command to display volume information.

se-range
Specifies a range of storage elements from which volumes are to be extracted. Refer to "se-range" on page 3-34 for a description of the *se-range* placeholder.

Example

Example 2–36 notifies Oracle Secure Backup that the volume in storage element 1 of library `lib1` has been manually removed. Note that the sample lsvol output has been reformatted to fit on the page.

Example 2–36 Extracting a Volume

```
ob> lsvol --library lib1
Inventory of library lib1:
    in    1:             volume VOL000002, barcode ADE201, 47711424 kb remaining
    in    2:             volume VOL000001, barcode ADE203, 48359360 kb remaining
    in    dte:           volume RMAN-DEFAULT-000002, barcode ADE202, 47773408 kb
                         remaining, content manages reuse, lastse 3
ob> extractvol --library lib1 1
ob> lsvol --library lib1
Inventory of library lib1:
    in    1:             vacant
    in    2:             volume VOL000001, barcode ADE201, 48359360 kb remaining
    in    dte:           volume RMAN-DEFAULT-000002, barcode ADE202, 47773408 kb
                         remaining, content manages reuse, lastse 3
```

id

Purpose

Use the `id` command to display the name of the currently logged in user.

> **See Also:** "Miscellaneous Commands" on page 1-14 for related commands

Prerequisites

No rights are required to run the `id` command.

Syntax

id::=

```
id [ --long/-l ]
```

Semantics

--long/-l
Displays user and class. By default `id` displays only the class.

Example

Example 2–37 displays the current user, logs out, logs in again as a different user, and then displays current user information.

Example 2–37 Displaying the Current User

```
ob> id --long
user: admin, class: admin
ob> lsuser
admin            admin
sbt              admin
tadmin           admin
ob> logout
% obtool
Oracle Secure Backup 10.2
login: sbt
ob> id
sbt
```

identifyvol

Purpose

Use the `identifyvol` command to load the specified volumes into a tape drive, read their volume labels, and return the volumes to their original storage elements.

This command is useful if an inventory command displays an invalid volume state such as `occupied`, or if you have a valid tape but do not know its contents. If a tape is not new or unlabeled, then you can use `identifyvol` to populate the inventory with the volume contents.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `identifyvol` command.

Syntax

identifyvol::=

```
ident•ifyvol [ --drive/-D drivename ] [ --import/-i ]
[ --obtaropt/-o obtar-option ]... [ se-range ]
```

Semantics

--drive/-D *drivename*
Specifies the name of the tape drive to be used for identifying the volumes. If you do not specify a tape drive name, then the drive variable must be set.

--import/-i
Reads each backup image label on the specified volumes. By default `identifyvol` only reads the first label on the volume. You can specify this option to update the volumes catalog in an administrative domain with information about tapes generated in other domains.

`identifyvol --import` does not catalog the contents of the backup images on the volume. Example 4–27, "Cataloging a File System Backup Image" shows how to catalog the contents of a backup image with `obtar`.

--obtaropt/-o *obtar-option* ...
Specifies `obtar` options that are passed to `obtar` when the volumes are read. For example `-J` enables debug mode and provides more details in backup and restore transcripts. See "obtar Options" on page 4-24 for details on `obtar` options.

Note: `obtool --import` translates internally to `obtar --zz`. Thus, if you specify the `--import` option, then you cannot also use `--obtaropt` to specify options used in the `obtar -c`, `-x`, or `-t` modes.

---

se-range
Specifies a range of storage elements containing the volumes to be identified. If *se-range* is omitted, then the volume currently loaded in the specified drive is identified. Refer to "se-range" on page 3-34 for a description of the *se-range* placeholder.

Example

Example 2–38 loads the volumes in storage elements `1` and `3` into drive `tape1` and identifies them.

Example 2–38 Identifying Volumes

```
ob> lsvol --library lib1
Inventory of library lib1:
    in    1:             occupied
    in    3:             occupied
ob> identifyvol --drive tape1 1,3
```

importvol

Purpose

Use the `importvol` command to move one or more volumes from the import/export mechanism of a library to storage elements. This command is supported only for libraries that have import/export slots.

The `importvol` command differs from the movevol command in the following ways:

- The library manager determines the destination storage elements to be used.
- Tapes can be identified during the move.
- A single command can move multiple tapes.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `importvol` command.

Syntax

importvol::=

```
imp•ortvol [ --library/-L libraryname | --drive/-D drivename ]
[ --identify/-i | --import/-m | --unlabeled/-u ]
[ --obtaropt/-o obtar-option ]...
iee-range
```

Semantics

--library/-L *libraryname*
Specifies the name of the library into which tapes are to be imported. If a library is specified, all empty storage elements in the library are valid destinations. If there are insufficient destinations to fulfill the request, `obtool` reports that the command could not be fully executed.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

--drive/-D *drivename*
Specifies the name of a tape drive in the library into which tapes are to be imported. If a drive is specified, valid destinations are limited to the storage elements in the drive's use list.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

--identify/-i
Reads the volume label on each volume. This option is equivalent to executing the identifyvol command. This option requires specification of a tape drive.

--import/-m
Reads each backup image label on each volume. You can use this option if you are importing volumes from another administrative domain. This option requires specification of a tape drive.

--unlabeled/-u
Marks each imported volume as unlabeled. You cannot specify this option in conjunction with `--identify` or `--import`.

> **Note:** This option does not actually unlabel the volumes. It is equivalent to an insertvol `unlabeled` command.

--obtaropt/-o *obtar-option* ...
Specifies `obtar` options that are passed to `obtar` when the volumes are read. For example `-J` enables debug mode and provides more details in backup and restore transcripts. See the section entitled "obtar Options" on page 4-24 for details on `obtar` options. This option is effective only for the `--identify` and `--import` options.

iee-range
Specifies a range of import/export elements containing the volumes to be imported. Refer to "iee-range" on page 3-21 for acceptable values for `iee-range`.

Example

Example 2–39 imports volumes from import elements `iee1`, `iee2`, and `iee3` into tape library `lib2`.

Example 2–39 Importing Volumes

```
ob> lsvol --long --library lib2
Inventory of library lib2:
    in    mte:          vacant
    in    1:            vacant
    in    2:            vacant
    in    3:            vacant
    in    4:            vacant
    in    iee1:         volume VOL000003, barcode DEV423, oid 111, 47711360 kb remaining, lastse 1
    in    iee2:         unlabeled, barcode DEV424, oid 114, lastse 1
    in    iee3:         unlabeled, barcode DEV425, oid 115, lastse 2
    in    dte:          vacant
ob> importvol --library lib2 iee1-3
ob> lsvol --long --library lib2
Inventory of library lib2:
    in    mte:          vacant
    in    1:            volume VOL000003, barcode DEV423, oid 111, 47711360 kb remaining
    in    2:            unlabeled, barcode DEV424, oid 114
    in    3:            unlabeled, barcode DEV425, oid 115
    in    4:            vacant
    in    iee1:         vacant
    in    iee2:         vacant
    in    iee3:         vacant
    in    dte:          vacant
```

insertvol

Purpose

Use the `insertvol` command to notify Oracle Secure Backup that you have manually inserted volumes into the specified destinations in the library and specify the properties of the inserted volumes. Oracle Secure Backup updates the inventory with the supplied information.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `insertvol` command.

Syntax

Syntax 1

Use the following syntax to specify that you have inserted unlabeled or unknown volumes or cleaning tapes. See "Semantics for Syntax 1" on page 2-62.

insertvol::=

```
ins•ertvol [ --library/-L libraryname | --drive/-D drivename ]
{ unknown | unlabeled | clean --uses/-u n --maxuses/-m n }
se-range
```

Syntax 2

Use the following syntax to specify that you have inserted known or labeled volumes. See "Semantics for Syntax 2" on page 2-63.

insertvol::=

```
ins•ertvol [ --library/-L libraryname | --drive/-D drivename ]
{ vol-spec } se-spec
```

Semantics

Semantics for Syntax 1

The following options enable you to insert unlabeled or unknown volumes or cleaning tapes.

--library/-L *libraryname*

Specifies the name of the library in which you want to insert one or more volumes.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

--drive/-D *drivename*

Specifies the name of a tape drive in the library in which you want to insert one or more volumes.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

unknown
Indicates the volume being inserted is of unknown format.

unlabeled
Indicates that the volume inserted is known to be unlabeled or a new volume.

clean
Indicates that the volume being inserted is a cleaning tape. You must specify this option in conjunction with the `--uses` and `--maxuses` options.

--uses/-u *n*
Specifies the number of times that the cleaning tape has been used.

--maxuses/-m *m*
Specifies the maximum number of times that the cleaning tape can be used. The number of remaining uses for the cleaning tape is the difference between `--maxuses` and `--uses`.

se-range
Specifies a range of storage elements into which the volumes were inserted. Refer to "se-range" on page 3-34 for a description of the *se-range* placeholder.

Semantics for Syntax 2

The following options enable you to insert labeled or known volumes.

vol-spec
Specifies the volume ID of the inserted volume. Refer to "vol-spec" on page 3-41 for a description of the *vol-spec* placeholder.

se-spec
Specifies the storage element into which the volume was inserted. Refer to "se-spec" on page 3-35 for a description of the *se-spec* placeholder.

Example

Example 2–40 informs Oracle Secure Backup that a cleaning tape is inserted into storage element 2 of library `lib1`. Note that the sample output is reformatted so that it fits on the page.

Example 2–40 Notifying Oracle Secure Backup of a Manually Inserted Volume

```
ob> lsvol --library lib1 --long
Inventory of library lib1:
    in    mte:           vacant
    in    1:             volume VOL000001, barcode ADE201, oid 102, 48359360 kb
                         remaining
    in    2:             vacant
    in    3:             volume RMAN-DEFAULT-000002, barcode ADE202, oid 112,
                         47773408 kb remaining, content manages reuse
    in    4:             vacant
    in    iee1:          vacant
    in    iee2:          vacant
    in    iee3:          vacant
    in    dte:           vacant
```

```
ob> insertvol --library lib1 clean --uses 0 --maxuses 3 2
ob> lsvol --library lib1 --long
Inventory of library lib1:
    in    mte:           vacant
    in    1:             volume VOL000001, barcode ADE201, oid 102, 48359360 kb
                         remaining
    in    2:             barcode ADE203, cleaning tape: 0 uses, 3 remaining
    in    3:             volume RMAN-DEFAULT-000002, barcode ADE202, oid 112,
                         47773408 kb remaining, content manages reuse
    in    4:             vacant
    in    iee1:          vacant
    in    iee2:          vacant
    in    iee3:          vacant
    in    dte:           vacant
```

inventory

Purpose

Use the `inventory` command to initiate a scan of the contents of a library.

Oracle Secure Backup does not automatically detect changes to a library that result from manual actions such as opening the library door to move or remove a tape. Use the `inventory` command in such circumstances to make the library detect the changes.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to run the `inventory` command.

Syntax

inventory::=

```
inv•entory [ --library/-L librarыname | --drive/-D drivename ] [ --force/-f ]
```

Semantics

--library/-L *libraryname*
Specifies the name of the library for which you want to update the inventory.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

--drive/-D *drivename*
Specifies the name of a tape drive in the library for which you want to update the inventory.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

--force/-f
Forces the library to perform a physical inventory of the library. Instead of reading from its cache, the library updates the inventory by physically scanning all library elements.

Example

Example 2–41 forces the library `lib1` to perform an inventory operation. Note that the sample output has been reformatted so that it fits on the page.

Example 2–41 Taking an Inventory of a Tape Library

```
ob> inventory --library lib1 --force
ob> lsvol --library lib1
Inventory of library lib1:
  * in    2:             volume VOL000001, barcode ADE201, 38919872 kb remaining
```

```
  in    iee1:          volume VOL000002, barcode ADE203, 38273920 kb remaining, lastse 1
  in    dte:           volume RMAN-DEFAULT-000002, barcode ADE202, 38328224 kb remaining, content
                       manages reuse, lastse 3

*: in use list
```

labelvol

Purpose

Use the `labelvol` command to load selected volumes and write new volume labels to these volumes.

> **Caution: This command erases all existing data on the selected volumes.**

In Oracle Secure Backup, a volume label typically contains a Volume ID—for example, `lev0-0001`—and a volume tag, which is a barcode. These two attributes uniquely identify a tape. Normally, Oracle Secure Backup creates a volume label when it first writes to a tape. You may want to label a volume manually in the following circumstances:

- The volume has a barcode but resides in a library without a barcode reader. In this case, you must manually inform Oracle Secure Backup of the barcode so that it can properly be written to the volume label.
- You want to reserve the volume for use in a particular media family. In this case, prelabeling the volume restricts its use to the media family.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `labelvol` command.

Syntax

labelvol::=

```
lab•elvol [ --drive/-D drivename ] [ --barcode/-b barcode ]
[ --force/-f ] [ --obtaropt/-o obtar-option ]... [ se-range ]
```

Semantics

--drive/-D *drivename*
Specifies the name of the tape drive to be used to label the volume. If you do not specify a tape drive name, then the drive variable must be set.

--barcode/-b *barcode*
Specifies a barcode for the volume.

--force/-f
Forces the labeling of a volume. Executing the command with this option overrides any conditions that would otherwise prevent the `labelvol` command from functioning. This option enables you to overwrite unexpired volumes. Also, you can overwrite an incorrect manual entry for a barcode without the currently required prior step of executing an unlabelvol command.

--obtaropt/-o *obtar-option* ...
Specifies `obtar` options. For example `-J` enables debug mode and provides more details in backup and restore transcripts. See the section entitled "obtar Options" on page 4-24 for details on `obtar` options.

se-range
Specifies a range of storage elements holding the volumes to be labeled. If omitted, then the volume currently loaded in the specified drive is labeled. Refer to "se-range" on page 3-34 for a description of the *se-range* placeholder.

Example

Example 2–42 reserves the tape in storage element 4 in library `lib1` for use by media family `mf_incr`.

Example 2–42 Manually Labeling a Volume

```
ob> insertvol unlabeled --library lib1 4
ob> labelvol --drive tape1 --obtaropt -Xfam:mf_incr 4
```

loadvol

Purpose

Use the `loadvol` command to move a volume from the indicated storage element to the selected tape drive.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `loadvol` command.

Syntax

loadvol::=

```
load•vol [ --drive/-D drivename ] [ --mount/-m mode ]
[ --force/-f ] [ --req/-r ] { vol-spec | element-spec }
```

Semantics

--drive/-D *drivename*
Specifies the name of the tape drive in which you want to load a volume. If you do not specify a tape drive name, then the drive variable must be set.

--mount/-m *mode*
Indicates the mode that the system can use for a volume physically loaded into a tape drive. When a tape is mounted in a drive, the tape is positioned in the drive so that it is in the correct configuration to perform the specified action. Valid values for *mode* are as follows:

- `read`

  This mode mounts the volume for reading only.

- `write`

  This mode mounts the volume so that it can append any new backups to the end of the volume.

- `overwrite`

  This mode mounts a volume on the device and positions it at the beginning of the tape so that the existing contents of the volume are overwritten. If you use this option, then you are granting permission to overwrite an unexpired volume.

--force/-f
Forces the loading of a volume. If another volume is in the drive, then the volume is automatically unloaded.

--req/-r
Loads the volume only if it is not already loaded in the drive.

vol-spec
Specifies the volume to be loaded. You specify a volume by its volume ID or its type: `unknown`, `unlabeled`, or `clean`. Refer to "vol-spec" on page 3-41 for a description of the *vol-spec* placeholder.

element-spec
Specifies the number of a storage element to be loaded. Refer to "element-spec" on page 3-18 for a description of the *se-spec* placeholder.

Example

Example 2–43 takes a volume from storage element 1 in library `lib1` and loads it into drive `tape1`.

Example 2–43 Loading a Volume in a Tape Drive

```
ob>  lsvol --library lib1 --long
Inventory of library lib1:
    in    mte:           vacant
    in    1:             volume VOL000002, barcode ADE201, oid 110, 47670368 kb remaining
    in    2:             volume VOL000001, barcode ADE203, oid 102, 48319392 kb remaining
    in    3:             volume RMAN-DEFAULT-000002, barcode ADE202, oid 112, 47725600 kb
                         remaining, content manages reuse
    in    4:             vacant
    in    iee1:          barcode ADE204, oid 114, 47725344 kb remaining, lastse 4
    in    iee2:          vacant
    in    iee3:          vacant
    in    dte:           vacant
ob> loadvol --drive tape1 1
ob> lsvol --drive tape1
Inventory of library lib1:
  * in    2:             volume VOL000001, barcode ADE203, 48319392 kb remaining
  * in    3:             volume RMAN-DEFAULT-000002, barcode ADE202, 47725600 kb remaining, content
                         manages reuse
    in    iee1:          barcode ADE204, 47725344 kb remaining, lastse 4
    in    dte:           volume VOL000002, barcode ADE201, 47670368 kb remaining, lastse 1

  *: in use list
```

logout

Purpose

Use the `logout` command to exit `obtool` and destroy the login token. When you restart `obtool`, it prompts you for a username.

> **See Also:** "Miscellaneous Commands" on page 1-14 for related commands

Syntax

logout::=

```
log•out
```

Example

Example 2–44 displays logs out, logs in again as user `admin`, and then displays current user information.

Example 2–44 Displaying the Current User

```
ob> logout
% obtool
Oracle Secure Backup 10.2
login: admin
ob> id
admin
```

ls

Purpose

Use the `ls` command to list the names and attributes of file system objects represented in the Oracle Secure Backup catalog.

Listing the contents of the Oracle Secure Backup catalog is equivalent to listing the contents of backup images. The catalog displays the images in a directory structure much like a live file system. You can only list directories whose contents have been backed up.

See Also: "Browser Commands" on page 1-9 for related commands

Prerequisites

The rights needed to run the `ls` command depend on the browse backup catalogs with this access setting for the class.

Syntax

ls::=

```
ls [ --long/-l | --short/-s ] [ --label/-L ] [ --oneperline/-1 ]
[ --reverse/-r ] [ --directory/-d ] [ --backup/-b [ --position/-p ] ]
[ --inode/-i ] [ --nobackupid/-I ] [ --noheader/-H ] [ --notype/-T ]
[ --noerrors/-E ] [ --numberformat/-n numberformat ] [ --viewmode/-v viewmode ]
[ --ctime/-c | --mtime/-t | --utime/-u ] [ --nosort/-X ] [ --noescape/-B ]
[ --max/-M max-entries ] [ --startat/-S starting-entry ]
pathname ...
```

Semantics

--long/-l
Displays Oracle Secure Backup catalog data in long form.

--short/-s
Displays Oracle Secure Backup catalog data in short form (default).

--label/-L
Labels the items in the Oracle Secure Backup catalog for ease of reading. See Example 2–45 for an illustration.

--oneperline/-1
Puts each item on a separate line.

--reverse/-r
Reverses the listing order.

--directory/-d
Displays information on the current directory in the Oracle Secure Backup catalog.

--backup/-b
Displays the backup information.

--position/-p
Displays the physical location of data on the tape when used with the `--backup` option.

--inode/-i
Displays inode of contents. Note that this option is only supported for backup images generated by an NDMP data service.

--nobackupid/-I
Does not display the backup ID.

--noheader/-H
Displays information without header output.

--notype/-T
Does not use "/" to indicate a directory.

--noerrors/-E
Does not display file system error messages.

--numberformat/-n *numberformat*
Specifies how to display large numbers. Refer to "numberformat" on page 3-25 for a description of the *numberformat* placeholder.

--viewmode *viewmode*
Specifies the mode in which to view the Oracle Secure Backup catalog directory contents. Valid values for *viewmode* are as follows:

- `exact` displays only those directory entries that match the data selector.
- `inclusive` displays all entries, regardless of the current data selector (default).

-ctime/-c
Displays inode change time if `--long` also specified.

--mtime/-t
Displays file modified time if `--long` also specified.

--utime/-u
Displays file used time if `--long` also specified.

--nosort/-X
Does not sort names for display.

--noescape/-B
Does not escape non-displayable characters in filenames. Specify `--noescape` if you want file names that include an ampersand character (`&`) to display normally.

--max/-M *max-entries*
Specifies the maximum number of entries to display.

--startat/-S *starting-entry*
Specifies the number where the display should start, with `1` as the first item in the listing.

***pathname* ...**
Specifies the path names in the Oracle Secure Backup catalog.

Example

Example 2–45 lists backup data on `brhost2` in short form and then in long form.

Example 2–45 Displaying Information About a File

```
ob> set host brhost2
ob> ls
home/
ob> cd home
ob> ls
data/
ob> cd data
ob> ls
backup/
ob> cd backup
ob> ls
bin/  c_files/  tree/
ob> cd tree
ob> ls
file1  lev1a/  lev1b/
ob> ls --long file1
-rwx------ lashdown.g527       74      2005/03/02.09:51 file1              (4)
ob> ls --long --label --backup --position file1
Name:               file1
    Backup ID:          4
        Mode & protection:  -rwx------
        Last modified:      2005/03/02.09:51:33
        Size:                 74
    Backup ID:          4
        Backup date & time: 2005/03/03.12:13:16
        Volume ID:          VOL000002
        Volume tag:         DEV423
        File number:        11
        File section:       1
        Requested level:    0
        Client:             brhost2
        Device:             vt1
        Program version:    10.2
        Volume creation:    2005/03/02.10:02:27
        Position:           0000023A0009
```

lsbackup

Purpose

Use the `lsbackup` command to list the backup requests that you created with the backup command. These requests are awaiting delivery to the scheduler.

The `lsbackup` command only lists backup requests that have not yet been sent to the scheduler by means of the `--go` option. For example, if you create a backup request, specify `--go`, and then execute `lsbackup`, `obtool` does not display the request.

See Also: "Backup Commands" on page 1-8 for related commands

Syntax

lsbackup::=

```
lsb•ackup [ --long/-l | --short/-s ] [ --noheader/-H ] [ backup-item ]...
```

Semantics

--long /-l
Displays data in long form, that is, describes all of the attributes for each job and labels them. Refer to Example 2–46 for the type of data included. By default this command displays a subset of attributes in tabular form.

--short /-s
Displays data in short form, that is, lists job IDs only.

--noheader/-H
Suppresses column headers when listing data.

backup-item ...
Specifies an identifier assigned by `obtool` to a backup created with the backup command. The identifier is a small integer number.

Output

Table 2–3 describes the output of the `lsbackup` command.

Table 2–3 lsbackup Output

Label	Indicates
Dataset	User-specified name of the dataset file used in the backup job
Media family	User-specified name of the media family used in the backup job
Backup level	Level of backup to be performed; setting is `full`, `1` to `10`, `incremental`, or `offsite`
Priority	Priority level of the backup job; set a number greater than `0`; `1` is the highest priority
Privileged op	Setting is `yes` or `no`
Eligible to run	Date and time at which the backup job can begin
Job expires	Date and time the backup job request expires

Table 2–3 (Cont.) lsbackup Output

Label	Indicates
Restriction	Devices to which the backup job may be restricted

Example

Example 2–46 displays full details about pending backup jobs. The `1:` at the beginning of the output is the backup item identifier.

Example 2–46 Listing a Backup in Long Form

```
ob> lsbackup --long
1:
    Dataset:                brhost2.ds
    Media family:           (null)
    Backup level:           full
    Priority:               10
    Privileged op:          yes
    Eligible to run:        2005/06/14.21:00:00
    Job expires:            2005/06/19.21:00:00
    Restriction:            any device
```

lsbu

Purpose

Use the `lsbu` command to list cataloged backups. A catalogued backup is a backup that has completed, either successfully or with errors, and that has been logged in the Oracle Secure Backup catalog.

The `lsbu` command lists backup date and time, volume ID, and so forth. The ls command lists the contents of cataloged backups.

See Also: "Browser Commands" on page 1-9 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `lsbu` command.

Syntax

lsbu::=

```
lsbu [ --long/-l | --short/-s ] [ --noheader/-H ]  [ --reverse/-r ]
[ --level/-L backup-level | --maxlevel/-M backup-level ]
[ --inclusions/-i [ --dependencies/-d ] ] [ --host/-h hostname ]...
[ --path/-p pathname ]... [ data-selector ]...
```

Semantics

--long/-l
Displays data in long form. The command displays all attributes of the backups and labels them. By default the command displays a subset of attributes in tabular format.

--short/-s
Displays data in short form. The command displays only backup IDs.

--noheader/-H
Does not display headers for columns.

--reverse/-r
Reverses the listing order.

--level/-L *backup-level*
Displays backups based on backup level. Refer to "backup-level" on page 3-5 for a description of the *backup-level* placeholder.

--maxlevel/-M *backup-level*
Specifies the maximum backup level that you want to display. Refer to "backup-level" on page 3-5 for a description of the *backup-level* placeholder.

-inclusions/-i
Displays the paths that were backed up.

--dependencies/-d
For each incremental backup listed, display the dependencies on predicate backups.

--host/-h *hostname* ...
Displays backups of client *hostname*.

--path/-p *pathname* ...
Displays backups based on file system objects.

***data-selector* ...**
Specifies the Oracle Secure Backup catalog data that applies to an operation. Refer to "data-selector" on page 3-7 for the *data-selector* placeholder.

Output

Table 2–4 describes the output for the `lsbu` command.

Table 2–4 lsbu Output

Label	Indicates
Backup ID	Unique identification number for a backup job; assigned by Oracle Secure Backup
Backup date & time	Starting date and time for a backup job; assigned by the scheduler
Volume ID	Unique volume name with a sequentially numbered suffix; assigned by Oracle Secure Backup
File number	The file number the backup job occupies on a tape containing multiple backups
File section	The number of times a tape is changed during a backup job that spans multiple tapes
Requested level	Defaults to `0` if no previous backup job exists for this directory; assigned by the user when the backup job is scheduled
Client	Name of the backed up client machine
Device	Name of the drive to which the backup is made
Program version	Version of Oracle Secure Backup
Volume creation	Date and time at which Oracle Secure Backup wrote backup image file number 1 to a volume.

Examples

Example 2–47 lists all cataloged backups for host `brhost2`.

Example 2–47 Listing Cataloged Backups for a Host

```
ob> lsbu --host brhost2
      Backup       Backup  Volume           Volume                          File Sect Backup
   Date and Time       ID  ID               Tag                                #    #  Level
2005/03/18.19:36:56     1  VOL000001                                           2    1      0
2005/03/18.19:39:40     2  VOL000001                                           3    1      0
2005/03/30.17:59:38     3  VOL000002                                           1    1      0
2005/04/08.02:45:23     4  VOL000003        00000122                           2    1      0
2005/04/08.06:48:03     5  VOL000004                                           7    1      0
2005/04/08.06:48:41     6  VOL000004                                           8    1      0
2005/04/16.14:15:14     8  default-000001   00012012                           1    1      0
2005/04/16.18:33:23     9  VOL000009        00123403                           2    1      0
2005/04/29.00:25:29    10  VOL000001                                           0    0      0
2005/04/29.00:52:04    11  VOL000002                                           0    0      0
```

Example 2–48 lists the cataloged backups made on August 29, 2005 in long format.

Example 2–48 Listing Catalog Backups on a Specific Date

```
ob> lsbu --long 2005/08/29
Backup ID:          1
    Backup date & time: 2005/08/29.13:21:18
    Volume ID:          VOL000003
    Volume tag:         ADE203
    File number:        1
    File section:       1
    Requested level:    0
    Client:             brhost2
    Device:             tape1
    Program version:    10.1
    Volume creation:    2005/08/29.13:21:18
```

lsbw

Purpose

Use the `lsbw` command to list backup windows. If no backup windows exist, then the command displays the following message:

```
There are no backup windows.
```

> **See Also:** "Backup Window Commands" on page 1-9 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `lsbw` command.

Syntax

lsbw::=

```
lsbw [ --short/-s ] day-specifier[,day-specifier]...
```

Semantics

--short/-s
Displays data in short form. The command displays only the days when the backup window is open. By default the command displays days and times.

***day-specifier* ...**
Specify a time range in terms of days. Refer to "day-specifier" on page 3-15 for a description of the *day-specifier* placeholder.

Example

Example 2–49 shows the backup windows created in Example 2–1.

Example 2–49 Listing Backup Windows

```
ob> lsbw
weekend              08:00-20:00
weekday              00:00-08:00,20:00-24:00
```

lscheckpoint

Purpose

Use the `lscheckpoint` command to list the identity and attributes of current checkpoints.

> **See Also:** "Checkpoint Commands" on page 1-9 for related commands

Prerequisites

You must have the right to query and display information about devices to use the `lscheckpoint` command.

Syntax

lscheckpoint::=

```
lsch•eckpoint [ --short/-s | --long/-l ] [ --host/-h hostname[,hostname]... ]...
[ job-id ]...
```

Semantics

--short/-s
Displays only the IDs of jobs that have checkpoints.

--long/-l
Displays multiple lines for each entry, describing all user-visible information for each checkpoint.

--host/-h *hostname* ...
Constrains the listing to checkpoints for the host specified by *hostname*.

***job-id* ...**
Specifies the Oracle Secure Backup-assigned job ID whose checkpoint information you want to display. If absent, then `obtool` displays all checkpoints, or all checkpoints for hosts named specified with the `--host/-h` option.

Output

Table 2–5 describes the output of the `lscheckpoint` command.

Table 2–5 lscheckpoint Output

Label	Indicates
Job ID	Unique identifier of a scheduled backup or restore job; assigned by Oracle Secure Backup
Host	Name of host
Operation	Type of operation being performed
Checkpoint created	Date and time at which the checkpoint was created
Restartable	Ability to restart a backup job; setting is `yes` or `no`
Current context ID	Identification of the currently active checkpoint

Example

Example 2–50 displays the job information for job `admin/8.1` and then displays the checkpoint information for this job.

Example 2–50 Listing Checkpoint Information

```
ob> lsjob --long admin/8.1
admin/8.1:
    Type:                   backup br_filer
    Level:                  full
    Family:                 (null)
    Restartable:            yes
    Scheduled time:         none
    State:                  running since 2005/05/18.17:45
    Priority:               100
    Privileged op:          no
    Run on host:            (administrative server)
    Attempts:               1
ob> lscheckpoint --long admin/8.1
Job ID:             admin/8.1
    Host:               br_filer
    Operation:          backup
    Checkpoint created: 05/18.17:48
    Restartable:        yes
    Current context ID: 18
```

lsclass

Purpose

Use the `lsclass` command to list the names and attributes of one or more user classes.

See Also:

- "Class Commands" on page 1-10 for related commands
- Appendix B, "Classes and Rights" for a descriptions of the default Oracle Secure Backup classes and rights

Prerequisites

You must have the display administrative domain's configuration right to use the `lsclass` command.

Syntax

lsclass::=

```
lscl•ass [ { --long/-l [ --abbreviate/-a ] } | --short/-s ]
[ --modself/-m { yes | no } ]     [ --modconfig/-M { yes | no } ]
[ --backupself/-k { yes | no } ]  [ --backuppriv/-K { yes | no } ]
[ --restself/-r { yes | no } ]    [ --restpriv/-R { yes | no } ]
[ --listownjobs/-j { yes | no } ] [ --modownjobs/-J { yes | no } ]
[ --listanyjob/-y { yes | no } ]  [ --modanyjob/-Y { yes | no } ]
[ --mailinput/-i { yes | no } ]   [ --mailerrors/-e { yes | no } ]
[ --querydevs/-q { yes | no } ]   [ --managedevs/-d { yes | no } ]
[ --listconfig/-L { yes | no } ]  [ --browse/-b browserights ]
[ --orauser/-o { yes | no } ]     [ --orarights/-O oraclerights ]
[ classname ]...
```

Semantics

Refer to "mkclass" on page 2-131 for details on options not included in this section. For the `lsclass` command, these options select which classes are to be listed based on whether a class has (`yes`) or lacks (`no`) the specified rights.

--long/-l
Displays data in long form. The command displays all classes and privileges.

--abbreviate/-a
Displays a short description when used with the `--long` option.

--short/-s
Displays data in short form (default). The command displays only the class names.

Output

Table 2–6 describes the output of the `lsclass` command.

Table 2–6 lsclass Output

Label	Indicates
browse	browse backup catalogs with this access right; values are `privileged`, `notdenied`, `permitted`, `named`, `none`
oracle	access Oracle backups right; values are `owner`, `class`, `all`, or `none`
listconfig	display administrative domain's configuration right; values are `yes` or `no`
modself	modify own name and password right; values are `yes` or `no`
modconfig	modify administrative domain's configuration right; values are `yes` or `no`
backupself	perform backups as self right; values are `yes` or `no`
backuppriv	perform backups as privileged user right; values are `yes` or `no`
listownjobs	list any jobs owned by user right; values are `yes` or `no`
modownjobs	modify any jobs owned by user right; values are `yes` or `no`
restself	perform restores as self right; values are `yes` or `no`
restpriv	perform restores as privileged user right; values are `yes` or `no`
mailinput	receive email requesting operator assistance right; values are `yes` or `no`
mailerrors	receive email describing internal errors right; values are `yes` or `no`
querydevs	query and display information about devices right; values are `yes` or `no`
managedevs	manage devices and change device state right; values are `yes` or `no`
listanyjob	list any job, regardless of its owner right; values are `yes` or `no`
modanyjob	modify any job, regardless of its owner right; values are `yes` or `no`
oracleuser	perform Oracle backups and restores right; values are `yes` or `no`

Example

Example 2–51 lists the attributes of the `reader` class.

Example 2–51 Displaying Information About a Class

```
ob> lsclass --long --abbreviate reader
reader:
    browse:         named
    oracle:         none
    listconfig:     no
    modself:        yes
    modconfig:      no
    backupself:     no
    backuppriv:     no
    listownjobs:    no
    modownjobs:     no
    restself:       no
    restpriv:       no
    mailinput:      no
    mailerrors:     no
    querydevs:      no
    managedevs:     no
    listanyjob:     no
    modanyjob:      no
    oracleuser:     no
```

lsdaemon

Purpose

Use the `lsdaemon` command to list Oracle Secure Backup daemons running on a host.

See Also: "Daemon Commands" on page 1-10 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `lsdaemon` command.

Syntax

lsdaemon::=

```
lsda•emon [ --long/-l | --short/-s ] [ --all/-a ] [ --noheader/-H ]
[ --host/-h hostname[,hostname]... ] [ daemon-id ]...
```

Semantics

--long/-l
Lists data in long form. The command displays the attributes of each daemon and labels them, for example, `Listen port: 43983`. By default lsdaemon displays this data in tabular form.

--short/-s
Lists only the names of the daemons.

--all/-a
Lists the same data as `--long` except in a table format, that is, with column headings instead of labels. This option is enabled by default.

--noheader/-H
Lists data in `--all` format but suppresses column names.

--host/-h *hostname* ...
Lists daemon data based on the specified host in which the daemons are running. If omitted, then the local host is assumed.

***daemon-id* ...**
Identifies an Oracle Secure Backup daemon, either a process id (PID) or service name. Possible service names are `observiced`, `obscheduled`, `obrobotd`, and `obixd`. If omitted, all daemons are displayed.

Output

Table 2–7 shows the output for the `lsdaemon` command.

Table 2–7 lsdaemon Output

Label	Indicates
Process ID	Number identifying the process in which the daemon is running; assigned by the operating system

Table 2–7 (Cont.) lsdaemon Output

Label	Indicates
Daemon/Service	Name of the daemon; assigned by Oracle Secure Backup
State	State of the daemon; setting is `debug` or `normal`
Listen port	TCP port on which the daemon or service is listening for connections
Qualifier	Text string that augments the Daemon/Service name

Examples

Example 2–52 lists the names of all daemons.

Example 2–52 Listing Daemons in Short Form

```
ob> lsdaemon --short
observiced
obixd
obscheduled
```

Example 2–53 lists the daemons in long form.

Example 2–53 Listing Daemons in Long Form

```
ob> lsdaemon --long
Process ID:             9418
    Daemon/Service:         observiced
    State:                  debug
    Listen port:            400
    Qualifier:              (none)
Process ID:             12652
    Daemon/Service:         obixd
    State:                  normal
    Listen port:            43983
    Qualifier:              brhost2
Process ID:             9436
    Daemon/Service:         obscheduled
    State:                  normal
    Listen port:            42130
    Qualifier:              (none)
```

Example 2–54 lists daemon information in the default table format.

Example 2–54 Listing Daemons in Default Form

```
ob> lsdaemon
Process  Daemon/                          Listen
     ID  Service      State                 port  Qualifier
   9418  observiced   debug                  400
  12652  obixd        normal               43983  brhost2
   9436  obscheduled  normal               42130
```

lsdev

Purpose

Use the `lsdev` command to list the names and attributes of one or more configured devices.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `lsdev` command.

Syntax

lsdev::=

```
lsd•ev [ --long/-l | --short/-s ] [ --inservice/-o | --notinservice/-O ]
[ --reservations/-v | --mount/-m | --description/-d | --borrowed/-b ]
[ --nocomm/-N ] [ --reserved/-r [ --me/-e ] ] [ --nohierarchy/-H ]
[ --notype/-T ] [ --geometry/-g ] [ --verbose/-V ]
[ --attach/-a aspec ] [ --type/-t { tape | library } ]
devicename ...
```

Semantics

--long/-l
Displays data in long form. The command displays the attributes of each device and labels them. Refer to Example 2–55 for sample output. By default the command displays the device name, type, and status.

--short/-s
Displays data in short form. The command prints the name of each device on a separate line.

--inservice/-o
Displays a list of devices that are logically available to Oracle Secure Backup.

--notinservice/-O
Displays a list of devices that are not logically available to Oracle Secure Backup.

--reservations/-v
Display device reservation data, for example, the name of reserving component, and so forth. You can use the resdev command to reserve a device and the unresdev to unreserve a device.

--mount/-m
Displays a list of devices with their mount status.

--description/-d
Displays a list of devices with detailed descriptions. For any device missing a description, execute the pingdev *devicename* command to create one.

--borrowed/-b
Displays a list of devices with their borrowed status.

--nocomm/-N
Suppresses communication with the device.

--reserved/-r
Lists only those devices that are currently reserved.

--me/-e
Displays devices that are reserved for the logged-in user. Use with the `--reserved` option.

--nohierarchy/-H
For a library, suppresses the display of the tape drives contained in the library. By default, display of a library also displays the contained drives.

--notype/-T
Displays a list of devices without specifying the type (tape drive or library).

--geometry/-g
Displays the geometry and other characteristics of a tape library.

--verbose/-V
Produces verbose output (default). For each device `obtool` displays the device type, name, and status.

--attach/-a *aspec*
Displays the device with the specified attachment. Refer to "aspec" on page 3-2 for a description of the *aspec* placeholder.

--type/-t tape | library
Displays the specified type of device: `tape` or `library`.

***devicename* ...**
Specifies the name of the device for which you want to view attribute data. Refer to "devicename" on page 3-16 for the rules governing device names.

Output

Table 2–8 shows the output for the `lsdev` command.

Table 2–8 lsdev Output

Label	Indicates
Device type	Type of device; setting is `tape drive` or `library`
Model	Manufacturer model, if available
Serial number	Manufacturer serial number, if available
In service	Device eligibility for use; setting is `yes` or `no`
Debug mode	Assists in troubleshooting problems; setting is `yes` or `no`
Barcode reader	Setting is `yes`, `no`, or `default`
Barcodes required	Setting is `yes` or `no`; if `yes`, tapes must be barcoded to run a backup job
Auto clean	Automatically clean the tape drive heads; setting is `yes` or `no`; configured separately
Clean interval	Amount of time between cleaning

Table 2–8 (Cont.) lsdev Output

Label	Indicates
Clean using emptiest	Use cleaning tape with the most remaining cleanings available; setting is `yes` or `no`
Unload required	Setting is `yes` or `no`
UUID	Universal Unique Identifier (UUID) for the hardware
Attachment #	Starts at `1` and increments for multiple tape drives or libraries
Host	Host name of the media server
Raw device	Device-specific file name: `/dev/rbl#` for a tape library and `/dev/rbt#` for a tape drive
Library	User-assigned Oracle Secure Backup name for the tape library
DTE	Number of the tape drive in the library
Automount	Automatically mounts the tape device; setting is `yes` or `no`
Error rate	Maximum number of errors for each tape before backup job fails
Query frequency	Hardware default
Blocking factor	Set to the default optimum value of 128 bytes; this value should not be changed arbitrarily since, if you choose a value higher than what is supported by the operating system of the server, Oracle Secure Backup aborts with an error
Max blocking factor	Set at optimum value by Oracle Secure Backup; Oracle recommends you do not change these values
Current tape	Original storage element of the tape currently in the DTE in addition to other information about the tape
Use list	Tapes residing in storage elements assigned for this drive to use
Drive usage	Amount of time since first use or since last cleaning
Cleaning required	Tape drive cleaning is required; setting is `yes` or `no`

Example

Example 2–55 lists detail for a tape library named `filer_ethel_mc3`.

Example 2–55 Listing Details for a Library

```
ob> lsdev --long filer_ethel_mc3
filer_ethel_mc3:
    Device type:            library
    Model:                  ATL
    In service:             yes
    Debug mode:             no
    Barcode reader:         default (hardware-selected)
    Barcodes required:      no
    Auto clean:             no
    Clean interval:         (not set)
    Clean using emptiest:   no
    Unload required:        yes
    UUID:                   8249461c-585c-1027-85c6-000103e0a9fc
    Attachment 1:
        Host:               filer_ethel
        Raw device:         mc3
filer_ethel_nrst7a:
    Device type:            tape
```

```
    Model:                  Quantum
    In service:             yes
    Library:                filer_ethel_mc3
    DTE:                    1
    Automount:              yes
    Error rate:             8
    Query frequency:        3003895KB (-1218978408 bytes) (from driver)
    Debug mode:             no
    Blocking factor:        (default)
    Max blocking factor:    (default)
    Current tape:           1
    Use list:               all
    Drive usage:            none
    Cleaning required:      no
    UUID:                   82665aa4-585c-1027-85c6-000103e0a9fc
    Attachment 1:
        Host:               filer_ethel
        Raw device:         nrst7a
filer_ethel_nrst8a:
    Device type:            tape
    Model:                  Quantum
    In service:             yes
    Library:                filer_ethel_mc3
    DTE:                    2
    Automount:              yes
    Query frequency:        3003895KB (-1218978408 bytes) (from driver)
    Debug mode:             no
    Blocking factor:        (default)
    Max blocking factor:    (default)
    Current tape:           [unknown]
    Use list:               all
    Drive usage:            [not set]
    Cleaning required:      [unknown]
    UUID:                   82667cdc-585c-1027-85c6-000103e0a9fc
    Attachment 1:
        Host:               filer_ethel
        Raw device:         nrst8a
```

lsds

Purpose

Use the `lsds` command to list dataset file and directory names.

See Also: "Dataset Commands" on page 1-11 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `lsds` command.

Syntax

lsds::=

```
lsds [ --long/l | --short/-s ] [ --recursive/-r ] [ dataset-dir-name ]
```

Semantics

--long/-l
Displays data in long form, which means that `obtool` labels the top-level directory. Refer to Example 2–56 for sample output. This options is the default.

--short/-s
Displays data in short form, which means that `obtool` does not label the top-level directory.

--recursive/-r
Recursively displays directories and dataset files under the specified directory.

dataset-dir-name
Specifies the name of a dataset directory assigned with mkds or rends. Refer to "dataset-dir-name" on page 3-8 for a descriptions of the *dataset-dir-name* placeholder.

Example

Example 2–56 changes into the root of the dataset directory tree, displays the path, and then displays the contents of the directory.

Example 2–56 Displaying the Contents of a Dataset Directory

```
ob> cdds /
ob> pwdds
/ (top level dataset directory)
ob> lsds
Top level dataset directory:
mydatasets/
tbrset/
admin_domain.ds
basicsummary.ds
```

lsfs

Purpose

Use the `lsfs` command to list file systems on an NDMP-accessed NAS device.

Prerequisites

You must have the right to query and display information about devices to use the `lsfs` command.

Syntax

lsfs::=

```
lsfs [ --short/-s | --long/-l ] [ --noheader/-H ]
[ --host/-h hostname[,hostname]... ]
[ --logical/-L | --physical/-P ] [ filesystem-name ]...
```

Semantics

--short/-s
Displays file system data in short form.

--long/-l
Displays file system data in long form.

--noheader/-H
Suppresses the display of headings.

--host/-h *hostname* ...
Specifies the name of the host on which the file system resides.

--logical/-L
Indicates that *filesystem-name* is a logical volume name.

--physical/-P
Indicates that *filesystem-name* is a physical volume name.

***filesystem-name* ...**
Specifies the name of a file system that resides on the host.

Output

Table 2–9 describes the output format of the `lsfs` command.

Table 2–9 lsfs Output

Column	Indicates
File system type	File system type
File system status	File system status; setting is `online` or `offline`
Logical volume	Operating system-defined disk volume or partition
Total space	Capacity of Logical Volume
Used space	Amount of disk space used

Table 2–9 (Cont.) lsfs Output

Column	Indicates
Total inodes	Number of inodes
Used inodes	Number of used inodes

Example

Example 2–57 displays the file system on the NDMP-accessed host named `br_filer`.

Example 2–57 Listing File Systems on an NDMP Host

```
ob> lshost
br_filer         client                          (via NDMP) in service
brhost2          client                          (via OB)   in service
brhost3          mediaserver,client              (via OB)   in service
stadv07          admin,mediaserver,client        (via OB)   in service
ob> lsfs --host br_filer --long
/vol/vol0:
    File system type:       WAFL
    File system status:     online
    Total space:                104.5 GB
    Used space:                  71.8 GB
    Available space:             32.7 GB
    Total inodes:             11,164,856
    Used inodes:               4,846,130
ob> lsfs --host br_filer --short
/vol/vol0
ob> lsfs --host br_filer
FS Type  FS Status  Logical Volume     Total Size    Used Size  % Full
WAFL     online     /vol/vol0            104.5 GB      71.8 GB    68.7
```

lshost

Purpose

Use the `lshost` command to display the names and attributes of one or more configured hosts.

See Also: "Host Commands" on page 1-12 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `lshost` command.

Syntax

lshost::=

```
lsh•ost [ --long/-l | --short/-s ] [ --inservice/-o | --notinservice/-O ]
[ --noroles/-R ] [ --roles/-r role[,role]... [ hostname ]...
```

Semantics

--long/-l
Displays host data in long form, which means that `obtool` displays all attributes and labels them. By default `obtool` displays a subset of these attributes in tabular form.

--short/-s
Displays host data in short form, which means that `obtool` displays only the host names.

--inservice/-o
Lists hosts that are logically available to Oracle Secure Backup.

--notinservice/-O
Lists hosts that are not logically available to Oracle Secure Backup.

--noroles/-R
Suppresses the display of role information.

--roles/-r *role* ...
Lists hosts having the specified roles. Refer to"role" on page 3-32 for a description of the *role* placeholder.

***hostname* ...**
Specifies the name of the host machine for which to list data.

Output

Table 2–10 describes the output of the `lshost` command.

Table 2–10 lshost Output

Label	Indicates
Access mode	Setting is `OB` or `NDMP` `OB` indicates the host has Oracle Secure Backup installed (on UNIX, Linux, or Windows machine) and uses Oracle Secure Backup internal communications protocol to communicate. `NDMP` indicates the host does not have Oracle Secure Backup installed (for example, a filer/NAS device) and uses the network data management protocol (NDMP) to communicate.
IP names	Indicates the IP address of the host machine
In service	Host is eligible for use; setting is `yes` or `no`
Roles	Type of role; setting is `client`, `admin`, or `media server`
Any network	Specifies whether Oracle Secure Backup daemons listen for and accept connections from any network interface; setting is `default`, `yes` or `no`
Certificate key size	Specifies the size (in bits) of the public/private key used with the identity certificate for this host
UUID	Universal Unique Identifier; assigned by Oracle Secure Backup
NDMP port	Specifies the TCP port number used for NDMP on NDMP servers (see "port" on page A-13)
NDMP user name	Specifies the name used to authenticate Oracle Secure Backup to an NDMP server (see "username" on page A-14)
NDMP password	Specifies the password used to authenticate Oracle Secure Backup to an NDMP server (see "password" on page A-13)
NDMP backup type	Specifies a default backup type for an NDMP server (see "backuptype" on page A-13)
NDMP protocol version	Specifies an NDMP protocol version for an NDMP server (see "protocolversion" on page A-14)
NDMP auth type	Specifies the means by which the Oracle Secure Backup NDMP client authenticates itself to an NDMP server (see "authenticationtype" on page A-12)

Example

Example 2–58 displays information in short form about all hosts and then displays information about `brhost2` and `br_filer` in long form.

Example 2–58 Displaying Host Information

```
ob> lshost
brhost2          client                          (via OB)   in service
brhost3          mediaserver,client              (via OB)   in service
br_filer         client                          (via NDMP) in service
stadv07          admin,mediaserver,client        (via OB)   in service
ob> lshost --long brhost2 br_filer
brhost2:
    Access mode:            OB
    IP names:               126.1.1.2
    In service:             yes
    Roles:                  client
    Any network:            default
    UUID:                   641fca34-fb32-1027-b11e-000cf1d9be50
br_filer:
```

```
Access mode:            NDMP
IP names:               138.1.14.127
NDMP port:              (default)
NDMP user name:         (default)
NDMP password:          (set)
NDMP backup type:       (default)
NDMP protocol version:  (default)
NDMP auth type:         (default)
In service:             yes
Roles:                  client
Any network:            default
UUID:                   1f80ef88-fb33-1027-b11e-000cf1d9be50
```

lsjob

Purpose

Use the `lsjob` command to obtain the status of scheduled backup and restore jobs. You can select which jobs to display by date, status, and the degree of detail to display.

Each job is assigned identifier consisting of the username of the logged in user, a slash, and a unique numerical identifier. An example of a job identifier is `admin/15`.

The `lsjob` command shows all active and pending jobs, with one line for each job:

```
Job-ID   Sched time  Contents   State
```

See Also: "Job Commands" on page 1-12 for related commands

Prerequisites

If you are attempting to list another user's jobs, then you must have the right to list any job, regardless of its owner. If you are attempting to list your own jobs, then you must have the right to list any jobs owned by user.

Syntax

lsjob::=

```
lsj•ob [ --active/-a ] [ --complete/-c ] [ --pending/-p ]
[ --inputrequest/-i ] [ --all/-A ]
[ { [ --from/-f date-time ] [ --to/-t date-time ] } |
  [ --today/-T ] ]
[ --timescheduled/-e ] [ --type/-Y job-type[,job-type]... ]...
[ --host/-h hostname ] [ --dataset/-D dataset-name ]
[ --system/-y | { --username/-u username } | --me/-m ]
[ --superseded/-S ] [ --subjobs/-j | --primary/-P ]
[ { --short/-s [ --oneperline/-1 ] } | --long/-l ]
[ --noheader/-H ] [ --results/-r ] [ --requires/-R ]
[ --times/-C ] [ --log/-L ]
job-id ...
```

Semantics

Use these options to select the jobs to be shown. If you specify no state-based options, then `obtool` displays only active and pending jobs. Multiple options are additive.

State-based job options

Use these options to filter jobs by status. Refer to Example 2–59 for an illustration.

