Oracle® Fusion Middleware Command-Line Usage Guide for Oracle Unified Directory

11*g* Release 1 (11.1.1)

Part No: 821–1279
June 2011

ORACLE

110711@25097

Contents

Preface

This guide describes all the supported commands for deploying and administering a server.

Who Should Use This Book

This book is intended for administrators who want to deploy Oracle Unified Directory or administer and existing deployment.

Before You Start

Oracle Unified Directory includes a number of command-line utilities that can be used to interact with the directory server. Some of the utilities are administrative commands for managing the directory server, and others are used to configure the proxy component.

This document describes all of the commands that are provided with Oracle Unified Directory 11*g* Release 1 (11.1.1). Not all of these commands are supported for use with the Oracle Unified Directory proxy. Similarly, a number of commands are specific to the proxy and should not be used to configure the directory server.

Caution – If you use unsupported commands, your server may not work as expected and will no longer be supported.

Before You Read This Book

Before reading this book, you should be familiar with the following documents:

- *Oracle Fusion Middleware Release Notes for Oracle Unified Directory*

Related Books

You may want to refer to the following documentation:

- *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*
- *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*
- *Oracle Fusion Middleware Deployment Planning Guide for Oracle Unified Directory*

Related Third-Party Web Site References

Third-party URLs are referenced in this document and provide additional, related information.

Note – Oracle is not responsible for the availability of third-party web sites mentioned in this document. Oracle does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Oracle will not be responsible or liable for any actual or alleged damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

Documentation and Support

See the following web sites for additional resources:

- Documentation (`http://www.oracle.com/technetwork/indexes/documentation/index.html`)
- Support (`http://www.oracle.com/us/support/software/index.html`)

Oracle Software Resources

Oracle Technology Network (`http://www.oracle.com/technetwork/index.html`) offers a range of resources related to Oracle software:

- Discuss technical problems and solutions on the Discussion Forums (`http://forums.oracle.com`).
- Get hands-on step-by-step tutorials with Oracle By Example (`http://www.oracle.com/technetwork/tutorials/index.html`).

Typographic Conventions

The following table describes the typographic conventions that are used in this book.

TABLE P–1 Typographic Conventions

Typeface	Meaning	Example
`AaBbCc123`	The names of commands, files, and directories, and onscreen computer output	Edit your `.login` file. Use `ls -a` to list all files. `machine_name% you have mail.`
`AaBbCc123`	What you type, contrasted with onscreen computer output	`machine_name%` **`su`** `Password:`
aabbcc123	Placeholder: replace with a real name or value	The command to remove a file is `rm` *filename*.
AaBbCc123	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the *User's Guide*. A *cache* is a copy that is stored locally. Do *not* save the file. **Note:** Some emphasized items appear bold online.

Shell Prompts in Command Examples

The following table shows the default UNIX system prompt and superuser prompt for shells that are included in the Oracle Solaris OS. Note that the default system prompt that is displayed in command examples varies, depending on the Oracle Solaris release.

TABLE P–2 Shell Prompts

Shell	Prompt
Bash shell, Korn shell, and Bourne shell	`$`
Bash shell, Korn shell, and Bourne shell for superuser	`#`
C shell	`machine_name%`
C shell for superuser	`machine_name#`

◆ ◆ ◆ CHAPTER 1

Server Administration Commands

The following sections describe the server administration commands:

create-rc-script

The `create-rc-script` command generates a shell script to start, stop, and restart the directory server.

Synopsis

`create-rc-script` [*options*]

Description

The `create-rc-script` command can be used to generate a shell script to start, stop, and restart the directory server. You can update the resulting script to suit the needs of your directory service. This command is available for UNIX or Linux systems only.

Note – On Solaris 10 systems, the functionality provided by RC scripts has been replaced by the Service Management Facility (SMF).

`create-rc-script` uses `OPENDS_JAVA_*` variables and `JAVA_*` variables.

For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

Options

The `create-rc-script` command accepts an option in either its short form (for example, `-f` *filename*) or its long form equivalent (for example, `--outputFile` *filename*).