--active/-a

Shows active jobs, that is, jobs that are currently being executed. By default the `lsjob` command displays active and pending jobs.

--complete/-c

Shows jobs that completed either successfully or unsuccessfully.

--pending/-p
Shows pending jobs, that is, jobs that are not running and are scheduled to be executed in the future. By default the `lsjob` command displays active and pending jobs.

--inputrequest/-i
Shows jobs currently requesting input. For example, a job might require input if you try to restore a backup from a multi-volume volume set while using a standalone tape drive or if a volume required for a restore operation is not available in a library.

--all/-A
Shows jobs in all states.

***job-id* ...**
Specifies the job ID of the scheduled backup and restore job whose status you want to obtain.

Time-based job options

Use these options to filter jobs according to when their state was updated or when they were scheduled to run. Refer to Example 2–60 for an illustration.

--from/-f *date-time*
Shows only jobs whose state was updated at *date-time* or later. For example, show jobs that went from pending to active in the last day. Refer to "date-time" on page 3-12 for the *date-time* placeholder.

--to/-t *date-time*
Shows only jobs whose state was updated at *date-time* or before. For example, show jobs that went from pending to active before yesterday. Refer to "date-time" on page 3-12 for the *date-time* placeholder.

--today/-T
Shows only jobs whose state was updated today.

--timescheduled/-e
Uses scheduled time as a selection criteria instead of job modification time. Use either `--today` or `--from` to select the *date-time* range. If you specify neither option, then no constraint is applied to the *date-time* range.

Type/hostname/dataset-based job options

Use these options to filter jobs according to job type, host name, or dataset identifier. Refer to Example 2–61 for an illustration.

--type/-Y *job-type*[,*job-type*]...
Shows only job entries of the specified type. By default `obtool` displays all types. Refer to "job-type" on page 3-23 for the *job-type* placeholder.

--host/-h *hostname*
Shows only job entries related to the specified host.

--dataset/-D *dataset*
Shows only job entries related to the specified dataset file. Execute the lsds command to display dataset file information.

Username-based job options

Use these options to filter jobs according to who initiated them. Refer to Example 2–62 for an illustration.

--system/-y
Shows jobs scheduled by Oracle Secure Backup.

--username/-u *username*
Shows jobs belonging to *username*. Execute the lsuser command to display all Oracle Secure Backup users.

--me/-m
Shows jobs belonging to the currently logged in user. Execute the id command to display the current Oracle Secure Backup user.

Miscellaneous job options

Use these options to filter jobs according to miscellaneous criteria. Refer to Example 2–63 for an illustration.

--superseded/-S
Shows jobs that were superseded before they were run.

A job is superseded when an identical job was scheduled after the initial job had a chance to run. For example, suppose you schedule an incremental backup scheduled every night at 9 p.m. On Wednesday morning you discover that the Tuesday night backup did not run because no tapes were available in the library. The incremental backup scheduled for Wednesday supersedes the backup from the previous night.

--subjobs/-j
Shows subordinate jobs if the selected job has them (default). For example, `lsjob --primary` shows `sbt/25.1`, `sbt/25.2`, and `sbt/25.3` rather than just `sbt/25`.

--primary/-P
Shows only each primary job. For example, `lsjob --primary` shows `sbt/25` rather than `sbt/25.1`, `sbt/25.2`, and `sbt/25.3`.

Format control job options

Use these options to control the display of job information. Refer to Example 2–64 for an illustration.

--short/-s
Shows only job IDs.

--long/-l
Shows job information in labeled rather than column format.

--noheader/-H
Does not display column headers.

--oneperline/-1
Shows one job ID for each line when used with the `--short` option.

Content level job options

Use these options to filter jobs based on how much content to include. Refer to Example 2–65 for an illustration.

--results/-r
Shows results for completed jobs when used in conjunction with the `--completed` option. For example, the results might look like the following:

```
saved 3.4 MB to VOL000003 (tag ADE202), file 12
```

```
ok:   /home
```

--requires/-R
Shows resources required to run each job. For example, jobs that can run on any device display "requires any device."

--times/-C
Shows all relevant times for each job. For example, the job times might look like the following:

```
introduced 2005/03/21.16:59, earliest exec 03/23.00:00, last update
2005/03/21.16:59, expires never
```

--log/-L
Shows the log associated with each job. The log shows data such as when the job was created, which host it was dispatched on, when it completed, and so forth.

Output

Table 2–11 describes the output of the `lsjob` command.

Table 2–11 lsjob Output

Label	Indicates
Job ID	Unique Oracle Secure Backup identifier assigned to a scheduled backup or restore job
Type	The type of job (`dataset` or `database`)
Scheduled time	Time job was scheduled to begin
Contents	Dataset that was used or host that was backed up
State	State of the job; setting is `processed`, `pending`, `completed successfully`, or `failed`
Priority	Priority level of the backup schedule; `1` is the highest priority
Privileged op	Whether job requires administrator privileges
Run on host	Host on which the job runs
Attempts	Number of times Oracle Secure Backup attempted to run the job

Examples

Example 2–59 shows jobs in all states: active, pending, completed, and awaiting input.

Example 2–59 Filtering Jobs by State

```
 ob> lsjob --all
Job ID          Sched time  Contents                   State
--------------- ----------- -------------------------- --------------------------------------
admin/1         none     dataset tbrset/entire_backup   completed successfully at 2005/03/21.10:17
admin/1.1       none     backup brhost2                 completed successfully at 2005/03/21.10:17
admin/2         none     restore 1 item to brhost2      completed successfully at 2005/03/21.10:17
admin/3         none     dataset fullbackup.ds          completed successfully at 2005/03/21.10:32
sbt/1           none     database ob (dbid=1557818382)  completed successfully at 2005/03/21.10:19
sbt/1.1         none     archivelog backup              completed successfully at 2005/03/21.10:19
sbt/2           none     database ob (dbid=1557818382)  completed successfully at 2005/03/21.10:19
sbt/2.1         none     controlfile autobackup         completed successfully at 2005/03/21.10:19
sbt/3           none     database ob (dbid=1557818382)  completed successfully at 2005/03/21.10:19
sbt/3.1         none     datafile backup                completed successfully at 2005/03/21.10:19
sbt/4           none     database ob (dbid=1557818382)  completed successfully at 2005/03/21.10:21
```

```
sbt/4.1          none     restore piece '03gfrui9_1_1'   completed successfully at 2005/03/21.10:21
sbt/5            none     database ob (dbid=1557818382)  completed successfully at 2005/03/21.10:21
sbt/5.1          none     incremental backup             completed successfully at 2005/03/21.10:21
```

Example 2–60 shows jobs that are active and pending today only.

Example 2–60 Filtering Jobs by Time

```
ob> lsjob --today
Job ID           Sched time  Contents                       State
---------------- ----------- ------------------------------ ---------------------
admin/13         03/23.00:00 dataset fullbackup.ds          future work
```

Example 2–61 shows jobs in all states on host `brhost2`.

Example 2–61 Filtering Jobs by Host

```
ob> lsjob --all --short --oneperline --host brhost2
admin/1.1
admin/2
admin/3.1
admin/4.1
admin/5.1
sbt/6.1
sbt/7.1
```

Example 2–62 shows active and pending jobs for user `sbt`.

Example 2–62 Filtering Jobs by User

```
ob> lsjob --user sbt
Job ID           Sched time  Contents                       State
---------------- ----------- ------------------------------ ---------------------
admin/13         03/23.00:00 dataset fullbackup.ds          future work
```

Example 2–63 shows active and pending jobs that have been superseded.

Example 2–63 Showing Superseded Jobs

```
ob> lsjob --superseded
Job ID           Sched time  Contents                       State
---------------- ----------- ------------------------------ ---------------------
admin/13         03/23.00:00 dataset fullbackup.ds          future work
```

Example 2–64 shows active and pending jobs in long format.

Example 2–64 Displaying Job Data in Long Format

```
ob> lsjob --long
admin/13:
    Type:                   dataset fullbackup.ds
    Level:                  full
    Family:                 (null)
    Scheduled time:         03/23.00:00
    State:                  future work
    Priority:               100
    Privileged op:          no
    Run on host:            (administrative server)
    Attempts:               0
```

Example 2–65 shows all time-related data for active and pending jobs.

Example 2–65 Displaying All Time-Related Data

```
ob> lsjob --times
Job ID           Sched time  Contents                       State
---------------- ----------- ------------------------------ ----------------------
admin/13         03/23.00:00 dataset fullbackup.ds          future work
    introduced 2005/03/21.16:59, earliest exec 03/23.00:00, last update
    2005/03/21.16:59, expires never
```

lsmf

Purpose

Use the `lsmf` command to display information about media families.

> **See Also:** "Media Family Commands" on page 1-13 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `lsmf` command.

Syntax

lsmf::=

```
lsmf [ --long/-l | --short/-s ] [ media-family-name ]...
```

Semantics

--long/-l
Displays data in long form. This option displays all media family attributes and labels them. By default the `lsmf` command displays the name and type of each media family.

--short/-s
Displays data in short form. This option displays only media family names.

media-family-name ...
Specifies the name of the media family that you want to list. If you do not specify a *media-family-name*, then `obtool` displays all media families.

Output

Table 2–12 shows the output for the `lsmf` command.

Table 2–12 lsmf Output

Label	Indicates
Write window	Indicates the length of time during which writing to a volume set is permitted
Keep volume set	Amount of time (added to the length of time for the Write Window) before Volume Set expires; default equals `never`
Appendable	Indicates the volume is appendable; setting is `yes` or `no`
Volume ID used	Volume identifier; setting is either `system default`, `unique to this media family`, `same as for media fam < >`, or `from file < >`
Comment	Optional user-supplied description of this media family

Example

Example 2–66 displays media family data in long format.

Example 2–66 Listing Media Family Information

```
ob> lsmf --long
RMAN-DEFAULT:
    Keep volume set:        content manages reuse
    Appendable:             yes
    Volume ID used:         unique to this media family
    Comment:                Default media family for RMAN backup jobs
content-man-family:
    Write window:           forever
    Keep volume set:        content manages reuse
    Appendable:             yes
    Volume ID used:         unique to this media family
full_bkup:
    Write window:           10 days
    Keep volume set:        28 days
    Appendable:             yes
    Volume ID used:         unique to this media family
time-man-family:
    Write window:           7 days
    Keep volume set:        28 days
    Appendable:             yes
    Volume ID used:         unique to this media family
```

lsp

Purpose

Use the `lsp` command to list defaults and policies.

The policy data is represented as a directory tree with `/` as the root. You can use cdp to navigate the tree and `lsp` and pwdp to display data.

See Also:

- "Policy Commands" on page 1-14 for related commands
- Appendix A, "Defaults and Policies" for a complete list of policies and policy classes

Prerequisites

You must have the display administrative domain's configuration right to use the `lsp` command.

Syntax

lsp::=

```
lsp [ --short/-s | --long/-l ] [ --dir/-d ] [ --fullname/-f ] [ --novalue/-V ]
[ --nodefault/-D | --defaultvalue/-v ] [ --type/-t ] [ policy-name ]...
```

Semantics

--short/-s
Displays data in short form (default). This option displays the policy name and setting and indicates whether the setting is the default value.

--long/-l
Displays data in long form. This option is identical to `--short` except that the output includes a brief description of each policy.

--dir/-d
Displays the directory of the specified policy.

--fullname/-f
Display the full path names of the selected policies.

--novalue/-V
Suppresses the display of policy values.

--nodefault/-D
Suppresses the display of default values of the selected policies.

--defaultvalue/-v
Displays the default values of the selected policies.

--type/-t
Displays policies by type.

policy-name ...
Specifies the name of the policy to display.

Examples

Example 2–67 displays the full path name of log policies and suppresses the display of the policy defaults.

Example 2–67 Listing Log Policies

```
ob> pwdp
/
ob> lsp --nodefault --fullname --long logs
/logs/adminlogevents                        (none)
    Names of events that are logged in the administrative server activity log.
/logs/adminlogfile                          (none)
    Pathname of the administrative server activity log.
/logs/clientlogevents                       (none)
    Names of events that are logged in each client's local log file.
/logs/jobretaintime                         30 days
    Duration for which scheduler job database records are retained.
/logs/logretaintime                         7 days
    Duration for which Oracle Secure Backup daemon log entries are retained.
/logs/transcriptretaintime                  7 days
    Duration for which backup transcripts are retained.
/logs/unixclientlogfile                     (none)
    Pathname of the local activity log file for all UNIX clients.
/logs/windowsclientlogfile                  (none)
    Pathname of the local activity log file for all Windows clients.
```

Example 2–68 displays the policies in the class `daemons`.

Example 2–68 Listing Policies by Type

```
ob> pwd
/
ob> lsp --type daemons
auditlogins                     no                          [default]
    yes-no
obixdmaxupdaters                2                           [default]
    uint min 1
obixdrechecklevel               structure                   [default]
    enum none structure content
obixdupdaternicevalue           0                           [default]
    int
webautostart                    yes
    yes-no
webpass                         (set)
    text
windowscontrolcertificateservice no                         [default]
    yes-no
```

lspiece

Purpose

Use the `lspiece` command to display information about RMAN backup pieces. Backup pieces are the physical members of backup sets. One RMAN backup piece corresponds to one Oracle Secure Backup backup image. Oracle Secure Backup stores and reports Oracle Database metadata about the contents of each backup piece.

> **See Also:** "Backup Piece Commands" on page 1-8 for related commands

Prerequisites

You must have the right to query and display information about devices to use the `lspiece` command.

Syntax

lspiece::=

```
lspi•ece [ --long/-l | --short/-s ] [ --noheader/-H ] [ --section/-S ]
[ --oid/-o oid-list ]... [ --host/-h hostname[,hostname]... ]
[ --dbname/-d dbname[,dbname]... ]
[ --dbid/-i dbid[,dbid]... ]
[ --content/-c content[,content]... ]
[ piecename ]...
```

Semantics

--long/-l
Displays data in long form.

--short/-s
Displays data in short form.

--noheader/-H
Does not display header row.

--section/-S
Includes information about backup sections used by the backup pieces.

--oid/-o *oid-list* ...
Specifies one or more backup piece object identifiers. Refer to "oid-list" on page 3-27 for a description of the *oid-list* placeholder.

--host/-h *hostname* ...
Specifies the name of the host machine to which the listing applies.

--dbname/-d *dbname* ...
Specifies the names of the databases whose backup pieces you want to list.

--dbid/-i *dbid* ...
Specifies the DBIDs of the databases whose backup pieces you want to list.

--content/-c *content* ...
Specifies the types of backup information contained by the backup piece. Refer to "content" on page 3-6 for a description of the *content* placeholder.

***piecename* ...**
Specifies the names of the backup pieces to which the listing applies.

Output

Table 2–13 describes the output of the `lspiece` command.

Table 2–13 lspiece Output

Label	Indicates
Backup piece OID	The backup piece object identifier
Database	The name of the database that was backed up
Database ID	The DBID of the database that was backed up
Content	The content of the backup (see "content" on page 3-6)
Copy number	The backup piece copy number
Created	The creation date of the backup piece
Host	The database host
Piece name	The name of the backup piece

Example

Example 2–69 uses Recovery Manager to back up a datafile and all archived redo logs to tape by using the Oracle Secure Backup SBT interface. The example then displays information about the backup pieces on tape.

Example 2–69 Listing Backup Pieces

```
% rman TARGET /
RMAN> backup datafile 3;

Starting backup at 18-MAR-05
allocated channel: ORA_SBT_TAPE_1
channel ORA_SBT_TAPE_1: sid=23 devtype=SBT_TAPE
channel ORA_SBT_TAPE_1: Oracle Secure Backup
channel ORA_SBT_TAPE_1: starting full datafile backupset
channel ORA_SBT_TAPE_1: specifying datafile(s) in backupset
input datafile fno=00003 name=/home/oracle/dbs/data.dbf
channel ORA_SBT_TAPE_1: starting piece 1 at 18-MAR-05
channel ORA_SBT_TAPE_1: finished piece 1 at 18-MAR-05
piece handle=05gfkmq9_1_1 tag=TAG20050318T162441 comment=API Version 2.0,MMS
Version 10.2.0.0
channel ORA_SBT_TAPE_1: backup set complete, elapsed time: 00:01:26
Finished backup at 18-MAR-05

RMAN> backup archivelog all;

Starting backup at 18-MAR-05
current log archived
using target database control file instead of recovery catalog
allocated channel: ORA_SBT_TAPE_1
channel ORA_SBT_TAPE_1: sid=33 devtype=SBT_TAPE
channel ORA_SBT_TAPE_1: Oracle Secure Backup
```

```
channel ORA_SBT_TAPE_1: starting archive log backupset
channel ORA_SBT_TAPE_1: specifying archive log(s) in backup set
input archive log thread=1 sequence=1 recid=1 stamp=553170151
input archive log thread=1 sequence=2 recid=2 stamp=553170267
input archive log thread=1 sequence=3 recid=3 stamp=553278730
channel ORA_SBT_TAPE_1: starting piece 1 at 18-MAR-05
channel ORA_SBT_TAPE_1: finished piece 1 at 18-MAR-05
piece handle=06gfkn8h_1_1 tag=TAG20050318T163215 comment=API Version 2.0,MMS
Version 10.2.0.0
channel ORA_SBT_TAPE_1: backup set complete, elapsed time: 00:00:08
Finished backup at 18-MAR-05

RMAN> EXIT;
% obtool
ob> lspiece --long
Backup piece OID:       104
    Database:               sample
    Database ID:            1557615826
    Content:                full
    Copy number:            0
    Created:                2005/03/18.16:25
    Host:                   stadv07
    Piece name:             05gfkmq9_1_1
Backup piece OID:       105
    Database:               sample
    Database ID:            1557615826
    Content:                archivelog
    Copy number:            0
    Created:                2005/03/18.16:32
    Host:                   stadv07
    Piece name:             06gfkn8h_1_1
```

lspni

Purpose

Use the `lspni` command to list preferred network interface definitions.

> **See Also:** "Preferred Network Interface Commands" on page 1-15 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `lspni` command.

Syntax

lspni::=

```
lspn•i [ server-hostname ]...
```

Semantics

server-hostname ...
Specifies the name of the server whose network interfaces are to be listed. If you do not specify a host name, then `obtool` displays all hosts that have a PNI created with the mkpni command.

Output

Table 2–14 describes the output for the `lspni` command.

Table 2–14 lspni Output

Column	Indicates
PNI #	Sequential number, starting at `1`, identifying the Preferred Network Interface (PNI)
interface	IP address of the interface
clients	Names of clients using the interface

Example

Example 2–70 displays the preferred network interfaces for servers brhost2 and `brhost3`. Each server can be accessed by client `stadv07`.

Example 2–70 Listing Preferred Network Interfaces

```
ob> lspni
brhost2:
    PNI 1:
        interface:          126.1.1.2
        clients:            stadv07
brhost3:
    PNI 1:
        interface:          126.1.1.3
        clients:            stadv07
```

lsrestore

Purpose

Use the `lsrestore` command to list restore requests. These requests are awaiting delivery to the scheduler.

See Also: "Restore Commands" on page 1-15 for related commands

Syntax

lsrestore::=

```
lsr•estore [ --long/-l | --detail/-d | { --short/-s [ --oneperline/-1 ] }  ]
[ --position/-x ] [ --noheader/-H ] [ --raw/-R ] [ --catalog/-C ]
[ restore-item ]...
```

Semantics

--long/-l
Displays restore request data in long form.

--detail/-d
Displays detailed data about the backup to be used in the restore.

--short/-s
Displays restore request data in short form. This item is the default.

--oneperline/-1
Shows one item for each line when used with the `--short` option.

--position/-x
Displays the position of the backup on tape when used with the `--detail` option.

--noheader/-H
Displays data without column headings.

--raw/-R
Displays only raw restore requests, that is, restore requests that do not make use of the Oracle Secure Backup catalog. By default `lsrestore` lists all restore requests.

--catalog/-C
Displays only restore requests that use the Oracle Secure Backup catalog. If you specify `--catalog`, then lsrestore does not display raw restore requests. By default `lsrestore` lists all restore requests.

***restore-item* ...**
Specifies the item number of a restore request. You can display the item numbers for restore requests by executing `lsrestore` without any options.

Output

Table 2–15 describes the output for the `lsrestore` command.

Table 2–15 lsrestore Output

Column	Indicates
Item #	Sequential number, starting at 1, assigned to the restore job
Data saved from	Host and path of data that was backed up
Restore data to	Host and path of data to be restored
Host	Name of host the data is originally from or to which the host is restoring
Path	Operating system location of data on the file system
Priority	Priority of restore job
Created	Creation date of volume set
File number	File number of backup to be restored
Device	Name of device to be used for restore operation
Backup ID	Backup ID for backup to be restored
Volume ID	Volume ID for volume to be used in restore operation
Volume tag	Barcode for volume to be used in restore operation
File section	Backup section to be restored
Position	Position of backup data on tape

Example

Example 2–71 lists all restore requests in long format.

Example 2–71 Listing Restore Requests

```
ob> lsrestore --long
1:
    Data saved from:
        Host:               brhost2
        Path:               /data/backup
    Restore data to:
        Host:               brhost3
        Path:               /tmp
    Priority:           100
    Created:            2005/12/02.12:37:07
    File number:        1
    Device:             tape1
    Backup ID:          1
    Volume ID:          VOL000003
    Volume tag:         ADE203
    File section:       1
    Position:           000000000009
```

lssched

Purpose

Use the `lssched` command to display information about backup schedules.

> **See Also:** "Schedule Commands" on page 1-15 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `lssched` command.

Syntax

lssched::=

```
lssc•hed [ --short/-s | --long/-l ]
[ --calendar/-c year/month
[ --trigger trigger-number[,trigger-number]... ] ]
[ schedulename ]...
```

Semantics

--short/-s
Displays schedule data in short form.

--long/-l
Displays schedule data in long form.

--calendar/-c *year/month*
Restricts display to schedule information in the given month and year.

--trigger *trigger-number* ...
Displays backup schedule information by trigger number. A trigger is a user-defined period in time or sets of times that causes a scheduled backup to run.

***schedulename* ...**
Specifies the name of the backup schedule to display.

Output

Table 2–16 describes the output of the `lssched` command.

Table 2–16 lssched Output

Column	Indicates
Schedule name	User-supplied name identifying the schedule
Dataset	Dataset files used
Restrict	Device restrictions
Priority	Priority level of the backup schedule; set a number greater than `0`; `1` is the highest priority
Comment	User-supplied comment

Table 2–16 (Cont.) lssched Output

Column	Indicates
Trigger #	Instance number of this schedule
Day/date	Scheduled date for the backup job
At	Scheduled time for the backup job
Backup level	Level of backup to be performed; setting is `full`, `1` to `10`, `incremental`, or `offsite`
Media family	Media family to use
Expires after	When this trigger expires

Example

Example 2–72 displays information about backup schedules `lev2`, `level3`, and `level3-writewindow`.

Example 2–72 Displaying Backup

```
ob> lssched --long
lev2:
   Dataset:                    fez1
                               jssun1
                               wiley1
   Restrict:                   jssuntape
   Priority:                   100
   Trigger 1:
      Day/date:                day 21 each month
      At:                      02:00
      Backup level:            2
      Media family:            level2
level3:
   Dataset:                    NEW_CLIENTS
   Priority:                   100
   Trigger 1:
      Day/date:                daily
      At:                      02:00
      Backup level:            2
      Media family:            level2
      Expires after:           1 hour
level3-writewindow:
   Dataset:                    fez1
                               jssun1
                               wiley1
   Restrict:                   jssuntape
   Priority:                   100
   Comment:                    write window set for 5 hours
   Trigger 1:
      Day/date:                daily
      At:                      01:00
      Backup level:            3
      Media family:            lev3-ww-expires
```

lssection

Purpose

Use the `lssection` command to list backup sections matching the criteria selected on the command line. A backup section is the portion of a backup image that occupies one physical volume. Oracle Secure Backup obtains backup section data from the backup sections catalog.

See Also: "Section Commands" on page 1-15 for related commands

Prerequisites

You must have the right to query and display information about devices to use the `lssection` command.

Syntax

lssection::=

```
lsse•ction [ --long/-l | --short/-s ] [ --noheader/-H ] [ --incomplete/-i ]
[ --oid/-o oid-list ]... [ { { --vid/-v vid-list } | { --void/-V oid-list } }
[ --file/-f filenumber-list ]... ]
```

Semantics

--long/-l
Displays section data in long form.

--short/-s
Displays only the object ID of each backup section record selected.

--noheader/-H
Displays data without column headings.

--incomplete/-i
Displays section information even if the related volume data is missing from the backup sections catalog.

--oid *oid-list*
Selects backup sections with the object identifiers matching those in *oid-list*. Refer to "oid-list" on page 3-27 for a description of the *oid-list* placeholder.

--vid *vid-list*
Selects backup sections contained on the volumes whose IDs are supplied in *vid-list*. A *vid-list* is one or more *vid* values separated by commas. Refer to"vid" on page 3-39 for a description of the *vid* placeholder.

--void *void-list*
Selects backup sections contained on the volumes whose volume object identifiers are supplied in the list. The *void-list* placeholder represents an *oid-list* of volume IDs. Refer to "oid-list" on page 3-27 for a description of the *oid-list* placeholder.

--file/-f *filenumber-list*
Selects only those backup sections having the file numbers specified the list. Refer to "filenumber-list" on page 3-20 for a description of the *filenumber-list* placeholder.

Output

Table 2–17 describes the output of the `lssection` command.

Table 2–17 lssection Output

Column	Indicates
Backup section OID #	Catalog identifier for the backup section
Containing volume	Volume identifier of the tape media where the backup section resides
Containing volume OID	Catalog identifier for the volume
File	File number; identifies which numbered backup the section occupies on a tape containing multiple backups
Section	For a backup that spans multiple tapes; identifies which tape this is in the sequence
Backup level	Level of backup to be performed; setting is `full`, `1` to `10`, `incremental`, or `offsite`
Client	Name of Oracle Secure Backup client being backed up
Created	Date and time the backup section was created
Attributes	Information about the volume expiration

Example

Example 2–73 displays the object identifiers of all backup sections in the backup sections catalog. The `lssection` command then displays data for section 108 in the default standard format to determine which volume it is on. The command then displays all backup sections on this volume in long format.

Example 2–73 Listing Backup Sections

```
ob> lssection --short
   BSOID
     100
     105
     106
     107
     108
ob> lssection --oid 108
   BSOID  Volume           File Sect  Level  Client     Created      Attributes
     108  VOL000002           2 1         0  brhost2    04/19.11:52  never expires
ob> lssection --vid VOL000002 --long
Backup section OID:    105
    Containing volume:      VOL000002
    Containing volume OID:  111
    File:                   1
    Section:                1
    Backup level:           0
    Client:                 brhost2
    Created:                2005/04/19.11:36
    Attributes:             never expires
Backup section OID:    108
```

```
Containing volume:      VOL000002
Containing volume OID:  111
File:                   2
Section:                1
Backup level:           0
Client:                 brhost2
Created:                2005/04/19.11:52
Attributes:             never expires
```

lssnap

Purpose

Use the `lssnap` command to list snapshots on NDMP hosts.

> **See Also:** "Snapshot Commands" on page 1-16 for related commands

Prerequisites

You must have the right to query and display information about devices to use the `lssnap` command.

Syntax

lssnap::=

```
lssn•ap [ --short/-s | --long/-l ] [ --noheader/-H ] [ --reserve/-r ]
[ --host/-h hostname[,hostname]... ]
[ --fs/-f filesystem-name[,filesystem-name]... ]
[ --numberformat/-n numberformat ] [ snapshot-name ]...
```

Semantics

--short/-s
Displays snapshot data in short form. This option is the default.

--long/-l
Displays snapshot data in long form.

--noheader/-H
Suppresses columns headers when listing data.

--reserve/-r
Displays the reserved space.

--host/-h *hostname* ...
Specifies the NDMP host. If you do not specify a host name, then Oracle Secure Backup uses the value from the host variable.

--fs/-f *filesystem-name*
Specifies the file system of which the snapshot was taken.

--numberformat/-n *numberformat*
Specifies the format in which to display large numbers. Refer to "numberformat" on page 3-25 for a description of the *numberformat* placeholder.

***snapshot-name* ...**
Specifies the name of the snapshot to list.

Output

Table 2–18 describes the output of the `lssnap` command.

Table 2–18 lssnap Output

Label	Indicates
File system	File system captured in the snapshot
Max snapshots	Maximum number of snapshots permitted on this volume
Reserved space	Total reserved space for all snapshots
% reserved space	Percentage of reserved space currently used by all snapshots
Snapshot	Name of the snapshot
Of	Name of the file system
Taken at	Date and time of the snapshot
Used %	Space consumed by this snapshot as a percentage of reserved disk space being used on the volume. This value is calculated by: snapshot size x 100% / reserved space.
Total %	Space consumed by this snapshot as a percentage of total disk space on the volume. This value is calculated by: snapshot size x 100% / total disk space in this volume.
Busy	Whether the snapshot is busy; values are `yes` and `no`
Dependency	Whether the snapshot has a dependency on another processing entity (such as snapmirror); values are `yes` and `no`

Example

Example 2–74 displays snapshots on the NDMP-accessed host `br_filer`. In this example, the `lucy.0` snapshot has used 3% of the space allocated to snapshots on `/vol/vol0` (3% of 44.8 GB) and 1% of the total disk space for the volume `/vol/vol0` (1% of 104 GB).

Example 2–74 Displaying Snapshots

```
ob> lssnap --long --host br_filer
File system /vol/vol0:
    Max snapshots:          255
    Reserved space:           44.8 GB
    % reserved space:       30
    Snapshot:               lucy.0
        Of:                 /vol/vol0
        Taken at:           2005/03/28.20:52
        Used %:               3
        Total %:              1
        Busy:               no
        Dependency:         no
    Snapshot:               myhost_snap1
        Of:                 /vol/vol0
        Taken at:           2004/08/21.11:30
        Used %:              12
        Total %:              7
        Busy:               no
        Dependency:         no
```

lsssel

Purpose

Use the `lsssel` command to display an Oracle database backup storage selector.

> **See Also:** "Database Backup Storage Selector Commands" on page 1-11 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `lsssel` command.

Syntax

lsssel::=

```
lsss•el [ --long/-l | --short/-s ]
[ --dbname/-d { * | dbname[,dbname]... } ]
[ --dbid/-i  { * | dbid[,dbid]... } ]
[ --host/-h  { * | hostname[,hostname]... } ]
[ --content/-c { * | content[,content]... } ]
[--copynum/-n { 1 | 2 | 3 | 4 } ]
sselname...
```

Semantics

--long/-l
Displays all attributes of all storage selectors.

--short/-s
Displays only the names of the selected storage selectors.

--dbname/-d *dbname* ...
Lists storage selectors applicable to the specified database names.

--dbid/-i *dbid* ...
Lists storage selectors applicable to the specified database IDs.

--host/-h *hostname* ...
Lists storage selectors applicable to the specified host names.

--content/-c *content* ...
Lists storage selectors applicable to the specified content types. Refer to "content" on page 3-6 for a description of the *content* placeholder.

--copynum/-n 1 | 2 | 3 | 4
Lists storage selectors applicable to the specified copy number.

***sselname* ...**
Specifies the names of one or more storage selectors to display. This list is filtered by the other selection criteria (if any).

Output

Table 2–19 describes the output of the `lsssel` command.

Table 2–19 lsssel Output

Label	Indicates
Content	The content types of backups to which this storage selector applies (see "content" on page 3-6)
Databases	The names of the databases to which this storage selector applies
Database ID	The DBIDs of the databases to which this storage selector applies
Host	The database hosts to which this storage selector applies
Restrictions	The names of devices to which backups controlled by this storage selector are restricted.
Copy number	The copy number to which this storage selector applies
Media family	The name of the media family to be used for backups under the control of this storage selector object
Resource wait time	How long to wait for the availability of resources required by backups under the control of this storage selector
UUID	The universal identifier of the storage selector

Example

Example 2–75 creates a storage selector and then displays information about it.

Example 2–75 Displaying a Database Backup Storage Selector

```
ob> mkssel --dbid 1557615826 --host brhost2 --content full --family f1 ssel_full
ob> lsssel --long

ssel_full:
    Content:             full
    Databases:           [all]
    Database ID:         1557615826
    Host:                brhost2
    Restrictions:        [none]
    Copy number:         [any]
    Media family:        f1
    Resource wait time:  1 hour
    UUID:                b5774d9e-92d2-1027-bc96-000cf1d9be50
```

lssum

Purpose

Use the `lssum` command to display job summary schedules.

> **See Also:** "Summary Commands" on page 1-16 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `lssum` command.

Syntax

lssum::=

```
lssu•m [ --long/-l | --short/-s ] [ summary-name ]...
```

Semantics

--long/-l
Displays job summary schedule data in long form.

--short/-s
Displays the job summary name. By default `lssum` displays the summary name and the date and time at which the report should be generated.

***summary-name* ...**
Specifies the name of the job schedule summary that you want to list.

Output

Table 2–20 describes the output of the `lssum` command.

Table 2–20 lssum Output

Column	Indicates
Produce on	Date and time to generate the report
Mail to	E-mail address to which to send reports
Backup jobs	Inclusion of information about backup jobs; setting is `yes` or `no`
Restore jobs	Inclusion of information about restore jobs; setting is `yes` or `no`
Oracle backup jobs	Inclusion of information about RMAN backup jobs; setting is `yes` or `no`
Oracle restore jobs	Inclusion of information about RMAN restore jobs; setting is `yes` or `no`
Scheduled jobs	Inclusion of information about scheduled jobs; setting is `yes` or `no`
User jobs	Inclusion of information about user jobs; setting is `yes` or `no`
Subordinate jobs	Inclusion of information about subordinate jobs; setting is `yes` or `no`
Superseded jobs	Inclusion of information about superseded jobs; setting is `yes` or `no`

Example

Example 2–76 displays information about the job summary schedule named `weekly_report`.

Example 2–76 Displaying Job Summary Schedules

```
ob> lssum --long
weekly_report:
    Produce on:              Wed at 12:00
    Mail to:                 lance@company.com
    In the report, include:
        Backup jobs:             yes
        Restore jobs:            yes
        Oracle backup jobs:      yes
        Oracle restore jobs:     yes
        Scheduled jobs:          yes
        User jobs:               yes
        Subordinate jobs:        yes
        Superseded jobs:         no
```

lsuser

Purpose

Use the `lsuser` command to display the names and attributes of one or more Oracle Secure Backup users.

See Also: "User Commands" on page 1-17 for related commands

Prerequisites

If you need to list any user, then you must have the display administrative domain's configuration right. If you are only interested in listing yourself, then you must have the right to modify own name and password.

Syntax

lsuser::=

```
lsu•ser [ --long/-l | --short/-s ] [ --class/-c userclass ]
[ --unixname/-U unix-user ] [ --unixgroup/-G unix-group ]
[ --domain/-d windows-domain ] [ --ndmpuser/-N ]
[ --email/-e emailaddr ] [ --givenname/-g givenname ]
[ username ... ]
```

Semantics

--long/-l
Displays data in long form.

--short/-s
Displays data in short form.

--class/-c *userclass*
Displays users belonging to a specific class.

--unixname/-U *unix-user*
Displays users and associated classes by UNIX name.

--unixgroup/-G *unix-group*
Displays users and associated classes by UNIX group.

--domain/-d *windows-domain*
Displays users and associated classes by the Windows domain name.

--ndmpuser/-N
Displays users that have access to NDMP servers.

--email/-e *emailaddr*
Displays users and their associated classes by their email addresses.

--givenname/-g *givenname*
Displays users with the given name *givenname*.

username ...
Specifies the name of the Oracle Secure Backup user whose information you want to display.

Output

Table 2–21 describes the output of the `lsuser` command.

Table 2–21 lsuser Output

Column	Indicates
Password	User password; setting is `(set)` or `(not set)`
User class	Name of the user class
Given name	Oracle Secure Backup name
UNIX name	`/etc/passwd` entry for the user
UNIX group	`/etc/group` entry for the user
Windows domain/acct	Domain or account name, if applicable
NDMP server user	Setting is `yes` or `no`
Email address	E-mail address of the user
UUID	Universal Unique Identifier (UUID) for the user
Hostname	Another machine for which the user is preauthorized to access
Username	User name of the user on another machine for which the user is preauthorized to access
Windows domain	Domain information, if applicable, on another machine for which the user is preauthorized to access
RMAN enabled	RMAN availability on another machine for which the user is preauthorized to access; setting is `yes` or `no`
Cmdline enabled	Command line availability on another machine for which the user is preauthorized to access; setting is `yes` or `no` (`obtool`)

Example

Example 2–77 displays information about Oracle Secure Backup user `lashdown`.

Example 2–77 Displaying Oracle Secure Backup User Information

```
ob> lsuser
admin            admin
lashdown         oracle
sbt              admin
ob> lsuser --long lashdown
lashdown:
    Password:               (set)
    User class:             oracle
    Given name:             lance
    UNIX name:              lashdown
    UNIX group:             dba
    Windows domain/acct:    [none]
    NDMP server user:       no
    Email address:          lashdown@company.com
    UUID:                   5f437cd2-7a49-1027-8e8a-000cf1d9be50
    Preauthorized access:
        Hostname:           stadv07
```

```
Username:           lashdown
Windows domain:     [all]
RMAN enabled:       yes
Cmdline enabled:    yes
```

lsvol

Purpose

Use the `lsvol` command to list the volumes in a library or the volumes catalog.

Oracle Secure Backup uses the following SCSI terms to describe basic components of libraries:

- A storage element, identified in the `lsvol` output as a number, contains a volume when it is not in use.
- An import-export element, identified in the `lsvol` output with the prefix `iee`, is used to move volumes into and out of the library without opening the door (thus requiring a full physical inventory). It is sometimes called a mail slot and is physically present only on certain libraries.
- A medium transport element, identified in the `lsvol` output as `mte`, moves a volume from a storage element to another element, such as a tape drive.
- A data transfer element, identified in the `lsvol` output as `dte`, is a tape drive.

Each element has a name that you and Oracle Secure Backup use to identify it. For example, the first storage element is usually named `se1` and the first tape drive is `dte1`. You can omit the `se` prefix when referring to storage elements; you can refer to the drive in libraries (when libraries contain only one drive) as `dte`.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to query and display information about devices to use the `lsvol` command.

Syntax

Syntax 1

Use the following syntax to list the volumes (inventory) in a library. See "Semantics for Syntax 1" on page 2-128.

```
lsv•ol [ --library/-L libraryname | --drive/-D drivename ]
[ --long/-l ]
```

Syntax 2

Use the following syntax to list the volumes in the volumes catalog. See "Semantics for Syntax 2" on page 2-128.

```
lsv•ol [ --short/-s | --long/-l ] [ --relation/-r ] [ --members/-m ]
[ --noheader/-H ] [ --contents/-c ]
{ --all/-a |
  { [ --vid/-v vid[,vid]... ] [ --barcode/-b tag[,tag]... ]
    [ --vset/-V vsetid[,vsetid]... ]
    [ --family/-f media-family-name[,media-family-name]... ]
    [ --attribute/-A volume-attr[,volume-attr]... ]
    [ --oid/-o oid[,oid]... ]
  }...
  [ --novid/-n | --nobarcode/-N ]
}
```

Semantics

Semantics for Syntax 1

--library/-L *libraryname*
Specifies the name of the library holding the volumes to be listed.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

--drive/-D *drivename*
Specifies the name of a tape drive in the library holding the volumes to be listed.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

--long/-l
Displays volume information in long format. If you specify `lsvol --long` with no other options, then the command displays an inventory of the DTE, MTE, and storage elements of the library. If you specify `--long` for particular volumes, then the command displays the OID, volume ID, barcode, volume sequence, and so forth.

Semantics for Syntax 2

--short/-s
Displays volume information in short format. The command displays only the volume ID for each volume.

--long/-l
Displays volume information in long format.

--relation/-r
Groups volumes according to the other options specified. For example, if you specify the `--family` option, then `obtool` sorts according to volumes belonging to the specified media family.

--members/-m
Displays all volume set members for each volume displayed. This option is the default.

--noheader/-H
Displays information without header output.

--contents/-c
Displays information about the contents of each volume.

--all/-a
Displays all volumes in the volumes catalog.

--vid/-v *vid* ...
Displays the volume having the volume ID *vid*. Refer to "vid" on page 3-39 for a description of the *vid* placeholder.

--barcode/-b *tag* ...
Displays the volume with the barcode *tag*.

--vset-/V *vsetid* ...
Displays volumes that are members of the volume set *vsetid*. The *vsetid* represents the *vid* of the first volume in the volume set. Refer to "vid" on page 3-39 for a description of the *vid* placeholder.

--family/-f *media-family-name* ...
Displays all volumes of the specified media family. The *media-family-name* placeholder represent the name of a media family assigned by means of the mkmf or renmf command.

--attribute/-A *volume-attr* ...
Displays all volumes with the attribute *volume-attr.* Valid values for this placeholder are the following:

- `o•pen`, which means that the volume is open for writing
- `c•losed`, which means that the volume is closed for writing
- `e•xpired`, which means that the volume is expired
- `u•nexpired`, which means that the volume is not expired

--oid/-o *oid* ...
Displays volumes with the specified *oid*. Refer to "oid" on page 3-26 for a description of the *oid* placeholder.

--novid/-n
Displays volumes with no volume ID.

--nobarcode/-N
Displays volumes with no barcode.

Output

Table 2–22 describes the output of the `lsvol` command.

Table 2–22 lsvol Output

Column	Indicates
VOID	Catalog identifier for the volume
Seq	Number of the tape in the volume set
Volume ID	Unique volume identifier; typically the media family plus incrementing numbers
Barcode	Barcode label identifier affixed to the tape
Family	Media family name
Created	Date the volume was first written to
Attributes	Retention or expiration characteristics

Examples

Example 2–78 displays the volumes in library `lib1`. Note that the sample output has been reformatted to fit on the page.

Example 2–78 Displaying the Volumes in a Library

```
ob> lsvol --long --library lib1
Inventory of library lib1:
```

```
in    mte:          vacant
in    1:            volume VOL000002, barcode ADE201, oid 110, 16962752 kb remaining
in    2:            volume VOL000001, barcode ADE203, oid 102, 17619328 kb remaining
in    3:            vacant
in    4:            vacant
in    iee1:         vacant
in    iee2:         vacant
in    iee3:         vacant
in    dte:          volume RMAN-DEFAULT-000002, barcode ADE202, oid 112, 17017984 kb
                    remaining, content manages reuse, lastse 3
```

Example 2–79 displays the contents of volume VOL000001. Note that the sample output has been reformatted to fit on the page.

Example 2–79 Displaying the Contents of a Volume

```
ob> lsvol --contents --vid VOL000001
    VOID Seq Volume ID      Barcode   Family      Created     Attributes
     102   1 VOL000001      ADE203                03/31.10:10 never closes
        BSOID  File Sect  Level  Host             Created     Attributes
          100     1 1         0  brhost2          03/31.10:10
```

mkclass

Purpose

Use the `mkclass` command to define a user class.

Oracle Secure Backup predefines a number of classes, which are described in Appendix B, "Classes and Rights".

See Also: "Class Commands" on page 1-10 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `mkclass` command.

Syntax

mkclass::=

```
mkcl•ass [ --modself/-m { yes | no } ] [ --modconfig/-M { yes | no } ]
[ --backupself/-k { yes | no } ]  [ --backuppriv/-K { yes | no } ]
[ --restself/-r { yes | no } ]    [ --restpriv/-R { yes | no } ]
[ --listownjobs/-j { yes | no } ] [ --modownjobs/-J { yes | no } ]
[ --listanyjob/-y { yes | no } ]  [ --modanyjob/-Y { yes | no } ]
[ --mailinput/-i { yes | no } ]   [ --mailerrors/-e { yes | no } ]
[ --querydevs/-q { yes | no } ]   [ --managedevs/-d { yes | no } ]
[ --listconfig/-L { yes | no } ]  [ --browse/-b browserights ]
[ --orauser/-o { yes | no } ]     [ --orarights/-O oraclerights ]
classname...
```

Semantics

The default for all `mkclass` options that require a `yes` or `no` value is `no`.

--modself/-m { yes | no }
Enables users to modify their own password and given name.

--modconfig/-M { yes | no }
Enables users to modify (create, modify, rename, and remove) all objects in an Oracle Secure Backup administrative domain. These modifiable objects include objects representing classes, users, hosts, devices, defaults, and policies.

--backupself/-k { yes | no }
Enables users to run backups under their own user identity.

--backuppriv/-K { yes | no }
Enables users to run backups as the root or privileged user.

--restself/-r { yes | no }
Enables users to restore the contents of backup images under the restrictions of the access rights imposed by the user's UNIX name/group or Windows domain/account.

--restpriv/-R { yes | no }
Enables users to restore the contents of backup images as a privileged user. On Linux and UNIX hosts, a privileged restore operation runs under the `root` operating system identity. For example, Oracle Secure Backup user joeblogg runs under operating

system account `root`. On Windows systems, the restore operations runs under the same account as the Oracle Secure Backup service on the Windows client.

--listownjobs/-j { yes | no }
Grants users the right to view the following:

- Status of scheduled, ongoing, and completed jobs that they configured
- Transcripts for jobs that they configured

--modownjobs/-J { yes | no }
Grants users the right to modify only jobs that they configured.

--listanyjob/-y { yes | no }
Grants users the right to view the following:

- Status of any scheduled, ongoing, and completed jobs
- Transcripts for any job

--modanyjob/-Y { yes | no }
Grants users the right to make changes to all jobs.

--mailinput/-i { yes | no }
Enables users to receive email when Oracle Secure Backup needs manual intervention. Occasionally, during backup and restore operations, manual intervention of an operator is required. This situation can occur if a required volume cannot be found or a new tape is required to continue a backup. In such cases, Oracle Secure Backup sends email to all users who belong to classes having this right.

--mailerrors/-e { yes | no }
Enables users to receive email messages describing errors that occur during Oracle Secure Backup activity.

--querydevs/-q { yes | no }
Enables users query the state of devices.

--managedevs/-d { yes | no }
Enables users to control the state of devices by means of the `obtool` command.

--listconfig/-L { yes | no }
Enables users to list objects, for example, hosts, devices, and users, in the administrative domain.

--browse/-b *browserights*
Grants users browsing rights. Specify one of the following *browserights* values, which are listed in order of decreasing privilege:

- `privileged` means that users can browse all directories and catalogs.
- `notdenied` means that users can browse any catalog entries for which they are not explicitly denied access. This option differs from `permitted` in that it allows access to directories having no stat record stored in the catalog.
- `permitted` means that users are bound by normal UNIX permissions checking (default). Specifically, Oracle Secure Backup users can only browse directories if at least one of the following conditions is applicable:
  - The UNIX user defined in the Oracle Secure Backup identity is listed as the owner of the directory, and the owner has read rights.

  - The UNIX group defined in the Oracle Secure Backup identity is listed as the group of the directory, and the group has read rights.
  - Neither of the preceding conditions is met, but the UNIX user defined in the Oracle Secure Backup identity has read rights for the directory.
- `named` means that users are bound by normal UNIX rights checking, except that others do not have read rights. Specifically, Oracle Secure Backup users can only browse directories if at least one of the following conditions is applicable:
  - The UNIX user defined in the Oracle Secure Backup identity is listed as the owner of the directory, and the owner has read rights.
  - The UNIX group defined in the Oracle Secure Backup identity is listed as the group of the directory, and the group has read rights.
- `none` means that no user has no rights to browse any directory or catalog.

--orauser/-o { yes | no }
Enables users to perform Oracle backup and restore operations (`yes` or `no`). This right enables users to perform any SBT operation, regardless of what other rights they have. For example, a user with this right can perform SBT restore operations even if the `perform restores as self` right is set to `no`.

--orarights/-O *oraclerights*
Enables users with the specified rights to access Oracle database backups. The *oraclerights* placeholders can be any of the following values:

- `class` means that users can access SBT backups created by any Oracle Secure Backup user in the same class.
- `all` means that users can access all SBT backups.
- `none` means that users have no rights to access SBT backups.
- `owner` means that users can access only those SBT backups that they themselves have created (default).

classname ...
Specifies the name of the class to be created. Class names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Example

Example 2–80 creates a class called `backup_admin`. The command accepts the default value of `no` for `--listownjobs`, `--modownjobs`, `--listanyjob`, `--modanyjob`, `--managedevs`, `--orauser`, and `--orarights`. Note that because of space constraints the `mkclass` command in the example spans multiple lines.

Example 2–80 Making a Class

```
ob> mkclass --listconfig yes --modself yes --modconfig yes --backupself yes
--backuppriv yes --restself yes --restpriv yes --mailinput yes --mailerrors yes
--querydevs yes --browse privileged backup_admin
ob> lsclass --long backup_admin
backup_admin:
    browse backup catalogs with this access:         privileged
    access Oracle backups:                           owner
    display administrative domain's configuration:   yes
    modify own name and password:                    yes
    modify administrative domain's configuration:    yes
```

```
perform backups as self:                          yes
perform backups as privileged user:               yes
list any jobs owned by user:                      no
modify any jobs owned by user:                    no
perform restores as self:                         yes
perform restores as privileged user:              yes
receive email requesting operator assistance:     yes
receive email describing internal errors:         yes
query and display information about devices:      yes
manage devices and change device state:           no
list any job, regardless of its owner:            no
modify any job, regardless of its owner:          no
user can perform Oracle backups and restores:     no
```

mkdev

Purpose

Use the `mkdev` command to configure a device for use with Oracle Secure Backup. This command assigns Oracle Secure Backup names and attributes to the devices in your administrative domain.

To be usable by Oracle Secure Backup, each device must have at least one attachment, which describes a data path between a host and the device itself. In the attachment, you identify a host to which the device is connected and a raw device name through which it is accessed.

See Also:

- "Device Commands" on page 1-12 for related commands
- "mkhost" on page 2-143 to learn about configuring an administrative domain

Prerequisites

You must have the modify administrative domain's configuration right to use the `mkdev` command.

You should disable any system software that scans and opens arbitrary SCSI targets before configuring Oracle Secure Backup tape devices. If Oracle Secure Backup has to contend with other system software (such as monitoring software) for access to tape libraries and drives, then unexpected behavior can result.

Syntax

Syntax 1

Use the following syntax to configure a tape drive. See "Semantics for Syntax 1" on page 2-136.

mkdev::=

```
mkd•ev --type/-t tape [ --attach/-a aspec[,aspec]... ]
[ --inservice/-o | --notinservice/-O ] [ --wwn/-W wwn ]
[ --library/-l devicename ] [ --dte/-d dte ]
[ --blockingfactor/-f bf ] [ --maxblockingfactor/-F maxbf ]
[ --automount/-m { yes | no } ] [ --erate/-e erate ]
[ --current/-T se-spec ] [ --uselist/-u se-range ]
[ --usage/-U duration ] [ --queryfreq/-q query_frequency ]
[ --serial/-N serial-number ] [ --model/-L model-name ]
devicename ...
```

Syntax 2

Use the following syntax to configure a library. See "Semantics for Syntax 2" on page 2-138.

mkdev::=

```
mkd•ev --type/-t library [ --attach/-a aspec[,aspec]... ]
[ --inservice/-o | --notinservice/-O ] [ --wwn/-W wwn ]
[ --autoclean/-C { yes | no }  ] [ --cleanemptiest/-E { yes | no }  ]
```

```
[ --cleaninterval/-i { duration | off } ]
[ --barcodereader/-B { yes | no | default } ]
[ --barcodesrequired/-b { yes | no }  ]
[ --unloadrequired/-Q { yes | no }  ]
[ --serial/-N serial-number ] [ --model/-L model-name ]
devicename ...
```

Semantics

Semantics for Syntax 1

The following options enable you to configure a tape drive.

--type/-t tape
Specifies the device as a tape drive.

--attach/-a *aspec* ...
Configures an attachment, which is the physical or logical connection of a device to a host. An attachment is distinct from a device and describes a data path between a host and the device.

Oracle Secure Backup uses attachments to access a device, so a device needs to have at least one attachment to be usable by Oracle Secure Backup. A Fibre Channel-attached tape drive or library often has multiple attachments, one for each host that can directly access it. Refer to "aspec" on page 3-2 for a description of the *aspec* placeholder.

> **See Also:** *Oracle Secure Backup Administrator's Guide* to learn more about attachments.

--inservice/-o
Specifies that the tape drive is logically available to Oracle Secure Backup.

--notinservice/-O
Specifies that the tape drive is not logically available to Oracle Secure Backup.

--wwn/-W *wwn*
Specifies the world-wide name of the device. Refer to "wwn" on page 3-42 for an explanation of the *wwn* placeholder.

--library/-l *devicename*
Specifies the name of the library in which a tape drive resides.

--dte/-d *dte*
Specifies the Data Transfer Element (DTE) number of a tape drive within its containing library. DTE is the SCSI-2 name for a tape drive in a library. DTEs are numbered 1 through *n* and are used to identify drives in a library.

You must specify a *dte* number if `--library` is specified. The *dte* option is not available for standalone tape drives.

--blockingfactor/-f *bf*
Specifies a blocking factor. A blocking factor determines how many 512-byte records to include in each block of data written to tape. By default, Oracle Secure Backup writes 64K blocks to tape, which is a blocking factor of 128.

--maxblockingfactor/-F *maxbf*
Specifies a maximum blocking factor. The maximum blocking factor controls the amount of data that Oracle Secure Backup initially reads from a tape whose blocking factor is unknown.

The largest value permitted for the maximum blocking factor, which is the number of 512-byte records for each physical tape block, is 4096. This value represents a maximum tape block size of 2MB. This maximum is subject to device and operating system limitations that can reduce this maximum block size.

--automount/-m { yes | no }
Sets the automount mode. The mount mode indicates the way in which Oracle Secure Backup can use a volume physically loaded into a tape drive (see the description of "mountdev" on page 2-166).

A value of `yes` (default) instructs Oracle Secure Backup to mount tapes for backup and restore operations without operator intervention. If this option is set to `no`, then you must manually mount volumes before they are usable.

A setting of `no` can be useful if you dedicate a tape drive to performing on-demand restore operations, but not backups. If automount is set to `yes` for this drive when a backup is scheduled, and if the drive contains an unmounted, eligible tape, then Oracle Secure Backup uses the drive for the backup.

--erate/-e *erate*
Specifies the error rate percentage. The error rate is the number of recovered errors divided by the total blocks written, multiplied by 100. Oracle Secure Backup issues a warning if the error rate reported by the device exceeds the value you specify. The default is `8`.

Oracle Secure Backup issues a warning if it encounters a SCSI error when trying to read or reset the error counters of the drive. Some drives do not support the SCSI commands necessary to perform these operations. To avoid these warnings, disable error rate checking by specifying `none` for the error rate.

--current/-T *se-spec*
Specifies the number of a storage element. This option only applies to a drive when the following criteria are met:

- The drive is in a library.
- The drive is known to be loaded with a tape.
- The hardware cannot determine from which storage element the drive was loaded.

Refer to "se-spec" on page 3-35 for a description of the *se-spec* placeholder.

--uselist/-u *se-range*
Specifies a range of storage elements that can be used by the device. This option only applies to a tape drive contained in a library.

By default, Oracle Secure Backup allows all tapes in a library to be accessed by all drives in the library. For libraries containing multiple drives in which more than one drive performs backups concurrently, you may want to partition the use of the tapes.

For example, you may want the tapes in the first half of the storage elements to be available to the first drive and those in the second half to be available to the second drive. Alternatively, you may want to set up different use lists for different types of backups on a single drive.

Refer to "se-range" on page 3-34 for a description of the *se-range* placeholder.

--usage/-U *duration*
Specifies the interval for a cleaning cycle. For example, `--usage 1month` requests a cleaning cycle every month. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

You can specify the `--usage` option on the chdev command to initialize the configured interval to reflect the amount of time that the drive has been used since the last cleaning. For example, specify `--usage 1week` on the `chdev` command to indicate that the most recent cleaning was a week ago.

--queryfreq/-q *kb*
Specifies the query frequency in terms of *kb*, which is the "distance" between samplings of the tape position expressed in 1KB blocks. The maximum allowed query frequency is 1048576 (1MB), which is a query frequency of 1GB. A query frequency of `0` disables position sampling.

During a backup, Oracle Secure Backup periodically samples the position of the tape. `obtar` saves this position information in the Oracle Secure Backup catalog to speed up restore operations. For some devices, however, this sampling can degrade backup performance. While Oracle Secure Backup has attempted to determine optimal query frequencies for all supported drive types, you may find that you need to adjust the query frequency.

--serial/-N *serial-number*
Specifies the serial number for the tape device.

--model/-L *model-name*
Specifies the model name for the tape device.

***devicename* ...**
Specifies the name of the tape drive to be configured. If an attachment is specified, only one *devicename* is allowed. Refer to "devicename" on page 3-16 for the rules governing device names.

Semantics for Syntax 2

The following options enable you to configure a library. See "Semantics for Syntax 1" on page 2-136 for identical options not listed here.

--type/-t library
Specifies the device as a library.

--autoclean/-C { yes | no }
Specifies whether automatic tape cleaning should be enabled. A cleaning cycle is initiated either when a drive reports that it needs cleaning or when a specified usage time has elapsed.

Oracle Secure Backup checks for cleaning requirements when a cartridge is either loaded into or unloaded from a drive. If at that time a cleaning is required, then Oracle Secure Backup performs the following steps:

1. Loads a cleaning cartridge
2. Waits for the cleaning cycle to complete
3. Replaces the cleaning cartridge in its original storage element
4. Continues with the requested load or unload

Note that you can execute the clean command to clean a drive manually.

--cleanemptiest/-E { yes | no }
Specifies which cleaning tape to use. This option is useful when a library contains multiple cleaning tapes.

The default value of `yes` specifies the emptiest cleaning tape, which causes cleaning tapes to round robin as cleanings are required.

The `no` value specifies that `obtool` should use the least used cleaning tape, which uses each cleaning tape until it is exhausted, then uses the next cleaning tape until it is exhausted, and so forth.

--cleaninterval/-i { *duration* | off }
Specifies whether there should be a cleaning interval, and if so, the *duration* of the interval. The default is `off`. The duration is the interval of time a drive is used before a cleaning cycle begins. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

If automatic drive cleaning is enabled, then *duration* indicates the interval between cleaning cycles. For drives that do not report cleaning requirements, you can specify a cleaning interval, for example, `30days`.

--barcodereader/-B { yes | no | default }
Specifies whether a barcode reader is present. Many devices report whether they have a barcode reader. For these devices you can specify `default`. For devices that do not report this information, specify `yes` or `no`.

--barcodesrequired/-b { yes | no }
Specifies whether Oracle Secure Backup requires tapes in the library to have readable barcodes. The default is `no`. If you specify `yes`, and if a tape in the library does not have a readable barcode, then Oracle Secure Backup refuses to use the tape.

Typically, Oracle Secure Backup does not discriminate between tapes with readable barcodes and those without. This policy ensures that Oracle Secure Backup can always solicit a tape needed for restore by using both the barcode and the volume ID.

--unloadrequired/-Q { yes | no }
Specifies whether an unload operation is required before moving a tape from a drive to a storage element. Typically, you should leave this option set to default of `yes`, which means the value comes from the external device table `ob_drives`. If you encounter difficulties, however, particularly timeouts waiting for offline while unloading a drive, set the value to `no`.

--serial/-N *serial-number*
Specifies the serial number for the tape device.

--model/-L *model-name*
Specifies the model name for the tape device.

***devicename* ...**
Specifies the name of the library to be configured. If an attachment is specified, only one *devicename* is allowed. Refer to "devicename" on page 3-16 for the rules governing device names.

Example

Example 2–81 configures a tape drive.

Example 2–81 Configuring a Tape Drive

```
ob> lsdev
library    lib1             in service
  drive 1  tape1            in service
library    lib2             in service
  drive 1  tape2            in service
ob> mkdev --type tape --inservice --library lib1 --erate 8 --dte 2
--blockingfactor 128 --uselist 1 --usage 4minute --automount yes hptape
ob> lsdev
library    lib1             in service
  drive 1  tape1            in service
  drive 2  hptape           in service
library    lib2             in service
  drive 1  tape2            in service
```

Example 2–81 configures a tape library.

Example 2–82 Configuring a Tape Library

```
ob> mkdev --type library --inservice --barcodereader yes --barcodesrequired yes
--autoclean no --cleanemptiest no hplib1
```

mkds

Purpose

Use the `mkds` command to make a dataset file or directory.

See Also: "Dataset Commands" on page 1-11 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `mkds` command.

Syntax

mkds::=

```
mkds [ --nq ] [ --dir/-d ] [ --nocheck/-C ] [ --noedit/-E ] [ --input/-i ]
dataset-name ...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

--dir/-d
Creates a dataset directory called *dataset-name*.

A dataset directory is a directory that contains dataset files. Dataset directories can have a hierarchy of nested subdirectories that is up to 10 levels deep.

--nocheck/-C
Disables syntactic checking of a dataset file for errors.

--noedit/-E
Prevents a default editor window (as defined by your `EDITOR` environment variable) from opening when creating a dataset file.

--input/-i
Lets you to input the contents of a dataset file.

dataset-name ...
Specifies the name of the dataset directory or dataset file. The `mkds` command creates the dataset file or directory relative to the directory indicated by the pwdds command. Refer to "dataset-name" on page 3-10 for a description of the *dataset-name* placeholder.

Examples

Example 2–83 creates a dataset directory called `mydatasets1` and then creates a dataset file called `test.ds` in this directory.

Example 2–83 Creating a Dataset

```
ob> pwdds
/ (top level dataset directory)
```

```
ob> mkds --dir mydatasets1
ob> mkds --nq --input mydatasets1/test.ds
Input the new dataset contents.  Terminate with an EOF or a line
containing just a dot (".").
include host brhost2
include path /home
.
ob> lsds --recursive
Top level dataset directory:
mydatasets1/
mydatasets1/test.ds
```

Example 2–84 creates a `not_used` subdirectory in the `mydatasets1` directory.

Example 2–84 Creating a Dataset Subdirectory

```
ob> pwdds
/mydatasets1
ob> mkds --dir not_used
ob> cdds ..
ob> pwdds
/ (top level dataset directory)
ob> lsds --recursive
Top level dataset directory:
mydatasets1/
mydatasets1/not_used/
mydatasets1/test.ds
```

Example 2–85 creates a dataset file named `c-winhost1.ds`. This file specifies the backup of drive `C` on a Windows host named `winhost1`.

Example 2–85 Creating a Dataset for a Windows Host

```
ob> pwdds
/ (top level dataset directory)
ob> mkds --nq --input c-winhost1.ds
Input the new dataset contents.  Terminate with an EOF or a line
containing just a dot (".").
include host winhost1
include path "C:\" {
exclude name *.log
}
.
ob> lsds
NEWCLIENTS
c-winhost1.ds
```

mkhost

Purpose

Use the `mkhost` command to add a host to an administrative domain. The host must run Oracle Secure Backup locally or be accessible to Oracle Secure Backup by means of NDMP.

See Also: "Host Commands" on page 1-12 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to run the `mkhost` command.

Usage Notes

If your Windows host is protected by a firewall, then the firewall must be configured to permit Oracle Secure Backup daemons on the host to communicate with the other hosts in your administrative domain. Windows XP Service Pack 2 and Windows Server 2003 contain a built-in Windows Firewall which, in the default configuration, blocks inbound traffic on ports used by Oracle Secure Backup. Refer to *Oracle Secure Backup Installation Guide* for more information.

Syntax

Syntax 1

Use the following syntax to add a host to an administrative domain that runs Oracle Secure Backup locally. See "Semantics for Syntax 1" on page 2-144.

mkhost::=

```
mkh•ost [ --access/-a ob ] [ --inservice/-o | --notinservice/-O ]
[ --roles/-r role[,role]... ] [ --ip/-i ipname[,ipname]... ]
[ --nocomm/-N ] [ --certkeysize/-k cert-key-size ]
hostname ...
```

Syntax 2

Use the following syntax to add a host to an administrative domain that Oracle Secure Backup accesses by means of NDMP. See "Semantics for Syntax 2" on page 2-145.

mkhost::=

```
mkh•ost --access/-a ndmp [ --inservice/-o | --notinservice/-O ]
[ --role/-r role[,role]... ] [ --ip/-i ipname[,ipname]... ]
[ --ndmpauth/-A authtype ]
[ { --ndmppass/-p ndmp-password } | --queryndmppass/-q | --dftndmppass/-D ]
[ --ndmpport/-n portnumber ] [ --ndmppver/-v protover ]
[ --ndmpuser/-u ndmp-username ] [ --nocomm/-N ]
[ --ndmpbackuptype/-B ndmp-backup-type ]
[ --backupev/-w evariable-name=variable-value ]...
[ --restoreev/-y evariable-name=variable-value ]...
hostname ...
```

Semantics

Semantics for Syntax 1

Use these options if the host has Oracle Secure Backup installed and uses the Oracle Secure Backup internal communications protocol to communicate.

--access/-a ob
Specifies that the host accesses a local installation of Oracle Secure Backup. By default `obtool` determines dynamically whether the machine is accessed through the Oracle Secure Backup RPC protocol (plus NDMP) or solely through NDMP.

--inservice/-o
Specifies that the host is logically available to Oracle Secure Backup.

--notinservice/-O
Specifies that the host is not logically available to Oracle Secure Backup.

--roles/-r *role*[,*role*]...
Assigns one or more roles to the host. Refer to "role" on page 3-32 for a description of the *role* placeholder.

--ip/-i *ipname*[,*ipname*]...
Indicates the IP address of the host machine. IP addresses are represented as a series of four numbers separated by periods.You can also use host names in place of IP addresses. In this case, the host name is resolved by the underlying operating system to an IP address.

If you specify *ipname*, then Oracle Secure Backup never uses the user-assigned host name to obtain the host IP address; instead, it considers each specified *ipname* until it finds one that resolves to a working IP address. If you specified a preferred network interface (PNI) for this host with the mkpni command, then Oracle Secure Backup considers the PNI address first.

> **Note:** The use of DHCP to assign IP addresses is not supported for hosts that participate in an Oracle Secure Backup administrative domain. You must assign static IP addresses to all hosts. If you cannot use static IP addresses, then ensure that the DHCP server guarantees that a given host is always assigned the same IP address.

If you do not specify *ipname*, then Oracle Secure Backup tries to resolve the specified *hostname* to obtain the IP address.

--nocomm/-N
Suppresses communication with the host machine. You can use this option if you want to add a host to the domain when the host is not yet connected to the network.

--certkeysize/-k *cert-key-size*
Sets the size (in bits) of the public/private key used for the identity certificate of this host. By default Oracle Secure Backup uses the value in the certkeysize security policy. If you specify `--certkeysize`, then the specified value overrides the key size in the security policy. The key size set with `--certkeysize` applies only to this host and does not affect the key size of any other current or future hosts.

Because larger key sizes require more computation time to generate the key pair than smaller key sizes, the key size setting can affect the processing time of the `mkhost` command. While the `mkhost` command is executing, `obtool` may display a status

message every 5 seconds (see Example 2–87). `obtool` displays a command prompt when the process has completed.

Semantics for Syntax 2

Use these options if the host does not have Oracle Secure Backup installed (for example, a filer/NAS device) and uses NDMP to communicate.

--access/-a ndmp
Specifies that the host uses NDMP to communicate. An Network Data Management Protocol (NDMP) host is a storage appliance from third-party vendors such as NetApp, Mirapoint, or DynaStore. An NDMP host implements the NDMP protocol and employs NDMP daemons (rather than Oracle Secure Backup daemons) to back up and restore file systems.

--inservice/-o
Specifies that the host is logically available to Oracle Secure Backup.

--notinservice/-O
Specifies that the host is not logically available to Oracle Secure Backup.

--role/-r *role*[,*role*]...
Assigns a role to the host. Refer to "role" on page 3-32 for a description of the *role* placeholder.

--ip/-i *ipname*[,*ipname*]...
Indicates the IP address of the host machine. IP addresses are represented as a series of four numbers separated by periods. The use of DHCP to assign IP addresses is not supported for hosts that participate in an Oracle Secure Backup administrative domain. You must assign static IP addresses to all hosts. If you cannot use static IP addresses, then ensure that the DHCP server guarantees that a given host is always assigned the same IP address.

Note: Host names may be used in place of IP addresses. In this case, the host name is resolved by the underlying operating system to an IP address.

--ndmpauth/-A *authtype*
Provides an authorization type. Refer to "authtype" on page 3-4 for a description of the *authtype* placeholder.

The authorization type is the mode in which Oracle Secure Backup authenticates itself to the NDMP server. Typically, you should use the `negotiated` default setting. You can change the setting if necessary; for example, if you have a malfunctioning NDMP server.

--ndmppass/-p *ndmp-password*
Specifies an NDMP password. The password is used to authenticate Oracle Secure Backup to this NDMP server. If you do not specify this option, and if you do not specify `--queryndmppass`, then Oracle Secure Backup uses the default NDMP password defined in the ndmp/password policy.

--queryndmppass/-q
Prompts you for the NDMP password.

--dftndmppass/-D
Uses the default NDMP password defined in the ndmp/password policy.

--ndmpport/-n *portnumber*
Specifies a TCP port number for use with NDMP. Typically, the port 10000 is used. You can specify another port if this server uses a port other than the default.

--ndmppver/-v *protover*
Specifies a protocol version. Refer to "protover" on page 3-30 for a description of the *protover* placeholder. The default is null (`""`), which means "as proposed by server."

--ndmpuser/-u *ndmp-username*
Specifies a user name. The user name is used to authenticate Oracle Secure Backup to this NDMP server. If left blank, then the user name value in the ndmp/username policy is used.

--nocomm/-N
Suppresses communication with the host machine. You can use this option if you want to add a host to the domain when the host is not yet connected to the network.

--ndmpbackuptype/-B *ndmp-backup-type*
Specifies a default NDMP backup format. The default is defined by the NDMP Data Service running on the client. Refer to "ndmp-backup-type" on page 3-24 for a description of the *ndmp-backup-type* placeholder.

--backupev/-w *evariable-name=variable-value* ...
Declares NDMP backup environment variables that are passed to the host's NDMP Data Service for a backup.

--restoreev/-y *evariable-name=variable-value* ...
Declares NDMP restore environment variables that are passed to the host's NDMP Data Service for a restore.

***hostname* ...**
Specifies name of the host to be added to the administrative domain. Note that you cannot specify multiple hosts if you specify an IP address with the `--ip` option.

Host names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Examples

Example 2–86 adds host `dlsun1976`, which runs Oracle Secure Backup locally, to the administrative domain.

Example 2–86 Adding a Host Running Oracle Secure Backup Locally

```
ob> lshost
brhost2          client                          (via OB)   in service
brhost3          mediaserver,client              (via OB)   in service
stadv07          admin,mediaserver,client        (via OB)   in service
ob> mkhost --access ob --inservice --roles mediaserver,client --nocomm dlsun1976
ob> lshost
brhost2          client                          (via OB)   in service
brhost3          mediaserver,client              (via OB)   in service
dlsun1976        mediaserver,client              (via OB)   in service
stadv07          admin,mediaserver,client        (via OB)   in service
```

Example 2–87 adds a host with a certificate key size of 4096. The sample output shows the periodic status message.

Example 2–87 Adding a Host with a Large Key Size

```
ob> mkhost --inservice --role client --certkeysize 4096 stadf56
Info: waiting for host to update certification status...
Info: waiting for host to update certification status...
Info: waiting for host to update certification status...
Info: waiting for host to update certification status...
ob> lshost stadf56
stadf56          client                           (via OB)   in service
```

Example 2–88 adds a host that Oracle Secure Backup accesses by means of NDMP. Due to space constraints the sample command has been reformatted to fit on the page.

Example 2–88 Adding an NDMP Host

```
ob> mkhost --nocomm --access ndmp --ip 207.180.151.32 --inservice --roles client
--ndmpauth none --ndmpuser jim --ndmppass mypassword --ndmppver "" ndmphost1
ob> lshost
brhost2          client                           (via OB)   in service
brhost3          mediaserver,client               (via OB)   in service
dlsun1976        mediaserver,client               (via OB)   in service
ndmphost1        client                           (via NDMP) in service
stadv07          admin,mediaserver,client         (via OB)   in service
```

mkmf

Purpose

Use the `mkmf` command to make a new media family, which is a named classification of backup volumes. A media family ensures that volumes created at different times have similar characteristics. For example, you can create a media family for backups with a six-month retention period. If you specify this family on successive backup commands, then all created volumes have a six-month retention period.

A media family has either of the following types of mutually exclusive expiration policies: content-managed (default) or time-managed. In a content-managed policy, volumes expire only when all backup pieces recorded on a volume have been marked as deleted. In a time-managed policy, volumes expire when they reach the expiration time, which is calculated as the sum of the `--writewindow` time, the `--retain` time, and the volume creation time.

> **See Also:** "Media Family Commands" on page 1-13 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `mkmf` command.

Syntax

mkmf::=

```
mkmf [ --writewindow/-w duration ] [ --retain/-r duration ]
[ [ --vidunique/-u ] |
  [ --vidfile/-F vid-pathname ] |
  [ --viddefault/-d ] |
  [ --vidfamily/-f media-family-name ] ]
[ [ --inputcomment/-i |
  [ --comment/-c comment ] ]
[ --contentmanaged/-C ] [ --append/-a ] [ --noappend/-A ]
media-family-name ...
```

Semantics

--writewindow/-w *duration*

Specifies a write-allowed time period for the media family. Refer to "duration" on page 3-17 for a description of the *duration* placeholder. The default is `disabled`, which means that Oracle Secure Backup does not consider the write window when computing the volume expiration time.

A write window is the period of time for which a volume set remains open for updates, usually by appending backup images. All volumes in the family are considered part of the same volume set. The write window opens when the first file is written to the first volume in the set and closes after the specified period of time elapses. When the write window closes, Oracle Secure Backup disallows further updates to the volume set until one of the following conditions is met:

- It expires.
- It is relabeled.

- It is reused.
- It is unlabeled.
- It is forcibly overwritten.

Oracle Secure Backup continues using the volume set for backup operations until the write window closes.

Note that if you select `forever` or `disabled` as a *duration*, then you cannot enter a number. For example, you can set the write window as `14days` or specify `forever` to make the volume set eligible to be updated indefinitely. All volume sets that are members of the media family remain open for updates for the same time period.

--retain/-r *duration*
Specifies the retention period, which is amount of time to retain the volumes in the volume set. By specifying this option, you indicate that this media family is time-managed rather than content-managed. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

The volume expiration time is the date and time on which a volume expires. Oracle Secure Backup computes this time by adding the write window duration (`--writewindow`), if it is specified, to the time at which it wrote backup image file number 1 to a volume, and then adding the volume retention time (`--retain`).

The retention period prevents you from overwriting any volume included as a member of this media family until the end of the specified time period. If one volume becomes full, and if Oracle Secure Backup continues the backup onto subsequent volumes, then it assigns each volume in the volume set the same retention time.

You can make RMAN backups to time-managed volumes. Thus, volumes with a time-managed expiration policy can contain a mixture of file system and RMAN backup pieces.

> **Caution:** If you make RMAN backups to time-managed volumes, then it is possible for a volume to expire and be recycled while the RMAN repository reports the backup pieces as available. In this case, you must use the `CROSSCHECK` command in RMAN to resolve the discrepancy.

Note that you can change a media family from time-managed to content-managed by specifying `--contentmanaged` on the chmf command.

--vidunique/-u
Creates a volume ID unique to this media family. The volume ID begins with the string *`media-family-name`*`-000001` and increments the volume sequence number each time it is used. For example, `MYVOLUME-000001` would be the volume ID for the first volume in the `MYVOLUME` media family, `MYVOLUME-000002` would be the ID for the second volume, and so forth.

--vidfile/-F *vid-pathname*
Specifies the name of the volume sequence file for the media family that you are creating. Specify either a relative filename, in which case the file is created in the administrative directory on the administrative server, or an absolute filename.

Because Oracle Secure Backup does not create this file automatically, you must create it manually. If you select the `--vidfile` option, then use a text editor to customize the

vid- prefix. Enter the first volume ID to be assigned to the media family as a single line of text, for example, `MYVOLUME-000001`.

--viddefault/-d
Specifies the system default, that is, Oracle Secure Backup uses the same volume ID sequencing that it would use if no media family were assigned. The default volume ID begins at `VOL000001` and increments each time it is used.

--vidfamily/-f *media-family-name*
Uses the same volume ID sequencing as is used for the media family identified by *media-family-name*.

--inputcomment/-i
Allows input of an optional comment for the media family.

--comment/-c *comment*
Specifies information that you want to store with the media family. If you choose to embed blanks in the *comment*, then surround the comment with quotes.

--contentmanaged/-C
Specifies that volumes in this media family are content-managed rather than time-managed. Volumes that use this expiration policy are intended for RMAN backups: you cannot write a file system backup to a content-managed volume.

A content-managed volume is eligible to be overwritten when all backup image sections have been marked as deleted. You can delete backup pieces through Recovery Manager or through the rmpiece command in `obtool`. A volume in a content-managed volume set can expire even though other volumes in the same set are not expired.

Note that you can change a media family from content-managed to time-managed by specifying `--retain` on the chmf command.

--append/-a
Specifies that additional backup images can be appended to volumes in the media family (default).

Although a volume may be unexpired and have tape remaining, Oracle Secure Backup will not write to a volume that is lower than the most recent volume sequence number for the media family. Every backup tries to append to the most recent volume in the media family; if this volume is full, then it writes to a new one.

--noappend/-A
Specifies that additional backup images cannot be appended to volumes in the media family. This option ensures that a volume set contains only a single backup image, which is useful if you perform a full backup and then use the tapes to re-create the original file system.

***media-family-name* ...**
Specifies the name of the media family to create. Media family names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 31 characters.

Examples

Example 2–89 creates a time-managed media family called `time-man-family`. Volumes in the volume set are available for update for 7 days. Because the retention

period is 28 days, a volume in the media family expires 35 days after Oracle Secure Backup first writes to it.

Example 2–89 Creating a Time-Managed Media Family

```
ob> mkmf --vidunique --writewindow 7days --retain 28days time-man-family
```

Example 2–90 creates a content-managed media family called `content-man-family`. Because the write window is `forever`, volumes in this family are eligible for update indefinitely. Volumes only expire when RMAN shows the status of all backup pieces on the volumes as `DELETED`.

Example 2–90 Creating a Content-Managed Media Family

```
ob> mkmf --vidunique --writewindow forever content-man-family
```

mkpni

Purpose

Use the `mkpni` command to define a preferred network interface (PNI) for an existing host. You can specify an unlimited number of PNIs for a host.

The PNI is the network interface that should be used to transmit data to be backed up or restored. A network can have multiple physical connections between a client and the server performing a backup or restore on behalf of that client. For example, a network can have both Ethernet and Fiber Distributed Data Interface (FDDI) connections between a pair of hosts. PNI enables you to specify, on a client-by-client basis, which of the server's network interfaces should be used.

See Also: "Preferred Network Interface Commands" on page 1-15 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `mkpni` command.

Syntax

mkpni::=

```
mkpn•i --interface/-i server-ipname
{ --client/-c client-hostname[,client-hostname]... }
server-hostname
```

Semantics

--interface/-i *server-ipname*
Specifies the IP address or the DNS name that the specified clients should use when communicating with the server specified by *server-hostname*.

--client/-c *client-hostname*[,*client-hostname*]...
Specifies one or more clients that should use the *server-ipname* when communicating with *server-hostname*. The *client-hostname* specifies the host name or internet address of the client as seen from the server. The host name must be a host name that you created with the mkhost command.

server-hostname
Specifies the name of the server host.

Example

Example 2–91 defines a preferred network interface that specifies that the client hosts `stadv07` and `brhost3` should use the IP address 126.1.1.2 when communicating with server `brhost2`.

Example 2–91 Defining a Preferred Network Interface

```
ob> mkpni --interface 126.1.1.2 --client stadv07,brhost3 brhost2
ob> lspni
brhost2:
```

```
PNI 1:
    interface:          126.1.1.2
    clients:            stadv07, brhost3
```

mksched

Purpose

Use the `mksched` command to create a new backup schedule, which describes what Oracle Secure Backup should back up. The backup schedule contains the name of each dataset and its associated media family.

A backup schedule contains 0 or more triggers. A trigger is a user-defined set of days (`--day`) and times (`--time`) when the scheduled backup should run. At the beginning of the day, Oracle Secure Backup inspects the triggers in each schedule. For each trigger that fires on this day, Oracle Secure Backup creates one new job for each dataset listed in the schedule. Unlike on-demand (one-time-only) backups created by means of the backup command, the scheduler creates jobs directly and does not first create backup requests.

You can use the chsched command to add, change, or remove triggers in an existing schedule.

> **See Also:** "Schedule Commands" on page 1-15 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `mksched` command.

Syntax

mksched::=

```
mksc•hed [ --dataset/-D dataset-name[,dataset-name]... ]
[ --comment/-c comment | --inputcomment/-i ]
[ --priority/-p schedule-priority ]
[ --restrict/-r restriction[,restriction]... ]
[ [ --day/-d day-date ] [ --time/-t time ]
  [ --level/-l backup-level ] [ --family/-f media-family-name ]
  [ --expires/-x duration ] ]...
schedulename ...
```

Semantics

--dataset/-D *dataset-name* ...
Specifies the dataset that you want to include in the backup job.

If no datasets are specified in the schedule, then Oracle Secure Backup will not initiate backups based on the schedule. You can add a dataset to an existing schedule by using the chsched command.

--comment/-c *comment*
Adds a comment to the schedule.

--inputcomment/-i
Prompts for a comment.

--priority/-p *schedule-priority*
Assigns a schedule priority to a backup. Refer to "schedule-priority" on page 3-33 for a description of the *schedule-priority* placeholder.

--restrict/-r *restriction* ...
Restricts the backup to specific devices within an administrative domain. You can select media server hosts or specific devices on these hosts. If you do not specify a restriction (default), then the current schedule has no device restrictions and can use any available device on any media server at the discretion of the Oracle Secure Backup scheduling system. Refer to "restriction" on page 3-31 for a description of the *restriction* placeholder.

--day/-d *day-date*
Specifies the day on which Oracle Secure Backup will trigger the scheduled backup. If you do not specify a day or time, then Oracle Secure Backup will not run backup jobs based on the schedule. If you specify a day but no time, then the time defaults to 00:00. Refer to "day-date" on page 3-13 for a description of the *day-date* placeholder.

--time/-t *time*
Specifies the time at which Oracle Secure Backup will trigger the scheduled backup. You cannot specify a time without a day. Refer to "time" on page 3-37 for a description of the *time* placeholder.

--level/-l *backup-level*
Identifies a backup level. The default is `full`. Refer to "backup-level" on page 3-5 for a description of the *backup-level* placeholder.

--family/-f *media-family-name*
Specifies the name of the media family to which the data of this scheduled backup should be assigned. The default is the `null` media family.

--expires/-x *duration* ...
Specifies an expiration time period. Refer to "duration" on page 3-17 for a description of the *duration* placeholder. Specifying this option expires the backup if it is not executed by *duration* after the trigger time.

***schedulename* ...**
Specifies the name of the schedule to create. Schedule names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Example

Example 2–92 schedules a backup every Thursday at 9:00 p.m.

Example 2–92 Scheduling a Weekly Backup

```
ob> lssched
ob> mksched --priority 5 --dataset datadir.ds --day thursday --time 21:00 datadir
ob> lssched
datadir             thursdays                      datadir.ds
ob> lsjob --pending
Job ID           Sched time  Contents                       State
---------------- ----------- ------------------------------ ----------------------
3                10/06.21:00 dataset datadir.ds             future work
```

mksnap

Purpose

Use the `mksnap` command to create a new snapshot. A snapshot is a consistent copy of a volume or a file system. Snapshots are supported only for Network Appliance filers running Data ONTAP 6.4 or later.

> **See Also:** "Snapshot Commands" on page 1-16 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `mksnap` command.

Syntax

mksnap::=

```
mksn•ap [ --host/-h hostname ] [ --fs/-f filesystem-name ]
[ --nowait/-n ] snapshot-name ...
```

Semantics

--host/-h *hostname*
Specifies the name of an NDMP host. If you do not specify a host name, then Oracle Secure Backup uses the value from the host variable.

--fs/-f *filesystem-name*
Specifies the name of an NDMP file system. If you do not specify the `--fs` option, then the `fs` variable must be set.

--nowait/-n
Does not wait for the snapshot operation to complete.

***snapshot-name* ...**
Specifies the name to give the new snapshot. Snapshot names must conform to the filename rules in effect where the snapshot is created.

Example

Example 2–93 creates a new snapshot of the file system `/vol/vol0` on the NDMP host named `lucy`.

Example 2–93 Creating a Snapshot

```
ob> mksnap --host lucy --fs /vol/vol0 lucy_snap
ob> lssnap --long lucy_snap
File system /vol/vol0:
    Max snapshots:          255
    Reserved space:           44.8 GB
    % reserved space:       30
    Snapshot:               lucy_snap
        Of:                 /vol/vol0
        Taken at:           2005/03/28.20:52
```

```
Used %:                0
Total %:               0
Busy:                 no
Dependency:           no
```

mkssel

Purpose

Use the `mkssel` command to create a database backup storage selector. Oracle Secure Backup uses the information encapsulated in storage selectors for backup jobs when interacting with Recovery Manager (RMAN). You can modify the storage selector with the chssel command.

See Also:

- "Database Backup Storage Selector Commands" on page 1-11 for related commands
- "Database Backup Storage Selectors and RMAN Media Management Parameters" on page E-1 for an explanation of how storage selectors interact with RMAN media management parameters
- *Oracle Secure Backup Administrator's Guide* for a conceptual explanation of storage selectors

Prerequisites

You must have the modify administrative domain's configuration right to use the `mkssel` command.

Syntax

mkssel::=

```
mkss•el
{ --dbname/-d { * | dbname[,dbname]... } | --dbid/-i { * | dbid[,dbid]... } }
{ --host/-h { * | hostname[,hostname]... } }
{ --family/-f media-family }
[ --content/-c { * | content[,content]... } ]
[ --restrict/-r restriction[,restriction]... ]
[ --copynum/-n { * | 1 | 2 | 3 | 4 } ]
[ --waittime/-w  duration ]
sselname
```

Semantics

--dbname/-d *dbname* ...
Specifies the names of the databases to which this storage selector object applies. Specifying an asterisk (*) indicates that the storage selector applies to all database names. You cannot combine the asterisk character (*) with individual database names.

You must specify either `--dbname`, `--dbid`, or both. If you specify a database name but not a database ID, then the database ID defaults to all (*).

--dbid/-i *dbid* ...
Specifies the database IDs of the databases to which this storage selector object applies. Specifying an asterisk (*) indicates that the storage selector applies to all database IDs. You cannot combine the asterisk character (*) with individual database IDs.

You must specify either `--dbname`, `--dbid`, or both. If you specify a database ID but not a database name, then the database name defaults to all (`*`).

--host/-h *hostname* ...
Specifies the names of the database hosts to which this storage selector applies. Specifying an asterisk character (`*`) indicates that the storage selector applies to all database hosts. You cannot combine the asterisk character (`*`) with individual hosts. You must specify at least one host name.

--family/-f *media-family*
Specifies the name of the media family to be used for backups under the control of this storage selector object. You can specify a media family that uses either a content-managed or time-managed expiration policy. You create media families with the mkmf command.

--content/-c *content* ...
Specifies the backup contents to which this storage selector applies. Refer to "content" on page 3-6 for a description of the *content* placeholder. Specify an asterisk (`*`) to indicate all content types.

--restrict/-r *restriction* ...
Specifies the names of devices to which backups controlled by this storage selector are restricted. By default, Oracle Secure Backup uses device polling to find any available device for use in backup operations. Refer to "restriction" on page 3-31 for a description of the *restriction* placeholder.

--copynumber/-n * | 1 | 2 | 3 | 4
Specifies the copy number to which this storage selector applies. The copy number must be an integer in the range of 1 to 4. Specify an asterisk (`*`) to indicate that the storage selector applies to any copy number (default).

--waittime/-w *duration*
Specifies how long to wait for the availability of resources required by backups under the control of this storage selector. The default wait time is 1 hour. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

sselname
Specifies the name of the database backup storage selector. Storage selector names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Example

Example 2–94 creates a storage selector named `ssel_full`. The storage selector applies to the database with a DBID of 1557185567 on host `brhost2`.

Example 2–94 Creating a Database Backup Storage Selector

```
ob> mkssel --dbid 1557185567 --host brhost2 --content full --family f1 ssel_full
```

mksum

Purpose

Use the `mksum` command to create a job summary schedule.The schedule indicates when and in what circumstances Oracle Secure Backup should generate a backup or restore job summary, which is a text file report that indicates whether a backup or restore job was successful.

> **See Also:** "Summary Commands" on page 1-16 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `mksum` command.

Syntax

mksum::=

```
mksu•m [ --days/-d produce-days[,produce-days]... ]
[ --reporttime/-t time ]
[ --mailto/-m email-target[,email-target]... ]
[ [ --covers/-c duration ] |
  [ --since/-s "summary-start-day time" ] ]
[ --backup/-B { yes | no } ] [ --restore/-R { yes | no } ]
[ --orabackup/-b { yes | no } ] [ --orarestore/-e { yes | no } ]
[ --scheduled/-S { yes | no } ] [ --user/-U { yes | no } ]
[ --subjobs/-J { yes | no } ] [ --superseded/-D { yes | no } ]
summary-name ...
```

Semantics

--days/-d *produce-days* ...
Specifies the days of the week on which to generate a job summary. Refer to "produce-days" on page 3-29 for a description of the *produce-days* placeholder.

--reporttime/-t *time*
Specifies the time at which to generate a job summary. Refer to "time" on page 3-37 for a description of the *time* placeholder.

--mailto/-m *email-target*[,*email-target*]...
Specifies email addresses of users who receive job summaries. An email system needs to be operational on the administrative server for this feature to operate. Separate multiple entries with a comma.

--covers/-c *duration*
Specifies the time frame covered by the report. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

--since/-s "*summary-start-day time*"
Specifies the starting point of the time period that the report covers. Refer to "summary-start-day" on page 3-36 for a description of the *summary-start-day* placeholder. Refer to "time" on page 3-37 for a description of the *time* placeholder.

--backup/-B { yes | no }
Specifies whether backup jobs should be included in the report. The default is `yes`.

--restore/-R { yes | no }
Specifies whether restore jobs should be included in the report. The default is `yes`.

--orabackup/-b { yes | no }
Specifies whether RMAN backup jobs should be included in the report. The default is `yes`.

--orarestore/-e { yes | no }
Specifies whether RMAN restore jobs should be included in the report. The default is `yes`.

--scheduled/-S { yes | no }
Specifies whether all jobs waiting to be executed in the scheduler should be included in the report. A scheduled job is a job that has yet to be run. The default is `yes`.

--user/-U { yes | no }
Specifies whether the report should include user-initiated jobs. The default is `yes`. If set to `no`, the summary only shows scheduled jobs.

--subjobs/-J { yes | no }
Specifies whether the report should include subordinate jobs. The default is `yes`.

--superseded/-D { yes | no }
Specifies whether the report should include all jobs that have identical criteria. The default is `no`.

A job is superseded when an identical job was scheduled after the initial job had a chance to run. For example, suppose you schedule an incremental backup scheduled every night at 9 p.m. On Wednesday morning you discover that the Tuesday night backup did not run because no tapes were available in the library. The incremental backup scheduled for Wednesday supersedes the backup from the previous night.

summary-name ...
Specifies the name of the job summary schedule. Names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Example

Example 2–95 schedules a backup summary named `weekly_report`.

Example 2–95 Scheduling a Job Summary

```
ob> mksum --days wed --reporttime 12:00 --mailto lance@company.com weekly_report
ob> lssum --long
weekly_report:
    Produce on:              Wed at 12:00
    Mail to:                 lance@company.com
    In the report, include:
        Backup jobs:             yes
        Restore jobs:            yes
        Scheduled jobs:          yes
        User jobs:               yes
        Subordinate jobs:        yes
        Superseded jobs:         no
```

Example 2–96 shows parts of a sample summary. Note that the sample output has been reformatted to fit on the page.

Example 2–96 Sample Job Summary

```
I. Pending jobs.

None.

II. Ready and running jobs.

None.

III. Successful jobs.

                Scheduled or                                              Backup   File Volume IDs
Job ID         *Introduced at   Completed at     Content                  Size        # (Barcodes)
-------------- ---------------- ---------------- ------------------------ --------- --- -------
admin/1        *2005/03/24.09:52 2005/03/24.09:52 dataset tbrset/entire_backup
admin/1.1      *2005/03/24.09:52 2005/03/24.09:52    host brhost2         3.5 MB  1 VOL000001 (ADE202)
admin/2        *2005/03/24.09:52 2005/03/24.09:52 restore to brhost2

IV. Unsuccessful jobs.

                 Scheduled or
Job ID           *Introduced at    Content                   Status
---------------- ---------------- ------------------------- ------------------------
admin/7          *2005/03/24.16:41 dataset homedir.ds         failed - host isn't administrative
                                                              domain member (OB job mgr)
admin/7.1        *2005/03/24.16:41     host brhost4(DELETED) failed - host isn't administrative
                                                              domain member (OB job mgr)
```

mkuser

Purpose

Use the `mkuser` command to define an Oracle Secure Backup user. Each user account belongs to exactly one class, which defines the rights of the user.

See Also:

- "User Commands" on page 1-17 for related commands
- "Class Commands" on page 1-10

Prerequisites

You must have the modify administrative domain's configuration right to run the `mkuser` command.

Usage Notes

When an Oracle Secure Backup user performs a backup or restore operation on a host with the default `--unprivileged` option, the host is accessed by means of an operating system identity.

If a Linux or UNIX host is backed up or restored, then Oracle Secure Backup uses the `--unixname` and `--unixgroup` values for the operating system identity.

If a Windows host is backed up or restored, then Oracle Secure Backup begins with the first domain triplet in the list—skipping any with a wildcard (`*`) for the domain name—and checks whether the domain and username allows access to the host.

Note: Oracle Secure Backup uses the `LookupAccountName` system call to determine whether access is allowed. No attempt at logging on actually occurs during the check, nor is there any attempt to enumerate all the valid Windows domains.

If access is allowed, then Oracle Secure Backup uses this logon information to run the job. If not, then Oracle Secure Backup proceeds to the next domain triplet in the list. If Oracle Secure Backup does not find a triplet that allows access to the host, it performs a final check to see whether a triplet exists with a wildcard (`*`) as the domain name.

Syntax

mkuser::=

```
mku•ser --class/-c userclass
[ --password/-p password | --querypassword/-q ]
[ --unixname/-U unix-user ] [ --unixgroup/-G unix-group ]
[ --domain/-d { windows-domain | * },windows-account[,windows-password ] ]...
[ --ndmpuser/-N { yes | no }  ]
[ --email/-e emailaddr ] [ --givenname/-g givenname ]
[ --preauth/-h preauth-spec[,preauth-spec]... ]
username
```

Semantics

--class/-c *userclass*
Specifies the name of the class to which the user should belong. Table B–1, " Classes and Rights" on page B-1 describes the predefined classes and rights.

--password/-p *password*
Specifies a password for the Oracle Secure Backup user when logging in to an administrative domain. The maximum character length that you can enter is 16 characters. If you do not specify a password, then the password is null.

--querypassword/-q
Specifies that you should be prompted for the password, which is not echoed.

--unixname/-U *unix-user*
Specifies a user name for a Linux or UNIX host. The default user name is the first defined of `guest`, `nobody`, `none`, and `user`.

--unixgroup/-G *unix-group*
Specifies a group for a Linux or UNIX host. The default is `none`.

--domain/-d { *windows-domain* | * },*windows-account*[,*windows-password*]
Specifies a Windows domain name, user account, and password. If you do not enter the Windows password, then `obtool` prompts you for it. For *windows-domain*, enter an asterisk (`*`) if the *windows-account* and *windows-password* apply to all Windows domains. The `--domain` option has no default value.

The Windows user account must have access to the following privileges so that `obtar` can run:

- `SeBackupPrivilege`

  User right: Back up files and directories
- `SeRestorePrivilege`

  User Right: Restore files and directories
- `SeChangeNotifyPrivilege`

  User right: Bypass traverse checking

You must grant the preceding privileges to the user account when it is created or grant them afterward.

--ndmpuser/-N { yes | no }
Indicates whether the user is permitted to log in to an NDMP server. Specify `yes` if you want to enable the user to access an NDMP server and `no` if you do not. The default is `no`. This login is achieved by means of an external client program.

--email/-e *emailaddr*
Specifies the email address for the user. When Oracle Secure Backup wants to communicate with this user, such as to deliver a job summary or notify the user of a pending input request, it sends email to this address.

--givenname/-g *givenname*
Specifies the given name of the user if different from the user name, for example, `"Jim W. Smith"` for user name `jsmith`.

--preauth/-h *preauth-spec*[,*preauth-spec*]...]
Grants the specified operating system user preauthorized access to the administrative domain as the Oracle Secure Backup user. By default there is no preauthorization.

A preauthorization dictates how an operating system user can be automatically logged in to Oracle Secure Backup. Access is authorized only for the specified operating system user on the specified host. For each host within an Oracle Secure Backup administrative domain, you can declare one or more one-to-one mappings between operating system and Oracle Secure Backup user identities. For example, you can create a preauthorization so that UNIX user `lashdown` is automatically logged in to `obtool` as user `admin`.

Refer to "preauth-spec" on page 3-28 for a description of the *preauth-spec* placeholder. Duplicate preauthorizations are not permitted. Preauthorizations are considered to be duplicates if they have the same hostname, user ID, and domain.

username
Specifies a name for the Oracle Secure Backup user. User names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

The user name must be unique among all Oracle Secure Backup user names. Formally, it is unrelated to any other name used in your computing environment or the Oracle Secure Backup administrative domain.

Example

Example 2–97 creates an administrative Oracle Secure Backup user named `janedoe`. This user runs unprivileged backup and restore operations on Linux and UNIX hosts under the `jdoe` operating system account. Because no Windows domains are specified, this user is not permitted to run backup or restore operations on Windows hosts. The `jdoe` operating system user is preauthorized to make RMAN backups on host `stadv07`.

Example 2–97 Creating an Oracle Secure Backup User

```
ob> lsuser
admin            admin
sbt              admin
tadmin           admin
ob> mkuser janedoe --class admin --password "x45y" --givenname "jane" --unixname
jdoe --unixgroup "dba" --preauth stadv07:jdoe+rman+cmdline --ndmpuser no
--email jane.doe@business.com
ob> lsuser
admin            admin
janedoe          admin
sbt              admin
tadmin           admin
```

mountdev

Purpose

Use the `mountdev` command to mount a tape volume that was previously loaded into a tape drive. When a volume is mounted in a drive, the Oracle Secure Backup scheduler is notified that the mounted volume is available for use. You can set the mode of use for the volume with the `mountdev` options.

You can use this command if the tape drive is not set to `automount`, which is the recommended, default setting. In special situations the `mountdev` and unmountdev commands provide additional control over your tape drive.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `mountdev` command.

Syntax

mountdev::=

```
mou•ntdev { --read/-r | --write/-w | --overwrite/-o }
[ --unmount/-u | --norewind/-R ] devicename ...
```

Semantics

--read/-r
Identifies the mount mode as read. In this mode, Oracle Secure Backup mounts the volume for reading only.

--write/-w
Identifies the mount mode as write. In this mode, Oracle Secure Backup mounts the volume so that it can append any new backups to the end of the volume.

--overwrite/-o
Identifies the mount mode as overwrite. In this mode, Oracle Secure Backup mounts a volume on the device and positions it at the beginning of the tape so that the existing contents of the volume are overwritten. If you use this option, then you are granting permission to overwrite a volume even though its volume expiration policy may not deem it eligible to be overwritten. Specify this option only in situations that warrant or require overwriting unexpired volumes.

--unmount/-u
Unmounts the currently mounted tape before executing the mount request. If a tape is mounted in the drive, and you do not first unmount the tape by specifying `--unmount`, then the `mountdev` command fails.

--norewind/-R
Specifies that the tape should not be rewound when Oracle Secure Backup finishes writing to it. This option enables Oracle Secure Backup to remain in position to write the next backup image.

devicename ...
Specifies the device on which you want to mount a volume. Refer to "devicename" on page 3-16 for the rules governing device names.

Example

Example 2–98 manually unmounts a tape volume from drive `tape1`, which is automounted, and then manually mounts a tape in write mode. Note that the sample lsdev output has been reformatted to fit on the page.

Example 2–98 Manually Mounting a Tape Volume

```
ob> lsdev --long tape1
tape1:
    Device type:            tape
    Model:                  [none]
    Serial number:          [none]
    In service:             yes
    Library:                lib1
    DTE:                    1
    Automount:              yes
    Error rate:             8
    Query frequency:        3145679KB (-1073791796 bytes) (from driver)
    Debug mode:             no
    Blocking factor:        (default)
    Max blocking factor:    (default)
    Current tape:           1
    Use list:               all
    Drive usage:            14 seconds
    Cleaning required:      no
    UUID:                   b7c3a1a8-74d0-1027-aac5-000cf1d9be50
    Attachment 1:
        Host:               brhost3
        Raw device:         /dev/tape1
ob> mountdev --unmount --write tape1
ob> lsdev --mount tape1
drive        tape1        in service       write      rbtar   VOL000003     ADE203
```

movevol

Purpose

Use the `movevol` command to move a volume from one element to another element within a tape library. You can only move one volume at a time.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `movevol` command.

Syntax

movevol::=