`-f, --outputFile` *filename*	Specify the path to the output file.
`-j, --javaHome` *javaHomePath*	Specify the path to the Java installation that should be used to run the server.
`-J, --javaArgs` *javaArgs*	Specify the set of arguments that should be passed to the JVM when running the server.
`-u, --userName` *userName*	Specify the name of the user account under which the server should run. The user account must have the appropriate permissions to run the script.

General Options

`--version`	Display the version information for the directory server.
`-?, -H, --help`	Display command-line usage information for the `create-rc-script` command.

Examples

The following examples show how to use the `create-rc-script` command.

For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

EXAMPLE 1–1 Creating the Script

The following command generates the script to start, stop, and restart the directory server. It creates the file called `myscript`, specified by the `-f` option:

```
$ create-rc-script -f myscript
```

EXAMPLE 1–2 Starting the Directory Server by Using the New Script

The following command uses the newly created script (see previous example) to start the directory server.

```
$ myscript start
```

EXAMPLE 1–3 Stopping the Directory Server by Using the New Script

The following command uses the newly created script (see first example) to stop the directory server.

```
$ myscript stop
```

EXAMPLE 1–4 Restarting the Directory Server by Using the New Script

The following command uses the newly created script (see first example) to restart the directory server.

```
$ myscript restart
```

EXAMPLE 1–5 Specifying `JAVA_HOME` and `JAVA_ARGS` in the Script

The following command uses the `-u` (`--userName`), `-j` (`--javaHome`) and `-J` (`--javaArgs`) options.

```
$ create-rc-script -f myscript -u sysAdmin -j /usr/java -J "-Xms128m -Xmx128m"
```

Code Generated by the `create-rc-script` Command

The `create-rc-script` command from the example above generates the following code:

```
# /bin/sh
#
# CDDL HEADER START
#
# The contents of this file are subject to the terms of the
```

```
# Common Development and Distribution License, Version 1.0 only
# (the "License").  You may not use this file except in compliance
# with the License.
#
# You can obtain a copy of the license at
# https://OpenDS.dev.java.net/OpenDS.LICENSE.
# See the License for the specific language governing permissions
# and limitations under the License.
#
# When distributing Covered Code, include this CDDL HEADER in each
# file and include the License file at
# trunk/opends/resource/legal-notices/OpenDS.LICENSE.  If applicable,
# add the following below this CDDL HEADER, with the fields enclosed
# by brackets "[]" replaced with your own identifying information:
#      Portions Copyright [yyyy] [name of copyright owner]
#
# CDDL HEADER END

# Set the path to the OpenDS instance to manage
INSTANCE_ROOT="/usr/local/opends/standalone/ds-server-1"
export INSTANCE_ROOT

# Specify the path to the Java installation to use
OPENDS_JAVA_HOME="/usr/java"
export OPENDS_JAVA_HOME

# Specify arguments that should be provided to the JVM
JAVA_ARGS="-Xms128m -Xmx128m"
export JAVA_ARGS

# Determine what action should be performed on the server
case "${1}" in
start)
/bin/su sysAdmin "${INSTANCE_ROOT}/bin/start-ds" --quiet
exit ${?}
;;
stop)
/bin/su sysAdmin "${INSTANCE_ROOT}/bin/stop-ds" --quiet
exit ${?}
;;
restart)
/bin/su sysAdmin "${INSTANCE_ROOT}/bin/stop-ds" --restart --quiet
exit ${?}
;;
*)

echo "Usage:  $0 { start | stop | restart }"
exit 1
;;
esac
```

Exit Codes

An exit code of 0 indicates success. A non-zero exit code indicates that an error occurred.

Location

The `create-rc-script` command is located at this path:

UNIX and Linux: *instance-dir*`/OUD/bin`

Related Commands

"start-ds" on page 171

"stop-ds" on page 179

dsconfig

The `dsconfig` command configures a directory server instance.