```
mov•evol [ --library/-L libraryname | --drive/-D drivename ]
{ vol-spec | element-spec } element-spec
```

Semantics

--library/-L *libraryname*
Specifies the name of the library in which you want to move a volume.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

--drive/-D *drivename*
Specifies the name of a tape drive in the library in which you want to move a volume.

If you do not specify `--library` or `--drive`, then Oracle Secure Backup uses the value of the library or drive variable. Oracle Secure Backup issues a warning if it can obtain neither the library nor drive setting.

vol-spec
Specifies the volume to be moved. Refer to "vol-spec" on page 3-41 for a description of the *vol-spec* placeholder.

element-spec
Specifies the number of a storage element, import/export location, or a tape drive. Refer to "element-spec" on page 3-18 for a description of the *element-spec* placeholder.

If you specify *vol-spec*, then *element-spec* represents the location to which the volume should be moved. If you specify *element-spec* twice, then the first represents the location from which the volume should be moved and the second represents the location to which the volume should be moved.

Example

Example 2–99 moves the volume in storage element `3` to the import/export element `iee3`. Note that the sample output has been reformatted to fit on the page.

Example 2–99 Moving a Volume

```
ob> lsvol --library lib1 --long
Inventory of library lib1:
    in    mte:           vacant
    in    1:             vacant
    in    2:             volume VOL000001, barcode ADE201, oid 102, 48319392 kb remaining
    in    3:             volume RMAN-DEFAULT-000002, barcode ADE202, oid 112, 47725600 kb
                         remaining, content manages reuse
    in    4:             vacant
    in    iee1:          barcode ADE203, oid 114, 47725344 kb remaining, lastse 4
    in    iee2:          volume VOL000002, barcode ADE204, oid 110, 47670368 kb remaining, lastse 1
    in    iee3:          vacant
    in    dte:           vacant
ob> movevol --library lib1 3 iee3
ob> lsvol --library lib1 --long
Inventory of library lib1:
    in    mte:           vacant
    in    1:             vacant
    in    2:             volume VOL000001, barcode ADE201, oid 102, 48319392 kb remaining
    in    3:             vacant
    in    4:             vacant
    in    iee1:          barcode ADE203, oid 114, 47725344 kb remaining, lastse 4
    in    iee2:          volume VOL000002, barcode ADE204, oid 110, 47670368 kb remaining, lastse 1
    in    iee3:          volume RMAN-DEFAULT-000002, barcode ADE202, oid 112, 47725600 kb
                         remaining, content manages reuse, lastse 3
    in    dte:           vacant
```

opendoor

Purpose

Use the `opendoor` command to open the import/export door of a tape library. This command only works for libraries that support it.

The import/export door is a mechanism that operators use to transfer tapes into and out of the library. You can then execute the importvol command to move volumes to internal slots in the library and the exportvol command to move volumes out of the library. Because the library itself is not opened during this process, a reinventory is not required.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `opendoor` command.

Syntax

opendoor::=

```
open•door [ --library/-L libraryname ]
```

Semantics

--library/-L *libraryname*
Specifies the name of the library on which you want to open the import/export door. If you do not specify a library name, then the library variable must be set.

Example

Example 2–100 opens the import/export door in library `lib1`.

Example 2–100 Opening an Import/Export Door

```
ob> lsvol --library lib1 --long
Inventory of library lib1:
    in    mte:           vacant
    in    1:             vacant
    in    2:             volume VOL000001, barcode ADE201, oid 102, 48319392 kb remaining
    in    3:             vacant
    in    4:             vacant
    in    iee1:          barcode ADE203, oid 114, 47725344 kb remaining, lastse 4
    in    iee2:          volume VOL000002, barcode ADE204, oid 110, 47670368 kb remaining, lastse 1
    in    iee3:          volume RMAN-DEFAULT-000002, barcode ADE202, oid 112, 47725600 kb
                         remaining, content manages reuse, lastse 3
    in    dte:           vacant
ob> opendoor --library lib1
```

pingdev

Purpose

Use the `pingdev` command to determine whether a device is accessible to Oracle Secure Backup by means of all configured attachments.

For each attachment defined for the device, Oracle Secure Backup performs the following steps:

1. Establishes a connection to the device
2. Queries the device's identity by using the SCSI `inquiry` command
3. Closes the connection

For each attachment that is remote from the host running `obtool`, Oracle Secure Backup establishes an NDMP session with the remote media server to test the attachment.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `pingdev` command.

Syntax

pingdev::=

```
pingd•ev [ --nohierarchy/-H ] [ --quiet/-q | --verbose/-v ]
[ --host/-h hostname ]... { --all/-a | devicename ... }
```

Semantics

--nohierarchy/-H
Suppresses access to each drive contained in a tape library. By default, `obtool` pings each drive contained in the library.

--quiet/-q
Suppresses output. By default, `obtool` displays the output shown in Example 2–101.

--verbose/-v
Displays verbose output as shown in the following sample output:

```
ob> pingdev --verbose lib1
Info: pinging library lib1.
Info: library    lib1            accessible.
Info: pinging drive tape1.
Info:   drive  1 tape1           accessible.
```

By default, `obtool` displays the output shown in Example 2–101.

--host/-h *hostname* ...
Specifies the name of the host machine whose attached devices you are pinging.

--all/-a
Pings all defined devices.

***devicename* ...**
Specifies the name of the device that you want to ping. Refer to "devicename" on page 3-16 for the rules governing device names.

Example

Example 2–101 pings the tape drive called `tape3`. The tape device has attachments to multiple hosts.

Example 2–101 Pinging a Tape Drive with Multiple Attachments

```
ob> pingdev tape3
Info: drive      tape3            via host stadv07 accessible.
Info: drive      tape3            via host brhost3 accessible.
ob> pingdev --host brhost3 tape3
Info: drive      tape3            via host brhost3 accessible.
```

pinghost

Purpose

Use the `pinghost` command to determine whether a host in an administrative domain is responsive to requests from Oracle Secure Backup. This operation is useful for ensuring that a host is responsive on all of its configured IP addresses.

See Also: "Host Commands" on page 1-12 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `pinghost` command.

Usage Notes

This command attempts to establish a TCP connection to the host on each of the IP addresses that you have configured for it. For hosts that use the Oracle Secure Backup protocol, the command connects through TCP port 400; for hosts using NDMP, it connects through the configured NDMP TCP port, usually 10000. Oracle Secure Backup reports the status of each connection attempt and immediately closes each connection that was established successfully.

Syntax

pinghost::=

```
ping•host [ --quiet/-q | --verbose/-v ] hostname ...
```

Semantics

--quiet/-q
Suppresses output.

--verbose/-v
Displays output. This option is the default.

***hostname* ...**
Specifies the name of the host machine that you want to ping.

Example

Example 2–102 queries the hosts in the administrative domain and then pings host `brhost2`.

Example 2–102 Pinging a Host

```
ob> lshost
brhost2          client                          (via OB)   in service
brhost3          mediaserver,client              (via OB)   in service
dlsun1976        client                          (via OB)   in service
ndmphost1        client                          (via NDMP) in service
stadv07          admin,mediaserver,client        (via OB)   in service
ob> pinghost brhost2
brhost2 (address 126.1.1.2): Oracle Secure Backup and NDMP services are available
```

pwd

Purpose

Use the `pwd` command to display the name of the directory in the Oracle Secure Backup catalog that you are browsing.

See Also: "Browser Commands" on page 1-9 for related commands

Prerequisites

The rights needed to use the `pwd` command depend on the browse backup catalogs with this access setting for the class.

Syntax

pwd::=

```
pwd [ --short/-s | --long/-l ] [ --noescape/-B ]
```

Semantics

--short/-s
Displays data in short form.

--long/-l
Displays data in long form.

--noescape/-B
Does not escape non-displayable characters in path name. Specify `--noescape` if you want path names that include an ampersand character (`&`) to display normally.

Example

Example 2–103 displays the path information for `brhost2`.

Example 2–103 Displaying the Current Directory

```
ob> cd --host brhost2
ob> pwd --long
Browsemode:         catalog
Host:               brhost2
Data selector:      latest
Viewmode:           inclusive
Pathname:           <super-dir>
```

pwdds

Purpose

Use the `pwdds` command to show the name of the current directory in the dataset directory tree.

See Also: "Dataset Commands" on page 1-11 for related commands

Prerequisites

You must have the display administrative domain's configuration right to use the `pwdds` command.

Syntax

pwdds::=

```
pwdds
```

Example

Example 2–104 shows the current directory, changes into a new directory, and then shows the current directory again.

Example 2–104 Displaying the Current Directory

```
ob> pwdds
/ (top level dataset directory)
ob> lsds
Top level dataset directory:
mydatasets1/
mydatasets/
admin_domain.ds
ob> cdds mydatasets
ob> pwdds
/mydatasets
```

pwdp

Purpose

Use the pwdp command to display the identity of the current policy.

The policy data is represented as a directory tree with / as the root. You can use cdp to navigate the tree and lsp and pwdp to display data.

See Also:

- "Policy Commands" on page 1-14 for related commands
- Appendix A, "Defaults and Policies" for a complete list of policies and policy classes

Prerequisites

You must have the display administrative domain's configuration right to use the pwdp command.

Syntax

pwdp::=

```
pwdp
```

Example

Example 2–105 uses cdp to browse the policies and pwdp to display the current directory in the policy directory tree.

Example 2–105 Displaying the Current Directory in the Policy Tree

```
ob> pwdp
/
ob> lsp
daemons              daemon and service control policies
devices              device management policies
index                index catalog generation and management policies
local                Oracle Secure Backup configuration data for the local machine
logs                 log and history management policies
media                general media management policies
naming               WINS host name resolution server identification
ndmp                 NDMP Data Management Agent (DMA) defaults
operations           policies for backup, restore and related operations
scheduler            Oracle Secure Backup backup scheduler policies
security             security-related policies
testing              controls for Oracle Secure Backup's test and debug tools
ob> cdp auditlogins
ob> pwdp
/daemons/auditlogins
ob> cdp ../..
ob> pwdp
/
```

quit

Purpose

Use the `quit` command to exit `obtool`. This command is identical in functionality to the exit command.

> **See Also:** "Miscellaneous Commands" on page 1-14 for related commands

Syntax

quit::=

```
q•uit [ --force/-f ]
```

Semantics

--force/-f

Exits `obtool` even if there are pending backup or restore requests. Specifying `--force` means that pending backup and restore requests are lost.

Normally, you cannot quit `obtool` when there are pending requests. You should submit pending requests to the scheduler by specifying `--go` on the backup or restore commands.

Example

Example 2–106 uses the `--force` option to quit `obtool` when a backup job is pending.

Example 2–106 Quitting obtool

```
ob> backup --dataset fullbackup.ds
ob> quit
Error: one or more backup requests are pending.  Use "quit --force" to
       quit now, or send the requests to the scheduler with "backup --go".
ob> quit --force
```

renclass

Purpose

Use the `renclass` command to rename a user class.

See Also:

- "Class Commands" on page 1-10 for related commands
- Appendix B, "Classes and Rights" for a descriptions of the default Oracle Secure Backup classes and rights

Prerequisites

You must have the modify administrative domain's configuration right to use the `renclass` command.

Syntax

renclass::=

```
rencl•ass [ --nq ] { old-classname new-classname }...
```

Semantics

--nq
Does not display a confirmation message. Without this option, the command displays a confirmation message, which is described in "obtool Interactive Mode" on page 1-2.

old-classname new-classname ...
Renames *old-classname* to *new-classname*. Class names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Example

Example 2–107 renames class `backup_admin` to `bkup_admin`.

Example 2–107 Renaming a Class

```
ob> renclass backup_admin bkup_admin
rename class backup_admin? (a, n, q, y, ?) [y]: a
ob> lsclass bkup_admin
bkup_admin
```

rendev

Purpose

Use the `rendev` command to rename a configured device.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rendev` command.

Syntax

rendev::=

```
rend•ev [ --nq ] { old-devicename new-devicename }...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

old-devicename
Specifies the name of the existing device. Refer to "devicename" on page 3-16 for the rules governing device names.

new-devicename ...
Specifies the name for the device. Refer to "devicename" on page 3-16 for the rules governing device names.

Example

Example 2–108 renames two tape devices.

Example 2–108 Renaming a Device

```
ob> lsdev
library    lib1             in service
  drive 1  tape1            in service
library    lib2             in service
  drive 1  tape2            in service
ob> rendev tape1 t1 tape2 t2
rename device tape1? (a, n, q, y, ?) [y]: y
rename device tape2? (a, n, q, y, ?) [y]: y
ob> lsdev
library    lib1             in service
  drive 1  t1               in service
library    lib2             in service
  drive 1  t2               in service
```

rends

Purpose

Use the `rends` command to rename a dataset file or directory. For example, the following command renames `old_file` to `new_file` and moves it from `old_dir` to `new_dir`:

```
ob> rends old_dir/old_file new_dir/new_file
```

The following command creates `new_file` in the current directory:

```
ob> rends old_dir/old_file new_file
```

See Also: "Dataset Commands" on page 1-11 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rends` command.

Syntax

rends::=

```
rends [ --nq ] { old-dataset-name new-dataset-name }...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

old-dataset-name ...
Specifies the name of the existing dataset file or directory that you want to rename. Refer to "dataset-name" on page 3-10 for a descriptions of the *dataset-name* placeholder.

new-dataset-name ...
Specifies a new name for the dataset file or directory. Note that you can use *new-dataset-name* to specify a new dataset path. Refer to "dataset-name" on page 3-10 for a descriptions of the *dataset-name* placeholder.

Example

Example 2–109 renames dataset `datadir.ds` in the top-level directory to `tbrset/ddir.ds`.

Example 2–109 Renaming a Dataset

```
ob> lsds
Top level dataset directory:
tbrset/
datadir.ds
ob> rends --nq datadir.ds tbrset/ddir.ds
ob> cdds tbrset
```

```
ob> lsds
Dataset directory tbrset:
ddir.ds
entire_backup
tiny_backup
```

renhost

Purpose

Use the `renhost` command to rename a configured Oracle Secure Backup host.

See Also: "Host Commands" on page 1-12 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `renhost` command.

Syntax

renhost::=

```
renh•ost [ --nq ] [ --nocomm/-N ] { old-hostname new-hostname }...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

--nocomm/-N
Suppresses communication with the host machine. Use this option if you want to rename a machine that is not connected to the network.

***old-hostname* ...**
Specifies the name of the existing host that you want to rename.

***new-hostname* ...**
Specifies the new name for the host. Host names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Example

Example 2–110 displays configured hosts and then renames `ndmphost1` to `ndmphost`.

Example 2–110 Renaming a Host

```
ob> lshost
brhost2          client                          (via OB)   in service
brhost3          mediaserver,client              (via OB)   in service
dlsun1976        client                          (via OB)   in service
ndmphost1        client                          (via NDMP) in service
stadv07          admin,mediaserver,client        (via OB)   in service
ob> renhost --nq ndmphost1 ndmphost
ob> lshost
brhost2          client                          (via OB)   in service
brhost3          mediaserver,client              (via OB)   in service
dlsun1976        client                          (via OB)   in service
ndmphost         client                          (via NDMP) in service
stadv07          admin,mediaserver,client        (via OB)   in service
```

renmf

Purpose

Use the `renmf` command to rename a media family.

> **See Also:** "Media Family Commands" on page 1-13 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `renmf` command.

Syntax

renmf::=

```
renmf [ --nq ] { old-media-family-name new-media-family-name }...
```

Semantics

--nq

Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

old-media-family-name ...

Specifies the name of the existing media family. Note that you cannot rename the `RMAN-DEFAULT` media family.

new-media-family-name ...

Specifies the new name for the media family. Media family names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 31 characters.

Example

Example 2–111 renames media family `full_bkup` to `full_backup`.

Example 2–111 Renaming a Media Family

```
ob> lsmf
RMAN-DEFAULT                              content manages reuse
content-man-family write forever            content manages reuse
full_bkup        write 7 days             content manages reuse
time-man-family  write 7 days             keep 28 days
ob> renmf full_bkup full_backup
rename media family full_bkup? (a, n, q, y, ?) [y]: y
ob> lsmf
RMAN-DEFAULT                              content manages reuse
content-man-family write forever            content manages reuse
full_backup      write 7 days             content manages reuse
time-man-family  write 7 days             keep 28 days
```

rensched

Purpose

Use the `rensched` command to rename a schedule. Execute the lssched command to display schedule names.

> **See Also:** "Schedule Commands" on page 1-15 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rensched` command.

Syntax

rensched::=

```
rensc•hed [ --nq ] { old-schedulename new-schedulename }...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

***old-schedulename* ...**
Specifies the name of an existing schedule.

***new-schedulename* ...**
Specifies a new name for the *old-schedulename* schedule. Schedule names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Example

Example 2–112 renames schedule `full_backup` to `weekday_sunday_backup`.

Example 2–112 Renaming a Backup Schedule

```
ob> lssched
full_backup         sundays, weekdays              fullbackup.ds
ob> rensched --nq full_backup weekday_sunday_backup
ob> lssched
weekday_sunday_backup sundays, weekdays              fullbackup.ds
```

rensnap

Purpose

Use the `rensnap` command to rename a snapshot.

> **See Also:** "Snapshot Commands" on page 1-16 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `rensnap` command.

Syntax

rensnap::=

```
rensn•ap [ --nq ] [ --host/-h hostname ] [ --fs/-f filesystem-name ]
{ old-snapshot-name new-snapshot-name }...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

--host/-h *hostname*
Specifies the name of the NDMP host machine where you want to rename the snapshot. If you do not specify a host name, then Oracle Secure Backup uses the value from the host variable.

--fs/-f *filesystem-name*
Specifies the name of the file system included in the snapshot. If you do not specify the `--fs` option, then the `fs` variable must be set.

***old-snapshot-name* ...**
Specifies the name of an existing snapshot.

***new-snapshot-name* ...**
Specifies a new name for *old-snapshot-name*.

Example

Example 2–113 renames snapshot `lucy_snap` to `lucy.0`.

Example 2–113 Renaming a Snapshot

```
ob> lssnap --long lucy_snap
File system /vol/vol0:
    Max snapshots:          255
    Reserved space:           44.8 GB
    % reserved space:       30
    Snapshot:               lucy_snap
        Of:                 /vol/vol0
```

```
        Taken at:           2005/03/28.20:52
        Used %:               0
        Total %:              0
        Busy:               no
        Dependency:         no
ob> rensnap --nq --host lucy --fs /vol/vol0 lucy_snap lucy.0
ob> lssnap
File system /vol/vol0:
Snapshot Of               Taken at      %Used  %Total Snapshot Name
/vol/vol0              2005/03/28.21:00     0      0   hourly.0
/vol/vol0              2005/03/28.20:52     0      0   lucy.0
/vol/vol0              2005/03/28.17:00     0      0   hourly.1
/vol/vol0              2005/03/28.13:00     0      0   hourly.2
/vol/vol0              2005/03/28.05:00     0      0   nightly.0
/vol/vol0              2005/03/28.01:00     0      0   hourly.3
/vol/vol0              2005/03/27.21:00     0      0   hourly.4
/vol/vol0              2005/03/27.17:00     0      0   hourly.5
/vol/vol0              2005/03/27.05:00     0      0   nightly.1
/vol/vol0              2004/08/21.11:30    22      7   myhost_snap
```

renssel

Purpose

Use the `renssel` command to rename a database backup storage selector.

> **See Also:** "Database Backup Storage Selector Commands" on page 1-11 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `renssel` command.

Syntax

renssel::=

```
renss•el [ --nq ] { old-sselname new-sselname }...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

old-sselname ...
Specifies the name of the existing database backup storage selector.

new-sselname ...
Specifies the new name of a database backup storage selector.

Example

Example 2–114 uses the mkssel command a storage selector and specifies the content as full. The example uses the chssel command to add archived logs to the content of the selector, then renames the selector from `ssel_full` to `ssel_full_arch`.

Example 2–114 Renaming a Database Backup Storage Selector

```
ob> mkssel --dbid 1557615826 --host brhost2 --content full --family f1 ssel_full
ob> chssel --addcontent archivelog ssel_full
ob> renssel ssel_full ssel_full_arch
rename ssel ssel_full? (a, n, q, y, ?) [y]: y
ob> lsssel --short
ssel_full_arch
```

rensum

Purpose

Use the `rensum` command to rename a job summary schedule.

> **See Also:** "Summary Commands" on page 1-16 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rensum` command.

Syntax

rensum::=

```
rensu•m [ --nq ] { old-summary-name new-summary-name }...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

***old-summary-name* ...**
Specifies the name of an existing job summary schedule.

***new-summary-name* ...**
Specifies the new name of the job summary schedule. Names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Example

Example 2–115 renames schedule `weekly_report` to `wed_report`.

Example 2–115 Renaming a Job Summary Schedule

```
ob> lssum
weekly_report            Wed at 12:00
ob> rensum --nq weekly_report wed_report
ob> lssum
wed_report               Wed at 12:00
```

renuser

Purpose

Use the `renuser` command to rename an Oracle Secure Backup user.

See Also: "User Commands" on page 1-17 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `renuser` command.

Syntax

renuser::=

```
renu•ser [ --nq ] { old-username new-username }...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

***old-username* ...**
Specifies the current Oracle Secure Backup user name.

***new-username* ...**
Specifies the new name for the Oracle Secure Backup user. User names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Example

Example 2–116 renames user `lashdown` to `lance_ashdown`.

Example 2–116 Renaming an Oracle Secure Backup User

```
ob> renuser --nq lashdown lance_ashdown
```

resdev

Purpose

Use the `resdev` command to reserve a device for your exclusive use. While you hold the reservation, no Oracle Secure Backup component accesses the device.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `resdev` command.

Usage Notes

During normal operations, Oracle Secure Backup temporarily assigns exclusive use of shared resources to its processes and jobs. It assigns this use through a built-in resource reservation system managed by the service daemons on the administrative server.

You may encounter situations in which you desire exclusive and explicit use of a device. When such situations arise, you can direct Oracle Secure Backup to reserve a device for your use and, when you are finished, to release that reservation with the unresdev command. While you hold the reservation, no Oracle Secure Backup component can access the device.

The `resdev` command fails with an error if you try to reserve a device that is already reserved. The command also fails if you attempt to select a drive in a library but all devices are already reserved or no drives are configured.

Syntax

resdev::=

```
resd•ev [ --nowarn/-W ] { --in/-i libraryname ... | devicename ... }
```

Semantics

--nowarn/-W
Does not warn about devices that are out of service.

--in/-i *libraryname* ...
Finds and reserves any reservable drive in the specified libraries.

***devicename* ...**
Specifies either the name of a tape device or a library to be reserved.

Refer to "devicename" on page 3-16 for the rules governing device names.

Example

Example 2–117 reserves all tape drives in library `lib1`. In this example, `lib1` only contains a single drive. The example shows the warnings that result from attempting to reserve a reserved drive.

Example 2–117 Reserving a Device

```
ob> lsdev
library    lib1            in service
  drive 1  tape1           in service
library    lib2            in service
  drive 1  tape2           in service
ob> lsdev --reserved
ob> resdev --in lib1
Drive tape1 reserved.
ob> resdev --in lib1
Error: no drive is available in library lib1.
ob> resdev tape1
Error: you already have drive tape1 reserved.
```

resetp

Purpose

Use the `resetp` command to reset the value of a one or more policies to the default value.

The policy data is represented as a directory tree with `/` as the root. You can use cdp to navigate the tree and lsp and pwd to display data.

See Also:

- "Policy Commands" on page 1-14 for related commands
- Appendix A, "Defaults and Policies" for a complete list of policies and policy classes

Prerequisites

You must have the modify administrative domain's configuration right to use the `resetp` command.

Syntax

resetp::=

```
resetp [ --nq ] policy-name ...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

***policy-name* ...**
Specifies the name of a policy or a class of policies.

Example

Example 2–118 resets the policies in the `logs` class to their defaults.

Example 2–118 Resetting Policies to Their Default Values

```
ob> lsp logs
adminlogevents                  all
adminlogfile                    /tmp/logs/adminevents.log
clientlogevents                 (none)                      [default]
jobretaintime                   60 days
logretaintime                   14 days
transcriptretaintime            14 days
unixclientlogfile               (none)                      [default]
windowsclientlogfile            (none)                      [default]
ob> resetp logs
Really reset ALL logs policies [no]? y
ob>
```

restore

Purpose

Use the `restore` command to create a file system restore request. File system restore operations are distinct from database restore operations, which are initiated by Recovery Manager (RMAN).

You can use the `restore` command to perform catalog-based or raw restore operations. In a catalog-based restore, you browse the catalog for the objects to be restored. When you have located their names and selected the instances, you can restore the objects. In a raw restore, you must have independent knowledge of the secondary storage location (volume ID and backup image file number) of a backup. You can either restore all data in the backup or specify an individual file or directory.

A restore request is held locally in `obtool` until you run the `restore` command with the `--go`, `--gocatalog`, or `--goraw` option, at which time Oracle Secure Backup converts all restore requests into jobs and sends them to the Oracle Secure Backup scheduler.

See Also: "Restore Commands" on page 1-15 for related commands

Prerequisites

If you have specified that the restore run in privileged mode, or if you are restoring files to an NDMP-accessed host, then you must have the right to perform restores as privileged user to use the `restore` command. Otherwise, you must have the right to perform restores as self.

Usage Notes

`obtool` uses the host variable to determine the name of the host whose backups are being restored. The default value for `host` is the name of the host on which `obtool` is running. You can set the `host` variable with the set or cd command.

Syntax

Syntax 1

Use the following syntax to restore data by browsing the Oracle Secure Backup catalog. See "Semantics for Syntax 1" on page 2-194.

restore::=

```
res•tore [ --tohost/-h hostname ] [ --device/-d drivename ]
[ --privileged/-g | --unprivileged/-G ]
[ --replaceexisting/-e | --keepexisting/-E ]
[ --replaceinuse/-u | --keepinuse/-U ] [ --incremental/-i ]
[ --noposition/-X ] [ --priority/-p schedule-priority ]
[ --select/-s data-selector[,data-selector]... ]
[ --obtaropt/-o obtar-option ]... [ --go | --gocatalog | --goraw ]
{ pathname [ --aspath/-a pathname ] }...
```

Syntax 2

Use the following syntax for raw restore operations. See "Semantics for Syntax 2" on page 2-196.

restore::=

```
res•tore --raw/-R [ --tohost/-h hostname ] [ --device/-d drivename ]
[ --privileged/-g | --unprivileged/-G ]
{ --filenumber/-F filenumber }
{ --vid/-v vid[,vid ]... } [ --tag/-t tag[,tag]... ]
[ --replaceexisting/-e | --keepexisting/-E ]
[ --replaceinuse/-u | --keepinuse/-U ] [ --incremental/-i ]
[ --priority/-p schedule-priority ]
[ --obtaropt/-o obtar-option ]... [ --go | --gocatalog | --goraw ]
{ --all/-A | { pathname [--aspath/-a pathname ] [ --position/-x position ] }... }
```

Semantics

Semantics for Syntax 1

--tohost/-h *hostname*
Specifies the name of the host machine to which you want to restore data.

--device/-d *devicename*
Specifies a library or tape drive used to perform the restore operation. Refer to "devicename" on page 3-16 for the rules governing device names.

--privileged/-g
Specifies that the restore operation should run in privileged mode.

On UNIX systems, a privileged restore job runs under the `root` user identity. On Windows systems, the job runs under the same account identity as the Oracle Secure Backup service on the Windows client.

--unprivileged/-G
Specifies that the restore operation should run in unprivileged mode (default).

An unprivileged restore job runs under the UNIX user or Windows account identity specified in the mkuser command. Access to file system data is constrained by the rights of the UNIX user or Windows account having this identity.

--replaceexisting/-e
Overwrites existing files (default).

--keepexisting/-E
Does not overwrite existing files.

--replaceinuse/-u
Replaces in-use files with those from the backup image. Windows deletes each in-use file when the last user closes it. This option is available on Windows only.

--keepinuse/-U
Leaves in-use files unchanged (default). This option is available on Windows only.

--incremental/-i
Directs NAS data servers to apply incremental restore rules. This option applies only to NAS data servers that implement this feature. This option does not apply to file system backups created with `obtar`.

Normally, restore operations are additive: each file and directory restored from a full or an incremental backup is added to its destination directory. If files have been added to a directory since the most recent Oracle Secure Backup backup, then a restore operation does not remove the newly added files.

When you specify `--incremental`, NAS data servers restore each directory to its state during the last incremental backup. Files that were deleted prior to the last incremental backup are deleted by the NAS data service when restoring this incremental backup.

For example, assume you make an incremental backup of `/home`, which contains `file1` and `file2`. You delete `file1` and make another incremental backup of `/home`. After a normal restore of `/home`, the directory would contain `file1` and `file2`; after an NDMP incremental restore of `/home`, the directory would contain only `file2`.

--noposition/-X
Indicates that Oracle Secure Backup should not use available position data to speed the restore operation. You might use this option if position data is corrupted: for example, you make a copy of a tape with obcopy, but the desired file ends up at a different physical position on the tape.

--priority/-p *schedule-priority*
A schedule priority you assign to a restore. Refer to "schedule-priority" on page 3-33 for a description of the *schedule-priority* placeholder.

--select/-s *data-selector* ...
Filters data based on the specified *data-selector*. Refer to "data-selector" on page 3-7 for the *data-selector* placeholder.

--obtaropt/-o *obtar-option* ...
Specifies `obtar` options. For example `-J` enables debug mode and provides more details in the restore transcript. See the section entitled "obtar Options" on page 4-24 for details on `obtar` options.

--go
Releases all queued restore requests to the Oracle Secure Backup scheduler.

--gocatalog
Releases queued restore requests from a backup catalog to the Oracle Secure Backup scheduler.

--goraw
Releases queued raw restore requests to the Oracle Secure Backup scheduler. A raw restore request does not use backup catalog data.

***pathname* ...**
Specifies the path name obtained by browsing the backup catalog for files that you backed up. If you do not specify `--aspath`, then Oracle Secure Backup restores the backup to the same path. If *pathname* does not exist on the host to which you are restoring, then Oracle Secure Backup creates it.

For example, assume that you browse the backup catalog for `brhost2` and locate the `/home` directory, which you want to restore. The `restore /home` command restores the backup to the `/home` directory on `brhost2`.

--aspath/-a *pathname*
Specifies an alternative path name where Oracle Secure Backup can restore the files. For example, if you want to restore a backup of `/home` to `/tmp/home`, then specify `restore /home --aspath /tmp/home`.

Note that if *pathname* does not exist on the host to which you are restoring, then Oracle Secure Backup creates it.

Semantics for Syntax 2

Options that are also found in Syntax 1 are not described in this section.

--raw/-R
Specifies a raw restore operation, which is a restore operation that does not use an Oracle Secure Backup catalog. You must specify the identity (volume ID or barcode) of the tape volumes to which the file system objects were backed up as well as the backup image file number in which they are stored.

--filenumber/-F *filenumber*
Specifies the file number on the tape where the backup is located. Refer to "filenumber" on page 3-19 for a description of the *filenumber* placeholder.

--vid/-v *vid* ...
Selects backups based on volume ID. Refer to "vid" on page 3-39 for a description of the *vid* placeholder.

--tag *tag* ...
Selects backups based on the volume tag (barcode).

--all/-A
Restores all data in the backup.

***pathname* ...**
Specifies the absolute path name of the file or directory that you backed up. If you do not know the absolute path names for the files when they were backed up, then you can use `obtar -tvf` to find them or restore an entire backup image. If you do not specify `--aspath`, then Oracle Secure Backup restores the backup to the same path.

Note that if *pathname* does not exist on the host to which you are restoring, then Oracle Secure Backup creates it.

--aspath/-a *pathname*
Specifies an alternative path name where Oracle Secure Backup can restore the files. For example, if you want to restore a backup of `/private/lashdown` to `/tmp/private/lashdown`, then specify `restore /private/lashdown --aspath /tmp/private/lashdown`.

Note that if *pathname* does not exist on the host to which you are restoring, then Oracle Secure Backup creates it.

--position/-x *position* ...
Specifies the position of the data on the tape.

Example

Example 2–119 displays the latest backup image of the `/home/data` directory stored in the Oracle Secure Backup catalog. The `restore` command submits the restore request to the scheduler with priority 1. Oracle Secure Backup runs the job and restores the data.

Example 2–119 Performing a Raw Restore Operation Based on the Oracle Secure Backup Catalog

```
ob> set host brhost2
ob> cd /home/data
ob> ls
bin/  c_files/  tree/
ob> lsbackup latest
      Backup       Backup  Volume           Volume       File Sect Backup
```

```
   Date and Time       ID  ID               Tag             #    #  Level
2005/03/28.11:17:02     2  VOL000003        ADE201          1    1      0
ob> restore --select latest --priority 1 --go /home/data
Info: raw restore request 1 submitted; job id is admin/6.
ob> lsjob admin/6
Job ID           Sched time  Contents                      State
---------------- ----------- ----------------------------- ---------------------------------------
admin/6          none        restore 1 item to brhost2     completed successfully at
                                                           2005/03/29.16:34
```

Example 2–120 submits a raw restore request to the scheduler. The request specifies that the `/home/data` directory should be restored from volume `VOL000003`. Oracle Secure Backup runs the job and restores the data.

Example 2–120 Performing a Raw Restore Operation

```
ob> restore --raw --filenumber 1 --vid VOL000003 /home/data
ob> restore --go
Info: raw restore request 1 submitted; job id is admin/76.
ob> lsjob admin/7
Job ID           Sched time  Contents                      State
---------------- ----------- ----------------------------- ---------------------------------------
admin/7          none        restore 1 item to brhost2     completed successfully at
                                                           2005/03/29.17:00
```

returndev

Purpose

Use the `returndev` command to return tape drives that you borrowed with the borrowdev command.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `returndev` command.

Syntax

returndev::=

```
ret•urndev { drivename ... | --all/-a }
```

Semantics

drivename ...
Specifies the names of the drives to return.

--all/-a
Returns all the drives that you currently have borrowed.

Example

Example 2–121 returns all borrowed devices.

Example 2–121 Returning Borrowed Devices

```
ob> returndev --all
```

reusevol

Purpose

Use the `reusevol` command to recycle selected volumes. Oracle Secure Backup loads the selected volumes and deletes their backup images.

Each volume has a volume label stored at Beginning of Tape (BOT). The label consists of the Volume ID, the barcode tag (if any), and other information about the volume. The `reusevol` command is similar to the unlabelvol command, but `reusevol` directs Oracle Secure Backup to preserve the existing volume label.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `reusevol` command.

Syntax

reusevol::=

```
reuse•vol [ --drive/-D drivename ] [ --force/-f ]
[ --obtaropt/-o obtar-option ]... se-range
```

Semantics

--drive/-D *drivename*
Specifies the name of the drive to be used to relabel the volume. If you do not specify a tape drive name, then the drive variable must be set.

--force/-f
Forces the reuse of a volume. Oracle Secure Backup disregards the expiration date, if any, found in the volume label. If the `--force` option is not employed *and* the volume is not expired, then `reusevol` fails.

--obtaropt/-o *obtar-option* ...
Specifies `obtar` options. For example `-J` enables debug mode and provides more details in backup and restore transcripts. See the section entitled "obtar Options" on page 4-24 for details on `obtar` options.

se-range
Specifies the range of storage elements holding the volumes to be reused. If omitted, then the volume currently loaded in the drive is reused. Refer to "se-range" on page 3-34 for a description of the *se-range* placeholder.

Example

Example 2–122 displays information about the tape located in storage element 2 of library `lib1`. The volume in this storage element is not empty. The `reusevol` command forcibly reuses the volume, thereby deleting its contents and removing its volume ID. The barcode of the volume is retained. Note that the sample output has been reformatted to fit on the page.

Example 2–122 Reusing a Volume

```
ob> lsvol --long --library lib1
Inventory of library lib1:
    in    mte:           vacant
    in    1:             barcode ADE202, oid 117, 47447360 kb remaining, content manages reuse
    in    2:             volume VOL000004, barcode ADE204, oid 120, 47420448 kb remaining
    in    3:             barcode ADE201, oid 116, 47462976 kb remaining
    in    4:             volume VOL000001, barcode ADE200, oid 102, 47424064 kb remaining
    in    iee1:          barcode ADE203, oid 114, 47725344 kb remaining,
                         lastse 4
    in    iee2:          vacant
    in    iee3:          vacant
    in    dte:           vacant
ob> lsvol --barcode ADE204 --content
    VOID Seq Volume ID          Barcode     Family               Created     Attributes
     120   1 VOL000004          ADE204   04/01.09:16 never closes
        BSOID  File Sect  Level  Host             Created     Attributes
          172     1 1         0  brhost2          04/01.09:16
ob> reusevol --drive tape1 --force 2
ob> lsvol --barcode ADE204 --content
    VOID Seq Volume ID          Barcode     Family      Created     Attributes
     122                        ADE204
```

rmbackup

Purpose

Use the `rmbackup` command to remove a backup request, set of backup requests, or all backup requests that are queued in `obtool`. A backup request is held locally in `obtool` until you execute the backup command with the `--go` option, at which time Oracle Secure Backup makes all backup requests into dataset backup jobs and forwards them to the scheduler.

See Also: "Backup Commands" on page 1-8 for related commands

Syntax

rmbackup::=

```
rmb•ackup { --all/-a | backup-item ... }
```

Semantics

--all/-a
Removes all backup requests in the queue.

backup-item ...
Specifies an identifier assigned by `obtool` to a backup request created with the backup command. The identifier is a small integer number. Execute the lsbackup command with the `--long` option to display backup identifiers.

Example

Example 2–123 queries the backup requests awaiting delivery to the scheduler and deletes the backup request with the identifier `2`.

Example 2–123 Deleting a Backup Request

```
ob> lsbackup --long
1:
    Dataset:                fullbackup.ds
    Media family:           (null)
    Backup level:           full
    Priority:               100
    Privileged op:          no
    Eligible to run:        upon "backup --go"
    Job expires:            never
    Restriction:            any device
2:
    Dataset:                partialbackup.ds
    Media family:           (null)
    Backup level:           full
    Priority:               100
    Privileged op:          no
    Eligible to run:        upon "backup --go"
    Job expires:            never
    Restriction:            any device
ob> rmbackup 2
ob> lsbackup --long
1:
```

```
Dataset:                fullbackup.ds
Media family:           (null)
Backup level:           full
Priority:               100
Privileged op:          no
Eligible to run:        upon "backup --go"
Job expires:            never
Restriction:            any device
```

rmbw

Purpose

Use the `rmbw` command to remove a backup window or specific time ranges. The command displays an error if no backup windows within the specified range exist.

> **See Also:** "Backup Window Commands" on page 1-9 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmbw` command.

Syntax

rmbw::=

```
rmbw [ --times/-t time-range[,time-range]... ] day-specifier[,day-specifier]...
```

Semantics

--times/-t *time-range* ...
Defines a time-of-day range. Refer to "time-range" on page 3-38 for a description of the *time-range* placeholder.

***day-specifier* ...**
Defines the day ranges for the backup window. Refer to "day-specifier" on page 3-15 for a description of the *day-specifier* placeholder.

Example

Example 2–124 removes the backup windows created by the addbw command in Example 2–1.

Example 2–124 Removing Backup Windows

```
ob> rmbw --times 00:00-08:00 mon-fri
ob> rmbw --times 20:00-24:00 mon-fri
ob> rmbw --times 08:00-20:00 weekend
```

rmcheckpoint

Purpose

Use the `rmcheckpoint` command to remove checkpoint information for the specified jobs. When you issue this command, Oracle Secure Backup immediately removes all administrative-host resident checkpoint data for the specified job. It cleans up filer-resident data at the beginning of the next backup of this filer or within 24 hours, whichever comes first.

If no checkpoints exist, then `obtool` displays the following error message:

```
Error: no checkpoints matched the selection criteria.
```

> **See Also:** "Checkpoint Commands" on page 1-9 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `rmcheckpoint` command.

Syntax

rmcheckpoint::=

```
rmch•eckpoint [ --nq ] { { --host/-h hostname[,hostname]... }... | --all/-a |
job-id ... }
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

--host/-h *hostname* ...
Deletes all checkpoints describing the client host specified by *hostname*.

--all/-a
Deletes all checkpoints within the administrative domain.

***job-id* ...**
Deletes the checkpoint identified by job ID *job-id*.

Example

Example 2–125 removes two checkpoints: one specified by job ID and the other by host.

Example 2–125 Removing Checkpoints

```
ob> rmcheckpoint 1660.3
ob> rmcheckpoint --host brhost2,brhost3
```

rmclass

Purpose

Use the `rmclass` command to remove a user class from an administrative domain.

See Also:

- "Class Commands" on page 1-10 for related commands
- Appendix B, "Classes and Rights" for a descriptions of the default Oracle Secure Backup classes and rights

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmclass` command. The class must be empty, that is, have no users, to be deleted.

Syntax

rmclass::=

```
rmcl•ass [ --nq ] classname ...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

classname ...
Specifies the name of the class to delete.

Example

Example 2–126 confirms that the `bkup_admin` class exists, deletes it, and then confirms that the class is deleted.

Example 2–126 Removing a Class

```
ob> lsclass bkup_admin
bkup_admin
ob> rmclass --nq bkup_admin
ob> lsclass bkup_admin
Error: class bkup_admin - name not found
```

rmdev

Purpose

Use the `rmdev` command to remove a device from an administrative domain. You can execute the mkdev command to reconfigure a device for use by Oracle Secure Backup.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmdev` command.

Syntax

rmdev::=

```
rmd•ev [ --nq ] devicename ...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

***devicename* ...**
Specifies the name of the device that you want to remove. Refer to "devicename" on page 3-16 for the rules governing device names.

Example

Example 2–127 removes a tape drive from a library.

Example 2–127 Removing a Tape Drive

```
ob> lsdev
library    lib1            in service
  drive 1  tape1           in service
library    lib2            in service
  drive 1  tape2           in service
  drive 2  tape2a          in service
ob> rmdev tape2a
Warning: removing a device to which a job is restricted will cause the job
         to become unusable.
remove device tape2a? (a, n, q, y, ?) [n]: y
ob> lsdev
library    lib1            in service
  drive 1  tape1           in service
library    lib2            in service
  drive 1  tape2           in service
```

rmds

Purpose

Use the `rmds` command to remove a dataset file or directory.

See Also: "Dataset Commands" on page 1-11 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmds` command.

Syntax

rmds::=

```
rmds [ --nq ] dataset-name ...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

dataset-name ...
Specifies the name of the dataset directory or dataset file that you created with the mkds or rends command. Refer to "dataset-name" on page 3-10 for a description of the *dataset-name* placeholder.

Example

Example 2–128 removes a dataset directory named `mydatasets` as well as a dataset file named `full_backup.ds`.

Example 2–128 Removing a Dataset

```
ob> lsds
Top level dataset directory:
mydatasets/
full_backup.ds
ob> rmds --nq mydatasets
ob> lsds
Top level dataset directory:
full_backup.ds
ob> rmds --nq full_backup.ds
ob> lsds
Top level dataset directory:
ob>
```

rmhost

Purpose

Use the `rmhost` command to remove a host from the Oracle Secure Backup administrative domain. When you remove a host, Oracle Secure Backup destroys all information pertinent to the host, including:

- Configuration data
- Incremental backup state information
- Metadata in the backup catalog
- Device attachments
- Preferred network interface references

Moreover, when you remove a UNIX or Windows host, Oracle Secure Backup contacts that host and directs it to delete the administrative domain membership information that it maintains locally. You can suppress this communication if the host is no longer accessible.

See Also: "Host Commands" on page 1-12 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmhost` command.

Syntax

rmhost::=

```
rmh•ost [ --nq ] [ --nocomm/-N ] hostname ...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

--nocomm/-N
Suppresses communication with the host machine. Use this option if you want to remove a machine that is not connected to the network. This option does not apply to hosts accessible only through NDMP.

***hostname* ...**
Specifies the name of the host that you want to remove.

Example

Example 2–129 shows that `brhost4` is not in service and then removes `brhost4` from the administrative domain.

Example 2–129 Removing a Host

```
ob> lshost
brhost2          client                          (via OB)   in service
brhost3          mediaserver,client              (via OB)   in service
brhost4          client                          (via OB)   not in service
dlsun1976        client                          (via OB)   in service
stadv07          admin,mediaserver,client        (via OB)   in service
ob> rmhost --nq --nocomm brhost4
ob> lshost
brhost2          client                          (via OB)   in service
brhost3          mediaserver,client              (via OB)   in service
dlsun1976        client                          (via OB)   in service
stadv07          admin,mediaserver,client        (via OB)   in service
```

rmjob

Purpose

Use the `rmjob` command to remove jobs. Removing a job has the effect of canceling it and deleting all record of its existence as well as of the existence of its subordinate jobs. You can remove a job only if it is not running. After removing a job, you can no longer view its status.

See Also: "Job Commands" on page 1-12 for related commands

Prerequisites

If you are attempting to remove another user's jobs, then you must have the right to modify any job, regardless of its owner. If you are attempting to remove your own jobs, then you must have the right to modify any jobs owned by user.

Syntax

rmjob::=

```
rmj•ob [ --nq ] [ --keepxcr/-k ] [ --quiet/-q | --verbose/-v ] job-id ...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

--keepxcr/-k
Keeps the job transcript. The default is to delete the transcript of the job.

--quiet/-q
Removes the job quietly.

--verbose/-v
Displays verbose output about the job removal.

job-id ...
Specifies the job IDs of the jobs that you want to remove.

Example

Example 2–130 displays all active and pending jobs and removes them.

Example 2–130 Removing a Job

```
ob> lsjob
Job ID           Sched time  Contents                       State
---------------- ----------- ------------------------------ ----------------------
sbt/13           03/23.00:00 dataset fullbackup.ds          future work
ob> rmjob --nq sbt/13
Info: removing job sbt/13.
ob> lsjob
ob>
```

rmmf

Purpose

Use the `rmmf` command to remove a media family.

> **See Also:** "Media Family Commands" on page 1-13 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmmf` command.

Syntax

rmmf::=

```
rmmf [ --nq ] media-family-name ...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

media-family-name ...
Specifies the name of the media family you want to remove. Note that you cannot remove the `RMAN-DEFAULT` media family.

Example

Example 2–131 removes the media families named `content-man-family` and `time-man-family`.

Example 2–131 Removing Media Families

```
ob> lsmf
RMAN-DEFAULT                              content manages reuse
content-man-family write forever          content manages reuse
full_backup      write 7 days             content manages reuse
time-man-family  write 7 days             keep 28 days
ob> rmmf --nq content-man-family time-man-family
ob> lsmf
RMAN-DEFAULT                              content manages reuse
full_backup      write 7 days             content manages reuse
```

rmp

Purpose

Use the `rmp` command to remove a variable name-value pair from a policy.

See Also:

- "Policy Commands" on page 1-14 for related commands
- Appendix A, "Defaults and Policies" for a complete list of policies and policy classes

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmp` command.

Syntax

rmp::=

```
rmp policy-name member-name ...
```

Semantics

policy-name ...
Specifies the name of a policy or a class of policies.

member-name ...
Specifies a user-assigned name of a policy, usually an environment variable name.

Example

Example 2–132 uses the `rmp` command to unset the `VERBOSE` environment variable for an `ndmp/backupev` policy. Example 2–2 shows how to set the variable for the policy.

Example 2–132 Enabling Verbose Output from the NDMP Data Service

```
ob> pwdp
/
ob> lsp ndmp/backupev
backupev                        VERBOSE         y
ob> rmp ndmp/backupev VERBOSE
ob> lsp ndmp/backupev
backupev                        (none)                      [default]
```

rmpiece

Purpose

Use the `rmpiece` command to delete RMAN backup pieces from tape.

> **See Also:** "Backup Piece Commands" on page 1-8 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `rmpiece` command.

Syntax

rmpiece::=

```
rmpi•ece [ --nq ] [ --oid/-o oid-list ]... [ piecename ]...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3

--oid/-o *oid-list* ...
Specifies or more backup piece identifiers in the Oracle Secure Backup catalog. Refer to "oid" on page 3-26 for a description of the *oid* placeholder.

***piecename* ...**
Specifies the names of the backup pieces to which the listing applies. The name of a backup piece is indicated by the `Piece name` heading in the lspiece output.

Example

Example 2–133 displays information about two RMAN backup pieces and then deletes them.

Example 2–133 Removing Backup Pieces

```
ob> lspiece
    POID Database   Content    Copy Created      Host            Piece name
     104 ob         full          0 03/18.16:25  stadv07         05gfkmq9_1_1
     105 ob         archivelog    0 03/18.16:32  stadv07         06gfkn8h_1_1
ob> rmpiece --oid 104,105
remove backup piece OID 104? (a, n, q, y, ?) [n]: y
remove backup piece OID 105? (a, n, q, y, ?) [n]: y
ob> lspiece
ob>
```

rmpni

Purpose

Use the `rmpni` command to remove preferred network interface (PNI) definitions.

> **See Also:** "Preferred Network Interface Commands" on page 1-15 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmpni` command.

Syntax

Syntax 1

Use the following syntax to remove all preferred network interfaces defined for a server.

rmpni::=

```
rmpn•i server-hostname ...
```

Syntax 2

Use the following syntax to remove a client host from all preferred network interface definitions.

rmpni::=

```
rmpn•i [ --client/-c client-hostname[,client-hostname]... ]...
```

Syntax 3

Use the following syntax to remove all preferred network interfaces that use a specific interface on a server.

rmpni::=

```
rmpn•i [ --interface/-i server-ipname[,server-ipname]... ]...
```

Syntax 4

Use the following syntax to remove a client host from the preferred network interface defined for the specified server.

rmpni::=

```
rmpn•i [ --client/-c client-hostname[,client-hostname]... ]...
server-hostname ...
```

Semantics

-client/c *client-hostname*[,*client-hostname*]...
Specifies one or more client hosts from which you want to remove preferred network interfaces.

--interface/-i *server-ipname*[,*server-ipname*]...
Specifies the IP address or the DNS name of the interface to be removed.

***server-hostname* ...**
Specifies the name of the server machine.

Examples

Example 2–134 uses the syntax shown in Syntax 1 to remove all network interfaces for host `brhost3`.

Example 2–134 Removing All PNI Definitions for a Host

```
ob> lspni
brhost2:
    PNI 1:
        interface:          126.1.1.2
        clients:            stadv07, brhost4, dlsun1976
brhost3:
    PNI 1:
        interface:          126.1.1.3
        clients:            stadv07, brhost4, dlsun1976
ob> rmpni brhost3
ob> lspni
brhost2:
    PNI 1:
        interface:          126.1.1.2
        clients:            stadv07, brhost3, dlsun1976
```

Example 2–135 uses the syntax shown in Syntax 2 to remove the client hosts `dlsun1976` and `stadv07` from all network interfaces definitions.

Example 2–135 Removing a Client from All PNI Definitions

```
ob> lspni
brhost2:
    PNI 1:
        interface:          126.1.1.2
        clients:            stadv07, brhost4, dlsun1976
brhost3:
    PNI 1:
        interface:          126.1.1.3
        clients:            stadv07, brhost4, dlsun1976
ob> rmpni --client dlsun1976,stadv07
ob> lspni
brhost2:
    PNI 1:
        interface:          126.1.1.2
        clients:            brhost4
brhost3:
    PNI 1:
        interface:          126.1.1.3
        clients:            brhost4
```

Example 2–136 uses the syntax shown in Syntax 3 to remove all preferred network interfaces that use interface `126.1.1.2` on a server.

Example 2–136 Removing All PNI Definitions That Use a Specified Interface

```
ob> lspni
```

```
brhost2:
    PNI 1:
        interface:          126.1.1.2
        clients:            stadv07, brhost4, dlsun1976
brhost3:
    PNI 1:
        interface:          126.1.1.3
        clients:            stadv07, brhost4, dlsun1976
ob> rmpni --interface 126.1.1.2
ob> lspni
brhost3:
    PNI 1:
        interface:          126.1.1.3
        clients:            stadv07, brhost4, dlsun1976
```

Example 2–137 uses the syntax shown in Syntax 4 to remove the clients `stadv07` and `dlsun1976` from the PNI definition for server brhost2.

Example 2–137 Removing Clients from a PNI Definition

```
ob> lspni
brhost2:
    PNI 1:
        interface:          126.1.1.2
        clients:            stadv07, brhost4, dlsun1976
ob> rmpni --client stadv07,dlsun1976 brhost2
ob> lspni
brhost2:
    PNI 1:
        interface:          126.1.1.2
        clients:            brhost4
```

rmrestore

Purpose

Use the `rmrestore` command to remove a restore request from the queue.

See Also: "Restore Commands" on page 1-15 for related commands

Syntax

rmrestore::=

```
rmr•estore { --all /-a | restores-item ... }
```

Semantics

--all
Removes all restore requests.

restores-item ...
Specifies the item number of the restore request that you want to remove. You can display the item numbers for restore requests by executing the lsrestore command.

Example

Example 2–138 removes a queued restore request by specifying its item number.

Example 2–138 Removing a Restore Request

```
ob> lsrestore
Item     Restore data saved from...          To...
  #      Host        Path                    Host        Path
1        brhost2     /home/data/backup       brhost2     (original location)
ob> rmrestore 1
ob> lsrestore
```

rmsched

Purpose

Use the `rmsched` command to remove a backup schedule. Execute the lssched command to display backup schedules.

> **See Also:** "Schedule Commands" on page 1-15 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmsched` command.

Syntax

rmsched::=

```
rmsc•hed [ --nq ] schedulename...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

***schedulename* ...**
Specifies the name of the schedule that you want to remove.

Example

Example 2–139 removes the backup schedule named `incremental`.

Example 2–139 Removing a Backup Schedule

```
ob> lssched
full_backup         sundays                          homedir.ds
incremental         mondays tuesdays wednesdays thursdays homedir.ds
ob> rmsched --nq incremental
ob> lssched
full_backup         sundays                          homedir.ds
```

rmsection

Purpose

Use the `rmsection` command to inform Oracle Secure Backup that a backup section is deleted. Oracle Secure Backup does not physically remove the section from the volume, but indicates in its backup sections catalog that the section is removed. You can view the status of a section by executing the lssection command. Typically, you use `rmssection` only when the backup sections catalogs require manual update.

> **Note:** If you remove a backup section that contains an RMAN backup piece, then Oracle Secure Backup responds to RMAN queries concerning the backup piece by saying that it does not exist.

See Also: "Section Commands" on page 1-15 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `rmsection` command.

Syntax

rmsection::=

```
rmse•ction [ --nq ] [ --oid/-o oid-list ]...
[ --vid/-v vid { --file/-f filenumber-list }... ]
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

--oid *oid-list* ...
Selects backup sections with the object identifiers matching those in *oid-list*. Refer to "oid-list" on page 3-27 for a description of the *oid-list* placeholder.

--vid *vid* ...
Selects backup sections contained on the volume specified by *vid*. Refer to "vid" on page 3-39 for a description of the *vid* placeholder.

--file/-f *filenumber-list* ...
Selects the backup sections with the file numbers specified in the list. Refer to "filenumber-list" on page 3-20 for a description of the *filenumber-list* placeholder.

Example

Example 2–140 deletes a section that contains an RMAN backup piece. A query of the backup sections catalog shows that the backup section has the attribute `deleted`.

Example 2–140 Removing Backup Sections

```
ob> lssection --short
   BSOID
     106
     107
ob> rmsection --nq --oid 107
ob> lssection --long
Backup section OID:    106
    Containing volume:      VOL000003
    Containing volume OID:  110
    File:                   1
    Section:                1
    Backup level:           0
    Client:                 brhost2
    Created:                2005/04/19.11:36
    Attributes:             never expires
Backup section OID:    107
    Containing volume:      RMAN-DEFAULT-000002
    Containing volume OID:  112
    File:                   1
    Section:                1
    Backup level:           0
    Client:                 stadv07
    Created:                2005/04/19.11:37
    Attributes:             deleted
```

rmsnap

Purpose

Use the `rmsnap` command to remove a snapshot.

> **See Also:** "Snapshot Commands" on page 1-16 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `rmsnap` command.

Syntax

rmsnap::=

```
rmsn•ap [ --host/-h hostname ] [ --fs/-f filesystem-name ]
[ --nowait/-n ] snapshot-name ...
```

Semantics

--host/-h *hostname*
Specifies the name of the NDMP host that contains the snapshot that you want to remove. If you do not specify a host name, then Oracle Secure Backup uses the value from the host variable.

--fs/-f *filesystem-name*
Specifies the name of the file system included in the snapshot. If you do not specify the `--fs` option, then the `fs` variable must be set.

--nowait/-n
Does not wait for the snapshot removal operation to complete.

***snapshot-name* ...**
Specifies the name of the snapshot to remove.

Example

Example 2–141 creates a snapshot called `test` and then deletes it.

Example 2–141 Removing a Snapshot

```
ob> set fs /vol/vol0
ob> mksnap --host lucy
ob> lssnap test
File system /vol/vol0:
Snapshot Of               Taken at      %Used  %Total Snapshot Name
/vol/vol0             2005/03/28.21:11     0      0   test
ob> rmsnap test
ob> lssnap test
Warning: snapshot test not found on host lucy, file system /vol/vol0.
```

rmssel

Purpose

Use the `rmssel` command to remove a database backup storage selector.

> **See Also:** "Database Backup Storage Selector Commands" on page 1-11 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmssel` command.

Syntax

rmssel::=

```
rmss•el [ --nq ] sselname ...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

sselname ...
Specifies the names of the database backup storage selectors that you want to remove.

Example

Example 2–142 deletes the storage selector named `ssel_full_arch`.

Example 2–142 Deleting a Database Backup Storage Selector

```
ob> lsssel --short
ssel_full_arch
ob> rmssel ssel_full_arch
remove ssel ssel_full_arch? (a, n, q, y, ?) [n]: y
ob> lsssel
ob>
```

rmsum

Purpose

Use the `rmsum` command to remove a job summary schedule.

> **See Also:** "Summary Commands" on page 1-16 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmsum` command.

Syntax

rmsum::=

```
rmsu•m [ --nq ] summary-name ...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

summary-name ...
Specifies the name of the job summary schedule to remove.

Example

Example 2–143 removes the job summary schedule named `weekly_report`.

Example 2–143 Removing a Job Summary Schedule

```
ob> lssum
weekly_report            Wed at 12:00
ob> rmsum --nq weekly_report
ob> lssum
ob>
```

rmuser

Purpose

Use the `rmuser` command to remove a user from the administrative domain.

See Also: "User Commands" on page 1-17 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `rmuser` command.

Syntax

rmuser::=

```
rmu•ser [ --nq ] username ...
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

***username* ...**
Specifies the name of the user that you want to remove.

Example

Example 2–144 removes user `lashdown`.

Example 2–144 Removing an Oracle Secure Backup User

```
ob> lsuser
admin            admin
lashdown         oracle
sbt              admin
tadmin           admin
ob> rmuser --nq lashdown
ob> lsuser
admin            admin
sbt              admin
tadmin           admin
```

rpyjob

Purpose

Use the `rpyjob` command to respond to a job that is prompting for input or assistance. You can display jobs of this type by specifying `--inputrequest` on the lsjob command. You can determine what a job is requesting by performing a catxcr command.

See Also: "Job Commands" on page 1-12 for related commands

Prerequisites

If you are attempting to respond to another user's job prompts, then you must have the right to modify any job, regardless of its owner. If you are attempting to respond to your own job prompts, then you must have the right to modify any jobs owned by user.

Syntax

rpyjob::=

```
rpy•job  --reply/-r text job-id ...
```

Semantics

--reply/-r *text*
Specifies the textual reply to the prompt. Enclose the reply in quotes if it contains embedded blanks.

***job-id* ...**
Specifies the identifier of the job to which the reply is to be sent.

Example

Example 2–145 uses lsjob to display jobs that are requesting assistance and then executes catxcr to display the transcript for job `admin/7.1`.

The transcript shows that the library does not contain a usable tape for the backup job. Press the Enter key after running `catxcr` to return to the `obtool` prompt.

Example 2–145 Displaying Information About a Job Requesting Assistance

```
ob> lsjob --inputrequest --long
admin/7.1:
    Type:                   backup brhost2
    Level:                  full
    Family:                 (null)
    Scheduled time:         none
    State:                  running since 2005/05/09.12:38
    Priority:               100
    Privileged op:          no
    Run on host:            brhost2
    Attempts:               1

ob> catxcr --tail 12 admin/7.1
End of tape has been reached.  Please wait while I rewind and unload the tape.
```

```
The Volume ID of the next tape to be written is VOL000005.
The tape has been unloaded.

obtar: couldn't perform auto-swap - can't find usable volume in library (OB device
 mgr)
   Enter a command from the following list:
       load <n>     .. load the tape from element <n> into the drive
       unload <n>   .. unload the tape from the drive into element <n>
       help         .. display other commands to modify drive's database
       go           .. to use the tape you selected
       quit         .. to give up and abort this backup or restore
:
```

Example 2–146 inserts a new volume into the library and then uses `rpyjob` to reply with two commands: `load 3` and `go`. Specifying `--inputrequest` on `lsjob` generates a null response, which means that no jobs require input.

Example 2–146 Displaying Information About a Job Requesting Assistance

```
ob> insertvol --library lib2 unlabeled 3
ob> rpyjob --reply "load 3" admin/7.1
ob> rpyjob --reply "go" admin/7.1
ob> lsjob --inputrequest
ob>
```

runjob

Purpose

Use the `runjob` command to control how a job is executed. The command enables you to start a job in the following ways:

- Immediately
- In an order different from that of the scheduler
- On a specific device or a device from which the job was previously restricted

See Also: "Job Commands" on page 1-12 for related commands

Prerequisites

If you are attempting to control the execution of another user's jobs, then you must have the right to modify any job, regardless of its owner. If you are attempting to control the execution of your own jobs, then you must have the right to modify any jobs owned by user.

Syntax

runjob::=

```
run•job { --asap/-a | --now/-n | { --priority/-p schedule-priority } }
[ --device/-d device-name ] [ --quiet/-q | --verbose/-v ]
job-id ...
```

Semantics

--asap/-a
Starts the job as soon a possible by raising it to priority 1.

--now/-n
Starts the job now. If unable to start the job, Oracle Secure Backup generates an error message.

--priority/-p *schedule-priority*
Resets the job priority to *schedule-priority*.The default priority is 100. Refer to "schedule-priority" on page 3-33 for a description of the *schedule-priority* placeholder.

--device/-d *device-name*
Runs the job on the device specified by *device-name*, ignoring job requirements.

--quiet/-q
Runs the job in quiet mode. `--quiet` directs `obtool` to suppress status messages it would normally write to `stdout`. Note that Oracle Secure Backup never suppresses error messages.

--verbose/-v
Displays output when running the job.

***job-id* ...**
Specifies the identification number of the job you want to run. Execute the lsjob command to display job IDs.

Example

Example 2–147 lists a pending job and runs it immediately.

Example 2–147 Running a Job Now

```
ob> lsjob --pending
Job ID           Sched time  Contents                       State
---------------- ----------- ------------------------------ ----------------------
sbt/23           03/22.21:00 dataset workdata.ds            future work
ob> runjob --device tape1 --now sbt/23
ob> lsjob --all sbt/23
Job ID           Sched time  Contents                       State
---------------- ----------- ------------------------------ ----------------------
sbt/23           03/22.21:00 dataset workdata.ds            completed successfully
                                                            at 2005/03/22.18:09
```

set

Purpose

Use the `set` command to set or reset the value of an `obtool` variable in the current session.

See Also:

- "Variable Commands" on page 1-17 for related commands
- Appendix C, "obtool Variables" for a complete list of `obtool` variables

Syntax

set::=

```
set [ variable-name [ variable-value ] ]
```

Semantics

variable-name
Specifies the name of the variable that you want to set. If you do not specify a variable name, then `set` displays the variables that are currently set.

variable-value
Specifies the value to which *variable-name* should be set.

Example

Example 2–148 sets the `errors` variable to `long` so that errors include descriptive text and the `obtool` component name and then resets it to `short`.

Example 2–148 Setting a Variable

```
ob> show errors
errors          (not set)
ob> set errors long
ob> show errors
errors          long
ob> set errors short
ob> show errors
errors          short
```

setbw

Purpose

Use the `setbw` command to change the settings of a backup window. This command replaces an existing backup window, as opposed to the addbw command, which adds a new backup window.

> **See Also:** "Backup Window Commands" on page 1-9 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `setbw` command.

Syntax

setbw::=

```
setbw { --times/-t { none | time-range[,time-range]... } }
day-specifier[,day-specifier]...
```

Semantics

--times/-t *time-range* ...
Defines a time-of-day range. Refer to "time-range" on page 3-38 for a description of the *time-range* placeholder.

***day-specifier* ...**
Defines the day ranges for the backup window. Refer to "day-specifier" on page 3-15 for a description of the *day-specifier* placeholder.

Example

Example 2–149 changes the settings of the backup windows created in Example 2–1. The new backup windows allow backups from 7 a.m. until 9 p.m. on weekdays and any time during the weekend.

Example 2–149 Changing Backup Windows

```
ob> setbw --times 00:00-07:00 mon-fri
ob> setbw --times 21:00-24:00 mon-fri
ob> setbw --times 00:00-24:00 weekend
```

setp

Purpose

Use the `setp` command to set the value of a policy. Note that you can reset a value with the resetp command.

The policy data is represented as a directory tree with `/` as the root. You can use cdp to navigate the tree and lsp and `pwdp` to display data.

See Also:

- "Policy Commands" on page 1-14 for related commands
- Appendix A, "Defaults and Policies" for a complete list of policies and policy classes

Prerequisites

You must have the modify administrative domain's configuration right to use the `setp` command.

Syntax

setp::=

```
setp policy-name policy-value
```

Semantics

policy-name
Specifies the name of a policy or a class of policies.

policy-value
Specifies the policy value, which is dependent on the policy type.

Example

Example 2–150 sets the Web server password to `pandora`, configures the Web server so that it starts automatically, and then sets the NDMP host password to `mehitibel`.

Example 2–150 Setting Policy Values

```
ob> pwdp
/
ob> lsp daemons/webpass
webpass                         (set)
ob> setp daemons/webpass pandora
ob> lsp --nodefault daemons/webauto
webautostart                    no
ob> setp daemons/webauto yes
ob> lsp --nodefault ndmp/password
password                        (not set)
ob> setp ndmp/password mehitibel
```

show

Purpose

Use the `show` command to display the value of one or more variables.

See Also:

- "Variable Commands" on page 1-17 for related commands
- Appendix C, "obtool Variables" for a complete list of `obtool` variables

Syntax

show::=

```
sho•w [ variable-name ]...
```

Semantics

variable-name

Specifies the name of the variable whose value you want to display. If you do not specify a variable name, then `show` displays all variables that are currently set.

Example

Example 2–151 sets the `drive` variable and then displays the `drive` and `host` variables.

Example 2–151 Showing the Value of a Variable

```
ob> show
browsemode      catalog
escape          &
host            stadv07
viewmode        inclusive
ob> set drive tape1
ob> show drive host
drive           tape1
host            stadv07
```

unlabelvol

Purpose

Use the `unlabelvol` command to load selected volumes and physically remove their Oracle Secure Backup volume labels and backup data.

Each volume has a volume label stored at Beginning of Tape (BOT). The label consists of the Volume ID, the barcode (if any), and other information about the volume. Typically, you use the `unlabelvol` command to remove all traces of a backup and its associated volume label from an unexpired tape and from the Oracle Secure Backup catalog.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `unlabelvol` command.

Syntax

unlabelvol::=

```
unlab•elvol [ --drive/-D drivename ] [ --force/-f ]
[ --obtaropt/-o obtar-option ]... [ se-range ]
```

Semantics

--drive/-D *drivename*
Specifies the name of the drive to be used to unlabel the volume. If you do not specify a tape drive name, then the drive variable must be set.

--force/-f
Forces `obtool` to ignore the expiration policy for the volume. If the `--force` option is not used and the volume is not expired according to its expiration policy, then `unlabelvol` fails.

se-range
Specifies the range of storage elements holding the volumes to be unlabeled. If omitted, the volume currently loaded in the drive is unlabeled. Refer to "se-range" on page 3-34 for a description of the *se-range* placeholder.

Example

Example 2–152 unlabels the volume in storage element 1 of library `lib1`.

Example 2–152 Unlabeling a Volume

```
ob> lsvol --library lib1 --long
Inventory of library lib1:
    in    mte:          vacant
    in    1:            volume VOL000002, barcode ADE201, oid 110, 16962752 kb remaining
    in    2:            vacant
    in    3:            volume RMAN-DEFAULT-000002, barcode ADE202, oid 112, 17017984 remaining,
                        content manages reuse
    in    4:            vacant
```

```
    in    iee1:          vacant
    in    iee2:          vacant
    in    iee3:          vacant
    in    dte:           vacant
ob> unlabelvol --force --drive tape1 1
ob> lsvol --library lib1 --long
Inventory of library lib1:
    in    mte:           vacant
    in    1:             unlabeled
    in    2:             vacant
    in    3:             volume RMAN-DEFAULT-000002, barcode ADE202, oid 112, 17017984 remaining,
                         content manages reuse
    in    4:             vacant
    in    iee1:          vacant
    in    iee2:          vacant
    in    iee3:          vacant
    in    dte:           vacant
```

unloadvol

Purpose

Use the `unloadvol` command to unload a volume from a tape drive. The unload operation rewinds the tape before moving it to its storage slot.

See Also: "Library Commands" on page 1-13 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `unloadvol` command.

Syntax

unloadvol::=

```
unload•vol [ --drive/-D drivename ] [ element-spec ]
```

Semantics

--drive/-D *drivename*
Specifies the name of the drive to be unloaded. If you do not specify a tape drive name, then the drive variable must be set.

element-spec
Specifies the destination storage element for the volume to be unloaded. Refer to "element-spec" on page 3-35 for a description of the *element-spec* placeholder.

You can specify `vacant` to make Oracle Secure Backup unload the volume to any vacant storage element. If *element-spec* is omitted, then the source (if known) of the volume is used. The source element of the volume in the `dte` is displayed after the string `lastse` when you execute lsvol.

Example

Example 2–43 unloads a volume from drive `tape1` and inserts it into the source element for the volume. The text `lastse 3` in the `dte` output indicates that the source for the volume is element `3`. Note that the sample output has been formatted to fit on the page.

Example 2–153 Unloading a Volume from a Tape Drive

```
ob> lsvol --library lib1 --long
Inventory of library lib1:
    in    mte:           vacant
    in    1:             volume VOL000002, barcode ADE204, oid 110, 47670368 kb remaining
    in    2:             volume VOL000001, barcode ADE201, oid 102, 48319392 kb remaining
    in    3:             vacant
    in    4:             vacant
    in    iee1:          barcode ADE203, oid 114, 47725344 kb remaining, lastse 4
    in    iee2:          vacant
    in    iee3:          vacant
    in    dte:           volume RMAN-DEFAULT-000002, barcode ADE202, oid 112, 47725600 kb
                         remaining, content manages reuse, lastse 3
ob> unloadvol --drive tape1
```

```
ob> lsvol --library lib1 --long
Inventory of library lib1:
    in    mte:           vacant
    in    1:             volume VOL000002, barcode ADE204, oid 110, 47670368 kb remaining
    in    2:             volume VOL000001, barcode ADE201, oid 102, 48319392 kb remaining
    in    3:             volume RMAN-DEFAULT-000002, barcode ADE202, oid 112, 47725600 kb
                         remaining, content manages reuse
    in    4:             vacant
    in    iee1:          barcode ADE203, oid 114, 47725344 kb remaining, lastse 4
    in    iee2:          vacant
    in    iee3:          vacant
    in    dte:           vacant
```

unmountdev

Purpose

Use the `unmountdev` command to unmount tape volumes manually. When a tape is unmounted, the tape is no longer in a mode in which Oracle Secure Backup can read or write to it. You can use the mountdev command to mount an unmounted tape.

The `unmountdev` command is particularly useful when the tape drive is not set to `automount`, which is the recommended, default configuration setting. In special situations the `unmountdev` and mountdev commands provide additional control over your tape drive.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `unmountdev` command.

Syntax

unmountdev::=

```
unm•ountdev [ --unload/-u | --norewind/-R ] devicename ...
```

Semantics

--unload/-u
Unloads a volume from the tape drive.

--norewind/-R
Specifies that the tape should not be rewound when Oracle Secure Backup finishes writing to it.

devicename ...
Specifies the device from which you want to unmount a volume. Refer to "devicename" on page 3-16 for the rules governing device names.

Example

Example 2–154 unmounts an automounted tape drive called `tape1`.

Example 2–154 Unmounting a Tape Volume

```
ob> lsdev --long tape1
tape1:
    Device type:            tape
    Model:                  [none]
    Serial number:          [none]
    In service:             yes
    Library:                lib1
    DTE:                    1
    Automount:              yes
    Error rate:             8
    Query frequency:        3145679KB (-1073791796 bytes) (from driver)
    Debug mode:             no
```

```
    Blocking factor:        (default)
    Max blocking factor:    (default)
    Current tape:           1
    Use list:               all
    Drive usage:            14 seconds
    Cleaning required:      no
    UUID:                   b7c3a1a8-74d0-1027-aac5-000cf1d9be50
    Attachment 1:
        Host:               brhost3
        Raw device:         /dev/tape1
ob> unmountdev --norewind tape1
ob> lsdev --mount tape1
drive   tape1      in service     unmounted
```

unresdev

Purpose

Use the `unresdev` command to unreserve a device previously reserved with the resdev command.

See Also: "Device Commands" on page 1-12 for related commands

Prerequisites

You must have the right to manage devices and change device state to run the `unmountdev` command.

Syntax

unresdev::=

```
unresd•ev { --all/-a | devicename ... }
```

Semantics

--all/-a
Unreserve all devices reserved by the current user.

devicename ...
Specifies the name of the device to be unreserved. Refer to "devicename" on page 3-16 for the rules governing device names.

Example

Example 2–155 unreserves tape drive `tape1`.

Example 2–155 Unreserving a Device

```
ob> lsdev --reserved
  drive 1  tape1            in service
ob> unresdev tape1
ob> lsdev --reserved
ob>
```

unrmsection

Purpose

Use the `unrmsection` command to undo the effect of the rmsection command. The command resets the deleted flag in the backup section records, which you can view by executing the lssection command.

The `unrmsection` command fails if the volume containing the selected backup sections has already been recycled or unlabeled after all of the backup sections it contains were deleted.

See Also: "Section Commands" on page 1-15 for related commands

Prerequisites

You must have the right to manage devices and change device state to use the `unrmsection` command.

Syntax

unrmsection::=

```
unrmse•ction [ --nq ] [ --oid/-o oid-list ]...
[ --vid/-v vid { --file/-f filenumber-list }... ]
```

Semantics

--nq
Does not display a confirmation message. If you do not specify this option, then the command displays a confirmation message. The message is described in "Command Execution in Interactive Mode" on page 1-3.

--oid *oid-list* ...
Selects backup sections with the object identifiers matching those in *oid-list*. Refer to "oid-list" on page 3-27 for a description of the *oid-list* placeholder.

--vid *vid* ...
Selects backup sections contained on the volume specified by *vid*.

--file/-f *filenumber-list* ...
Selects the backup sections with the file numbers specified in the list. Refer to "filenumber-list" on page 3-20 for a description of the *filenumber-list* placeholder.

Example

Example 2–156 undoes the deletion of two backup sections that have an attribute of `deleted`.

Example 2–156 Undoing the Deletion of Backup Sections

```
ob> lssection
   BSOID  Volume           File Sect  Level  Client          Created     Attributes
     100  VOL000001           1 1         0  brhost2         03/24.09:52 never expires
     105  RMAN-DEFAULT-000002    1 1         0  stadv07         03/24.10:13 deleted
     106  VOL000002           1 1         0  brhost2         03/24.10:13 never expires
     107  VOL000003           1 1         0  brhost2         03/24.10:13 never expires
```

```
     108  RMAN-DEFAULT-000002    2 1         0  stadv07          03/24.10:14 deleted
     109  VOL000003           2 1         0  brhost2          03/24.11:27 never expires
     110  VOL000003           3 1         0  brhost2          03/24.11:27 never expires
ob> unrmsection --nq --oid 105,108
ob> lssection
   BSOID  Volume           File Sect  Level  Client           Created     Attributes
     100  VOL000001           1 1         0  brhost2          03/24.09:52 never expires
     105  RMAN-DEFAULT-000002    1 1         0  stadv07          03/24.10:13 content manages reuse
     106  VOL000002           1 1         0  brhost2          03/24.10:13 never expires
     107  VOL000003           1 1         0  brhost2          03/24.10:13 never expires
     108  RMAN-DEFAULT-000002    2 1         0  stadv07          03/24.10:14 content manages reuse
     109  VOL000003           2 1         0  brhost2          03/24.11:27 never expires
     110  VOL000003           3 1         0  brhost2          03/24.11:27 never expires
```

unset

Purpose

Use the `unset` command to undefine a variable.

See Also:

- "Variable Commands" on page 1-17 for related commands
- Appendix C, "obtool Variables" for a complete list of `obtool` variables

Syntax

unset::=

```
unset variable-name...
```

Semantics

variable-name
Specifies the name of the variable that you want to undefine.

Example

Example 2–157 unsets the `drive` variable.

Example 2–157 Undefining a Variable

```
ob> show drive
drive          tape1
ob> unset drive
ob> show drive
drive          (not set)
```

updatehost

Purpose

Use the `updatehost` command to instruct Oracle Secure Backup to complete the inclusion of a host in the administrative domain. Typically, you use this command when you initially configured a host when it was offline.

When you execute the mkhost or chhost command for a host, Oracle Secure Backup exchanges messages with the host to inform it of its new state. If you execute `mkhost` or `chhost` with the `--nocomm` option because communication with the host is not possible, then the host contains out-of-date configuration information. When the host becomes available, use an `updatehost` command to synchronize the Oracle Secure Backup configuration information between the administrative server and the host.

See Also: "Host Commands" on page 1-12 for related commands

Prerequisites

You must have the modify administrative domain's configuration right to use the `updatehost` command.

Syntax

updatehost::=

```
updateh•ost [ --force/-f ] hostname ...
```

Semantics

--force/-f
Forces an update. The `updatehost` command normally fails if the internal name (UUID) stored on the subject host disagrees with the internal name for the subject stored on the administrative server. This situation arises if the subject host is reassigned to this administrative domain from another domain. To update the subject host regardless of this situation, use `--force`.

hostname ...
Specifies the name of the host to update. Note that this command is useful only for hosts accessed by means of the Oracle Secure Backup protocol. NDMP hosts do not maintain any Oracle Secure Backup state data and are therefore not applicable to this function.

Example

Example 2–158 updates a host that had been offline when it was added with the mkhost command.

Example 2–158 Updating a Host

```
ob> lshost
brhost2          client                          (via OB)   in service
brhost3          mediaserver,client              (via OB)   in service
dlsun1976        client                          (via OB)   not in service
stadv07          admin,mediaserver,client        (via OB)   in service
ob> updatehost dlsun1976
```

```
ob> pinghost dlsun1976
dlsun1976:               Oracle Secure Backup and NDMP services are available
```

3

obtool Placeholders

This chapter describes placeholders shared by multiple `obtool` commands. A placeholder is italicized text in the syntax diagram for an `obtool` command that indicates user-specified data.

aspec

Description

The *aspec* placeholder represents a physical attachment for a device. The attachment describes a data path between a host and the device.

> **See Also:** *Oracle Secure Backup Administrator's Guide* to learn more about attachments

Syntax

aspec::=

```
hostname:rawdevicename[+scsidevice=altrawdevicename][+stdevice=stdevicename]\
[+stcontroller=stcontroller][+sttarget=sttarget][+stlun=stlun]
```

Note that the backslash (\) is not a literal, but represents line continuation.

Restrictions and Usage Notes

The settings other than *hostname* and *rawdevicename* are used only for NDMP servers that run protocol version 2. The requirements to set each of these options are server-specific.

Use the following guidelines when creating attachments:

- For devices connected to Linux and UNIX systems, the raw device name is the name of the device special file that was created when you set up devices for use by Oracle Secure Backup. The `installob` and `makedev` tools displayed each such name.
- For Windows systems, the raw device name is the Universal Naming Convention (UNC) name of the device.
- For NAS systems, the raw device name is a device name assigned by the host operating system (for example, Network Appliance Data ONTAP). You must choose a device name for which no ancillary tape operations, such as rewind or unload, occur either when the tape drive is opened or when it is closed. These names usually begin or end with the letter "n."

The basic raw device naming convention is `obl`*n* for libraries and `obt`*n* for drives, where *n* is `0` for the first device and increments by one for each subsequent device. Note that the `l` character in `obl`*n* is an alphabet letter and not the numeral `1`. Table 3–1 shows raw device names for popular systems.

Table 3–1 Raw Device Names for Popular Systems

Operating System	Attachment for First Drive	Attachment for First Library
AIX	`/dev/obt0`	`/dev/obl0`
Quantum NDMP server	`/dev/nst0`	`/dev/sg0`
HP-UX	`/dev/obt/0m`	`/dev/obl/0`
Linux	`/dev/obt0`	`/dev/obl0`
SGI	`/dev/obt2`	`/dev/obl0`
Solaris	`/dev/obt`	`/dev/obl0`
Windows	`//./obt0`	`//./obl0`

Table 3–1 (Cont.) Raw Device Names for Popular Systems

Operating System	Attachment for First Drive	Attachment for First Library
Data ONTAP	`nrst1a`	`mc2`

Semantics

hostname
The name of the host machine to which the device is attached.

rawdevicename
A name assigned by the NDMP server implementer or operating system implementer to represent the device. A rawdevicename is the equivalent of a device special file name on UNIX (see Table 3–1). Note that the name can include the notation `"$WWN"` to refer to the world-wide name of the device.

altrawdevicename
The name of a separate SCSI pass-through interface that Oracle Secure Backup must use to pass through SCSI operations to the tape device.

stdevicename
The equivalent device name used when Oracle Secure Backup issues an `NDMP_SCSI_SET_TARGET` message to the server. It specifies an operating system-specific string that identifies the SCSI host bus adapter (HBA) or device.

stcontroller
The SCSI controller index or channel number of the device when `NDMP_SCSI_SET_TARGET` is used.

sttarget
The SCSI bus target ID of the device when `NDMP_SCSI_SET_TARGET` is used.

stlun
The SCSI LUN of the device when `NDMP_SCSI_SET_TARGET` is used.

Example

Sample values for *aspec* include the following:

```
w0x0f:/dev/obt0    # a tape drive connected to Linux host w0x0f
darth:/dev/obl0    # a tape library connected to Solaris host darth
ethel:nrst0a       # a tape drive connected to NetApp filer ethel
winserv:\\.\obl0   # a tape library connected to Windows media server winserv
//winserv/obl0     # equivalent to the preceding aspec
```

authtype

Description

The *authtype* placeholder specifies an authorization type, which is the mode in which Oracle Secure Backup authenticates itself to the NDMP server. Typically, you should use the `negotiated` default setting. You can change the setting if necessary; for example, if you have a malfunctioning NDMP server.

Syntax

authtype::=

```
none | negotiated | text | md5
```

Semantics

none
Oracle Secure Backup sends the NDMP server an "authorize client" message specifying NDMP's "none" authentication mode. Most servers do not accept this type of authentication.

negotiated
Oracle Secure Backup determines (with the NDMP server) the best authentication mode to use. This is the default setting for the NDMP default and policies value.

text
Oracle Secure Backup uses plain, unencrypted text to authenticate.

md5
Oracle Secure Backup uses the MD5 digest algorithm to authenticate.

backup-level

Description

The *backup-level* placeholder specifies the level of a backup created with the backup command.

Syntax

backup-level::=

```
full | incr_level | incr | offsite
```

incr_level::=

```
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9
```

Semantics

full
Specifies that Oracle Secure Backup should back up all files defined in a dataset regardless of when they were last backed up. This option is equivalent to level 0. This is the default value.

incr_level
Specifies an incremental level from `1` to `9` and backs up only those files that have changed since the last backup at a lower level.

incr
Specifies that Oracle Secure Backup should back up any file that has been modified since the last incremental backup at the same level or lower. The `incr` option is equivalent to level 10. This level is platform-dependent and is incompatible with some client operating systems such as the Netapp filer's Data ONTAP.

offsite
Equivalent to a full (level 0) backup except that Oracle Secure Backup keeps a record of this backup in such a way that it does not affect the full or incremental backup schedule. This option is useful when you want to create a backup image for offsite storage without disturbing your schedule of incremental backups.

content

Description

The *content* placeholder represents the type of backup content in a database backup storage selector.

Syntax

content::=

```
archivelog | full | incremental | autobackup
```

Semantics

archivelog
Backs up or restores database archived redo logs.

full
Backs up or restores the database files, regardless of when they were last backed up. This option is the same as a level 0 backup.

incremental
Backs up or restores only data that has been modified since the last backup, regardless of the backup level.

autobackup
Backs up or restores control files.

data-selector

Description

The *data-selector* placeholder represents Oracle Secure Backup catalog data that is selected based on user-specified values.

> **See Also:** *Oracle Secure Backup Administrator's Guide* for an example of data selectors applied to backups created on successive days

Syntax

data-selector::=

```
latest | earliest | all | backup-id | date-time | date-range
```

Semantics

latest
Most recent. If the following conditions are met, then Oracle Secure Backup includes all backups on which the incremental is dependent up to and including the preceding full backup:

- The file system object is a directory.
- The most recent instance is an incremental backup.

earliest
Least recent. If the file system object is a directory, then Oracle Secure Backup selects the instance of the directory and its contents found in the earliest full backup.

all
All instances.

backup-id
The specific instance contained in the backup image section identified by *backup-id*. The backup ID is a small integer assigned by `obtool` for reference purposes only.

date-time
The file system object as it existed in a backup no later than the given *date-time* (see "date-time" on page 3-12). If the file system object is a directory, and if the most recent instance is an incremental backup, then Oracle Secure Backup includes all predicates (backups on which the incremental is dependent) up to and including the preceding full backup.

date-range
All objects backed up exactly between the two specified *date-time* values (see "date-range" on page 3-11). Unlike the single *date-time* expression, Oracle Secure Backup gives no special consideration to incremental backups of directories.

dataset-dir-name

Description

The *dataset-dir-name* placeholder specifies the name of a dataset directory. Like Windows and UNIX file systems, Oracle Secure Backup dataset files are organized in a naming tree on the administrative server. A dataset directory is a directory that contains dataset files. Dataset directories can have a hierarchy of nested subdirectories that is up to 10 levels deep.

Syntax

dataset-dir-name::=

```
dataset-dir-name
```

Semantics

dataset-dir-name

Specifies the name of a dataset directory. Dataset directory names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

Standard notation for directory paths applies to dataset directories. For example, a single period (`.`) specifies the current directory and two consecutive periods (`..`) specifies one level above the current directory.

dataset-file-name

Description

The *dataset-file-name* placeholder specifies the name of a dataset file. As described in "dataset-dir-name" on page 3-8, dataset files are organized in a directory tree.

Syntax

dataset-file-name::=

```
dataset-file-name
```

Semantics

dataset-file-name

Specifies the name of a dataset file. Dataset file names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

dataset-name

Description

Specifies the name of a dataset directory or dataset file.

Syntax

dataset-name::=

dataset-file-name | *dataset-dir-name*

Semantics

The *dataset-dir-name* placeholder is described in "dataset-dir-name" on page 3-8. The *dataset-file-name* placeholder is described in "dataset-file-name" on page 3-9.

date-range

Description

The *date-range* placeholder represents a range of dates in a *data-selector*. The syntax for *date-range* is as follows.

Syntax

date-range::=

date-time-date-time

Semantics

Refer to "date-range" on page 3-11 for a description of the *date-time* placeholder. Note that the format of the beginning and end of the *date-range* do not need to be parallel. For example, you can express the time in the beginning of the range and then omit the time in the end of the range.

Example

Sample values for *date-range* include the following:

```
2005/1/1-2005/1/31
5/25.08:00:00-5/25.08:30:00
2005/03/01-05/3/2.22:00:00
```

date-time

Description

The *date-time* placeholder represents a date and time.

Syntax

date-time::=

```
[year/]month/day[.hour][:minute][:second]
```

Semantics

year
Specifies a one, two, or four-digit year number. If *year* is absent, then the current year is assumed unless explicitly documented otherwise.

month
Specifies a one or two-digit month number.

day
Specifies a one or two-digit day number.

hour
Specifies a one or two-digit hour number. Hours are represented in military format.

minute
Specifies a one, two, or four-digit year number. If *year* is absent, then the current year is assumed unless explicitly documented otherwise.

second
Specifies a one or two-digit minute number.

Example

Sample values for *date-time* include the following:

```
2005/1/1
5/25.08:30:00
2/2
10/16.1:15
```

day-date

Description

The *day-date* placeholder identifies a day or group of days.

Syntax

day-date::=

weekday-expr | *relative-weekday-expr* |
day *n* { each month | each quarter | each year } | *year/month/day* | *month/day* |
month/day each quarter

weekday-expr::=

[*weekday-name* | *weekday-aggregate* | *weekday-range*]...

weekday-name::=

mon•day[s] | tue•sday[s] | wed•nesday[s] | thu•rsday[s] | fri•day[s] |
sat•urday[s] | sun•day[s]

weekday-aggregate::=

daily | weekend[s] | weekday[s]

weekday-range::=

weekday-name-weekday-name

relative-weekday-expr::=

[*weekday-ordinal weekday-name*]... |
[{ *weekday_name* }... except *weekday-ordinal*]... |
[{ *weekday_name* }... [except] { before | after } *weekday-ordinal weekday-name*
]...

weekday-ordinal::=

first | second | third | fourth | fifth | last

Semantics

weekday-expr
Identifies one or more weekdays independently of where they occur in a month. Weekday ranges must run from earlier to later in the week. For example, `Sunday-Friday` is permitted but not `Thursday-Tuesday`.

relative-weekday-expr
Identifies one or more weekdays based on where they occur in a month.

weekday-ordinal weekday-name
Identifies weekdays by the order in which they occur in the month.

weekday-name* except *weekday-ordinal
Identifies weekdays by name, but excludes those that fall within the specified order.

day-of-week* [except] { before | after } *weekday-ordinal weekday-name
Identifies specific weekdays that fall before or after another day, or weekdays except those that fall before or after another day.

day *n* each { month | quarter | year }
Identifies the nth ordinal day of each month, quarter, or year. There are 92 days in a quarter; day 92 is considered last even if there are fewer days in the quarter..

year/month/day
Identifies the specified day only once.

month/day
Identifies the specified day every year.

***month/day* each quarter**
Identifies the day of the given relative month (1, 2, or 3) in every calendar quarter.

Example

Sample values include the following:

```
daily
Monday-Thursday Saturday
Wednesday weekends
last Saturday
second Thursday third Sunday
Thursday Friday Saturday except first
Saturday except third
Saturday Sunday after first Friday
weekdays before last Saturday
weekends except after last friday
monday wednesday except before first sunday
day 4 each month
day 31 each quarter
day 90 each year
2005/12/25
12/25
3/1 each quarter
```

day-specifier

Description

The *day-specifier* placeholder represents a range of time in terms of days.

Syntax

day-specifier::=

year/*month*/*day* | *month*/*day* | *wday* | *wday*-*wday* | weekday[s] | weekend[s] | daily | today | yesterday

wday::=

sun•day[s] | mon•day[s] | tue•sday[s] | wed•nesday[s] | thu•rsday[s] | fri•day[s] | sat•urday[s]

Semantics

"day-date" on page 3-13 describes the possible values for the placeholders *year*, *month*, and *day*.

devicename

Description

The *devicename* placeholder specifies the name of a tape library or drive. The device name must be unique among all Oracle Secure Backup device names. It is unrelated to any other name used in your computing environment or the Oracle Secure Backup administrative domain.

Syntax

devicename::=

```
devicename
```

Semantics

devicename

Specifies the name of a tape device. Device names are case-sensitive and must start with an alphanumeric character. They can contain only letters, numerals, dashes, underscores, and periods (no spaces). They may contain at most 127 characters.

duration

Description

The *duration* placeholder represents a length of time.

Syntax

duration::=

```
forever | disabled | number{s[econds] | mi[nutes] | h[ours] | d[ays] | w[eeks] |
mo[nths] | y[ears]}
```

Semantics

forever
Specifies that the duration is unlimited.

disabled
Specifies no duration. This value is not legal for the `--waittime` option in database storage selectors.

number
Specifies the duration in terms of an integer value of temporal units. To avoid quoting you cannot include a space between *number* and the value that follows it. For example, `3days` is a legal value, but `3 days` is not. The value `3" days"` is valid.

Example

Examples of *duration* values include the following:

```
10minutes
forever
30" sec"
1y
```

element-spec

Description

The *element-spec* placeholder represents the name of a library element.

Syntax

element-spec::=

```
se-spec | ieen | dten
```

Semantics

se-spec
Specifies the number of a storage element in the library. Refer to the description of *se-spec* in "se-spec" on page 3-35.

iee*n*
Specifies the import/export element *n*.

dte*n*
Specifies a tape drive *n*.

filenumber

Description

The *filenumber* placeholder identifies ordinal position of the backup image within the volume set.

Syntax

filenumber::=
filenumber

Semantics

filenumber
Specifies the file number. The first backup image of each volume set is file number 1.

filenumber-list

Description

The *filenumber-list* placeholder represents one or more ordinal *filenumber* values.

Syntax

filenumber-list::=

```
filenumber[,filenumber]... | filenumber-filenumber
```

Semantics

Refer to "filenumber" on page 3-19 for a description of the *filenumber* placeholder.

iee-range

Description

The *iee-range* placeholder represents a range of import/export elements. The elements need not be continuous.

Syntax

iee-range::=

`vacant | none | iee-subrange[,iee-subrange]...`

iee-subrange::=

`iee-spec-iee-spec | iee-spec[,iee-spec]...`

Semantics

Refer to "iee-spec" on page 3-22 for a description of the placeholders and keywords in the *iee-range* syntax. The dash in *iee-spec-iee-spec* expresses an inclusive range of elements.

Example

Examples of *iee-range* values include the following:

```
iee1
iee1-iee3
iee1,iee3,iee7-iee9
vacant
none
```

iee-spec

Description

The *iee-spec* placeholder represents the number of an import/export storage element in a tape library.

Syntax

iee-spec::=

```
[iee]n | none | vacant
```

Semantics

[iee]*n*
where *n* is a number ranging from `1` to the maximum number of import/export elements in the library.

Elements are referenced by their abbreviation (`iee`) followed by the number of the element, for example, `iee2`. When there is more than one element of a particular type, element numbering starts at 1. When there is only one element of a type, the number can be omitted: `iee1` and `iee` both refer to the first and only import/export element.

none
Indicates no import/export element.

vacant
Indicates any empty import/export element.

job-type

Description

The *job-type* placeholder represents a type of backup or restore job.

Syntax

job-type::=

```
dataset | backup | restore | orabackup | orarestore
```

Description

dataset
A dataset job is a backup of a specified dataset. Oracle Secure Backup assigns a dataset job an identifier consisting of the username of the logged in user, a slash, and a unique numerical identifier. An example of a dataset job identifier is `admin/15`.

backup
For each dataset job, Oracle Secure Backup creates one subordinate job for each host that it includes. Oracle Secure Backup assigns each backup job an identifier whose prefix is the parent (dataset) job id, followed by a dot (`.`), then followed by a unique small number. An example of a backup job identifier is `admin/15.1`.

restore
Oracle Secure Backup creates a restore job for each backup image that must be read to initiate a restore operation. Oracle Secure Backup assigns each job an identifier consisting of the logged in username, a slash, and a unique numerical identifier. An example of a restore job identifier is `admin/16`.

orabackup
Oracle Secure Backup creates an Oracle backup job when the RMAN `BACKUP` command backs up database files. This job attaches to a parent job whose identifier is created by an Oracle Secure Backup user name, a slash, and a numerical identifier. The Oracle Secure Backup user name is the one that the operating system user is preauthorized to assume (see the `--preauth` option of the mkuser command). An example of a parent job identifier is `sbt/15`.

The job identifier of an Oracle backup job is created by using the job identifier of the parent job followed by a dot and a unique numerical identifier to identify each subordinate job. An example of an Oracle backup job identifier is `sbt/15.1`.

orarestore
Oracle Secure Backup creates an Oracle restore job when the RMAN `RESTORE` command restores database files from a backup image. This job attaches to a parent job whose identifier is created by an Oracle Secure Backup user name, a slash, and a numerical identifier. The Oracle Secure Backup user name is the one that the operating system user is preauthorized to assume (see the `--preauth` option of the mkuser command). An example of a parent job identifier is `sbt/16`.

The job identifier of an Oracle restore job is created by using the job identifier of the parent job followed by a dot and a unique numerical identifier to identify each subordinate job. An example of an Oracle restore job identifier is `sbt/16.1`.

ndmp-backup-type

Description

The *ndmp-backup-type* placeholder specifies the type of NDMP backup for certain NAS devices.

Syntax

ndmp-backup-type::=

```
dump | image
```

Semantics

dump
This mode runs backups less quickly, dumps the `/usr/store` file system in tar format, and permits selective restore of individual user mailboxes.

image
This mode runs backups quickly and dumps the whole `/usr/store` file system. Only complete file system restore operations are possible.

numberformat

Description

The *numberformat* placeholder specifies the format in which to display large numbers. If *numberformat* is not specified, then `obtool` uses the value of the numberformat variable; if this variable is unset, then the default is `friendly`.

Syntax

numberformat::=

```
friendly | precise | plain
```

Semantics

friendly
Specifies this keyword to display large values in KB, MB, and so on.

precise
Specify this keyword to display precise values with commas.

plain
Specify this keyword to display precise values without commas.

oid

Description

The *oid* placeholder represents the catalog identifier of a volume, backup image section, or backup piece record. You can obtain an *oid* in the following ways:

- Execute the lsvol command to display the volume ID (VOID) for a volume.
- Execute the lsbu command to display the backup ID for a backup section.
- Execute the lspiece command with the `--long` option to display the backup piece OID for a backup piece.

Syntax

oid::=

oid

Semantics

oid

Specifies the object identifier. Within the Oracle Secure Backup catalog, Oracle Secure Backup identifies each backup image section with a numerical backup ID. Oracle Secure Backup assigns backup IDs without regard to the time order of backups. For example, backup ID 25 can represent a Monday backup whereas backup ID 6 represents a backup on the following day.

oid-list

Description

The *oid-list* placeholder represents one or more catalog identifiers. The *oid* placeholder represents a catalog identifier.

Syntax

oid-list::=

```
oid[,oid]... | oid-oid
```

Semantics

Refer to "oid" on page 3-26 for a description of the *oid* placeholder. The dash in *oid-oid* expresses an inclusive range of *oid* values.

Example

The following examples show valid values for *oid-list*:

```
3,42,16
1-5
```

preauth-spec

Description

The *preauth-spec* placeholder defines an operating system user who is preauthorized to access Oracle Secure Backup.

Syntax

preauth-spec::=

```
hostname[:os-username[:windows-domain]]+preauth-attr[+preauth-attr]...
```

Semantics

hostname

This placeholder specifies the host for the operating system user who has preauthorized access to Oracle Secure Backup. Use an asterisk character (`*`) as a wildcard to indicate all hosts in the administrative domain.

os-username

This placeholder grants the specified operating system preauthorized access to Oracle Secure Backup. If you specify *os-username* as a Windows account name, then you must explicitly state the *windows-domain* name either as a wildcard or a specific name. Use an asterisk character (`*`) as a wildcard to indicate all operating system users on the host. By default, all users on the specified host are preauthorized.

windows-domain

This placeholder specifies the Windows domain of *hostname*. This placeholder is only applicable to preauthorized logins from a Windows host. Use an asterisk character (`*`) as a wildcard to indicate all Windows domains. By default, preauthorized access on the specified host is permitted for all Windows domains.

preauth-attr

Defines the Oracle Secure Backup resources to which the preauthorized operating system user has access. You can specify the following values:

- `rman`

  This value preauthorizes Oracle Database SBT backups through RMAN. If a matching preauthorization cannot be found for a given SBT request, then the request fails.

- `cmdline`

  This value preauthorizes login through the user-invoked Oracle Secure Backup command-line utilities.

Example

```
obhost1+rman
obhost2:jblogg+rman+cmdline
obhost2:*:Win-domain+rman
*:jblogg:*+cmdline
```

produce-days

Description

The *produce-days* placeholder specifies days of the week on which a summary report is to be produced.

Syntax

produce-days::=

weekday-name | daily | weekday | weekend

weekday-name::=

mon•day[s] | tue•sday[s] | wed•nesday[s] | thu•rsday[s] | fri•day[s] | sat•urday[s] | sun•day[s]

Semantics

The values are self-explanatory.

protover

Description

The *protover* placeholder represents an NDMP protocol version. Typically, you can allow Oracle Secure Backup to choose the highest protocol version that the server can use to communicate. If necessary for testing or some other purpose, you can change the NDMP protocol version with which Oracle Secure Backup communicates with this server. If an NDMP server is unable to communicate using the protocol version you select, then Oracle Secure Backup reports an error rather than using a mutually supported version.

Syntax

protover::=

version_number

Semantics

version_number

Specifies the protocol version number. Valid values are `2`, `3`, `4`, and null (`""`), which means "as proposed by server". The default is null.

restriction

Description

The *restriction* placeholder represents the restriction of an operation to a device. When more than one device restrictions are specified in a list, Oracle Secure Backup selects a device from only one of them.

Syntax

restriction::=

devicename | *@hostname* | *devicename@hostname*

Semantics

devicename
Uses the specified device.

@hostname
Uses any device attached to the host with the name *hostname*.

devicename@hostname
Uses the specified device with the specified host.

role

Description

The *role* placeholder represents a host role in an administrative domain.

Syntax

role::=