Synopsis

`dsconfig` [*subcommands*] [*globalOptions*]

Description

The `dsconfig` command enables you to create, manage, and remove the base configuration for a server instance. The server configuration is organized as a set of components that `dsconfig` can access by using one or more subcommands. All components have zero or more configurable properties. These properties can be queried and modified to change the behavior of the component.

The `dsconfig` command accesses the server over SSL through the administration connector (described in "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*).

Unless you specify all configuration parameters and the `-n` (`--no-prompt`) option, `dsconfig` runs in interactive mode. Interactive mode works much like a wizard, walking you through every aspect of the server configuration. For more information, see "Using dsconfig in Interactive Mode" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

Help Subcommands

The `dsconfig` command provides help functions that list the component subcommands needed to manage your configurations.

`--help-core-server`	Display subcommands relating to the core server.
`--help-database`	Display subcommands relating to caching and the back ends. These subcommands are not supported for Oracle Unified Directory proxy.
`--help-logging`	Display subcommands relating to logging.
`--help-replication`	Display subcommands relating to the directory server replication. These subcommands are not supported for Oracle Unified Directory proxy.
`--help-security`	Display subcommands relating to security.
`--help-user-management`	Display subcommands relating to caching and user management. These subcommands are not supported for Oracle Unified Directory proxy.
`--help-all`	Display all subcommands.

General Subcommands

The following subcommand lists the directory server's objects and properties.

list-properties Displays the managed objects and properties. Option types are as follows:

- `r` Property values are readable.
- `w` Property values are writable.
- `m` The property is mandatory.
- `s` The property is single-valued.
- `a` Administrative action is required for changes to take effect.

Suboptions are as follows:

`-t, --type` *type*. Component type.

`-c, --category` *category*. Category of the component. The value for `type` must be one of the component types associated with the *category* that is specified using the `--category` suboption.

`--inherited`. Modifies the display output to show the inherited properties of components.

`--advanced`. Modifies the display output to show the advanced properties of components.

`--property` *property*. The name of a property to be displayed.

Core Server Subcommands

The following subcommands configure the core server. When objects are created using `dsconfig`, their names are case-insensitive. If you create two objects, whose names differ in case only, `dsconfig` returns an error stating that an object with that name already exists.

`create-alert-handler`
Creates alert handlers. Suboptions are as follows:

`--handler-name` *name*. Name of the new alert handler.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. Type of alert handler that should be created (default: `generic`). The value of *type* can be one of `custom`, `jmx`, or `smtp`.

`create-attribute-syntax`
This command is not supported for the proxy.

Creates attribute syntaxes. Suboptions are as follows:

`--syntax-name` *name*. Name of the new attribute syntax.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. Type of attribute syntax that should be created (default: `generic`). The value of *type* can be one of `attribute-type-description`, `directory-string`, `generic`, or `telephone-number`.

`create-connection-handler`
Creates connection handlers. Suboptions are as follows:

`--handler-name` *name*. Name of the new connection handler.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. Type of connection handler that should be created (default: `generic`). The value of *type* can be one of `custom`, `jmx`, `ldap`, `snmp`, or `ldif`.

`create-distribution-algorithm`
This command is supported only for the proxy.

Creates distribution algorithms. Suboptions are as follows:

`--element-name` *name*. Name of the distribution workflow element.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. Type of distribution algorithm that should be created. The value for *type* can be one of: `capacity`, `dnpattern`, `lexico`, or `numeric`.

`create-distribution-partition`
This command is supported only for the proxy.

Creates distribution partitions. Suboptions are as follows:

`--element-name` *name*. The name of the distribution workflow element.

`--partition-name` *name*. The name of the new distribution partition.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. Type of extension that should be created. The value of *type* can be one of `capacity`, `dnpattern`, `lexico`, or `numeric`.

`create-extended-operation-handler`
This command is not supported for the proxy.

Creates extended operation handlers. Suboptions are as follows:

`--handler-name` *name*. Name of the new extended operation handler.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type* . Type of extended operation handler that should be created (default: `generic`). The value of *type* can be one of `cancel`, `custom`, `get-connection-id`, `get-symmetric-key`, `password-modify`, `password-policy-state`, `start-tls`, or `who-am-i`.