```
admin | client | mediaserver
```

Semantics

admin
Specifies the host machine in your administrative domain that contains a copy of Oracle Secure Backup software and the catalogs that store configuration settings and backup history.

client
Specifies a host machine whose locally-accessed data are backed up by Oracle Secure Backup. Most machines defined within the administrative domain are clients.

mediaserver
Specifies a host machine that has one or more secondary storage devices, such tape libraries, connected to it.

schedule-priority

Description

The *schedule-priority* placeholder specifies a schedule priority for a backup or restore job. The priority for a job is a positive numeric value.

The foremost decision criteria that the scheduler uses to perform a job (after the earliest time to execute this job has arrived) is the schedule priority. The scheduler dispatches higher priority jobs over lower priority ones, providing all resources required to run the job are available. For example, if twenty jobs are in the scheduler and ready for execution, then Oracle Secure Backup executes the job with the lowest numeric schedule priority.

Syntax

schedule-priority::=

priority_num

Semantics

priority_num

Specifies a positive numeric value. The lower the value, the greater the priority assigned to the job by the scheduler. The default schedule priority is `100`. Priority `1` is the highest priority that you can assign to a job.

se-range

Description

The *se-range* placeholder represents a range of storage elements. The elements need not be continuous.

Syntax

se-range::=

```
all | none | se-subrange[,se-subrange]...
```

se-subrange::=

```
se-spec | se-spec-se-spec
```

Semantics

Refer to "se-spec" on page 3-35 for a description of the *se-spec* placeholder. The dash in *se-spec-se-spec* expresses an inclusive range of *se-spec* values.

Example

Examples of *se-range* values include the following:

```
1
1-2
1,3,5,se10-se30
all
none
```

se-spec

Description

The *se-spec* placeholder represents the number of a storage element in a tape library.

Syntax

se-spec::=
`[se]`*`n`* | `none` | `vacant`

Semantics

[se]*n*
where *n* is a number ranging from `1` to the maximum number of storage elements in the library.

Elements are referenced by their abbreviation (`se`) followed by the number of the element, for example, `se5`. When there is more than one element of a particular type, element numbering starts at 1. When there is only one element of a type, you can omit the number: `se1` and `se` both refer to the first and only storage element. If you omit the abbreviation, then a storage element is assumed. For example, `se4` and `4` both refer to the fourth storage element.

none
Indicates no storage element.

vacant
Indicates any empty storage element. Specify `vacant` only if the tape drive is known to be loaded.

summary-start-day

Description

The *summary-start-day* placeholder specifies the first day of the week for which summary data is to be produced. The syntax for *summary-start-day* is as follows.

Syntax

summary-start-day::=

weekday-name | yesterday | today

weekday-name::=

mon•day[s] | tue•sday[s] | wed•nesday[s] | thu•rsday[s] | fri•day[s] | sat•urday[s] | sun•day[s]

Semantics

The values are self-explanatory.

time

Description

The *time* placeholder identifies a time in terms of hours, minutes, and (optionally) seconds. Hours are expressed in 24-hour military format.

Syntax

time::=

hhmm | *h*[*h*]:*mm* | *h*[*h*]:*mm*:*ss*

Semantics

h
Indicates a one-digit hour number, for example, `3` (which represents 3 a.m.).

hh
Indicates a two-digit hour number, for example, `22` (which represents 10 p.m.).

mm
Indicates a two-digit minutes number, for example, `30`.

ss
Indicates a two-digit seconds number, for example, `59`.

Example

Sample values for *time* include the following:

```
8:00
2250
14:35:30
```

time-range

Description

The *time-range* placeholder represents a time-of-day range.

Syntax

time-range::=

start-time-end-time

Semantics

"time" on page 3-37 describes the formats for the *start-time* and *end-time*. The dash in *start-time-end-time* expresses an inclusive range of times.

Example

The time range is local-time based and takes into account Daylight Savings Time, if it applies to your locale. Sample values for *time-range* include the following:

```
08:00:00-08:30:00
1430-1530
1430-14:35:30
```

vid

Description

The *vid* placeholder represents a unique alphanumeric identifier assigned by Oracle Secure Backup when the volume was labeled.

Syntax

vid::=

vid

Semantics

vid

Specifies an identity for a volume. The volume ID usually includes the media family name of the volume, a dash, and a unique volume sequence number. For example, a volume ID in the `RMAN-DEFAULT` media family could be `RMAN-DEFAULT-000002`. A *vid* can contain up to 31 characters, in any combination of alphabetic and numeric characters, but the last 6 characters must be numeric.

vol-range

Description

The *vol-range* placeholder represents a list of volumes in a tape library. You can specify a list of volume IDs or barcodes.

Syntax

vol-range::=

```
--volume/-v vid[,vid]... | --barcode/-b tag[,tag]...
```

Semantics

"vid" on page 3-39 describes the format for the *vid* placeholder.

Example

Sample values for *vol-range* include the following:

```
--volume VOL000001,VOL000002,VOL000005
--barcode ADE210,ADE202
```

vol-spec

Description

The *vol-spec* placeholder represents the specification of a volume in a tape library. The syntax for *vol-spec* is as follows.

Syntax

vol-spec::=

```
--volume/-v vid | --barcode/-b tag
```

Semantics

"vid" on page 3-39 describes the format for the *vid* placeholder.

wwn

Description

The *wwn* placeholder represents the World Wide Name (WWN) of a device. A WWN is a 64-bit address used to uniquely identify a device in a Fibre Channel network. A WWN is typically assigned to a device by the device manufacturer, although the WWN can be later changed by a network user.

Restrictions and Usage Notes

Oracle Secure Backup supports devices whose operating system-assigned logical names can vary at each operating system restart. Fibre Channel-attached tape drives and libraries connected to NAS devices fall into this category. You can refer to these devices by their WWNs, for example, `nr.WWN[2:000:0090a5:0003f7].a`, rather than their logical names, for example, `nrst0a`. Unlike the logical name, the WWN does not change when you restart.

Any substring of the attachment's raw device name that is the string `$WWN` is replaced with the value of *wwn* each time the device is opened. For example, a usable raw device name for a SAN-attached Network Appliance filer is `nr.$WWN.a`. This name specifies a no-rewind, best-compression device having the world-wide name you specify with the `--wwn/-W` option, for example, `--wwn WWN[2:000:0090a5:0003f7]`.

Syntax

wwn::=

wwn

Semantics

wwn

Specifies a World Wide Name.

4

obtar

This chapter describes `obtar`, which is the underlying Oracle Secure Backup engine for backing up and restoring data. `obtar` is a descendent of the original Berkeley UNIX `tar(1)` command. The `obtar` command-line interface conforms to the POSIX 1003.2 standards for UNIX command lines as follows:

- Options are single letters preceded with a dash, as in `-c`.
- If an option requires an argument, then it follows the option and can be separated from the option with a space, as in `-c` *`argument`*.
- Multiple options can be combined after a single dash as long as no more than one of the options requires an argument. If one of the options requires an argument, then this option must appear last in the group. For example, if `-c` takes an argument, then you might specify `-vPZc` *`argument`*.

The command-line interfaces differ from the POSIX 1003.2 standards in that you cannot use a filename that begins with a dash as the argument to an option. For example, `obtar` returns an error if you attempt to specify `-c ./-myfile`.

Table 4–1 explains the basic `obtar` modes. The description of each mode includes the most common options. "obtar Options" on page 4-24 describes additional options.

Table 4–1 obtar Modes

Option	Description
obtar -c	Creates a one-time backup image of the directories and files specified on the command line.
obtar -g	Creates backup images for the directories and files specified in a backup description file (BDF). The syntax for BDFs is described in "Backup Description File Syntax" on page 4-34.
obtar -x	Restores directories and files.
obtar -t	Lists the contents for a backup image.
obtar -z	Displays a backup image or volume label on the volume in the specified drive.
obtar -zz	Displays a list of the backup images contained on the volume.
obtar -Xlabel	Writes a volume label to the tape contained in the specified drive.
obtar -Xunlabel	Removes the volume label from the tape contained in the specified drive.
obtar -Xreuse	Marks the volume contained in the specified drive as being reusable.

See Also: *Oracle Secure Backup Administrator's Guide* to learn how to use `obtar`

obtar -c

Purpose

Use `obtar -c` to create a single backup image. You might use `obtar -c` to perform an on-demand backup or to back up data to a volume that you could transport to another site.

Syntax

obtar -c::=

```
obtar -c [ -f device ]
[ -H host ] [ -G ]
[ -v [-v] ] [ -z ]
{ [ -C directory ] pathname... }...
```

Semantics

You can specify a number of options with `obtar -c`; this section describes those options that you are most likely to use. Refer to "obtar Options" on page 4-24 to learn about additional `obtar -c` options.

-f *device*
Specifies the name of a device. If you do not specify `-f`, then `obtar` writes to the device specified by the `TAPE` environment variable, if it is defined.

-H *host*
Specifies the host on which the data to be backed up is located. If you do not specify `-H`, then `obtar` looks for the data on the local host.

-G
Writes an index of the contents of the backup image to the catalog and generates a volume label. The catalog data includes the names of all the files and directories written to the backup image. `obtool` uses this information to find the backup image containing the data to be restored.

When you create backup images with `obtar -c`, `obtar` does not ordinarily generate the catalog files or volume identification that it does when you use `obtar -g`, although you can use `-G` to generate them.

-v [-v]
Displays the path names of the files and directories being backed up. If you specify `-v -v` (or `-vv`), then `obtar` displays the path names of files and directories being backed up and their permissions, owner, size, and date of last modification.

-z
Create a labeled backup image.

-C *directory*
Causes `obtar` to change to the specified directory before backing up the subsequent files or directories. You use this option to control the path name information that is saved in the backup image.

pathname
Specifies one or more files or directories to back up. `obtar` issues a warning message if the contents of a file that you have specified change while a backup is taking place.

The backup image you create includes data as well as path name information. When you restore the data, obtar uses *pathname* as the location for the restored data. The obtar -x command, which you use to restore data, provides options that let you specify a different *host* or *directory* location for the restored data.

If *pathname* refers to data available through a mount of a local or remote file system, then obtar -c does not cross the mount point unless you specify -Xcrossmp.

You can also use the -C option to modify the *pathname* information that obtar records when you create the backup image.

Examples

Backing Up to a Volume

To create a backup image on a volume, specify a device name with the -f option. Example 4–1 backs up the directory /doc to the volume loaded on the device tape0.

Example 4–1 Backing Up to a Volume

```
obtar -c -f tape0 /doc
```

Backing Up Multiple Files

You can specify more than one directory or file to back up at a time. Example 4–2 backs up the file /jane/abc and the file /bob/xyz.

Example 4–2 Backing Up Multiple Files

```
obtar -c -f my_tape /jane/abc /bob/xyz
```

Changing Directory Information

You can use the -C option to control the path name information that is saved in the backup image. You use -C to specify the directory in which subsequent path names are located; obtar does not save that directory as part of the path name information in the backup image.

Example 4–3 backs up the directory /home/jane/current; it uses the -v option to display the path names of the data being backed up.

Example 4–3 Changing Directory Information

```
obtar -cv -f tape1 -C /home/jane current

current/
current/file1
current/file2
```

As shown in the information displayed by the -v option, the path name information that obtar records in the backup image is the content of the relative path name current. When you subsequently restore the directory, unless you specify otherwise, obtar restores it to the directory named current, relative to your current directory.

Example 4–4 backs up the files /test/proj3/trial7/test1 and /test/proj3/trial7/test2.

Example 4–4 Changing Directory Information

```
obtar -cv -f /dev/nrwst1 -C /test/proj3 trial7/test1 trial7/test2
```

```
trial7/test1
trial7/test2
```

The path name information that `obtar` records in the backup image includes the relative path names `trial7/test1` and `trial7/test2`. When you subsequently restore the files, unless you specify otherwise, `obtar` restores them to the directory `trial7` in your current working directory (first creating `trial7` if it does not exist).

obtar -g

Purpose

Use `obtar -g` to create backup images for the directories and files specified in the backup description file. `obtar` automatically creates a volume label (`-z` option), updates the backup dates files, and generates an index file (`-G` option).

Syntax

obtar -g::=

```
obtar -g backup-description-file
[ -f devicename ]
[ -F { cur | end | file-number } ]
[ -L backup-level ]
[ -lR ] [ -v [ -v ] ] [ -z ]
```

Semantics

You can specify a number of options with `obtar -g`; this section describes those options that you are most likely to use. Refer to "obtar Options" on page 4-24 for information about additional `obtar -g` options.

-g *backup-description-file*
Specifies the path name of the backup description file (BDF). If you specify a host name as part of the backup description file name, as in `-g brhost:/work/mybdf`, then the Oracle Secure Backup client software must be installed on this host. If you specify a relative path name for the backup description file, then `obtar` looks for it with respect to the current directory.

In addition to data, `obtar` records each of the path names specified in the BDF as part of the backup image. When you restore that data, `obtar` uses this path name as the location for the restored data. The `obtar -x` command, which you use to restore data, provides options that let you specify a different host or directory location for the restored data.

By default, `obtar -g` does not cross local or remote mount points. You can override this behavior by using mount point statements in a BDF (see "Mount Point Statement" on page 4-39) or specifying the -Xcrossmp option.

`obtar` issues a warning if the contents of a file change during a backup of the file.

-f *devicename*
Specifies the name of a backup device created with the `mkdev` command. If you do not specify `-f`, then `obtar` writes to the device specified by the `TAPE` environment variable, if it is defined.

-F { `cur` | `end` | *`file-number`* **}**
If you specify `cur`, then `obtar` writes the backup image at the current volume position. `cur` is the default if you do not specify the `-F` option.

If you specify `end`, then `obtar` writes the new backup image immediately after the last existing backup image on the volume set. Use this option when the last backup image was written completely. (If `obtar` failed with a media error while writing the last backup image, then `-F end` will produce undesirable results.)

If you specify *file-number*, then obtar writes the backup image at the specified file position. obtar numbers each of the backup images on a volume beginning with 1. When you specify -F 1, obtar writes the backup image at the beginning of the volume. If you specify a number greater than 1, then at least *file-number* - 1 backup images must already exist on the volume.

-L *backup-level*
Specifies a backup level. If you omit this option, then obtar performs a full backup.

-l
Forces obtar not to cross file system mount points when backing up or restoring. Note that if you also specify -Xchkmnttab, then specifying -l causes obtar to consult the mount table (/etc/mnttab) to avoid crossing remote mount points.

-R
Runs obtar with root access. To use -R you must be a member of a class with the perform restores as privileged user right. You do not need to use -R if you are logged in as root.

-v [-v]
Displays the backup image label and the path names of files and directories being backed up. If you specify -v -v (or -vv),then obtar displays the backup image label as well as the path names, permissions, owner, size, and date of last modification of the files and directories being backed up.

-z
Displays the label of the backup image.

Examples

Creating a Backup Image on a Volume

The command in Example 4–5 uses the BDF named all_bdf to create a backup image at the current tape position on the volume loaded on the device tape1.

Example 4–5 Creating a Backup Image on a Volume

```
obtar -g all_bdf -f tape1
```

Using a Remote BDF

The command in Example 4–6 creates a backup image using the BDF named rd_bdf located on the host named hershey. Note that hershey must have Oracle Secure Backup installed.

Example 4–6 Using a Remote BDF

```
obtar -g hershey:/admin/bdf/rd_bdf -f tape1
```

Creating a Full Backup

The command in Example 4–7 specifies that obtar should perform a full backup of the data specified in the BDF called all_bdf. The -R option indicates that the command should run with root privileges.

Example 4–7 Creating a Full Backup

```
obtar -g all_bdf -f tape2 -L full -R
```

Creating an Incremental Backup

The command in Example 4–8 specifies that `obtar` should perform an incremental backup on that same data shown in Example 4–7.

Example 4–8 Creating an Incremental Backup

```
obtar -g all_bdf -f tape2 -L incr -R
```

Displaying Information About the Backup Image

Example 4–9 uses `-v` to display information about the data being backed up. `obtar` displays the backup image's volume label as well as the path names of the data being backed up.

Example 4–9 Displaying Information About a Backup

```
obtar -g first_bdf -f tape1 -v

Backup started on Wed Nov 09 2005 at 14:57:42
Volume label:
    Volume ID:          VOL000009
    Volume sequence:    1
    Volume set owner:   root
    Volume set created: Tue Nov 08 14:54:32 2005

Archive label:
    File number:        4
    File section:       1
    Owner:              lashdown
    Client host:        dlsun1976
    Backup level:       0
    S/w compression:    no
    Archive created:    Wed Nov 09 14:57:42 2005

Dumping all files in /tmp
/tmp/
/tmp/.X11-pipe/
/tmp/.X11-pipe/X0
...
/tmp/smc898/
/tmp/smc898/boot.pid

Backup complete on Wed Nov 09 2005 at 14:58:01
```

Controlling Mount Point Behavior

Assume that the path `/usr/dir1` contains a number of symbolic link files that point to files on a remote file system. For example, `/usr/dir1/linkfile` is a symbolic link to `/usr/dir2/data-file`, and `/usr/dir2` is an NFS mount point.

Assume that you create a BDF named `/tmp/example.bdf` with the following syntax:

```
+/usr/dir1
```

You specify the -h option, which indicates that `obtar` should back up the data pointed to by the symbolic links, in the `obtar -g` statement shown in Example 4–10.

Example 4–10 Specifying -h

```
obtar -g /tmp/example.bdf -f vt1 -h
```

In Example 4–10, `obtar` will not back up the data pointed to by `/usr/dir1/linkfile` because by default `obtar` will not cross the `/usr/dir2` mount point. Thus, the data in `/usr/dir2/data-file` will not be backed up.

Assume that you alter the BDF so that it uses the following syntax:

```
+/usr/dir1
@crossremotemountpoints
```

You re-run the command shown in Example 4–10. In this case, `obtar` will back up the data pointed to by `/usr/dir1/linkfile` because the BDF directs `obtar` to cross remote mount points in the `/usr/dir1` file system. Because `/usr/dir1/linkfile` points to `/usr/dir2/data-file`, and `/usr/dir2` mounts a remote file system, the data in `/usr/dir2/data-file` will be backed up.

Now assume that you specify -h along with -l, which forces `obtar` not to cross mount points regardless of other mount point options, in the `obtar -g` statement shown in Example 4–11.

Example 4–11 Specifying -h and -l

```
obtar -g /tmp/example.bdf -f vt1 -h -l
```

In Example 4–11, `obtar` backs up the symbolic link files but not the files to which the links point to. This behavior results because the `-l` option overrides the `@crossremotemountpoints` statement in the BDF.

Restricting Backups to a File System

If your file system includes local or NFS mounts points, then `obtar` ordinarily backs up any data that it can access through them. You can use the `obtar -l` option to prevent `obtar` from crossing mount points. For example, suppose the top-level directory of the host `chicago` is mounted on the `/home` directory of the host `boston`. Your BDF specifies that all data in `boston`'s `/home` directory should be backed up. In Example 4–12, `obtar` backs up all the data in `boston`'s `/home` directory as well as all the data on `chicago`.

Example 4–12 Backing Up Data on Mounted File Systems

```
obtar -g home_bdf -f tape1 -R
```

If you include the `-l` option, as shown in Example 4–13, then `obtar` backs up only the data in `boston`'s `/home` directory.

Example 4–13 Excluding Data on Mounted File Systems

```
obtar -g home_bdf -f tape1 -R -l
```

If you *explicitly* specify an NFS mount point in a BDF, then `obtar` backs up the data specified by that mount point whether you have used `-l` or not.

Specifying a Backup Image Location with -F

When you are creating a backup image on a volume, `obtar` ordinarily begins writing the backup image in the volume's current position. In some circumstances you may want to specify explicitly where `obtar` should begin writing a new backup image. For example, suppose the backup fails, leaving the volume positioned in the middle of an unreadable backup image. When you redo the backup, you would want to specify that `obtar` begin writing before the unreadable backup image.

You can use the `-F` option to cause `obtar` to write a backup image in a specified location. The command in Example 4–14 writes the backup image as backup image 3.

Example 4–14 Creating a Backup Image in a Specified Location

```
obtar -g all_bdf -f tape1 -F 3
```

When `obtar` creates a backup image at a specified volume position, the new backup image becomes the last backup image, even if the volume previously contained additional backup images. For example, if 11 backup images existed previously, and if you write backup image number 3, then you effectively erase images 4 through 11. If you use `-F cur` (or omit the option altogether), and if the volume is positioned at the beginning, then `obtar` writes the new backup image as file 1 of a new volume, regardless of whether previous data is on the volume.

When you are using a volume set and specify `-F end` or `-F` *`file-number`*, `obtar` first positions the volume at the requested file within the volume set. If the file is on a volume different from the one currently loaded, then `obtar` prompts you to make any required volume changes.

obtar -x

Purpose

Use `obtar -x` to extract files from a backup image. You can extract the entire contents of a backup image or only part of the backup image.

To restore data to your own directories, you do not need special rights. To restore data into directories as `root`, you must be either be logged in as `root` or specify the `-R` option with the `obtar` command.

Syntax

obtar -x::=

```
obtar -x [ -kpORvzZ ]
[ -f device ]...
[ -F { cur|file-number } ]
[ -H destination-host ]
[ -s,prefix,[replacement,] ] [ pathname ]...
```

Semantics

You can specify a number of options with `obtar -x`; this section describes those options that you are most likely to use. Refer to "obtar Options" on page 4-24 to learn about additional `obtar -x` options.

pathname
Specifies the path names of files or directories to be extracted from the backup image. If you specify a directory, then `obtar` recursively extracts the contents of the directory. If you do not specify a path name, then `obtar` extracts the entire contents of the backup image.

-f [*device* **]**
Specifies the name of the device where the data is located. If you do not specify `-f`, then `obtar` reads from the device specified by the `TAPE` environment variable, if it is defined.

-F [*cur*|*file-number* **]**
Specifies the number of the backup image on the volume set. If you do not specify `-F`, then `obtar` extracts the backup image at the volume's current position.

If you specify `cur`, then `obtar` extracts the backup image at the volume's current position. This is the default.

If you specify *file-number*, then `obtar` extracts the backup image at the specified file position.

-H *destination-host*
Specifies the host to which the data will be restored. If you do not specify `-H`, then `obtar` restores the data to the local host.

-s,*prefix***,[***replacement***,]**
Specifies where `obtar` should place the extracted files and directories. Use this option to extract files from a backup image and place them in a location that differs from the place from which you backed them up.

When you use -s, obtar substitutes the *replacement* string for *prefix* in the path name being restored. *prefix* must include the leftmost part of the original path name. For example, if you backed up the directory /home/jane/test, and if you wanted the data restored to /home/tmp/test, then you would specify the string as follows: -s,/home/jane,/home/tmp,.

If you omit the *replacement* string, then obtar assumes a null string, which causes obtar to remove the *prefix* from every *pathname* where it is found. The delimiter character, shown as a comma (,) in the syntax statement, can be any character that does not occur in either the *prefix* or the *replacement* string.

When you use -s, obtar displays the names of the files or directories as they are restored.

-k
Prevents obtar from overwriting any existing file that has the same name as a file in the backup image. In other words, obtar only restores files that do not already exist.

-p
Causes obtar to restore data with the same permissions and ownership that they had in the backup image. If you do not specify -p, then obtar applies the current umask to the restored permissions.

-O
Causes obtar to stop after restoring the requested files. If -O is not specified, then obtar searches the entire backup image for subsequent copies of the requested files.

-R
Causes obtar to run with root access. To use -R you must be a member of a class with the perform restores as privileged user right. You do not need to use -R if you are logged in as root.

-v [-v]
Displays the path names of the files and directories being restored. If you specify -v -v (or -vv), then obtar displays the path names of files and directories being restored and their permissions, owner, size, and date of last modification.

-z
Displays the volume label of the backup image if it has one.

-Z
Prevents obtar from uncompressing any data that was compressed previously with -Z. If you do not specify -Z, then obtar uncompresses any data that was compressed previously with -Z.

Examples

Extracting Files from a Backup Image

Example 4–15 extracts the contents of backup image 4, which is on the volume loaded on device tape1.

Example 4–15 Extracting Files from a Backup Image

```
obtar -x -f tape1 -F 4
```

Displaying the Contents of a Backup Image

Example 4–16 uses the `-v` option to display the contents of the backup image as it is being extracted.

Example 4–16 Displaying the Contents of a Backup Image

```
obtar -x -v -f tape1 -F 4

doc/
doc/chap1
doc/chap2
test/
test/file1
test/file2
```

Displaying the Volume Label

Example 4–17 uses the `-z` option to display the volume label of the volume being extracted.

Example 4–17 Displaying the Volume Label

```
obtar -x -z -f tape1 -F 4
```

Extracting Data to a Different Location

Use the `-s` option to place the extracted data in a location different from its original location. This option is particularly useful if you have backed up data and specified absolute path names. If you do not use `-s`, then `obtar` restores the data into the original directory, overwriting any existing data with that same name. Example 4–18 extracts the `/doc` directory and places it in a directory called `/tmp/doc`.

Example 4–18 Extracting Data to a Different Location

```
obtar -x -f tape1 -s,/doc,/tmp/doc, /doc
```

Example 4–19 prevents `obtar` from overwriting any files in the `/doc` directory that have the same names as files in the backup image:

Example 4–19 Preventing obtar from Overwriting Files

```
obtar -x -f tape1 -k /doc
```

Example 4–20 restores the contents of a raw file system partition. The partition is assumed to have been previously formatted and to be currently unmounted.

Example 4–20 Restoring a Raw File System Partition

```
obtar -x -f tape0 /dev/rdsk/dks0d10s1
```

obtar -t

Purpose

Use `obtar -t` to list the names of files and directories contained in a backup image. You can list the entire contents of a backup image or just part of the backup image. You can catalog a backup image by specifying `-Gt`. Note that `obtar -t` does not list or import NDMP backups.

Syntax

obtar -t::=

```
obtar -t [ -f device ]
[ -F { cur | file-number } ]
[ -Gvz ]
[ pathname ]...
```

Semantics

You can specify a number of options with `obtar -t`; this section describes those options that you are most likely to use. Refer to "obtar Options" on page 4-24 to learn about additional `obtar -t` options.

-f *device*
Specifies the name of a device. If you do not specify `-f`, then `obtar` reads from the device specified by the `TAPE` environment variable, if it is defined.

-F { `cur` **|** *file-number* **}**
Specifies the number of the backup image on the volume set. If the file is on a volume different from the one currently loaded, then `obtar` prompts you to make any required volume changes. If you do not specify `-F`, then `obtar` reads the backup image at the current position of the volume.

If you specify `cur`, then `obtar` reads the backup image at the volume's current position. This is the default.

If you specify *file-number*, then `obtar` reads the backup image at the specified file position.

-v
Displays additional information about the contents of the backup image. The output is similar to that of the UNIX `ls -l` command. The additional information includes file and directory permissions, owner, size, and date of last modification.

-z
Displays the volume label of the backup image.

pathname
Specifies one or more path names of files or directories you want listed. If you specify a directory, then `obtar` recursively lists the contents of the directory. If you do not specify any path name arguments, then `obtar` lists the entire contents of the backup image at the volume's current location or at the location you specify with the `-F` option.

Examples

Displaying the Contents of a Backup Image

Example 4–21 displays the contents of the backup image located at the current position of the volume loaded on device `tape1`.

Example 4–21 Displaying the Contents of a Backup Image

```
# obtar -t -f tape1

project/
project/file1
project/file2
project/file3
```

Displaying the Contents of an Image on a Volume Set

To display the contents of a particular backup image on a volume set, use the `-F` option. Example 4–22 displays the contents of backup image 4.

Example 4–22 Displaying the Contents of a Backup Image on a Volume Set

```
# obtar -t -f tape1 -F 4

doc/
doc/chap1
doc/chap2
test/
test/file1
test/file2
```

Displaying Additional Information About a Backup Image

To display additional information about a backup image, use the `-v` option. Example 4–23 uses the `-v` option to display additional information about backup image 4.

Example 4–23 Displaying Additional Information About a Backup Image

```
# obtar -t -v -f tape1 -F 4

drwxrwxr-x jane/rd       0 Feb 24 16:53 2000 doc/
-rw-r--r-- jane/rd     225 Feb 24 15:17 2000 doc/chap1
-rwxrwxr-x jane/rd     779 Feb 24 15:17 2000 doc/chap2
drwxrwxr-x jane/rd       0 Feb 24 16:55 2000 test/
-rwxrwxr-x jane/rd     779 Feb 24 16:54 2000 test/file1
-rw-r--r-- jane/rd     225 Feb 24 16:54 2000 test/file2
```

Displaying Information About a File in an Image

To display information about a particular file or directory that is contained in the backup image, include the file or directory name as the last argument on the command line. Example 4–24 displays information about the directory `test`, which is contained in backup image 4.

Example 4–24 Displaying Information About a File in an Image

```
# obtar -t -f tape1 -F 4 test

test/
test/file1
```

```
test/file2
```

Displaying Information About Multiple Directories

You can specify more than one path name from the backup image. Example 4–25 displays information about the directories `test` and `doc`. `obtar` lists the directories in the order they appear in the backup image.

Example 4–25 Displaying Information About Multiple Directories

```
# obtar -t -f tape1 -F 4 test doc

doc/
doc/chap1
doc/chap2
test/
test/file1
test/file2
```

Displaying the Volume Label

Use the `-z` option to display the volume label along with the contents of the backup image. Example 4–26 illustrates this technique.

Example 4–26 Displaying the Volume Label

```
# obtar -t -z -f tape1 -F 5

Volume label:
   Volume ID:          VOL000003
   Volume sequence:    1
   Volume set owner:   jane
   Volume set created: Mon Mar 1 19:44:05 2000
Archive label:
   File number:        5
   File section:       1
   Owner:              jane
   Client host:        campy
   Backup level:       0
   S/w compression:    no
   Archive created:    Mon Mar 1 19:44:05 2000

   test1/
   test1/file1
   test1/file2
```

Cataloging a Backup Image

Use the `-G` option to catalog the contents of a backup image. Example 4–27 catalogs backup image 1 on the volume loaded into tape drive `tape1` (only partial output is shown). In Example 4–27, the image contains a file system backup. Note that you can only catalog one backup image at a time.

Example 4–27 Cataloging a File System Backup Image

```
# obtar -f tape1 -tG -F 1

Volume label:
    Volume tag:         DEV100
    Volume ID:          VOL000001
    Volume sequence:    1
```

```
    Volume set owner:   root
    Volume set created: Tue Nov 22 15:57:36 2005

Archive label:
    File number:        1
    File section:       1
    Owner:              root
    Client host:        stadf56
    Backup level:       0
    S/w compression:    no
    Archive created:    Tue Nov 22 15:57:36 2005

/home/someuser/
/home/someuser/.ICEauthority
/home/someuser/.Xauthority
/home/someuser/.aliases
/home/someuser/.bash_history
/home/someuser/.bash_logout
/home/someuser/.bash_profile
/home/someuser/.bashrc
.
.
.
```

Example 4–28 also catalogs backup image 1 on the volume loaded into tape drive `tape1`. In this example, the image contains an RMAN backup of archived redo logs.

Example 4–28 Cataloging an RMAN Backup Image

```
# obtar -f tape1 -tG -F 1

Volume label:
    Volume tag:         ADE202
    Volume ID:          RMAN-DEFAULT-000002
    Volume sequence:    1
    Volume set owner:   root
    Volume set created: Mon Feb 13 10:36:13 2006
    Media family:       RMAN-DEFAULT
    Volume set expires: never; content manages reuse

Archive label:
    File number:        1
    File section:       1
    Owner:              root
    Client host:        stadv07
    Backup level:       0
    S/w compression:    no
    Archive created:    Mon Feb 13 10:36:13 2006
    Backup piece name:  05hba0cd_1_1
    Backup db name:     ob
    Backup db id:       1585728012
    Backup copy number: non-multiplexed backup
    Backup content:     archivelog
```

obtar -z

Purpose

Use `obtar -z` to display the volume label of a backup image. You can also use the `-z` option with `obtar -t` and `obtar -g` to display a volume label, or with `obtar -c` to create a volume label.

Syntax

obtar -z::=

```
obtar -z [ -f device ] [ -F file-number ]
```

Semantics

You can specify a number of options with `obtar -z`; this section describes those options that you are most likely to use. Refer to "obtar Options" on page 4-24 to learn about additional `obtar -z` options.

-f *device*
Specifies the name of a backup image file or device. If you omit the `-f` option, then `obtar` reads from the device specified by the `TAPE` environment variable, if it is defined.

-F *file-number*
Specifies the backup image file number. If you omit the backup image number, then `obtar` reads the backup image at the volume's current position.

Examples

Example 4–29 causes `obtar` to display the volume label for the fourth backup image on a volume loaded on device `tape1`.

Example 4–29 Displaying the Volume Label

```
# obtar -z -f tape1 -F 4

Volume label:
   Volume ID:          VOL000105
   Volume sequence:    1
   Volume set owner:   jane
   Volume set created: Tue Mar 2 10:13:14 2002
Backup image label:
   File number:        4
   File section:       1
   Owner:              jane
   Client host:        chicago
   Backup level:       0
   S/w compression:    no
   Archive created:    Tue Mar 2 10:13:14 2002
```

When you use `obtar -z`, `obtar` reads the backup image. Whenever `obtar` reads a backup image, it positions the volume after the backup image just read, and before the label of the next backup image. For example, if you entered another `obtar -z` command after the one shown in Example 4–29, then `obtar` would display the label of backup image 5, if it exists, as shown in Example 4–30.

Example 4–30 Displaying the Volume Label

```
# obtar -zf tape0

Volume label:
   Volume ID:          VOL000003
   Volume sequence:    1
   Volume set owner:   gms
   Volume set created: Wed May 01 14:08:23 2000
Backup image label:
   File number:        5
   File section:       1
   Owner:              gms
   Client host:        campy
   Backup level:       0
   S/w compression:    no
   Archive created:    Wed May 01 14:08:23 2000
```

obtar -zz

Purpose

Use `obtar -zz` to display all labels on a volume.

Syntax

obtar -zz::=

```
obtar -zz [ -f device ]
```

Semantics

You can specify a number of options with `obtar -zz`; this section describes the option that you are most likely to use. Refer to "obtar Options" on page 4-24 to learn about additional `obtar -zz` options.

-f *device*
Specifies the name of a backup image file or device. If you omit the `-f` option, then `obtar` reads from the device specified by the `TAPE` environment variable, if it is defined.

Examples

As shown in Example 4–31, you can use `-zz` to display the labels of all backup images on a volume.

Example 4–31 Displaying the Labels of All Backup Images on a Volume

```
obtar -zzf tape0

Seq  Volume    Volume    Backup Image    Client    Backup    Backup Image Create
#    ID        Tag       File Sect       Host      Level     Date & Time
1    VOL000003             1   1         campy       0       05/01/00 14:08:23
1    VOL000003             2   1         phred       0       05/01/00 15:37:00
1    VOL000003             3   1         mehitibel   0       05/01/00 15:38:08
```

obtar -Xlabel

Purpose

Use `obtar -Xlabel` to pre-label tape volumes. This action enables `obtar` to associate a printed label on the tape with the recorded contents of the tape.

Usage Notes

Use the following steps to pre-label a tape volume.

1. Before using a volume for the first time, assign a unique identifier to it. The identifier can be between 1 and 31 characters long. Write this identifier on a printed label (the volume tag) on the outside of the tape, or use a pre-printed label.
2. Place the write-enabled volume in any accessible tape drive.
3. From any host on which Oracle Secure Backup is installed, do the following:
   a. Log in as `root`, or log in to Oracle Secure Backup as a user belonging to a class having the manage devices and change device state right.
   b. Execute an `obtar -Xlabel` command in the following form:

      ```
      obtar -Xlabel -Xtag:volume-tag -f tape-device
      ```

After you have labeled a tape, `obtar` retains the association between the volume tag and the volume ID. The tag is the external identifier, whereas the volume ID is the internal one. Whenever `obtar` displays the label for that volume, it also displays the volume tag. Similarly, when `obtar` prompts you for a volume at restore time, it displays both the volume ID and tag.

Syntax

obtar -Xlabel::=

```
obtar -Xlabel [ -Xtag:tag ] [ -Xfamily[:family] ] [ -f device_name ]
```

Semantics

You can specify a number of options with `obtar -Xlabel`; this section describes those options that you are most likely to use. Refer to "obtar Options" on page 4-24 to learn about additional `obtar -Xlabel` options.

-Xtag[:*tag*]
Specifies *tag* as the volume tag (barcode) to be written to the volume label. This option is not required if Oracle Secure Backup is already aware of the volume's tag or the volume resides in a library equipped with a barcode reader and the volume has a readable barcode attached.

-Xfamily[:*family*]
Specifies that the volume being labeled belongs to the media family named *family*.

-f *device*
Specifies the name of a device. If you omit the `-f` option, then `obtar` reads from the device specified by the `TAPE` environment variable, if it is defined.

Examples

Pre-Labeling a Tape

Example 4–32 labels the tape volume in `tape0` with the tag `WKLY58010`.

Example 4–32 Pre-Labeling a Tape

```
obtar -Xlabel -Xtag:WKLY58010 -f tape0
```

You can omit the `-Xtag` option if the volume has a machine-readable tag (barcode) and resides in a library equipped with a barcode reader.

Pre-Labeling a Tape with a Media Family

When you label a volume, you can optionally tell `obtar` to limit that volume's use to a specified media family. In this case, `obtar` will not allow data destined for media families other than the one you specify to be written to the volume.

To select the media family for the volume, include the option, `-Xfa:`*`family-name`* on the `obtar` command line.

Example 4–33 labels the tape in the tape drive `rdrive` `MMR-2006` and restricts its usage to media family `INCR`.

Example 4–33 Specifying a Media Family

```
obtar -Xlabel -Xtag:MMR-2006 -f rdrive -Xfa:INCR
```

obtar -Xunlabel

Purpose

Use `obtar -Xunlabel` to unlabel volumes. Unlabeling a volume causes all information stored on it to be effectively erased, including any existing volume label information.

Syntax

obtar -Xunlabel::=

```
obtar -Xunlabel [ -f device ] [ -Xow ]
```

Semantics

You can specify a number of options with `obtar -Xunlabel`; this section describes those options that you are most likely to use. Refer to "obtar Options" on page 4-24 to learn about additional `obtar -Xunlabel` options.

-f *device*
Specifies the name of the device in which the volume is loaded. The device argument to `-f` is the name that you have assigned to a tape drive in an administrative domain.

-Xow
Directs `obtar` to disregard any expiration date in the volume label. If you try to overwrite a volume that has not yet expired, then the operation fails unless you specify `-Xow`.

Example

Unlabeling a Tape

Example 4–34 unlabels the tape volume in `tape0`.

Example 4–34 Unlabeling a Tape

```
obtar -Xunlabel -f tape0 -Xow
```

obtar -Xreuse

Purpose

Use `obtar -Xreuse` to reuse volumes. Reusing a volume is similar to unlabeling it, but `obtar` preserves the existing volume label.

Syntax

obtar -Xreuse::=

```
obtar -Xreuse [-f device ] [ -Xow ]
```

Semantics

You can specify a number of options with `obtar -Xreuse`; this section describes those options that you are most likely to use. Refer to "obtar Options" on page 4-24 to learn about additional `obtar -Xreuse` options.

-f *device*
Specifies the name of the device in which the volume is loaded. The device argument to `-f` is the name that you have assigned to a tape drive in an administrative domain.

-Xow
Directs `obtar` to disregard any expiration date in the volume label. If you try to overwrite a volume that has not yet expired, then the operation fails unless you specify `-Xow`.

Example

Reusing a Tape

Example 4–35 reuses the tape volume in `tape0`.

Example 4–35 Unlabeling a Tape

```
obtar -Xreuse -f tape0 -Xow
```

obtar Options

The rows in Table 4–2 lists `obtar` options alphabetically. The columns indicate the `obtar` modes in which the options can be specified.

Table 4–2 obtar Options

Option	-c	-g	-t	-x	-z	-zz	-Xlabel	-Xreuse	-Xunlabel
-A	x	x							
-b	x	x	x	x			x		
-B			x	x					
-C	x								
-e	x[1]	x	x	x					
-E	x[2]	x							
-f	x	x	x	x	x	x	x	x	x
-F	x	x	x	x					
-G	x		x						
-h	x	x							
-H	x	x		x					
-J	x	x	x	x	x	x	x	x	x
-k				x					
-K									
-l	x	x		x					
-L	x	x							
-m				x					
-M	x	x							
-O				x					
-p				x					
-P	x	x							
-q			x	x					
-R	x	x	x	x	x	x	x	x	x
-s				x					
-S		x							
-U	x								
-v	x	x	x	x					
-V									
-w	x	x		x					
-Xchkmnttab	x	x		x					
-Xcleara	x	x							
-Xcrossmp	x	x		x					

Table 4–2 (Cont.) obtar Options

Option	-c	-g	-t	-x	-z	-zz	-Xlabel	-Xreuse	-Xunlabel
-Xdepth	x	x	x	x					
-Xfamily							x		
-Xhighlatency	x	x							
-Xhome	x	x		x					
-Xincrrestore				x					
-Xkv	x	x							
-Xmarkerfiles	x	x							
-Xndmptype	x	x							
-Xnice	x	x	x	x	x	x	x	x	x
-Xno_mod_chk	x	x							
-Xnochaselinks	x	x							
-Xnostat	x	x							
-Xow	x	x					x	x	x
-Xpre20			x	x					
-Xtag							x		
-Xupdtu	x	x							
-Xuq	x	x							
-Xuse_ctime	x	x							
-Xverifyarchive	x	x							
-Xwq	x	x							
-Xwritev2ndmppos	x	x							
-Xww	x	x							
-y	x	x							
-Z	x	x		x					

[1] when -G or -z is also specified
[2] when -G or -z is also specified

-A

Does not save Access Control Lists (ACLs), Context Dependent Files (CDFs), and other extended file system attributes for files backed up on Hewlett-Packard platforms (HP-UX operating system). By default, `obtar` saves all file system attributes for each file. When you restore these files on Hewlett-Packard platforms, the extended attributes are also restored.

When you restore these files on other platforms, `obtar` ignores the ACL information. On Windows platforms, the `-A` flag causes `obtar` to save only the primary data stream associated with each file.

-b *blocking-factor*

Writes data in block sizes of *`blocking-factor`* multiplied by 512 bytes. By default, `obtar` uses the blocking factor specified by the blockingfactor media policy. When you restore files, `obtar` automatically determines the block size that was used when backing up the data.

-B
Performs multiple reads to fill a block. If you are using `obtar` with UNIX pipes or sockets, then the UNIX `read` function can return partial blocks of data even if more data is coming. For example, if you pipe a remote `dd(1)` command to `obtar`, use this option so that `obtar` reads exactly the number of bytes to fill each block.

-C *`directory`*
Changes the directory structure associated with the files being backed up. With this option, `obtar` changes its working directory to *`directory`* and backs up files relative to it. `obtar` uses *`directory`* as its current directory until the next `-C` option on the command line. When you restore the files, they are restored relative to directory.

-e *`volume-id`*
Uses *`volume-id`* in the volume label for this backup image (when backing up) or looking for *`volume-id`* in the volume label (when restoring). A volume ID contains up to 31 characters, in any combination of alphabetic and numeric characters, although the last 6 characters must be numeric. If you do not specify a volume ID when backing up, then `obtar` uses the volume ID in the volume-sequence file in the administrative directory (the default) or the volume ID file specified with the `-E` option.

Typically, you use `-e` to verify that you are restoring the correct volume when running `obtar -x` or `obtar -t` from a script. `obtar` tries to match the volume ID with the volume ID in the label and exits if it does not find a match. If the tape drive from which you are indexing or restoring data is contained within a library, then supplying `-e` on the command line directs `obtar` to attempt to load that volume into the drive before beginning the operation.

-E *`volume-id-file`*
Uses the volume ID from *`volume-id-file`* in the volume label. `obtar` looks for *`volume-id-file`* in the administrative directory on the administrative server. If you do not specify this option, then `obtar` uses the volume ID from volume-sequence, the default volume ID file.

-f *device*
Specifies the name of the device on which you want the backup image created. The device argument to `-f` is the name that you have assigned to a tape drive in an administrative domain.

If you do not specify the `-f` option, then Oracle Secure Backup uses the device specified by the `TAPE` environment variable, if it is defined.

When you are backing up a large amount of data, `obtar` may need to continue a backup image from one volume to the next. If the tape drive resides in a library, then `obtar` automatically unloads the current volume and searches the inventory of the library for another eligible volume on which to continue the backup. The way that you install and configure `obtar` indicates whether or not it considers a device to reside inside a library.

If you are using a standalone tape drive, and if data still needs to be written at the end of a volume, then `obtar` rewinds the tape and unloads it. `obtar` displays a message like the following on the operator host (the host on which you execute the `obtar` command), where *`vol-id`* refers to the next volume in the volume set:

```
End of tape has been reached. Please wait while I rewind and unload the tape. The
Volume ID of the next tape to be written is vol-id.
The tape has been unloaded.
```

`obtar` then prompts you to load the next volume and press the Return key when you are ready:

```
Please insert new tape on device
and press <return> when ready:
```

The backup continues onto the next volume.

-F { *cur* | *end* | *file-number* }
Writes or reads a backup image at the indicated position in a volume set, instead of the current volume position (default). Use this option only when writing to or reading from a tape device. `obtar` positions the tape to the requested file in the volume set. If the file is on a volume that is not loaded, then `obtar` prompts you to load the necessary volume.

If you specify the position as `cur`, then `obtar` writes or reads the backup image at the current volume position.

If you specify `end`, then `obtar` writes the new backup image immediately after the last existing backup image in the volume set.

If you specify *`file-number`*, then `obtar` writes the backup image at the specified file position. `obtar` numbers each backup image on a volume set sequentially, beginning with 1.

Note: When `obtar` creates a backup image at a specified volume position, the new backup image becomes the last backup image, even if the volume previously contained additional backup images. For example, if you write a backup image at position 6 on a volume containing 11 backup images, you effectively erase backup images 7 through 11. With `obtar -t` and `obtar -x`, you can use the `-q` option instead of this option.

-G
Writes an index of the backup image contents to the catalog and generates a volume label. The contents can include file system backups or RMAN backups. `obtool` uses this information to find the backup image containing the data to be restored.

-h
Backs up the data pointed to by symbolic link files rather than the symbolic link files themselves (default). If you use `obtar -g` and specify symbolic links as inclusion statements (see "Inclusion Statement" on page 4-36) in the backup description file, then `obtar` always follows the links. If you also specify -Xnochaselinks, then links are never followed, regardless of where they appear.

-H *`host`*
Backs up data from or restores data to *`host`* instead of from the local host (default). If you are using `obtar -g`, then you can specify the host in the backup description file instead of using this option. If your backup description file already has a host, then you cannot use this option.

-J
Directs `obtar` to produce debugging output as it runs.

-k
Restores only the files that do not already exist. That is, `obtar` does not overwrite any existing files with the version from the backup image. By default, `obtar` overwrites any existing files.

-K *mask*
Specify device driver debug options. *mask* is the bitwise inclusive or of the following values shown in Table 4–3.

Table 4–3 mask Values

Value	Meaning
800	Turn on debug modes before open
400	Allow only one write at BOT
200	Inject write error
100	Debug kernel driver
080	Enable time-outs
040	Disable time-outs
020	Enable debugging at EOM
010	Generate early EOT
008	Trace DMA activity
004	Trace miscellaneous info
002	Trace errors
001	Trace driver calls

Note: This option can lead to voluminous output and should normally be used only when directed by Oracle Support Services.

-l
Forces `obtar` not to cross file system mount points when backing up or restoring.

By default, `obtar` does not cross mount points unless you explicitly include mount point statements in a backup description file (see "Mount Point Statement" on page 4-39). If you specify `-l`, then `obtar` ignores these explicit override settings and does not cross mount points.

Note that if you also specify -Xchkmnttab, then specifying `-l` causes `obtar` to consult the mount table (`/etc/mnttab`) to avoid crossing remote mount points.

When backing up or restoring an NTFS partition under Windows 2000, name surrogate reparse points (for example, directory junctions) are treated as mount points.

If you use this option with the `-v` option, then `obtar` writes the names of any files it skips to standard error.

-L { *full* **|** *incr* **|** *exincr* **|** *offsite* **|** *n* **|** *date-time* **}**
Uses the specified backup level instead of a full backup (default).

`full` specifies a full backup, which saves all data that is specified in the backup description file.

`incr` specifies and incremental backup, which saves only the data that was modified since the last backup.

`exincr` specifies an extended incremental, which saves only the data that was modified since the last full backup.

`offsite` can be used to generate an on-demand backup that does not affect the subsequent scheduling of full and incremental backups.

You can also specify a numeric backup level, *n*, which can range from 0 to 9 and saves only the data that was modified since the last backup at a lower level. Backup level 0 is the same as full, and level 1 is the same as `exincr`.

If you use a *date-time* argument, then `obtar` saves only the data that was modified since that time. Note that using a *date-time* argument does not create a true incremental backup because it cannot be used as a reference point for later incremental backups. The *date-time* argument must be in the form appropriate to the locale in which you run `obtar`. For the U.S., specify *date-time* in the following format:

mm/*dd*[/*yy*] [*hh*[:*mm*[:*ss*]]]

If you supply *hh*, *hh*:*mm*, or *hh*:*mm*:*ss* as part of `date-time`, then you must enclose *date-time* in quotes. If you do not supply the year (/*yy*), then `obtar` uses the preceding 12 months. If you supply *hh*:*mm* but not *ss*, `obtar` uses *hh*:*mm*:59.

-m
Uses the current time as the "last time modified" timestamp instead of the time that is saved with the backup image (default).

-M *parameter*:*value*
Sets hardware compression and format for certain tape devices.

When you are using an Exabyte 8500, 8500c, or 8505 tape device, you can use `-M` to create backup images that can also be used with Exabyte 8200 tape devices. To set the format, specify the following:

```
-M format:{8200|8500}
```

Specify `8200` to change to 8200 format, and specify `8500` to change to 8500 format. If you do not specify either, then `obtar` uses 8500 format.

You can also use `-M` to turn hardware compression on or off for any device that supports hardware compression. `obtar` turns hardware compression on by default. To set hardware compression, specify