`create-extension`
Creates extensions. Suboptions are as follows:

`--extension-name` *name*. Name of the new extension.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. Type of extension that should be created. The value of *type* can be one of `custom`, `global-index-catalog`, or `ldap-server`.

The value `global-index-catalog` is not supported for Oracle Unified Directory proxy. See "gicadm" on page 130.

`create-global-index`
This command is supported only for the proxy.

To manage the global index see "gicadm" on page 130.

`create-global-index-catalog-replication-domain`
This command is supported only for the proxy.

To manage the global index see "gicadm" on page 130.

`create-group-implementation`
This command is not supported for the proxy.

Creates group implementations. Suboptions are as follows:

`--implementation-name` *name*. Name of the new group implementation.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`-t, --type` *type*. The type of group implementation that should be created. The value for *type* can be one of `custom`, `dynamic`. `static`, or `virtual-static`.

`create-load-balancing-algorithm`
This command is supported only for the proxy.

Creates load balancing algorithms. Suboptions are as follows:

`--element-name` *name*. The name of the load balancing workflow element.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. Type of load balancing algorithm that should be created. The value of *type* can be `failover`, `generic`, `optimal`, `proportional`, `saturation`, or `searchfilter`. The default value is `generic`.

`create-load-balancing-route`
This command is supported only for the proxy.

Creates load balancing routes. Suboptions are as follows:

`--element-name` *name*. The name of the load balancing workflow element.

`--route-name` *name*. The name of the new load balancing route.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. Type of load balancing algorithm that should be created. The value of *type* can be `failover`, `generic`, `optimal`, `proportional`, `saturation`, or `searchfilter`. The default value is `generic`.

`create-matching-rule`
This command is not supported for the proxy.

Creates matching rules. Suboptions are as follows:

`--rule-name` *name*. Name of the new matching rule.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. Type of matching rule that should be created. The value of *type* can be one of `approximate`, `equality`, `ordering`, `substring`.

`create-monitor-provider`
Creates monitor providers. Suboptions are as follows:

`--provider-name` *name*. Name of the new monitor provider.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t, --type` *type*. The type of monitor provider that should be created. The value for *type* can be one of the following: `client-connection`, `custom`, `entry-cache`, `memory-usage`, `stack-trace`, `system-info`, or `version`.

`create-network-group`
This command is supported only for the proxy.

Creates network groups. Suboptions are as follows:

`--group-name` *name*. The name of the new network group.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`create-network-group-qos-policy`
This command is supported only for the proxy.

Creates network group resource limits. Suboptions are as follows:

`--group-name` *name*. The name of the network group.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t, --type`*type*. The type of quality of service policy that should be created. The value for *type* can be one of the following: `affinity`, `referral`, `request-filtering`, or `resource-limits`

`create-plugin`
Creates plug-ins. Suboptions are as follows:

`--plugin-name` *name*. Name of the new plug-in.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. Type of plug-in that should be created (default: `generic`). The value of `type` can be one of `custom`, `entry-uuid`, `last-mod`, `ldap-attribute-description-list`, `password-policy-import`, `profiler`, `referential-integrity`, `seven-bit-clean`, or `unique-attribute`.

`create-virtual-attribute`
This command is not supported for the proxy.

Creates virtual attributes. Suboptions are as follows:

`--name` *name*. Name of the new virtual attribute.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. Type of virtual attribute that should be created (default: `generic`). The value of *type* can be one of `custom`, `entry-dn`, `entry-uuid`, `has-subordinates`, `is-member-of`, `member`, `num-subordinates`, `subschema-subentry`, or `user-defined`.

`create-workflow`
This command is supported only for the proxy.

Creates workflows. Suboptions are as follows:

`--workflow-name` *name*. The name of the new workflow. This name will also be used as the value of the `workflow-id`property.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`create-workflow-element`
This command is supported only for the proxy.