```
-M compress:{on|off}
```

Specify `on` to turn hardware compression on, and specify `off` to turn hardware compression off.

If you turn on hardware compression, then the device automatically uncompresses data when you restore it. You should not use hardware compression at the same time as the `-Z` option. Also, if you use the WangDAT 2600 device, then changing the hardware compression setting takes about 55 seconds because the drive automatically reformats the tape.

-O
Terminates a restore operation after first occurrence of files being restored. Normally, `obtar -x` scans an entire backup image looking for multiple copies of each file to be restored. If you specify `-O`, then the restore stops after each file has been restored once.

-p
Restores the permissions that were backed up with the files and directories. If you do not specify `-p`, then the current UNIX `umask` determines the permissions of restored files.

-P
Condenses any sparse files when backing up. A sparse file is a file with holes—areas in the file that have never be written to. When you restore these files, `obtar` restores the sparse files to their original format.

-q *`position-string`*
Positions the volume to *position-string* before restoring the backup image or listing its table of contents. The string must specify the position of a file within the backup image on the volume. You can use the `obtool` command to display the `position-string` for a file.

-R
Runs `obtar` with `root` access. To use `-R` you must be a member of a class with the perform restores as privileged user or perform backups as privileged user right. You do not need to specify `-R` if you are logged in as `root`.

-s ,*`prefix`***,[***`replacement`***,]**
Substitutes *`replacement`* for each occurrence of *`prefix`* in all path names that are being restored. *`prefix`* must include the leftmost part of the original path name. If you omit *`replacement`*, then `obtar` removes all occurrences of *`prefix`* in all path names being restored. If the character does not occur in either the *`prefix`* or the *`replacement`* string, then you can use another delimiter character instead of a comma (`,`) . You can use this option to extract files from a backup image and place them in a location different from where they were backed up.

-S { a | G | U | z }
Suppresses the action of options that are implicitly part of `obtar -g`. The `G` argument suppresses the generation of index data; the `U` argument suppresses the updating of the backup dates files; and the `z` argument suppresses the writing of a volume label. The `a` argument suppresses all three (`G`, `U`, `z`).

-U
Updates backup dates file in the administrative directory. This option overrides the setting of the autohistory operations policy.

-v
Writes verbose information about files to standard output or standard error.

When used with `obtar -c` and `obtar -g`, this option writes the names of the files being backed up and the volume label (if one was created) to standard error.

When used with `obtar -t`, this option writes additional information about the files, which is similar to the output of the `ls -l` command, instead of writing just the filenames (default) to standard output.

When used with `obtar -x`, this option writes the names of the files being restored to standard output. If you specify `-vv`, then `obtar` writes verbose information about files, which is similar to the output of the `ls -l` command, to standard error (`obtar -c` and `obtar -g`), or standard output (`obtar -x`).

-V
Prints the version of `obtar` and exits.

-w
Directs `obtar` to check for and honor advisory file locks before backing up or restoring a file. If a lock is set, then `obtar` displays a warning message and skips the file.

-Xchkmnttab
Causes `obtar` to consult the local mount table (`/etc/mnttab`) before performing `stat(2)` operations and to skip directories known to be remote mount points. Local mount points are not skipped. This option applies to Linux and UNIX only.

The `-Xchkmnttab` option can avoid hangs caused by remote hosts that are down or not responding. Note that you can specify the `-Xchkmnttab` option in the backupoptions operations policy. The `-Xchkmnttab` option is overridden by -Xcrossmp.

-Xcleara
Clears the archive file attribute bit for each file that is successfully backed up. In the absence of this option, `obtar` leaves the archive file bits unmodified. Windows only.

-Xcrossmp
Directs `obtar` to cross all mount points regardless of whether the -l or -Xchkmnttab options are specified, or whether mount point statements are included in the BDF (see "Mount Point Statement" on page 4-39). By default, `obtar` does not cross mount points.

Note that you can specify the `-Xcrossmp` option in the backupoptions operations policy.

-Xdepth:*`levs`*
Specifies the maximum number of index levels to display.

-Xfamily[:*`family`***]**
Specifies that the volume being labeled belongs to media family *`family`*.

-Xhighlatency
Causes `obtar` to fetch data pointed to by a reparse point. Normally, when confronted with a high latency reparse point, `obtar` backs up the reparse point, but not the underlying data. Windows only.

-Xhome:*`dir`*
Sets the home directory on the client host to *dir* before starting a backup.

-Xincrrestore
Performs an incremental NDMP restore for NAS devices.

-Xkv:*`time_spec`*
Specifies the length of time a volume should be retained. *`time_spec`* is `disabled` (no retention time), `forever`, or *`n tu`*, where *`tu`* is one of `secs` (or seconds), `mins` (minutes), `hrs` (hours), `days`, `wks` (weeks), `mos` (months), or `yrs` (years). This option is effective only when writing to the first file of a volume.

-Xmarkerfiles
Directs `obtar` to honor index marker files encountered during a backup. Currently, there is a single index marker file defined: `.ob_no_backup`. If a file with this name appears in a directory, and if you specify `-Xmarkerfiles`, then `obtar` will not back up this directory or any of its subdirectories.

-Xndmptype:*`type`*
Specifies the type of NDMP backup to be performed. *`type`* is one of `dump`, `tar`, `gtar`, or `image`.

-Xnice:*val*
Directs `obtar` to set the `nice(1)` value for the backup or restore process to *`val`*. This value is propagated to any local and remote subprocesses spawned by `obtar` to perform the requested operation.

-Xno_mod_chk
Omits a modification check when backing up a file. Normally, after `obtar` has backed up a file, it checks whether the file was modified while it was being backed up. If the file was modified, then `obtar` prints a warning message. Setting this option can improve performance.

-Xnochaselinks
Avoids following links anywhere, even if they are explicitly mentioned in a backup description file or on the command line.

-Xnostat
Does not include file stat data (ownership, permissions, size) in index file. By default, this data is written to the index file and subsequently imported into the catalog.

-Xow
Disregards any expiration date in the volume label. If you try to overwrite a volume that has not yet expired, then the operation will fail unless you specify `-Xow`.

-Xpre20
Restores or lists files from pre-2.0 backup images. On backup images created by versions of `obtar` prior to 2.0, block-special and character-special files were saved with a nonzero size (`st_size`), which is incorrect.

-Xtag[:*tag***]**
Specifies *`tag`* as the volume tag (barcode) to be written to the volume label. This option is not required if Oracle Secure Backup is already aware of the volume's tag or the volume resides in a library equipped with a barcode reader and the volume has a readable barcode attached.

-Xupdtu
Does not reset a file's access time after backing it up. After `obtar` has backed up a file, it normally resets the file's access time (`atime`) back to what it was before the backup started. This means that the act of backing of a file does not change the original `atime`. If you are not concerned with backups changing files' `atimes`, then specifying this option results in a slight increase in backup performance.

-Xuq:*n*
Specifies the size of the `utime` helper queue. When backing up data, `obtar` uses a helper process to execute `utime(2)` calls to reset access times on files being backed up. This parameter controls the size of the input queue for the `utime` helper. Linux and UNIX only.

-Xuse_ctime
Directs `obtar`, when performing an incremental backup, to use the `ctimes` (inode change times) rather than `mtimes` (modified times) for files as the criteria for being included in the backup. Use of this option implies `-Xupdtu`.

-Xverifyarchive
Causes `obtar`, on completing a backup section, to backspace the tape to the beginning of the section and read the contents.

-Xwq:*n*
Specifies the maximum number of unfinished remote writes. This parameter controls the number of writes in this queue. Linux and UNIX media servers only.

-Xwritev2ndmppos
Writes a version 2 NDMP position file. Such files are compatible with all Oracle Secure Backup 2.5 and 2.6 systems.

-Xww:*time_spec*
Specifies the write window expiration time for a volume. *time_spec* is specified as for the `-Xkv` option. The given time specification is added to the time at which the volume is created to determine a time after which further writes to the volume are disallowed. This option is effective only when writing to the first file of a volume.

-y *status-file*
Writes status information about the backup session to *status-file*. This option is useful when running `obtar` from a shell script.

-Z
Compresses data (when backing up) or keeps data compressed (when restoring). When you use `-Z` to create a backup image, `obtar` compresses files using the same algorithm as the UNIX `compress(1)` utility before writing them to the backup image. If the files are already compressed or would not shrink if compressed, then `obtar` does not compress them. When you restore files that have been compressed, `obtar` automatically decompresses them unless you specify `-Z` to suppress decompression.

Note: It is almost always preferable to rely on the tape drive's hardware compression capability, if it is available.

Backup Description File Syntax

When you use `obtar -g`, you specify the data you want to back up in backup description file. A backup description file (BDF) is an ASCII file that contains a list of path names to include and exclude from a backup image.

Typically, you create a BDF for each client host whose data you regularly back up, and execute a separate `obtar -g` command for each client host. You can specify only one client host for each backup session.

A BDF consists of a list of statements, with one statement for each line. Each statement consists of a one-character directive, which must be in column 1, and a path name or host name.

The path name can include the standard UNIX wildcard characters, which have the same meaning that they do in the UNIX shells. The wildcard characters are `*`, `?`, `[`, and `]`. Note that if you have path names that include any of the characters, to prevent special interpretation of these characters, you must precede each such character with a `\` (backslash) character.

You can specify the following types of statements:

- Host Name Statement
- Inclusion Statement
- Exclusion Statement
- Include File Statement
- Mount Point Statement

"BDF Example" on page 4-41 illustrates the use of all the previous types of statements.

Host Name Statement

A host name statement specifies the name of the client host, that is, the host on which the data you want to back up is located.

The host name statement is equivalent to using the `obtar -H` option. You can only specify one client host for each backup session, either in a BDF or on the command line. If you do not use a host name statement or the `-H` option, then `obtar` assumes the data is located on the operator host, which is the host on which you execute the `obtar` command.

Note: To back up data from a remote host, Oracle Secure Backup must be installed on the remote host, or the data must be accessible through NFS or the Domain file system.

Syntax

:hostname::=

`:`*`hostname`*

The *hostname* placeholder represents the name of a host object created with the `mkhost` command in `obtool`.

Example

Example 4–36 shows a host name statement for the host named `dlsun1976`.

Example 4–36 Host Name Statement

```
:dlsun1976
```

Inclusion Statement

An inclusion statement defines a scope for the backup operation, which means that `obtar` backs up all the files and subdirectories under the specified *`pathname`*. The scope ends with the next inclusion statement. You can limit the scope by specifying one or more exclusion statements immediately after the inclusion statement.

Because `obtar` uses the *`pathname`* you specify as the default location for restoring the data, it is a good idea to specify full rather than relative path names in your BDFs.

Note: If you add a new inclusion statement to an existing BDF, `obtar` will perform a full backup of the specified *`pathname`* even if you are doing incremental backups on the other directories specified in the BDF.

An inclusion statement can also specify a database identifier for a Windows component database such as Active Directory.

Syntax

+pathname::=

+pathname

The *pathname* placeholder specified a directory or file to include in the backup image.

Example

Example 4–37 shows an inclusion statement for the absolute path `/private/lashdown`.

Example 4–37 Inclusion Statement

```
+/private/lashdown
```

Exclusion Statement

An exclusion statement prevents the specified files or directories from being included in the backup image. For example, you might want to exclude core dumps and application-created backup files from the backup image.

If you have recently used RMAN to back up a database, then you would probably exclude Oracle database files from non-database backup operations on the host.

A BDF can include the following types of exclusion statements:

- A global exclusion statement specifies a path name or wildcard pattern that is to be excluded at every level in the tree.
- An Oracle database exclusion statement specifies that Oracle database files be excluded at every level in the tree.
- A top-level exclusion statement specifies a path name or wildcard pattern that is to be excluded if found directly under the current top-level tree.

Exclusion statements are relative to the current scope and cannot begin with a slash (`/`). If you specify an exclusion statement before the first inclusion statement, then `obtar` applies the exclusion to all trees included in the BDF.

Syntax

pathname::=

`!`*`pathname`*

In a global exclusion statement, the *pathname* placeholder specifies a path name or wildcard pattern that is to be excluded at every level in the tree.

files::=

`~files`

An Oracle database exclusion statement specifies that Oracle database files be excluded at every level in the tree.

pathname::=

`-`*`pathname`*

In a top-level exclusion statement, the *pathname* placeholder specifies a path name or wildcard pattern that is to be excluded if found directly under the current top-level tree.

Example

Example 4–38 shows a BDF that backs up `/private/lashdown` on host `dlsun1976`. The BDF excludes files or directories named `core` found anywhere in the tree, files or directories beginning with a dot (`.`) found in the `/private/lashdown` directory, or Oracle database files anywhere in the tree.

Example 4–38 Sample Exclusion Statements in a BDF

```
:dlsun1976
+/private/lashdown
!core
-.*
~files
```

Include File Statement

An include file statement enables you to include the contents of another BDF at any point in the BDF.

You might want to create an include file that lists global exclusions that are common to all backups. You would then specify this include file in each BDF.

You can nest include file statements. In other words, the include file that you specify may itself contain additional include file statements.

Syntax

.pathname:=
.pathname

The *pathname* placeholder specifies the full path name of the include file.

Example

Example 4–39 includes the `/home/gms/bdf/common` directory.

Example 4–39 Sample Exclusion Statements in a BDF

```
./home/gms/bdf/common
```

Mount Point Statement

A mount point statement determines whether `obtar` crosses local and remote mount points when making backups. A local mount point mounts a local file system; a remote mount point is a local mount for a file system accessed over the network. By default, file system backups do not cross mount points.

The scoping rules for mount point statements are as follows:

- A mount point statement specified before all paths is applicable to all paths.
- A mount point statement specified immediately after a particular path is applicable only to this path.
- If a mount point statement is specified before all paths, then any mount point statement after it supplements the first mount point statement.

Example 4–41 and Example 4–42 provides an illustration of these rules.

Syntax

@crosslocalmountpoints:=

```
@crosslocalmountpoints
```

The `@crosslocalmountpoints` statement directs `obtar` to cross local, but not remote, mount points.

@crossremotemountpoints:=

```
@crossremotemountpoints
```

The `@crossremotemountpoints` statement directs `obtar` to cross remote, but not local, mount points.

@crossallmountpoints:=

```
@crossallmountpoints
```

The `@crossallmountpoints` statement directs `obtar` to cross all mount points.

Examples

Example 4–40 directs `obtar` to cross local (but not remote) mount points when backing up `/path1` and `/path2`.

Example 4–40 Crossing Only Local Mount Points

```
@crosslocalmountpoints
+/path1
+/path2
```

Example 4–41 directs `obtar` to cross only local mount points when backing up `/path1`, all local and remote mount points when backing up `/path2`, and only local mount points when backing up `/path3`.

Example 4–41 Applying Mount Point Statements to Different Paths

```
@crosslocalmountpoints
+/path1
+/path2
@crossremotemountpoints
```

```
+/path3
```

Example 4–42 directs `obtar` to cross only local mount points when backing up `/path1`, only remote mount points when backing up `/path2`, no mount points at all (default behavior) when backing up `/path3`, and all local or remote mount points when backing up `/path4`.

Example 4–42 Applying Mount Point Statements to Different Paths

```
+/path1
@crosslocalmountpoints
+/path2
@crossremotemountpoints
+/path3
+/path4
@crossallmountpoints
```

BDF Example

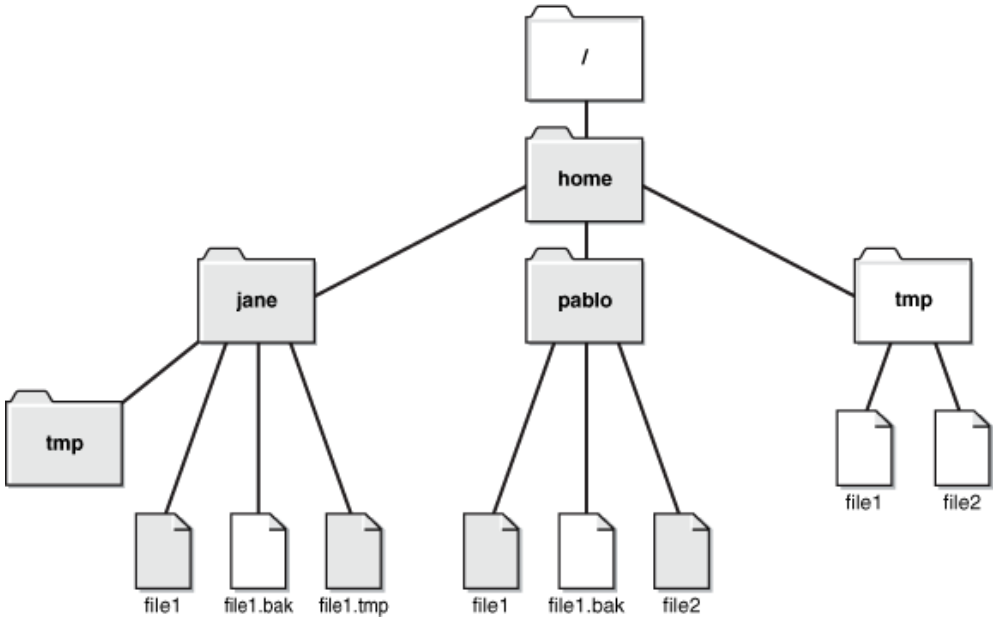
Example 4–43 shows an example of a BDF. Comment lines are preceded by a pound sign (#).

Example 4–43 Sample BDF

```
# Use the host named chicago as the client
# host
:chicago

# cross only local mount points for the subsequent paths
@crosslocalmountpoints

# Back up all files and directories in the /home
# directory
+/home

# Do not back up any directories or files with the
# extension ".bak" that are in the /home directory
# or any of its subdirectories
!*.bak

# Do not back up any directories or files that begin
# with the letters "tmp" that are directly under
# the /home directory
-tmp*

# Do not back up any Oracle database files in the /home
# directory or any of its subdirectories
~files
```

Figure 4–1 shows a file tree corresponding to the BDF example in Example 4–43. The shaded names indicate the files and directories that are backed up when you use the example BDF.

Figure 4–1 File Tree



5

Miscellaneous Programs

This chapter describes the following miscellaneous Oracle Secure Backup programs:

- installhere
- installhost
- installnet
- makedev
- obcleanup
- obcm
- obcopy
- osbcvt
- stoprb
- uninstallob

installhere

Purpose

Use the `installhere` tool to complete the installation of Oracle Secure Backup on a local host only (not over the network). An installation is incomplete if the Oracle Secure Backup software has already been loaded onto the host, but has not yet been installed. You must run this utility as `root`.

Prerequisites

You must run this utility as `root` on a Linux or UNIX system.

Syntax

```
install/installhere installtype [ -a admin-server ] [ -f ]
```

Semantics

installtype
Specifies the what role is assigned to the host during installation. Valid values are `client`, `mediaserver`, and `admin`.

-a *admin-server*
Specifies the administrative server for the domain to which this host belongs.

-f
Forces an update of the `/etc/obconfig` file, which specifies directory defaults. The following sample `obconfig` file shows typical defaults:

```
ob dir:                     /usr/local/oracle/backup
local db dir:               /usr/etc/ob
temp dir:                   /usr/tmp
admin dir:                  /usr/local/oracle/backup/admin
```

The `-f` option is a useful way to force an update when the host is being reconfigured and Oracle Secure Backup directory defaults are changing.

Example

Example 5–1 uses `installhere` to complete the Oracle Secure Backup installation on this client host. The command specifies `brhost2` as the administrative server for the domain.

Example 5–1 Completing the Installation of a Client

```
# install/installhere client -a brhost2
```

installhost

Purpose

Use the `installhost` tool to install Oracle Secure Backup on multiple Linux or UNIX hosts on the network. This utility is similar to `installob`, except `installhost` does not ask you whether to reinstall on the local host because you specify the target in the command line.

Prerequisites

You must run this utility as `root` on a Linux or UNIX system. You must have `rsh` capability.

Syntax

```
install/installhost installtype hostname[,hostname]... [ -a admin-server ] [ -f ]
```

Semantics

installtype
Specifies the role to be assigned to the specified hosts. Valid values are `client`, `server` (for the media server role), and `admin`.

hostname
Specifies the name of the host to which you want to copy Oracle Secure Backup.

-a *admin-server*
Specifies the administrative server to be used by the host.

-f
Forces an update of the `/etc/obconfig` file on each host. This option is a useful way to force an update when the host is being reconfigured and Oracle Secure Backup directory defaults are changing.

Example

Example 5–2 uses `installhost` to install Oracle Secure Backup on three new clients: `brhost2`, `brhost3`, and `brhost4`.

Example 5–2 Installing Oracle Secure Backup on Three Hosts

```
# install/installhost client brhost2,brhost3,brhost4
```

installnet

Purpose

Use the `installnet` tool to install or uninstall Oracle Secure Backup on multiple hosts. `installnet` takes as its argument the name of a Network Description File (NDF).

Note that `installnet` enables you to both install Oracle Secure Backup on a media server and configure tape devices, whereas `installhost` only performs installation.

Prerequisites

You must run this utility as `root` on a Linux or UNIX system. You must have `rsh` capability.

Syntax

```
install/installnet desc-file
[ -f | [ [ -U | -UU ]
         [ -np ] ] ]
[ -h hostname[,hostname]... ]
```

Semantics

desc-file
Specifies the name of a network installation description file. A sample NDF named `obndf` is located in the `install` directory of the Oracle Secure Backup home.

-f
Forces an update of each host, regardless of whether the version of Oracle Secure Backup software on that host is already up to date.

-U
Uninstalls Oracle Secure Backup from each host. The `admin` subdirectory of the Oracle Secure Backup home is not removed from the administrative server.

-UU
Uninstalls Oracle Secure Backup from each host. The `admin` subdirectory of the Oracle Secure Backup home is removed from the administrative server.

-np
Suppresses confirmation message for each host to be uninstalled.

-h *hostname*
Limits the installation to the specified hosts listed in the NDF. By default, `installnet` installs Oracle Secure Backup on all hosts listed in the NDF.

Example

Example 5–3 uses `installnet` to uninstall Oracle Secure Backup from three clients. The `admin` subdirectory is also removed from the administrative server.

Example 5–3 Uninstalling Oracle Secure Backup from Three Hosts

```
# install/installnet -UU client -h brhost2,brhost3,brhost4
```

makedev

Purpose

Use the `makedev` tool to configure devices for use with Oracle Secure Backup. This tool provides an alternative to creating device special files with installob.

Prerequisites

You must run this utility as `root` on a Linux or UNIX system.

Usage Notes

Note the following aspects of `makedev` usage:

- The `makedev` tool creates device special files for UNIX media servers. For each tape drive that you define, `makedev` creates one special file. For each library you define, `makedev` creates a single device file.
- The `makedev` tool prompts you for any required information that you do not supply on the command line. You can respond to any prompt with a question mark (`?`) to display more information.

Syntax

```
install/makedev [ -u unit ] [ -d  ] [ -b bus ] [ -t target ] [ -l lun ] [ -f ]
[ -n ] [ -x ] [ -y ] [ -z ] [ -h | ? | -? ] [ -dr | -mh ]
```

Semantics

-u *unit*
Creates the device special file for the device specified by Oracle Secure Backup logical unit number, which can range in value from 0 through 31. The Oracle Secure Backup logical unit number of a device is a number assigned by you and used by `makedev` to create unique filenames for the devices connected to the media server. Although it is not a requirement, unit numbers usually start at 0.

-d
Uses the default value for each unspecified option instead of prompting for it. Note that you must always specify a unit number (`-u`) even if you use this option.

-b *bus*
Specifies the SCSI *bus* number, address, or instance (depending on operating system type), to which the device is attached.

Table 5–1 lists the default SCSI bus designation for each supported operating system type.

Table 5–1 Default SCSI Bus Designations

Operating System	Default SCSI Bus Type
Solaris	esp0 (driver name/instance)

-t *target*
Specifies the SCSI target ID of the device, which can range from 0 through 15. The default depends on the logical unit number that you specified with the `-u` option.

-l *lun*
Specifies the SCSI logical unit number (LUN) of the device. Most operating systems support only LUN 0 and 1.The default LUN is 0.

Be careful not to confuse the SCSI LUN with the Oracle Secure Backup logical unit number. The LUN is part of the hardware address of the device; the Oracle Secure Backup logical unit number is part of the device special file name.

-f
Replaces any existing files or drivers without prompting for confirmation. By default, `makedev` prompts you to confirm replacement of any existing device special files.

-n
Displays the commands that will be executed by `makedev` to generate device special files, but does not actually create the files.

-x
Displays all commands as they are executed by `makedev`.

-y
Traces entry and exit from each subscript as it is executed by `makedev`.

-z (AIX only)
Generates a trace file, `makedev.trc`, in the current directory. This file contains the output of the methods used to define and configure the device.

[-h | | -?]
Displays a summary of `makedev` usage. You might need to type `-\?` instead of `-?` to avoid shell wildcard expansion.

-dr
Creates special files for a tape drive. This the default.

-mh
Creates special files for a SCSI library.

Example

Example 5–4 uses `makedev` to create a device special file. The example creates a special file for a tape drive, unit 0, at the default SCSI bus and target.

Example 5–4 Creating a Device Special File for a Tape Drive

```
# install/makedev -u 0 -d
```

obcleanup

Purpose

Use the `obcleanup` tool to generate an editable file listing the volumes in the Oracle Secure Backup catalogs and to remove unneeded records.

If previously used volumes are unlabeled or overwritten, then the index daemon automatically removes expired backups from the catalog at the interval set by the indexcleanupfrequency index policy (the default is 21 days). In this case, no manual intervention is necessary.

If volumes expire but are not unlabeled or overwritten, then their catalog entries persist unless you remove them with `obcleanup`. You can also use `obcleanup` to remove references to volumes that are no longer needed but are not set to expire. Because the catalogs can consume considerable disk space, you may want to run `obcleanup` periodically to keep the `admin` subdirectory of the Oracle Secure Backup home to a manageable size.

Prerequisites

The `obcleanup` utility operates only on the administrative server.

Usage Notes

When you run the `obcleanup` program on the command line, it lists the contents of the catalogs in a file, which is opened in an editor. The default text editor is set by the `EDITOR` environment variable. On Linux and UNIX, the default is `/bin/vi` if the `EDITOR` environment variable is not set. On Windows the default is Notepad.

Each line in the file contains a reference to a volume that you could purge from the catalogs. For example:

```
#Item Identification                  Created     Where Notes
#---- --------------------------- -------------- ----- --------------------
    1 VOL000001                  2004/06/07.15:51 IS  IX volume is full
```

Volumes that have expiration policies associated with them are noted in this file. If you have discarded or overwritten tapes, then use a text editor to delete the lines corresponding to these tapes from the file, save the modified file, and exit the editor.

After you delete records from the generated file and save it, `obixd` runs in the background and automatically removes the deleted records from the catalogs. You can configure the `obixd` cycle time in the indexcleanupfrequency index policy. The default cycle time is 21 days.

Syntax

```
etc/obcleanup [ -a ] [ -d ] [ -s { d | v | t } ] [ -v ]...
etc/obcleanup [ -V ]
```

Semantics

-a
Shows individual archive records in addition to volume records.

-d
Shows previously deleted records.

-s
Sorts the list by date (`d`), volume id (`v`), or volume tag (`t`).

-v
Operates in verbose mode. The more `-v` options you specify, the more verbose the output.

-V
Displays the `obcleanup` version and exits.

Example

Example 5–5 shows the editable file generated by the `obcleanup` utility for host `brhost2`.

Example 5–5 Sample Output from obcleanup

```
% etc/obcleanup

# This file lists all volumes described in Oracle Secure Backup's
# "volumes" and "index" databases on brhost2.
#
# Edit this file to delete entries from Oracle Secure Backup's databases.
# Delete each line whose corresponding database entry you want
# to remove.  Do not change the contents of the undeleted lines!
#
# Once you've finished, save your changes and exit the editor.
# obcleanup will ask you to confirm these changes before applying
# them to the databases.
#
#Item Identification                 Created     Where Notes
#---- --------------------------- -------------- ----- ----------------------
    1 tag 00000105                               IS
    2 tag 00000110                               IS
    3 tag 00000111                               IS
    4 tag 00000121                               IS
    5 tag 00000155                               IS
    6 tag 00000156                               IS
    7 tag 00000157                               IS
    8 tag 00000158                               IS
    9 tag AEA649S                                IS
   10 tag AEA650S                                IS
   11 tag AEA655S                                IS
   12 tag AFX935                                 IS
   13 tag AFX936                                 IS
   14 tag AFX936                                 IS
   15 full-000001            2005/01/17.18:12    IX
   16 full-000002            2005/01/17.18:12    IX
   17 full-000003            2005/01/17.18:12    IX
   18 full-000004            2005/06/05.01:02    IX
   19 full-000005            2005/07/04.01:02    IX
   20 full-000006            2005/08/06.01:04    IX
   21 full-000007            2005/09/06.01:00    IX
   22 full-000008            2005/09/06.01:00    IX
   23 full-000009            2005/11/04.15:05    IX
   24 full-000010            2005/11/04.15:05    IX
```

obcm

Purpose

Use the `obcm` tool to export and import identity certificates. These steps are required if you do not accept the default Oracle Secure Backup security behavior, which is for the Certification Authority to issue signed certificates to new hosts over the network.

The `observiced` daemon on the administrative server acts as the Certification Authority. The CA has two responsibilities with respect to certificates: it accepts certificate signing requests from hosts within the administrative domain as part of the `mkhost` process, and sends signed certificates back to the requesting host.

In manual certificate provisioning mode, you run `obcm export --certificate` on the administrative server to export a signed certificate for the newly configured host. You must manually transfer this signed certificate to the newly configured host.

After manually transferring the certificate to the new host, run `obcm import` on the newly configured host to import the signed certificate into the host's wallet. In this case, `obcm` directly accesses the wallet of the host. After it has made changes to the local wallet, `obcm` notifies the local `observiced` so that the local `observiced` can re-create the obfuscated wallet.

Prerequisites

You must have write permissions in the wallet directory, which by default is `/usr/etc/ob/wallet` on Linux and UNIX and `C:\Program Files\Oracle\Backup\db\wallet` on Windows. Note that `obcm` always accesses the wallet in this location. You cannot override the default location.

Syntax

```
/etc/obcm [ export --certificate --file certificate_file --host hostname ]
[ import --file signed_certificate_file ]
```

Semantics

export --certificate --file *certificate_file* --host *hostname*
Exports a signed identity certificate for the specified host to the specified text file.

import --file *signed_request_file*
Imports a signed identity certificate from the specified text file.

Examples

Example 5–6 exports a certificate for host `new_client` to the file `new_client_cert.f`. The utility is run on the administrative server.

Example 5–6 Exporting a Signed Certificate

```
obcm export --certificate --file /tmp/new_client_cert.f --host new_client
```

Example 5–7 imports a signed identity certificate from the file `client_cert.f`. The utility is run on the host being added to the administrative domain.

Example 5–7 Importing a Signed Certificate

```
obcm import --file /tmp/new_client_cert.f
```

obcopy

Purpose

Use the `obcopy` tool to copy one tape volume to another. Copying starts at the beginning of the input tape and terminates when the input drive reports blank tape (end of media). It is possible for the volumes to be different media types. For example, you can copy an 8mm tape to a 4mm tape.

Usage Notes

Note the following aspects of `obcopy` usage:

- The `obcopy` utility does not handle volume overflow conditions. Therefore, you are responsible for ensuring that the input volume or the selected portions of the volume fit on the second volume.
- By default, the compression mode of the output is the same as the mode of the input, assuming that the output device supports the compression format of the input device. You can use the `-c` and `-u` options to force the output to be compressed or uncompressed.
- Use the `-v` option if the input contains a file of with varying internal block sizes.
- The `obtar` utility does not write blocks of different sizes to a single file. On the remote chance that a file to be copied does contain varying block sizes, however, `obcopy` provides the `-v` option to accommodate such unusual circumstances.
- For both copy and verify operations, `obcopy` rewinds tapes before starting unless `-s` or `-t` is specified. Final disposition depends on whether the rewind or no rewind versions of the drives are being used.

Syntax

```
etc/obcopy [ -c ] [ -e ] [ -n cnt ] [ -f ] [ -s ] [ -t ] [ -u ] [ -v ]
       [ -V ] [ -h | ? ] input_device output_device
```

Semantics

-c
Compresses output even if input is not compressed. If the output device does not support compression, `obcopy` issues a warning and does not compress the output.

-e
Performs a byte-by-byte comparison of the contents of the input and output tapes to determine whether the data is the same. No copy is performed.

-n *cnt*
Copies at most *cnt* files from the source tape.

-f
Defaults to disk file if a device name is not found.

-s
Does not rewind *input_dev* before starting copy.

-t
Does not rewind *input_dev* before starting copy.

-u
Uncompresses output even if input is compressed.

-v
Specifies an input file with varying internal block sizes. Normally, `obcopy` redetermines the block size after reading a filemark. In other words, `obcopy` assumes that all blocks in a file (the data between two filemarks) are the same size. Specify `-v` only if the block size changes between files.

-V
Prints the `obcopy` version.

-h
Prints full help.

input_device
Specifies the device containing tape to be copied from.

output_device
Specifies the device containing tape to be copied to.

Example

Example 5–8 uses `obtool` to show that library `lib1` has a tape containing data loaded in its drive and library `lib2` has a blank tape loaded in its drive.

Example 5–8 Displaying Volumes in Two Libraries

```
ob> lsdev
library    lib1            in service
  drive 1  tape1           in service
library    lib2            in service
  drive 1  tape2           in service
ob> lsvol --library lib1 --long
Inventory of library lib1:
    in    mte:          vacant
    in    1:            volume RMAN-DEFAULT-000002, barcode ADE202, oid 111, 8087104 kb remaining,
                        content manages reuse
    in    2:            volume VOL000002, barcode ADE201, oid 108, 8029472 kb remaining
    in    3:            vacant
    in    4:            vacant
    in    dte:          volume VOL000003, barcode ADE203, oid 114, 8083360 kb remaining, lastse 4
ob> lsvol --library lib2 --long
Inventory of library lib2:
    in    mte:          vacant
    in    1:            volume VOL000004, barcode DEV423, oid 118, 8079520 kb remaining
    in    2:            volume RMAN-DEFAULT-000003, barcode DEV424, oid 120, 8078656 kb remaining,
                        content manages reuse
    in    3:            vacant
    in    4:            vacant
    in    iee1:         vacant
    in    iee2:         vacant
    in    iee3:         vacant
    in    dte:          unlabeled, barcode DEV425, oid 121, lastse 3
ob> quit
```

Example 5–9 uses obcopy to copy the data from the tape in the `tape1` drive to the tape in the `tape2` drive.

Example 5–9 Copying One Tape to Another with obcopy

```
% obcopy tape1 tape2
3.8 MB in 3 files copied
%
```

osbcvt

Purpose

Use the `osbcvt` command-line tool to migrate Reliaty Backup configuration and catalog data to Oracle Secure Backup. The `installob` scripts runs `osbcvt` automatically during a migration, so you would not typically need to run it manually.

`osbcvt` performs the following tasks:

1. Selects the source and destination directories.
2. Moves relevant information from the source to destination `admin` directory. Relevant information includes hosts, devices, media families, schedules, datasets, index directories, and archive and volume catalog files.
3. Reads the `/etc/rbconfig` file and converts the parameters it contains to the `/etc/obconfig` equivalents.
4. Processes server and client hosts.

> **See Also:** *Oracle Secure Backup Migration Guide* to learn how to migrate from Reliaty Backup to Oracle Secure Backup

Usage Notes

Note the following aspects of `osbcvt` usage:

- `osbcvt` removes most of the `admin` directory in your Reliaty Backup home. Thus, it is recommended that you back up your Reliaty Backup admin directory as a precaution before beginning the migration.
- `osbcvt` is unaware of the Oracle Secure Backup logical names for new hosts and devices. Thus, after the migration is complete you must update your host configurations and edit your device attachments to ensure that they reflect the Oracle Secure Backup equivalents.

Syntax

```
install/osbcvt [ -srcdir srcdir_name ] [ -help ]
```

Semantics

-srcdir *srcdir_name*
Specifies the location of the `admin` directory in the Reliaty Backup home. If not specified, the location is determined from `/etc/rbconfig`. The program exits with an error message if `-srcdir` is not specified and the machine is not an administrative server in a Reliaty Backup domain.

-help
Prints usage information.

Example

Example 5–10 uses `osbcvt` to migrate the Reliaty Backup catalog and configuration data contained in `/space/reliaty/backup_3132/admin`.

Example 5–10 Displaying Volumes in Two Libraries

```
# install/osbcvt -srcdir /space/reliaty/backup_3132/admin
Starting data migration from Reliaty Backup to Oracle Secure Backup.
The Reliaty Backup admin data will be moved to /usr/local/oracle/backup

Data migration from Reliaty Backup is complete.
```

stoprb

Purpose

Use the `stoprb` tool to stop Reliaty Backup daemons on one or more hosts.

Syntax

```
install/stoprb [ hostname ... ]
```

Semantics

hostname ...
Stops Reliaty Backup daemons on the specified hosts. If you do not specify *hostname*, then `stoprb` stops Reliaty Backup daemons on the local host.

Example

Example 5–11 stops the Reliaty Backup daemons on hosts `brhost2` and `brhost3`.

Example 5–11 Stopping Reliaty Backup Daemons on Remote Hosts

```
stoprb brhost2 brhost3
```

uninstallob

Purpose

Use the `uninstallob` tool to uninstall Oracle Secure Backup from a host in the administrative domain.

Prerequisites

You must run this utility as `root` on a Linux or UNIX system.

Syntax

```
install/uninstallob [ -m host ] [ -q obparmsfile ] [ -U | -UU ]
```

Semantics

-m *host*
Specifies the name of the host from which to uninstall Oracle Secure Backup so that the script does not prompt for the name.

-q *obparmsfile*
Specifies the name of an `obparameters` file so that the script does not prompt for the file name.

-U
Suppresses all prompts. The script does not delete the `admin` directory.

-UU
Suppresses all prompts. The script deletes the `admin` directory.

Example

Example 5–12 uses `uninstallob` to uninstall Oracle Secure Backup from client `brhost2`. The script runs noninteractively.

Example 5–12 Uninstalling Oracle Secure Backup