Creates workflow elements. Suboptions are as follows:

`--element-name` *name*. The name of the new workflow element. This name will also be used as the value of the `workflow-element-id`property.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t, --type` *type*. The type of Workflow Element which should be created. The value of *type* can be one of: `custom`, `distribution`, `load-balancing`, `db-local-backend`, or `proxy-ldap`. The value `db-local-backend` is not supported for Oracle Unified Directory proxy

`delete-alert-handler`
Deletes alert handlers. Suboptions are as follows:

`--handler-name` *name*. Name of the alert handler.

`-f,--force`. Ignore nonexistent alert handlers.

`delete-attribute-syntax`
This command is not supported for the proxy.

Deletes attribute syntaxes. Suboptions are as follows:

`--syntax-name` *name*. Name of the attribute syntax.

`-f,--force`. Ignore nonexistent attribute syntaxes.

`delete-connection-handler`
Deletes connection handlers. Suboptions are as follows:

`--handler-name` *name*. Name of the connection handler.

`-f,--force`. Ignore nonexistent connection handlers.

`delete-distribution-algorithm`
This command is supported only for the proxy.

Deletes distribution algorithm. Suboptions are as follows:

`--element-name` *name*. The name of the distribution workflow element.

`-f,--force`. Ignore nonexistent distribution algorithms.

`delete-distribution-partition`
This command is supported only for the proxy.

Deletes distribution partitions. Suboptions are as follows:

`--element-name` *name*. The name of the distribution workflow element.

`--partition-name` *name*. The name of the distribution partition.

`-f,--force`. Ignore nonexistent distribution partitions.

`delete-extended-operation-handler`
Deletes extended operation handlers. Suboptions are as follows:

`--handler-name` *name*. The name of the extended operation handler.

`-f,--force`. Ignore nonexistent extended operation handlers.

`delete-extension`
Deletes extension. Suboptions are as follows:

`--extension-name` *name*. The name of the extension.

`-f,--force`. Ignore nonexistent extensions.

`delete-global-index`
This command is supported only for the proxy. To manage the global index see "gicadm" on page 130.

`delete-global-index-catalog-replication-domain`
This command is supported only for the proxy. To manage the global index see "gicadm" on page 130.

`delete-group-implementation`
This command is not supported for the proxy.

Deletes group implementations. Suboptions are as follows:

`--implementation-name` *name*. Name of the group implementation.

`-f,--force`. Ignore nonexistent group implementations.

`delete-load-balancing-route`
This command is supported only for the proxy.

Deletes load balancing routes. Suboptions are as follows:

`--element-name` *name*. The name of the load balancing workflow element.

`--route-name` *name*. The name of the load balancing route.

`-f,--force`. Ignore nonexistent load balancing routes.

`delete-load-balancing-algorithm`
This command is supported only for the proxy.

Deletes load balancing algorithm. Suboptions are as follows:

`--element-name` *name*. The name of the load balancing workflow element.

`-f,--force`. Ignore nonexistent load balancing algorithms.

`delete-matching-rule`
This command is not supported for the proxy.

Deletes matching rules. Suboptions are as follows:

`--rule-name` *name*. Name of the matching rule.

`-f,--force`. Ignore nonexistent matching rules.

`delete-monitor-provider`
Deletes monitor providers. Suboptions are as follows:

`--provider-name` *name*. Name of the monitor provider.

`-f,--force`. Ignore nonexistent monitor providers.

`delete-network-group`
This command is supported only for the proxy.

Deletes network group. Suboptions are as follows:

`--group-name` *name*. The name of the network group.

`-f,--force`. Ignore nonexistent network groups.

`delete-network-group-qos-policy`
This command is supported only for the proxy.

Deletes network group quality of service policy. Suboptions are as follows:

`--group-name` *name*. The name of the network group.

`--policy-type` *namne*. The name of the QOS policy.

`-f,--force`. Ignore nonexistent network group resource limits.

`delete-plugin`
Deletes plug-ins. Suboptions are as follows:

`--plugin-name` *name*. Name of the plug-in.