```
# install/uninstallob -m brhost2 -UU
```

A

Defaults and Policies

Defaults and policies are configuration data that control how Oracle Secure Backup operates within an administrative domain. These policies are grouped into several policy classes. Each policy class contains policies that describe a particular area of operations.

The policy classes are as follows:

- Daemon Policies
- Device Policies
- Index Policies
- Log Policies
- Media Policies
- Naming Policies
- NDMP Policies
- Operations Policies
- Scheduler Policies
- Security Policies

> **See Also:** "Policy Commands" on page 1-14 to learn about the `obtool` policy commands

Daemon Policies

These policies control aspects of the behavior of daemons and services. For example, you can specify whether logins should be audited and control how the index daemon updates the catalog.

The daemon policies are as follows:

- auditlogins
- obixdmaxupdaters
- obixdrechecklevel
- obixdupdaternicevalue
- webautostart
- webpass
- windowscontrolcertificateservice

auditlogins

Use the `auditlogins` policy to audit attempts to log in to Oracle Secure Backup.

Values

`yes`
Enables the policy. All attempts to log in to Oracle Secure Backup are logged by the administrative `observiced` to its log file.

`no`
Disables the policy (default).

obixdmaxupdaters

Use the `obixdmaxupdaters` policy to specify the maximum number of catalog update processes that can operate concurrently.

The Oracle Secure Backup index daemon (`obixd`) is a daemon that manages the Oracle Secure Backup catalogs for each client. Oracle Secure Backup starts the index daemon at the conclusion of each backup and at other times throughout the day.

Values

n
Specifies the number of concurrent `obixd` daemons to allow. The default is 2.

obixdrechecklevel

Use the `obixdrechecklevel` policy to control the level of action by the Oracle Secure Backup index daemon to ensure that a host backup catalog is valid before making it the official catalog.

Values

`structure`
Specifies that the index daemon should verify that the structure of the catalog is sound after any updates to a backup catalog (default). This verification is a safeguard mechanism and is used to by the index daemon to double-check its actions after a catalog update.

`content`
Specifies that the index daemon should verify that the structure and content of the catalog is sound after any updates to a backup catalog. This is the most time-consuming as well as the most comprehensive method.

`none`
Specifies that the index daemon should take no extra action to affirm the soundness of the catalog after updates to the backup catalog. This is the fastest but also the least safe method.

obixdupdaternicevalue

Use the `obixdupdaternicevalue` policy to set the priority at which the index daemon runs. The higher the value, the more of the CPU the index daemon yields to other competing processes. This policy is not applicable to Windows hosts.

Values

n
Specifies the index daemon priority. The default is 0, which means that the index daemon runs at a priority assigned by the system, which is normal process priority. You can use a positive value (1 to 20) to decrease the priority, thereby making more CPU time available to other processes. To give the daemon a higher priority, enter a negative number.

webautostart

Use the `webautostart` policy to specify whether the Apache Web server automatically starts when you restart `observiced`.

Values

`yes`
Enables the policy.

> **Note:** The installation process sets `webautostart` to `yes`, which is not the default value.

`no`
Disables the policy (default).

webpass

Use the `webpass` policy to specify a password to be passed to the Web server.

If the Web server's SSL certificate requires a password (the "PEM pass phrase"), then entering it in this policy enables `observiced` to pass it to the Oracle Secure Backup Web server when it is started. The password is used when decrypting certificate data stored locally on the administrative server and never leaves the machine.

Values

password
Specifies the password. By default no password is set.

> **Note:** The installation script configures a password for the `webpass` policy. You can change this password, although in normal circumstances you should not need to.

windowscontrolcertificateservice

Use the `windowscontrolcertificateservice` to specify whether Oracle Secure Backup should attempt to put the Windows certificate service in the appropriate mode before backing up or recovering a certificate service database.

Values

`yes`
Specifies that Oracle Secure Backup should start the certificate service prior to a backup, stop it, and then restart the certificate service for a restore.

`no`
Disables the policy (default).

Device Policies

These policies control how devices are automatically detected during device discovery as well as when device write warnings are generated.

The device policies are as follows:

- discovereddevicestate
- errorrate

discovereddevicestate

Use the `discovereddevicestate` policy to determine whether devices discovered by the discoverdev command are immediately available for use by Oracle Secure Backup.

Values

`in service`
Specifies that discovered devices will be immediately available to Oracle Secure Backup.

`not in service`
Specifies that discovered devices are not available to Oracle Secure Backup until explicitly placed in service (default).

errorrate

Use the `errorrate` policy to set the error rate. The error rate is the ratio of recovered write errors that occur during a backup job per the total number of blocks written, multiplied by 100. If the error rate for any backup is higher than this setting, then Oracle Secure Backup displays a warning message in the backup transcript.

Values

n
Specifies the error rate to be used with the device. The default is `8`.

`none`
Disables error rate checking. You can disable error rate checking to avoid warning messages when working with a drive that does not support the SCSI commands necessary to check the error rate.

Index Policies

These policies control how Oracle Secure Backup generates and manages the catalog. For example, you can specify the amount of elapsed time between catalog cleanups.

The index policies are as follows:

- asciiindexrepository
- autoindex
- earliestindexcleanuptime

- generatendmpindexdata
- indexcleanupfrequency
- latestindexcleanuptime
- maxindexbuffer
- saveasciiindexfiles

asciiindexrepository

Use the `asciiindexrepository` policy to specify the directory where ASCII index files are saved prior to being imported into the Oracle Secure Backup catalog by the index daemon.

Values

`pathname`
Specifies the path name for the index files. The default path name is the `admin/history/host/`*`hostname`* subdirectory of the Oracle Secure Backup home.

autoindex

Use the `autoindex` policy to specify Oracle Secure Backup whether backup catalog data should be produced for each backup it performs.

Values

`yes`
Specifies that catalog data should be produced for each backup (default).

`no`
Specifies that catalog data should not be produced for each backup.

earliestindexcleanuptime

Use the `earliestindexcleanuptime` policy to specify the earliest time of day at which catalogs are to be cleaned up. Cleanup activities should take place during periods of lowest usage of the administrative server.

Values

`time`
Specifies the time in hour and minutes. Refer to "time" on page 3-37 for a description of the *time* placeholder. The default value is `23:00`.

generatendmpindexdata

Use the `generatendmpindexdata` policy to specify whether Oracle Secure Backup should produce backup catalog information when backing up NDMP-accessible clients.

Values

`yes`
Specifies that catalog data should be produced for backups of NDMP clients (default).

`no`
Specifies that catalog data should not be produced for backups of NDMP clients.

indexcleanupfrequency

Use the `indexcleanupfrequency` policy to specify the amount of elapsed time between catalog cleanups.

Typically, you should direct Oracle Secure Backup to clean up catalogs on a regular basis. This technique eliminates stale data from the catalog and reclaims disk space. Catalog cleanup is a CPU-intensive and disk I/O-intensive activity, but Oracle Secure Backup performs all data backup and restore operations without interruption when catalog cleanup is in progress.

Values

`duration`
Specifies the frequency of catalog cleanup operations. Refer to "duration" on page 3-17 for a description of the *duration* placeholder. The default is `21days`, which means that Oracle Secure Backup cleans the catalog every three weeks.

latestindexcleanuptime

Use the `latestindexcleanuptime` policy to specify the latest time of day at which index catalogs can be cleaned up.

Values

`duration`
Specifies the latest index cleanup time. Refer to "time" on page 3-37 for a description of the *duration* placeholder. The default value is `07:00`.

maxindexbuffer

Use the `maxindexbuffer` policy to specify a maximum file size for the local index buffer file.

Backup performance suffers if index data is written directly to an administrative server that is busy with other tasks. To avoid this problem, Oracle Secure Backup buffers index data in a local file on the client during the backup, which reduces the number of interactions that are required with an administrative server. This policy enables you to control the maximum size to which this buffer file can grow.

Values

`buffersize`
Specifies the buffer size in blocks of size 1 KB. The default value is `6144`, which is 6 MB. Setting the buffer size to 0 causes Oracle Secure Backup to perform no local buffering.

saveasciiindexfiles

Use the `saveasciiindexfiles` policy to determine whether to save or delete temporary ASCII files used by the index daemon.

When Oracle Secure Backup performs a backup, it typically generates index information that describes each file system object it saves. Specifically, it creates a

temporary ASCII file on the administrative server in the `admin/history/index/client` subdirectory of the Oracle Secure Backup home. When the backup completes, the index daemon imports the index information into the index catalog file for the specified client.

Values

`yes`
Directs Oracle Secure Backup to retain each temporary ASCII index file. This option may be useful if you have written tools to analyze the ASCII index files and generate site-specific reports.

`no`
Directs Oracle Secure Backup to delete each temporary ASCII index file when the backup completes (default).

Log Policies

These policies control historical logging in the administrative domain. For example, you can specify which events should be recorded in the activity log on the administrative server: all, backups only, restore operations only, and so forth.

The log policies are as follows:

- adminlogevents
- adminlogfile
- clientlogevents
- jobretaintime
- logretaintime
- transcriptretaintime
- unixclientlogfile
- windowsclientlogfile

adminlogevents

Use the `adminlogevents` policy to specify the events to be logged in the activity log on the administrative server. Separate multiple event types with a comma. By default this policy is not set, which means that no activity log is generated.

Values

`backup`
Logs all backup events.

`backup.commandline`
Logs command-line backups that specify files to be backed up on the command line.

`backup.bdf`
Logs command-line backups that specify a backup description file.

`backup.scheduler`
Logs scheduled backups.

`restore`
Logs restore operations.

`all`
Logs everything specified by the preceding options.

adminlogfile

Use the `adminlogfile` policy to specify the path name for the activity log on the administrative server.

Values

`pathname`
Specifies the path name of a log file, for example, `/var/log/admin_srvr.log`. By default this policy is not set, which means that no log file is generated.

clientlogevents

Use the `clientlogevents` policy to specify the events to be logged in the activity log on the client host.

Values

See the values for the `adminlogevents` policy. By default this policy is not set.

jobretaintime

Use the `jobretaintime` policy to set the length of time to retain job list history.

Values

`duration`
Retains the job history for the specified *duration*. The default is `30days`. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

logretaintime

Use the `logretaintime` policy to set the length of time to retain Oracle Secure Backup log files.

Several components of Oracle Secure Backup maintain log files containing diagnostic messages. This option lets you limit the size of these files, which can grow quite large. Oracle Secure Backup periodically deletes all entries older than the specified duration.

Values

`duration`
Retains the diagnostic logs for the specified *duration*. The default is `7days`. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

transcriptretaintime

Use the `transcriptretaintime` policy to specify the length of time to retain Oracle Secure Backup job transcripts.

When the Oracle Secure Backup scheduler runs a job, it saves the job output in a transcript file. You can specify how long transcript files are to be retained.

Values

duration
Retains the job transcripts for the specified *duration*. The default is `7days`. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

unixclientlogfile

Use the `unixclientlogfile` policy to specify the path name for log files on UNIX client hosts. Oracle Secure Backup logs each of the events selected for `clientlogevents` to this file on every UNIX client.

Values

pathname
Specifies the path name for the log files on UNIX clients. By default this policy is not set, which means that no log file is generated.

windowsclientlogfile

Use the `windowsclientlogfile` to specify the path name for log files on Windows client hosts. Oracle Secure Backup logs each of the events selected for `clientlogevents` to this file on each Windows client.

Values

pathname
Specifies the path name for the log files on Windows clients. By default this policy is not set, which means that no log file is generated.

Media Policies

These policies control domain-wide media management. For example, you can specify a retention period for tapes that are members of the null media family.

The media policies are as follows:

- barcodesrequired
- blockingfactor
- maxblockingfactor
- overwriteblanktape
- overwriteforeigntape
- overwriteunreadabletape
- volumeretaintime
- writewindowtime

barcodesrequired

Use the `barcodesrequired` policy to determine whether tapes are required to have readable barcodes.

By default, Oracle Secure Backup does not discriminate between tapes with readable barcodes and those without. This policy ensures that Oracle Secure Backup can always solicit a tape needed for restore by using both the barcode and the volume ID. Use this feature only if all tape drives are contained in libraries with a working barcode reader.

Values

`yes`
Requires tapes to have readable barcodes.

`no`
Does not require tapes to have readable barcodes (default).

blockingfactor

Use the `blockingfactor` policy to define the size of every tape block written during a backup or restore operation. You can modify this value so long as it does not exceed the limit set by the `maxblockingfactor` policy.

Values

`blocksize`
Specifies the block factor in blocks of size 512 bytes. The default value is `128`, which means that Oracle Secure Backup writes 64 KB blocks to tape.

maxblockingfactor

Use the `maxblockingfactor` policy to define the maximum size of a tape block read or written during a backup or restore operation. Blocks over this size are not readable.

Values

`maxblocksize`
Specifies the maximum block factor in blocks of size 512 bytes. The default value is `128`, which represents a maximum block size of 64 KB. The maximum setting is `4096`, which represents a maximum tape block size of 2 MB. This maximum is subject to further constraints by device and operating system limitations outside of the scope of Oracle Secure Backup.

overwriteblanktape

Use the `overwriteblanktape` policy to specify whether Oracle Secure Backup should overwrite a blank tape.

Values

`yes`
Overwrites blank tapes (default).

`no`
Does not overwrite blank tapes.

overwriteforeigntape

Use the `overwriteforeigntape` policy to specify whether Oracle Secure Backup should overwrite an automounted tape recorded in an unrecognizable format.

Values

`yes`
Overwrites tapes in an unrecognized format (default).

`no`
Does not overwrite tapes in an unrecognized format.

overwriteunreadabletape

Use the `overwriteunreadabletape` policy to specify whether Oracle Secure Backup should overwrite a tape whose first block cannot be read.

Values

`yes`
Overwrites unreadable tapes.

`no`
Does not overwrite unreadable tapes (default).

volumeretaintime

Use the `volumeretaintime` policy to specify a retention period for tapes that are members of the `null` media family.

Values

`duration`
Retains the volumes for the specified *duration*. The default is `disabled`, which means that the volumes do not automatically expire. You can overwrite or unlabel the volume at any time. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

writewindowtime

Use the `writewindowtime` policy to specify a write-allowed time for tapes that are members of the `null` media family.

Values

`duration`
Retains the volumes for the specified *duration*. The default is `disabled`, which means that the write window never closes. Refer to "duration" on page 3-17 for a description of the *duration* placeholder.

Naming Policies

This class contains a single policy, which specifies a WINS server for the administrative domain.

The naming policy is as follows:

- winsserver

winsserver

Use the `winsserver` policy to specify an IP address of a Windows Internet Name Service (WINS) server. The WINS server is used throughout the administrative domain.

Oracle Secure Backup provides the ability for UNIX systems to resolve Windows client host names through a WINS server. Setting this policy enables Oracle Secure Backup to support clients that are assigned IP addresses dynamically by WINS.

Values

`wins_ip`
Specifies a WINS server with the IP address *wins_ip*. By default this policy is not set.

NDMP Policies

These policies specify NDMP Data Management Agent (DMA) defaults. For example, you can specify a password used to authenticate Oracle Secure Backup to each NDMP server.

The NDMP policies are as follows:

- authenticationtype
- backupev
- backuptype
- password
- port
- protocolversion
- restoreev
- username

authenticationtype

Use the `authenticationtype` policy to specify the means by which the Oracle Secure Backup NDMP client authenticates itself to an NDMP server.

You can change the authentication type for individual hosts by using the `--ndmpauth` option of the mkhost and chhost commands.

Values

`authtype`
Specifies the authentication type. Refer to "authtype" on page 3-4 for a description of the *authtype* placeholder. The default is `negotiated`, which means that Oracle Secure Backup determines (with the NDMP server) the best authentication mode to use. Typically, you should use the default setting.

backupev

Use the `backupev` policy to specify backup environment variables. Oracle Secure Backup passes each variable to the client host's NDMP data service every time it backs up NDMP-accessed data.

Note: NDMP environment variables are specific to each data service. For this reason, specify them only if you are knowledgeable about the data service implementation.

You can also select client host-specific environment variables, which are sent to the NDMP data service each time data is backed up from or recovered to the client host, by using the `--backupev` and `--restoreev` options of the mkhost and chhost commands.

Values

`name=value`
Specifies a backup environment variable name and value, for example, `VERBOSE=y`. By default the policy is not set.

backuptype

Use the `backuptype` policy to specify a default backup type. Backup types are specific to NDMP data services; a valid backup type for one data service may be invalid, or undesirable, for another. By default Oracle Secure Backup chooses a backup type appropriate to each data service.

You can change the backup type for individual hosts by using the `--ndmpbackuptype` option of the mkhost and chhost commands.

Values

`ndmp-backup-type`
Specifies a default backup type. Refer to "ndmp-backup-type" on page 3-24 for a description of the *ndmp-backup-type* placeholder.

password

Use the `password` policy to specify a password used to authenticate Oracle Secure Backup to each NDMP server.

You can change the NDMP password for individual hosts by using the `--ndmppass` option of the mkhost and chhost commands.

Values

`password`
Specifies a password for NDMP authentication. By default this policy is not set, that is, the default password is null.

port

Use the `port` policy to specify a TCP port number for use with NDMP.

You can change the TCP port for individual hosts by using the `--ndmpport` option of the mkhost and chhost commands.

Values

port_num
Specifies a TCP port number. The default value for *port_num* is `10000`.

protocolversion

Use the `protocolversion` policy to specify an NDMP protocol version.

Typically, you should let Oracle Secure Backup negotiate a protocol version with each NDMP server (default). If necessary for testing or some other purpose, you can change the NDMP protocol version with which Oracle Secure Backup communicates with this server. If an NDMP server is unable to communicate using the protocol version you select, then Oracle Secure Backup reports an error rather than using a mutually supported version.

You can change the NDMP protocol version for individual hosts by using the `--ndmppver` option of the mkhost and chhost commands.

Values

protocol_num
Specifies a protocol number. Refer to "protover" on page 3-30 for a description of the *protover* placeholder. The default is `0`, which means "as proposed by server."

restoreev

Use the `restoreev` policy to specify restore environment variables. Oracle Secure Backup passes each variable to the client host's NDMP data service every time it recovers NDMP-accessed data.

You can also select client host-specific environment variables, which are sent to the NDMP data service each time data is backed up from or recovered to the client host, by using the `--backupev` and `--restoreev` options of the mkhost and chhost commands.

Note: NDMP environment variables are specific to each data service. For this reason, specify them only if you are knowledgeable with the data service implementation.

Values

name=value
Specifies a backup environment variable name and value, for example, `VERBOSE=y`. By default the policy is not set.

username

Use the `username` policy to specify the name used to authenticate Oracle Secure Backup to each NDMP server.

You can change the NDMP username for individual hosts by using the `--ndmpuser` option of the mkhost and chhost commands.

Values

username
Specifies a username for authentication on NDMP servers. The default is `root`.

Operations Policies

These policies control various backup and restore operations. For example, you can set the amount of time that an RMAN backup job waits in the Oracle Secure Backup scheduler queue for the required resources to become available.

The operations policies are as follows:

- autohistory
- autolabel
- backupimagerechecklevel
- backupoptions
- fullbackupcheckpointfrequency
- incrbackupcheckpointfrequency
- mailport
- mailserver
- maxcheckpointrestarts
- positionqueryfrequency
- restoreoptions
- restartablebackups
- rmanresourcewaittime
- rmanrestorestartdelay
- windowsskipcdfs
- windowsskiplockedfiles

autohistory

Use the `autohistory` policy to specify whether Oracle Secure Backup updates backup history data every time a client host is backed up. This history data is used to form file selection criteria for incremental backups.

Values

`yes`
Updates backup history data when a client host is backed up (default). This history data is used to form file selection criteria for incremental backups.

`no`
Does not update backup history data when a client host is backed up.

autolabel

Use the `autolabel` policy to specify whether Oracle Secure Backup creates volume and backup image labels for a new backup image whenever it backs up data.

Values

`yes`
Enables label generation (default).

`no`
Disables label generation. You should not disable label generation unless directed by Oracle Support Services.

backupimagerechecklevel

Use the `backupimagerechecklevel` policy to specify whether Oracle Secure Backup performs block-level verification after each backup section is completed.

Oracle Secure Backup can optionally reread each block that it writes to tape during a backup job. It provides a second verification that the backup data is readable. The first check is performed by the tape drive's read-after-write logic immediately after the data is written.

Values

`block`
Performs block-level verification after each backup section is completed. Oracle Secure Backup backspaces the tape to the beginning of the backup section, reads the contents, and performs one of the following actions:

- Leaves the tape positioned at the end of the backup section if it was the last section of the backup
- Continues with volume swap handling if it has more data to write

> **Caution:** Choosing `block` substantially increases the amount of time it takes to back up data.

`none`
Performs no verification (default).

backupoptions

Use the `backupoptions` policy to specify additional options to apply to scheduler-dispatched backups. Whenever the scheduler initiates a backup, it supplies the specified command-line options to `obtar`. For example, you can turn on diagnostic output mode in `obtar` by setting this value to `-J`.

These options apply only to backups initiated by the Oracle Secure Backup scheduler, not through the `obtool` command-line interface.

Values

`obtar-options`
Specifies user-supplied `obtar` options. See "obtar Options" on page 4-24 for details on `obtar` options. By default no options are set.

Note: Whatever you enter is passed directly to `obtar`, so be sure to specify valid options. Otherwise, your backup or restore jobs will fail to run.

fullbackupcheckpointfrequency

Use the `fullbackupcheckpointfrequency` policy to specify checkpoint frequency, that is, how often Oracle Secure Backup takes a checkpoint during a full backup for restartable backups.

Values

n`MB`
Takes a checkpoint after every *n* MB transferred to a volume.

n`GB`
Takes a checkpoint after every *n* GB transferred to a volume. By default, Oracle Secure Backup takes a checkpoint for every 8 GB transferred to a volume.

incrbackupcheckpointfrequency

Use the `incrbackupcheckpointfrequency` policy to specify checkpoint frequency, that is, how often Oracle Secure Backup takes a checkpoint during a incremental backup for restartable backups.

Values

n`MB`
Takes a checkpoint after every *n* MB transferred to a volume.

n`GB`
Takes a checkpoint after every *n* GB transferred to a volume. By default, Oracle Secure Backup takes a checkpoint for every 2 GB transferred to a volume.

Choose the period at which Oracle Secure Backup will take a checkpoint during an incremental backup for any backup that is restartable. The value is represented in volume of bytes moved. (In the default case, a checkpoint is taken for each 8 GB transferred to a volume.)

mailport

Use the `mailport` policy to specify the TCP/IP port number to which Oracle Secure Backup sends email requests from Windows hosts.

Values

`port_num`
Specifies a TCP/IP port number. The default value is `25`.

mailserver

Use the `mailserver` policy to specify the name of the host to which Oracle Secure Backup sends email requests from Windows hosts.

Values

hostname
Specifies a host name. The default value is `localhost`.

maxcheckpointrestarts

Use the `maxcheckpointrestarts` policy to specify the maximum number of times Oracle Secure Backup attempts to restart an operation from the same checkpoint. If this limit is reached, then Oracle Secure Backup discards the checkpoint and restarts the backup from the beginning.

Values

n
Specifies the maximum number of restarts. The default value is `5`.

positionqueryfrequency

Use the `positionqueryfrequency` policy to specify a frequency at which Oracle Secure Backup obtains position information from the drive.

When `obtar` generates an index while creating or indexing a backup image, it periodically obtains information from the drive. Oracle Secure Backup uses this information during subsequent restore jobs to rapidly position a tape to the requested files.

Values

n
Specifies the position query frequency in terms of KB transferred. The default value is `1024` (1 MB), which means that information is obtained after each 1 MB (1024*1024) of data is written to tape.

restartablebackups

Use the `restartablebackups` policy to specify whether the restartable backups feature is enabled. This feature enables Oracle Secure Backup to restart certain types of failed backups from a mid-point rather than from the beginning.

Values

`yes`
Enables restartable backups (default).

> **Note:** If you use the restartable backups feature, then ensure that the `/tmp` directory on the administrative server is on a partition that maintains at least 1 GB of free space.

`no`
Disables restartable backups.

restoreoptions

Use the `restoreoptions` policy to specify additional options to apply to scheduler-dispatched restore operations. Whenever the scheduler initiates a restore operation, it supplies the specified command-line options to `obtar`. For example, you can turn on diagnostic output mode in `obtar` by setting this value to `-J`.

Values

`obtar-options`
Specifies user-supplied `obtar` options. See "obtar Options" on page 4-24 for details on `obtar` options. By default no restore options are set.

Note: Whatever you enter is passed directly to `obtar`, so be sure to specify valid options. Otherwise, your backup or restore jobs will fail to run.

---

rmanresourcewaittime

Use the `rmanresourcewaittime` policy to select the *duration* to wait for a resource.

When an RMAN job has been started and requires certain resources, the resources may not be available immediately. The `rmanresourcewaittime` policy controls the amount of time that the job waits in the Oracle Secure Backup scheduler queue for the required resources to become available. If the resources are unavailable at the end of the wait time, then the job fails with an error message. If the resources become available within the specified time, then the job completes successfully.

Values

`duration`
Specifies the time to wait for a resource. Refer to "duration" on page 3-17 for a description of the *duration* placeholder. Note that all values are valid except `disabled`. The default is `forever`.

rmanrestorestartdelay

Use the `rmanrestorestartdelay` policy to select the amount of time to wait before starting a restore operation after a restore request has been received. You can use this delay to queue all requests and optimize the retrieval of data from tape.

Values

`delay_time`
Specifies the time to delay. Valid values are a number followed by `seconds`, `minutes`, or `hours`. The default is `10seconds`.

windowsskipcdfs

Use the `windowsskipcdfs` policy to determine whether Oracle Secure Backup should back up Windows CD-ROM file systems (CDFS).

Values

`yes`
Does not back up CDFS file systems (default).

`no`
Backs up the contents of CDFS file systems.

windowsskiplockedfiles

Use the `windowsskiplockedfiles` policy to determine whether Oracle Secure Backup logs an error message when it encounters a locked Windows file. Files are locked when in use by another process.

Values

`yes`
Skips locked files and does not write a message to the transcript or archive's index file.

`no`
Logs an error message to the transcript and to the archive's index file (default).

Scheduler Policies

These policies control the behavior of the scheduler. For example, you can specify a frequency at which the scheduler attempts to dispatch backup jobs.

The scheduler policies are as follows:

- applybackupsfrequency
- defaultstarttime
- maxdataretries
- pollfrequency
- retainbackupmetrics

applybackupsfrequency

Use the `applybackupsfrequency` policy to specify a frequency at which the Oracle Secure Backup scheduler attempts to dispatch jobs.

Values

`duration`
Specifies how often the scheduler dispatches jobs. Refer to "duration" on page 3-17 for a description of the *duration* placeholder. Note that the `forever` and `disabled` values are not legal. The default value is `5minutes`, that is, Oracle Secure Backup attempts to dispatch jobs every five minutes.

defaultstarttime

Use the `defaultstarttime` policy to specify the default start time for each new trigger. See the *Oracle Secure Backup Administrator's Guide* for a description of triggers.

Values

`time`
Specifies the default trigger start time. Refer to "time" on page 3-37 for a description of the *time* placeholder. The default value is `00:00` (midnight).

maxdataretries

Use the `maxdataretries` policy to specify the maximum number of times to retry a failed client backup.

While attempting to back up a client, certain errors can occur that cause the backup to fail. (See the *Oracle Secure Backup Administrator's Guide* for a description of triggers.) Retryable failures include those caused by the client being unavailable because it is out of service or down, unable to communicate through the network, or has insufficient disk space for temporary backup files.

Values

n
Specifies the maximum number of times to retry. The default value is `6`.

pollfrequency

Use the `pollfrequency` policy to specify the frequency at which Oracle Secure Backup scans the contents of the scheduler catalog for manual changes.

Values

duration
Specifies the scheduler catalog polling frequency. Refer to "duration" on page 3-17 for a description of the *duration* placeholder. Note that the `forever` value is not legal. The default value is `30minutes`.

retainbackupmetrics

Use the `retainbackupmetrics` policy to specify whether Oracle Secure Backup saves a summary of metrics produced by each backup operation in the client's `observiced` log.

Values

`yes`
Saves a metric summary.

`no`
Does not save a metric summary (default).

Security Policies

These policies control aspects of domain security. For example, you can enable SSL encryption for backup data in transit or set the key size for host identity certificates.

The security policies are as follows:

- autocertissue
- certkeysize
- encryptdataintransit
- loginduration
- securecomms

autocertissue

Use the `autocertissue` policy to indicate whether `observiced` on the administrative server will transmit signed certificates (certificate response messages) over the network as part of the mkhost command processing.

Values

`yes`
Transmits signed certificates over the network during host creation (default).

`no`
Does not transmit signed certificates over the network during host creation.

certkeysize

Use the `certkeysize` policy to indicate the key size to be used when creating the public/private key pair used in identity certificates in the administrative domain. Certification Authorities typically choose key sizes of `1024` or `2048`.

Values

`size`
Specifies the size of the key in bytes. Valid values are `512`, `768`, `1024` (default), `2048`, `3072`, or `4096`. Key sizes of `512` or `768` are not regarded as secure; `1024` or `2048` are regarded as secure; and `3072` or `4096` are regarded as very secure.

encryptdataintransit

Use the `encryptdataintransit` policy to enable SSL encryption for file system and unencrypted RMAN backup data before it passes over the network. This policy does not enable or disable encryption for data at rest, that is, data stored on disk or tape.

Note that if RMAN backup data is already encrypted by RMAN, then this policy does not encrypt it again.

Values

`yes`
Enables encryption for bulk data transferred over the network (default).

`no`
Disables encryption for bulk data transferred over the network.

loginduration

Use the `loginduration` policy to specify the amount of time a login token remains valid in `obtool` after it is created.

Oracle Secure Backup creates a login token each time you log in through the `obtool`. If a valid token exists when you invoke either tool, then you do not have to log in again.

Values

duration
Specifies the duration of the login token. Refer to "duration" on page 3-17 for a description of the *duration* placeholder. The default value is `15minutes`.

securecomms

Use the `securecomms` policy to specify whether daemon components will utilize SSL for authentication and message integrity.

Values

`yes`
Enables SSL encryption for authentication and message integrity (default).

`no`
Disables SSL encryption for authentication and message integrity.

B

Classes and Rights

Table B–1 defines the predefined `obtool` classes. The rights are described in "Class Rights" on page B-1.

Table B–1 Classes and Rights

Class RIghts	admin	operator	oracle	user	reader
browse backup catalogs with this access	privileged	notdenied	permitted	permitted	named
access Oracle backups	all	all	owner	owner	none
display administrative domain's configuration	yes	yes	yes	yes	no
modify own name and password	yes	yes	yes	yes	yes
modify administrative domain's configuration	yes	no	no	no	no
perform backups as self	yes	yes	yes	no	no
perform backups as privileged user	yes	yes	no	no	no
list any jobs owned by user	yes	yes	yes	yes	no
modify any jobs owned by user	yes	yes	yes	yes	no
perform restores as self	yes	yes	yes	yes	no
perform restores as privileged user	yes	yes	no	no	no
receive email requesting operator assistance	yes	yes	yes	no	no
receive email describing internal errors	yes	yes	yes	no	no
query and display information about devices	yes	yes	yes	yes	no
manage devices and change device state	yes	yes	yes	no	no
list any job, regardless of its owner	yes	yes	no	no	no
modify any job, regardless of its owner	yes	yes	no	no	no
perform Oracle backups and restores	yes	no	yes	no	no

See Also: "Class Commands" on page 1-10

Class Rights

This section describes the rights in Oracle Secure Backup classes.

browse backup catalogs with this access

This right applies to browsing access to the Oracle Secure Backup catalog. The rights are listed in order of decreasing privilege. Your choices are:

- `privileged` means that users can browse all directories and catalogs.
- `notdenied` means that users can browse any catalog entries for which they are not explicitly denied access. This option differs from `permitted` in that it allows access to directories having no stat record stored in the catalog.
- `permitted` means that users are bound by normal UNIX rights checking. Specifically, Oracle Secure Backup users can only browse directories if at least one of the following conditions is applicable:
  - The UNIX user defined in the Oracle Secure Backup identity is listed as the owner of the directory, and the owner has read rights.
  - The UNIX group defined in the Oracle Secure Backup identity is listed as the group of the directory, and the group has read rights.
  - Neither of the preceding conditions is met, but the UNIX user defined in the Oracle Secure Backup identity has read rights for the directory.
- `named` means that users are bound by normal UNIX rights checking, except that others do not have read rights. Specifically, Oracle Secure Backup users can only browse directories if at least one of the following conditions is applicable:
  - The UNIX user defined in the Oracle Secure Backup identity is listed as the owner of the directory, and the owner has read rights.
  - The UNIX group defined in the Oracle Secure Backup identity is listed as the group of the directory, and the group has read rights.
- `none` means that the user has no rights to browse any directory or catalog.

You can set this right with the `--browse` option of the mkclass or chclass commands.

access Oracle backups

This right specifies the type of access to Oracle Database backups made through the SBT interface. The values are as follows:

- `owner` indicates that the user can access only SBT backups created by the user.
- `class` indicates that the user can access SBT backups created by any Oracle Secure Backup user in the same class.
- `all` indicates that the user can access all SBT backups.
- `none` indicates that the user has no access to SBT backups.

You can set this right with the `--orarights` option of the mkclass or chclass commands.

display administrative domain's configuration

This right allows class members to list objects, for example, hosts, devices, and users, in the administrative domain.

You can set this right with the `--listconfig` option of the mkclass or chclass commands.

modify own name and password

This right enables class members to modify the password and given name attributes for their own user objects.

You can set this right with the `--modself` option of the mkclass or chclass commands.

modify administrative domain's configuration

This right allows class members to edit, that is, create, modify, rename, and remove, all configuration data in an Oracle Secure Backup administrative domain. The data includes the following:

- Classes
- Users
- Hosts
- Devices
- Defaults and policies
- Schedules
- Datasets
- Media families
- Summaries
- Backup windows

You can set this right with the `--modconfig` option of the mkclass or chclass commands.

perform backups as self

This right allows the class member to back up only those files and directories to which the member has access by using either UNIX user and group names or a Windows domain account.

You can set this right with the `--backupself` option of the mkclass or chclass commands.

perform backups as privileged user

This right enables class members to back up files and directories while acting as a privileged user. A privileged user is `root` on UNIX or a member of the Administrators group on Windows.

You can set this right with the `--backuppriv` option of the mkclass or chclass commands.

list any jobs owned by user

This right enables class members to view the status of scheduled, ongoing, and completed jobs that they create as well as transcripts for jobs that they create.

You can set this right with the `--listanyjob` option of the mkclass or chclass commands.

modify any jobs owned by user

This right enables class members to modify only jobs that they configured.

You can set this right with the `--modanyjob` option of the mkclass or chclass commands.

perform restores as self

This right enables class members to restore the contents of backup images under the restrictions of the access rights imposed by the user's UNIX name/group or Windows domain/account.

You can set this right with the `--restself` option of the mkclass or chclass commands.

perform restores as privileged user

This right enables class members to restore the contents of backup images as a privileged user. A privileged user is `root` on UNIX and a member of the Administrators group on Windows.

You can set this right with the `--restpriv` option of the mkclass or chclass commands.

receive email requesting operator assistance

This right enables class members to receive email when Oracle Secure Backup needs manual intervention. Occasionally, during backups and restores, operator assistance might be required, as when a new tape is required to continue a backup. In such cases, Oracle Secure Backup sends email to all users who belong to classes with this attribute.

You can set this right with the `--mailinput` option of the mkclass or chclass commands.

receive email describing internal errors

This right enables class members to receive email messages describing errors that occurred in any Oracle Secure Backup activity.

You can set this right with the `--mailerrors` option of the mkclass or chclass commands.

query and display information about devices

This right enables class members to query the state of all storage devices configured within the administrative domain.

You can set this right with the `--querydevs` option of the mkclass or chclass commands.

manage devices and change device state

This right enables class members to control the state of devices.

You can set this right with the `--managedevs` option of the mkclass or chclass commands.

list any job, regardless of its owner

This right enables class member to view the status of any scheduled, ongoing, and completed jobs as well as transcripts for any job.

You can set this right with the `--listanyjob` option of the mkclass or chclass commands.

modify any job, regardless of its owner

This right enables class members to make changes to all jobs.

You can set this right with the `--modanyjob` option of the mkclass or chclass commands.

perform Oracle backups and restores

This right enables class members to back up and restore Oracle databases. Users with this right are Oracle Secure Backup users that are mapped to operating system accounts of Oracle database installations.

You can set this right with the `--orauser` option of the mkclass or chclass commands.

C

obtool Variables

Oracle Secure Backup maintains a number of internal variables that control various aspects of its operation. These variables are described in this appendix. The variable list is also available through online help with the following command:

```
obtool help var
```

This appendix describes the following variables:

- drive
- errors
- escape
- host
- level
- library
- maxlevel
- namewidth
- numberformat
- verbose
- viewmode
- width

> **See Also:** "Variable Commands" on page 1-17 to learn about the `obtool` variable commands

drive

Use the `drive` variable to specify a default tape drive for library operations.

Oracle Secure Backup uses the value of this variable if no `--drive` *`drive-name`* option is provided to library commands that require a drive specification.

Values

`drivename`
Specifies the name of a tape drive. Note that setting this variable also sets the `library` variable to the name of the library that contains the specified drive. By default this variable is not set.

errors

Use the `errors` variable to set the level of detail for error messages. If the variable is not set (default), then the level of detail is set by the `--longerrors/-E` command-line option in `obtool`. The command-line option is described in "obtool Syntax for Interactive Mode" on page 1-3.

Values

`long`
Includes descriptive text and the `obtool` component name.

`short`
Includes only descriptive text.

escape

Use the `escape` variable to specify the character to use for quoting special characters. The escape character is used by the `obtool` command-line parser to quote special characters such as single or double quotation marks. Quoting these characters disables their meaning.

Values

`char`
Specifies an escape character. The default escape character is an ampersand (`&`).

Note that if the escape character is set to an ampersand (`&`), and if you specify `&` as part of a file name when running `obtool` commands on the command line, enclose the file name within single quotes. For example:

```
obtool cd -h phred '/home/markb&patti'
```

Because the ampersand character is within single quotes, it is not interpreted and is considered part of the file name.

host

Use the `host` variable to specify a default host for host operations.

The value of this variable is used if no `--host` *`hostname`* option is provided to browser commands that accept it.

Values

`hostname`
Specifies a host name. The default value is the name of the host on which `obtool` is running.

level

Use the `level` variable to specify an exact backup level to which the browser is constrained. You can also specify the level with the `--level` option of the lsbu command.

Values

backup-level
Specifies a backup level. Refer to "backup-level" on page 3-5 for a description of the *backup-level* placeholder. By default this variable is not set.

library

Use the `library` variable to specify a a default library for library operations.

Oracle Secure Backup uses the value of this variable is used if no `--library` *`library_name`* option is provided to library commands that require a library specification. If this variable is reset with the unset `var` command, then the `drive` variable is also reset.

Values

`libraryname`
Specifies the name of a tape library. By default this variable is not set.

maxlevel

Use the `maxlevel` variable to set the maximum backup level to which the browser is constrained. You can also specify the level with the `--maxlevel` option of the lsbu command.

Values

`backup-level`
Specifies a maximum backup level. Refer to "backup-level" on page 3-5 for a description of the *backup-level* placeholder. By default this variable is not set.

namewidth

Use the `namewidth` variable to set the nominal width in characters for the ls `--long` output. This width controls the column alignment of the Backup ID data that appears in parentheses following each name, as shown in the following example:

```
ob> ls --long
-rwx------ lashdown.g527       74      2005/05/24.12:55 file1     (1)
```

Values

`namewidth`
Specifies the width of the name field as a decimal value. The default value is `18`. The legal range is `1` to `4092`.

numberformat

Use the `numberformat` variable to set the display format for certain large numbers. You can also control this setting with the `--numberformat` option of the ls command.

Values

numberformat
Sets the display of large numbers. Refer to "numberformat" on page 3-25 for a description of the *numberformat* placeholder. By default the `numberformat` variable is unset, which is equivalent to setting it to `friendly`.

verbose

Use the `verbose` variable to set the level of `obtool` output. If this variable is not set (default), then verbose mode is controlled by the `--verbose/-v` command-line option in `obtool`. The command-line option is described in "obtool Syntax for Interactive Mode" on page 1-3.

Values

`yes`
Displays verbose output.

`no`
Suppresses verbose output.

viewmode

Use the `viewmode` variable to set the display mode for Oracle Secure Backup catalog directories. Unsetting this variable is equivalent to setting it to `inclusive`.

You can also control the display mode with the `--viewmode` option of the ls command.

Values

`exact`
Displays exact directory contents for selected backups.

`inclusive`
Displays all directory contents (default).

width

Use the `width` variable to set the line width in characters for adjustable-width output. The number of characters displayed on each line by commands such as ls is adjustable. The `width` variable controls, to the degree possible, such line widths. Note that `obtool` exceeds this line width to accommodate long names.

Values

width
Specifies the width of the name field as a decimal value. The default value is `80`. The legal range is `80` to `4176`.

D

Dataset Language

This appendix describes the language used in dataset files. A dataset file is a text file that describes the data that Oracle Secure Backup should back up.

This chapter contains the following topics:

- Overview of the Dataset Language
- Dataset Statements
- Dataset File Examples

See Also:

- "Dataset Commands" on page 1-11
- The sample dataset files located in the `samples` subdirectory of the Oracle Secure Backup home

Overview of the Dataset Language

The Oracle Secure Backup dataset language provides a simple, text-based means to define file system data that you want Oracle Secure Backup to back up. The language has the following characteristics:

- Comments can appear anywhere following a pound sign (#).
- Dataset statements use the following syntax:

  ```
  statement-name [ statement-argument ]
  ```

  The *statement-name* placeholder represents a dataset statement. These statements are described in "Dataset Statements" on page D-2.
- Some statements can begin a nested block. Statements within the block apply only to the statement that began the block. Nested block statements have the following form:

  ```
  statement-name [ statement-argument ] {
        statement-name [ statement-argument ]
        ...
  }
  ```

- An escape character, which is represented by a backslash (\), can appear anywhere to remove the special meaning of the character following it.
- Blank lines are ignored.

Example D–1 is a sample dataset file that describes a backup of directories on `brhost2`.

Example D–1 Sample Dataset

```
#
# A sample dataset file
#
exclude name *.backup                    # never back up directories or files
exclude name *~                          # matching *.backup and *~

include host brhost2 {                   # back up host brhost2
    include path /usr1/home {            # back up /usr1/home on brhost2,
        exclude path /usr1/home/peter    # but skip directories peter and dinesh
        exclude path /usr1/home/dinesh
    }
    include path /usr2/home              # also back up /usr2/home, including
}                                        # peter and dinesh if they exist
```

Dataset Statements

A dataset description can contain the following types of statements:

- after backup
- before backup
- cross all mountpoints
- cross local mountpoints
- cross remote mountpoints
- exclude name
- exclude oracle database files
- exclude path
- include dataset
- include host
- include path

> **See Also:** "Dataset File Examples" on page D-11 for examples of description files that use these statements.

after backup

Use the `after backup` statement to direct Oracle Secure Backup to run a machine executable or interpreted program after completing a backup. By using the before backup statement, you can also execute the same or a different program before the backup begins. These statements are useful, for example, when you want to shut down and restart a database server or inform users that a backup has started or completed.

By default, Oracle Secure Backup stops the backup job and considers it failed if the specified executable does not exist or fails, that is, returns a nonzero exit code.

Syntax

after backup::=

```
after backup [ optional ] pathname
```

The *pathname* placeholder represents the name of the program to be executed on a client host. For backups using an NDMP data service, Oracle Secure Backup executes the program on the administrative server.

The `optional` keyword specifies that Oracle Secure Backup should ignore the status returned from the invoked program and also the inability to invoke this program.

Example

Example D–2 directs Oracle Secure Backup to pass the argument `/usr2 is being saved` to program `/etc/local/nfy` on host `brhost2` after backing up directory `/usr2`.

Example D–2 after backup Statement

```
include host fserver {
      include path /usr2
      after backup "/etc/local/nfy '/usr2 backup complete'"
}
```

Oracle Secure Backup automatically appends the following arguments to any that you specify:

- The token `after`
- The name of the client
- The name of the directory or file being backed up

Thus, in Example D–2 Oracle Secure Backup executes the `nfy` program on `brhost2` as if you entered:

```
/usr/local/nfy '/usr2 is being saved' after brhost2 /usr2
```

before backup

Use the `before backup` statement to direct Oracle Secure Backup to run a machine executable or interpreted program before beginning a backup. This statement is parallel to the after backup statement.

By default, Oracle Secure Backup does not begin the backup job and considers it failed if the specified executable does not exist or fails, that is, returns a nonzero exit code.

Syntax

before backup::=

```
before backup [ optional ] pathname
```

The *pathname* placeholder represents the name of the program to be executed on a client host. For backups using an NDMP data service, Oracle Secure Backup executes the program on the administrative server.

The `optional` keyword specifies that Oracle Secure Backup should ignore the status returned from the invoked program and also the inability to invoke this program.

Example

Example D–3 directs Oracle Secure Backup to pass the argument `/usr2 is being saved` to program `/etc/local/nfy` on host `brhost2` before backing up directory `/usr2`.

Example D–3 before backup Statement

```
include host brhost2 {
      include path /usr2
      before backup "/etc/local/nfy '/usr2 is being saved'"
 }
```

Oracle Secure Backup automatically appends the following arguments to any that you specify:

- The token `before`
- The name of the client
- The name of the directory or file being backed up

Thus, in Example D–3 Oracle Secure Backup executes the `nfy` program on `brhost2` as if you entered:

```
/usr/local/nfy '/usr2 is being saved' before brhost2 /usr2
```

cross all mountpoints

Use the `cross all mountpoints` statement to cross local and remote mount points. A local mount point mounts a local file system; a remote mount point is a local mount of a file system accessed over the network. By default, file system backups do not cross mount points.

Suppose `/home/usr1/loc_data` mounts a local file system, while `/home/usr1/rem_data` is an NFS mount point for a file system on a network host. You can use `cross all mountpoints` to specify that a backup of `/home/usr1` includes all files in this directory, whether local or mounted.

Syntax

cross all mountpoints::=

```
cross all mountpoints
```

Examples

Example D–4 crosses all local and remote mount points on hosts `brhost1` and `brhost2`.

Example D–4 Global Host Inclusion

```
cross all mountpoints
include host brhost1 {
      include path /home/usr1
}
include host brhost2 {
      include path /home/usr2
}
```

Example D–5 crosses all local and remote mount points in the paths for host `brhost1` but not `brhost2`.

Example D–5 Global Path Inclusion

```
include host brhost1 {
      cross all mountpoints
      include path /home/usr1
}
```

```
include host brhost2 {
      include path /home/usr2
}
```

Example D–6 crosses all local and remote mount points in the /home/usr1 path, but not in the /home/usr2 path, on brhost1.

Example D–6 Local Path Inclusion

```
include host brhost1 {
      include path /home/usr1 {
            cross all mountpoints
      }
      include path /home/usr2
}
```

cross local mountpoints

Use the cross local mountpoints statement to cross local (but not remote) mount points.

Suppose /home/usr1/loc_data mounts a local file system while /home/usr1/rem_data is an NFS mount point for a file system on a network host. You can use cross local mountpoints to specify that a backup of /home/usr1 includes files in /home/usr1/loc_data but not /home/usr1/rem_data.

Syntax

cross local mountpoints::=

```
cross local mountpoints
```

Examples

Example D–7 crosses only local mount points in the file systems for hosts brhost1 and brhost2.

Example D–7 Global Host Inclusion

```
cross local mountpoints
include host brhost1 {
      include path /home/usr1
}
include host brhost2 {
      include path /home/usr2
}
```

Example D–8 crosses local mount points in the /home/usr1 path on host brhost1, but does not cross mount points in the /home/usr2 path on brhost2.

Example D–8 Global Path Inclusion

```
include host brhost1 {
      cross local mountpoints
      include path /home/usr1
}
include host brhost2 {
      include path /home/usr2
}
```

Example D–9 crosses local mount points found in the /home/usr1 path, but no mount points in the /home/usr2 path, on brhost1.

Example D–9 Local Path Inclusion

```
include host brhost1 {
      include path /home/usr1 {
            cross local mountpoints
      }
      include path /home/usr2
}
```

cross remote mountpoints

Use the cross remote mountpoints statement to cross remote (but not local) mount points.

Suppose /home/usr1/loc_data is a mount point for a local file system, while /home/usr1/rem_data is an NFS mount point for a file system on a network host. You can use cross remote mountpoints to specify that a backup of /home/usr1 includes files in /home/usr1/rem_data but not /home/usr1/loc_data.

Syntax

cross remote mountpoints::=

```
cross remote mountpoints
```

Examples

Example D–10 crosses only remote mount points in the file systems on hosts brhost1 and brhost2.

Example D–10 Global Host Inclusion

```
cross remote mountpoints
include host brhost1 {
      include path /home/usr1
}
include host brhost2 {
      include path /home/usr2
}
```

Example D–11 crosses only remote mount points in the /home/usr1 path on brhost1.

Example D–11 Global Path Inclusion

```
include host brhost1 {
      cross remote mountpoints brhost3
      include path /home/usr1
}
include host brhost2 {
      include path /home/usr2
}
```

Example D–12 crosses only remote mount points in the /home/usr1 path and only local mount points in the /home/usr2 path.

Example D–12 Local Path Inclusion

```
include host brhost1 {
      include path /home/usr1 {
            cross remote mountpoints
      }
      include path /home/usr2 {
            cross local mountpoints
      }
}
```

exclude name

Use the `exclude name` statement to identify the right-most component name, which is called the leafname, of a file system object that you want to exclude from the backup.

Syntax

exclude name::=

```
exclude name leafname
```

Oracle Secure Backup compares the component name of each file system object with the specified *leafname* and, if they match, does not back up the file system object; if it is a directory, then Oracle Secure Backup does not back up the directory contents.

Oracle Secure Backup interprets *leafname* as a UNIX-style wildcard expression if it contains any of the unescaped special characters `*`, `?`, `[`, or `]`. If *leafname* contains these characters, then Oracle Secure Backup performs a wildcard comparison rather than a string comparison to determine whether the names match.

Example

The dataset statements shown in Example D–13 exclude files named `core` and files whose names ends in `.backup`.

Example D–13 exclude name Statement

```
exclude name *.backup
exclude name core
```

exclude oracle database files

Use the `exclude oracle database files` statement to exclude all Oracle database-related files that would ordinarily be backed up by RMAN or files whose backup is not recommended. Oracle Secure Backup excludes the files regardless of whether the files being excluded are part of an existing RMAN backup strategy.

Oracle Secure Backup excludes the following types of files:

- Datafiles (production files and image copies of those files)
- Control files
- Redo logs, both online and archived
- Flashback logs
- Change tracking file
- Backup pieces

- Tempfiles

> **Note:** You use the Oracle Enterprise Manager job scheduler to schedule database backups through RMAN and the Oracle Secure Backup job scheduler to schedule file system backups. Thus, to back up an Oracle database host with Oracle Secure Backup, you must set up two schedules in Enterprise Manager and Oracle Secure Backup. Use the `exclude oracle files` statement in the Oracle Secure Backup schedule so that the Oracle database-related files are not backed up twice.

Syntax

exclude oracle database files::=

```
exclude oracle database files
```

Example

The dataset file shown in Example D–14 excludes Oracle database-related files from the backup of host `brhost2`.

Example D–14 exclude oracle database files Statement

```
exclude name *.backup
exclude name *~
include host brhost2 {
      exclude oracle database files
      exclude path /usr1/home
}
```

exclude path

Use the `exclude path` statement to identify the path name of a file system object that you want to exclude from the backup.

Syntax

exclude path::=

```
exclude path pathname
```

Example

The dataset statements shown in Example D–15 specify a backup up the `D:\Public` directory on host `brhost3`, but skip two subdirectories.

Example D–15 exclude path Statement

```
include host brhost3 {
      include path D:\Public {
            exclude path D:\Public\TempJournals
            exclude path D:\Public\TempErrors
      }
}
```

include dataset

Use the `include dataset` statement to direct Oracle Secure Backup to read another dataset file and logically substitute its contents in place of the include dataset statement. This statement is analogous to include statements found in most programming languages.

Syntax

include dataset::=

```
include dataset dataset_file_name
```

The *dataset_file_name* placeholder represents the name of a dataset file or directory. If you supply the name of a dataset directory, then Oracle Secure Backup includes each member of the directory.

Example

Example D–16 includes all dataset files in the `admin/default_rules` directory.

Example D–16 include dataset Statement

```
include dataset admin/default_rules
```

include host

Use the `include host` statement to identify the name of a client host that you want to back up. An `include host` statement can be located anywhere in the dataset file.

A usable dataset file must have at least one host statement either within the dataset file or within an included dataset file.

Syntax

The `include host` statements takes either of the following forms.

Syntax 1

include host::=

```
include host hostname
```

Syntax 2

include host::=

```
include host hostname {
 statements_that_apply_to_hostname
}
```

The *hostname* placeholder represents the name of a client you defined earlier with the Web tool interface or the `mkhost` or `renhost` commands.

Example

The following sample statement includes host `brhost2`:

```
include host brhost2
```

include path

Use the `include path` statement to identify the name of a file system object that you want to back up.

> **Note:** Backup paths cannot exceed the maximum path length of the file system being backed up and in any case cannot exceed 1023 characters.

Syntax

include path::=

```
include path absolute-pathname
```

The *absolute-pathname* placeholder represents the path name of the file system object to back up, starting at the file system root. Surround path names containing spaces within single or double quotes.

Examples

Example D–17 shows an `include path` statement on a Windows system. The path contains spaces, so it is surrounded by double quotes.

Example D–17 include path Statement on Windows

```
include path "C:\Documents and Settings"
```

For Linux and Unix systems, the `include path` statements do not include drive designators or quotation marks. Example D–18 shows an include path statement on a Linux or UNIX system.

Example D–18 include path Statement on Linux/UNIX

```
include path /space        { # include the local root directory
    exclude name core        # but no core files (for UNIX)
    exclude name *~          # and no emacs backup files
}
include path /etc
```

You can nest an `include path` statement within an `include host` statement. Consider the dataset statements shown in Example D–19.

Example D–19 include host Statements

```
include host brhost2
include host brhost3
include path /home
include path /project
```

Oracle Secure Backup interprets each `include path` statement in the dataset file to apply to each `include host` statement. Thus, Oracle Secure Backup backs up the `/home` and `/project` directories on each host, `brhost2` and `brhost3`.

The statements in Example D–19 are equivalent to the statements in Example D–20.

Example D–20 Dataset File with include host and include path Statements

```
include host brhost2 {
      include path /home
```

```
      include path /project
}
include host brhost3 {
      include path /home
      include path /project
}
```

Example D–21 backs up `/home` on host `brhost2` and `/project` on host `brhost3`.

Example D–21 Dataset File with include host and include path Statements

```
include host brhost2 {
      include path /home
}
include host brhost3 {
      include path /project
}
```

You should only include multiple host or paths in a dataset file if you always back them up together. The Oracle Secure Backup scheduler and on-demand backup function use dataset file names, not path names, to define each backup job.

Dataset File Examples

This section presents examples of dataset files. This section contains the following topics:

- Backing Up Multiple Paths on Multiple Hosts
- Including Dataset Files Within Dataset Files
- Defining the Scope of a Backup

Backing Up Multiple Paths on Multiple Hosts

Example D–22 shows a complex dataset file that describes four host systems to be backed up. It specifies that all files in the `/home`, `/usr`, and `/usr2` directories and all files in subdirectories within these directories are to be backed up.

All files in the `/usr/tmp` directory are excluded from the dataset. Files that have the name `core` and files that have names ending in `.bak`, regardless of where they reside, are also excluded from the dataset.

Example D–22 Backing Up Multiple Paths on Multiple Hosts

```
include host brhost1
include host brhost2
include host brhost3
include host brhost4

include path /home
include path /usr
include path /usr/usr2

exclude path /usr/tmp
exclude name core
exclude name *.bak
```

Including Dataset Files Within Dataset Files

A dataset file can logically include the contents of another dataset file. The `include dataset` statement lets you include by reference the contents of another dataset file.

Consider the sample dataset file called `common-exclusions.ds` shown in Example D–23.

Example D–23 common-exclusions.ds

```
exclude name core
exclude name *~
exclude name *.tmp
exclude name *.temp
```

A dataset file can use these exclusions with the statement shown in Example D–24.

Example D–24 Including a Dataset File

```
include dataset common-exclusions.ds
```

To apply these exclusions to one path but not to another, specify the `include dataset` directive within braces as shown in Example D–25.

Example D–25 Applying Exclusions to a Path

```
include path /home/root            # do not exclude here
include path /home/frank {         # do exclude here
      include dataset common-exclusions.ds
}
```

Defining the Scope of a Backup

You can use braces with an include rule to define the scope of a backup. In Example D–26, Oracle Secure Backup backs up paths `/usr1` and `/usr2` on all servers and backs up `/usr3` and `/usr4` on `brhost3` only. Note that the order in which the rules appear within the braces has no affect on the rules.

Example D–26 Using Braces to Limit Scope

```
# Common trees backed up on all servers:
include path /usr1
include path /usr2

# Servers to back up; on brhost3, we also back up usr3 & usr4, too:
include host brhost1
include host brhost2
include host brhost3 {
      include path /usr3
      include path /usr4
}
```

You can use additional braces to further refine the scope of rules. Example D–27 alters Example D–26 to exclude files ending with `.junk` from `/usr4` on `brhost3` only.

Example D–27 Refining the Scope of a Set of Rules

```
# Common trees backed up on all servers:
include path /usr1
include path /usr2
```

```
# Servers to back up; on brhost3, back up /usr3 and /usr4, but exclude *.junk
# files in /usr4 only:
include host brhost1
include host brhost2
include host brhost3 {
      include path /usr3
      include path /usr4 {
            exclude name *.junk
      }
 }
```

E

RMAN Media Management Parameters

This appendix describes Oracle Secure Backup-specific media management parameters that you can specify in RMAN backup and restore jobs. You can specify media management parameters in RMAN backup jobs by the following means:

- Environment variables, which are specified with the `ENV` parameter of the `PARMS` option on the `CONFIGURE` or `ALLOCATE CHANNEL` commands
- The RMAN `SEND` command

This section describes Oracle Secure Backup parameters that are valid in RMAN jobs.

This section contains the following topics:

Database Backup Storage Selectors and RMAN Media Management Parameters

You can configure device and media family restrictions in both database backup storage selectors, which are created with the mkssel command, and the `OB_DEVICE` and `OB_MEDIA_FAMILY` RMAN media management parameters. Table E–1 explains the criteria used by Oracle Secure Backup when choosing the media family and device for an RMAN backup job.

Table E–1 Determining Media Family and Device Settings

Matching Selector	Device Set in Selector	OB_DEVICE Set in Job	OB_MEDIA_FAMILY Set in Job	Result
Yes	Yes	No	No	Oracle Secure Backup uses the device and media family settings in the backup storage selector.
Yes	Yes or No	Yes	Yes	Oracle Secure Backup uses the device and media family settings in the RMAN channel parameters.
Yes	Yes or No	Yes	No	Oracle Secure Backup uses the `OB_DEVICE` setting and the media family specified in the selector.

Table E–1 (Cont.) Determining Media Family and Device Settings

Matching Selector	Device Set in Selector	OB_DEVICE Set in Job	OB_MEDIA_FAMILY Set in Job	Result
Yes	Yes	No	Yes	Oracle Secure Backup uses the device settings in the selector and media family settings in the RMAN channel parameters.
Yes	No	No	Yes	Oracle Secure Backup does not restrict the device (that is, chooses any device in the domain) and uses the media family setting in the RMAN channel parameters.
No	N/A	Yes	No	Oracle Secure Backup uses the `OB_DEVICE` setting and `RMAN-DEFAULT` media family.
No	N/A	No	No	Oracle Secure Backup does not restrict the device (that is, chooses any device in the domain) and uses the `RMAN-DEFAULT` media family.

OB_DEVICE[_n]

Use the `OB_DEVICE[_n]` parameter to define which tape drives can be used for backups.

Restrictions and Usage Notes

Before specifying `OB_DEVICE[_n]` in an RMAN job, note the following:

- This parameter does not affect restore jobs.
- Channels can only be restricted to tape drives, not tape libraries.
- Table E–1 explains the criteria used by Oracle Secure Backup when choosing the media family and device for an RMAN backup job.

Syntax

OB_DEVICE::=

```
OB_DEVICE[_n][=]drive_name
```

Semantics

_n

Specifies the copy number of duplexed backups. For duplexed backups, `OB_DEVICE_1` is for the first copy, `OB_DEVICE_2` is for the second copy, and so on.

drive_name

Specifies the name of the tape drive to which the backup should be restricted.

Examples

Example E–1 uses the `SEND` command to specify a tape drive. Note that no equal sign is inserted between the parameter `OB_DEVICE` and the names of the tape drives.

Example E–1 SBT Backup with SEND Command

```
RUN
{
  ALLOCATE CHANNEL c1 DEVICE TYPE sbt;
  SEND 'OB_DEVICE tape2';
```

```
  BACKUP TABLESPACE users;
}
```

Example E–2 makes the same backup as Example E–1, but uses PARMS to set the Oracle Secure Backup media family parameter. Note that an equal sign is inserted between the parameter OB_DEVICE and the value my_full_backups.

Example E–2 SBT Backup with ENV Parameter

```
RUN
{
   ALLOCATE CHANNEL c1 DEVICE TYPE sbt
     PARMS 'ENV=(OB_DEVICE=tape2)';
   BACKUP TABLESPACE users;
}
```

OB_MEDIA_FAMILY[_n]

Use the OB_MEDIA_FAMILY[*_n*] parameter to define which media can be used for backup jobs.

Restrictions and Usage Notes

Before specifying OB_MEDIA_FAMILY[*_n*] in an RMAN job, note the following:

- This parameter does not affect restore jobs.
- You can only specify a content-managed media family. By default RMAN uses the RMAN-DEFAULT media family.
- Table E–1 explains the criteria used by Oracle Secure Backup when choosing the media family and device for an RMAN backup job.

Syntax

OB_MEDIA_FAMILY::=

OB_MEDIA_FAMILY[*_n*][=]*media_family_name*

Semantics

_n

Specifies the copy number of duplexed backups. For duplexed backups, OB_MEDIA_FAMILY_1 is for the first copy, OB_MEDIA_FAMILY_2 is for the second one, and so on.

media_family_name

Specifies the name of the media family.

Examples

Example E–3 uses the SEND command to specify the my_full_backups media family in an RMAN database backup. Note that there is no equal sign between the parameter OB_MEDIA_FAMILY and the value datafile_mf.

Example E–3 SBT Backup with SEND Command

```
SEND 'OB_MEDIA_FAMILY datafile_mf';
BACKUP TABLESPACE users;
```

Example E–4 makes the same backup as Example E–3, but uses PARMS to set the Oracle Secure Backup media family parameter. Note that there is an equal sign between the parameter OB_MEDIA_FAMILY and the value datafile_mf.

Example E–4 SBT Backup with ENV Parameter

```
CONFIGURE CHANNEL DEVICE TYPE sbt PARMS
  'ENV=(OB_MEDIA_FAMILY=datafile_mf)';
BACKUP TABLESPACE users;
```

OB_RESOURCE_WAIT_TIME

Use the OB_RESOURCE_WAIT_TIME parameter to specify the duration for which a backup or restore job should wait for the required resources to become available.

Restrictions and Usage Notes

Note that you can specify RMAN resource wait times in the following locations, each of which overrides the preceding specifications in the list:

1. The rmanresourcewaittime policy
2. The waittime attribute in a database backup storage selector that matches an RMAN backup job
3. The RMAN channel configuration parameter OB_RESOURCE_WAIT_TIME

Syntax

OB_RESOURCE_WAIT_TIME::=

```
OB_RESOURCE_WAIT_TIME=duration
```

Semantics

duration

Specifies how long Oracle Secure Backup should wait for the tape resources to become available. For valid values, refer to the description of the *duration* placeholder in "duration" on page 3-17.

Examples

Example E–5 uses the SEND command to specify that the restore job should wait no longer than 10 minutes for tape resources to become available. Note that there is no equal sign between the parameter OB_RESOURCE_WAIT_TIME and the value.

Example E–5 SBT Restore with SEND Command

```
RUN
{
  ALLOCATE CHANNEL c1 DEVICE TYPE sbt;
  SEND 'OB_RESOURCE_WAIT_TIME 1minute';
  RESTORE ARCHIVELOG ALL;
}
```

Example E–6 uses the ENV parameter to specify the wait time on a configured channel. Note that there is an equal sign between the parameter OB_RESOURCE_WAIT_TIME and the value.

Example E–6 SBT Restore with ENV Parameter

```
CONFIGURE CHANNEL DEVICE TYPE sbt PARMS
  'ENV=(OB_RESOURCE_WAIT_TIME=1minute)';
RESTORE ARCHIVELOG ALL;
```

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