`-f,--force`. Ignore nonexistent plug-ins.

`delete-virtual-attribute`
This command is not supported for the proxy.

Deletes virtual attributes. Suboptions are as follows:

`--name` *name*. Name of the virtual attribute.

`-f,--force`. Ignore nonexistent virtual attributes.

`delete-workflow`
This command is supported only for the proxy.

Deletes workflow. Suboptions are as follows:

`--workflow-name` *name*. The name of the workflow.

`-f,--force`. Ignore nonexistent workflows.

`delete-workflow-element`
This command is supported only for the proxy.

Deletes workflow elements. Suboptions are as follows:

`--element-name` *name*. The name of the workflow element.

`-f,--force`. Ignore nonexistent workflow elements.

`get-administration-connector-prop`
Shows administration connector properties. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-alert-handler-prop`
Shows alert handler properties. Suboptions are as follows:

`--handler-name` *name*. Name of the alert handler.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the alert handler.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-attribute-syntax-prop`
This command is not supported for the proxy.

Shows attribute syntax properties. Suboptions are as follows:

`--syntax-name` *name*. Name of the attribute syntax.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the attribute syntax.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-connection-handler-prop`
Shows extended operation handler properties. Suboptions are as follows:

`--handler-name` *name*. Name of the extended operation handler.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the extended operation handler.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-distribution-algorithm-prop`
This command is supported only for the proxy.

Shows distribution algorithm properties. Suboptions are as follows:

`--element-name` *name*. The name of the distribution workflow element.

`--property` *property*. The name of a property to be displayed.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-distribution-partition-prop`
This command is supported only for the proxy.

Shows distribution partition properties. Suboptions are as follows:

`--element-name` *name*. The name of the distribution workflow element.

`--partition-name` *name*. The name of the distribution partition.

`--property` *property*. The name of a property to be displayed.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-extended-operation-handler-prop`
Shows extended operation handler properties. Suboptions are as follows:

`--handler-name` *name*. The name of the extended operation handler.

`--property` *property*. The name of a property to be displayed.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-extension-prop`
Shows extension properties. Suboptions are as follows:

`--extension-name` *name*. The name of the extension.

`--property` *property*. The name of a property to be displayed.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-global-configuration-prop`
Shows global properties. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the global configuration.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-global-index-prop`
This command is supported only for the proxy. To manage the global index see "gicadm" on page 130.

`get-global-index-catalog-replication-domain-prop`
This command is supported only for the proxy. To manage the global index see "gicadm" on page 130.

`get-group-implementation-prop`
This command is not supported for the proxy.

Shows group implementation properties. Suboptions are as follows:

`--implementation-name` *name*. Name of the group implementation.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the group implementation.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-load-balancing-algorithm-prop`
This command is supported only for the proxy.

Shows load balancing algorithm properties. Suboptions are as follows:

`--element-name` *name*. The name of the load balancing workflow element.

`--property` *property*. The name of a property to be displayed.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-load-balancing-route-prop`
This command is supported only for the proxy.

Shows load balancing route properties. Suboptions are as follows:

`--element-name` *name*. The name of the load balancing workflow element.

`--route-name` *name*. The name of the load balancing route.

`--property` *property*. The name of a property to be displayed.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

This command is supported only for the proxy.

`get-matching-rule-prop`
This command is not supported for the proxy.

Shows matching rule properties. Suboptions are as follows:

`--rule-name` *name*. Name of the matching rule.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the matching rule.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-monitor-provider-prop`
Shows monitor provider properties. Suboptions are as follows:

`--provider-name` *name*. Name of the monitor provider.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the monitor provider.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-network-group-prop`
This command is supported only for the proxy.

Shows network group properties. Suboptions are as follows:

`--group-name` *name*. The name of the network group.

`--property` *property*. The name of a property to be displayed.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-network-group-qos-policy-prop`
This command is supported only for the proxy.

Shows network group quality of service policy properties. Suboptions are as follows:

`--group-name` *name*. The name of the network group.

`--policy-type` *name*. The name of the quality of service policy.

`--property` *property*. The name of a property to be displayed.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-plugin-prop`
Shows plug-in properties. Suboptions are as follows:

`--plugin-name` *name*. Name of the plug-in.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the plug-in.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-plugin-root-prop`
Shows plug-in root properties. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the plug-in root.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-root-dn-prop`
Shows Root DN properties. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the Root DN.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-root-dse-backend-prop`
Shows root DSE back end properties. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the root DSE back end.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-virtual-attribute-prop`
This command is not supported for the proxy.

Shows virtual attribute properties. Suboptions are as follows:

`--name` *name*. Name of the virtual attribute.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the virtual attribute.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-work-queue-prop`
Shows work queue properties. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the work queue.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-E,--record`. Modifies the display output to show one property value per line.

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-workflow-element-prop`
This command is supported only for the proxy.

Show workflow element properties. Suboptions are as follows:

`--element-name` *name*. The name of the workflow element.

`--property` *property*. The name of a property to be displayed.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-workflow-prop`
This command is supported only for the proxy.

Shows workflow properties. Suboptions are as follows:

`--workflow-name` *name*. The name of the workflow.

`--property` *property*. The name of a property to be displayed.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-alert-handlers`
Lists existing alert handlers. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-attribute-syntaxes`
This command is not supported for the proxy.

Lists existing attribute syntaxes. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-connection-handlers`
Lists existing connection handlers. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-distribution-algorithm`
This command is supported only for the proxy.

Lists existing distribution algorithms. Suboptions are as follows:

`--element-name` *name*. The name of the distribution workflow element.

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-distribution-partitions`
This command is supported only for the proxy.

Lists existing distribution partitions. Suboptions are as follows:

`--element-name` *name*. The name of the distribution workflow element.

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-extended-operation-handlers`
Lists existing extended operation handlers. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-extensions`
This command is supported only for the proxy.

Lists existing extensions. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-global-index`
This command is supported only for the proxy. To manage the global index see "gicadm" on page 130.

`list-global-index-catalog-replication-domain`
This command is supported only for the proxy. To manage the global index see "gicadm" on page 130.

`list-group-implementations`
This command is not supported for the proxy.

Lists existing group implementations. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-load-balancing-algorithm`
This command is supported only for the proxy.

Lists existing load balancing algorithm. Suboptions are as follows:

`--element-name` *name*. The name of the load balancing workflow element.

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-load-balancing-routes`
This command is supported only for the proxy.

Lists existing load balancing routes. Suboptions are as follows:

`--element-name` *name*. The name of the load balancing workflow element.

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-matching-rules`
This command is not supported for the proxy.

Lists existing matching rules. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-monitor-providers`
Lists existing monitor providers. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-network-group-qos-policies`
This command is supported only for the proxy.

Lists existing network group quality of service policies. Suboptions are as follows:

`--group-name` *name*. The name of the network group.

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-network-groups`
This command is supported only for the proxy.

Lists existing network groups. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-plugins`
Lists existing plug-ins. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-virtual-attributes`
This command is not supported for the proxy.

Lists existing virtual attributes. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-workflow-elements`
This command is supported only for the proxy.

Lists existing workflow elements. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-workflows`
This command is supported only for the proxy.

Lists existing workflows. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`set-administration-connector-prop`
This command is supported only for the proxy.

Modifies existing administration connector properties. Suboptions are as follows:

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-alert-handler-prop`
Modifies alert handler properties. Suboptions are as follows:

`--handler-name` *name* Name of the alert handler.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-attribute-syntax-prop`
This command is not supported for the proxy.

Modifies attribute syntax properties. Suboptions are as follows:

`--syntax-name` *name* Name of the attribute syntax.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-connection-handler-prop`
Modifies connection handler properties. Suboptions are as follows:

`--handler-name` *name* Name of the connection handler.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-distribution-algorithm-prop`
This command is supported only for the proxy.

Modifies distribution algorithm properties. Suboptions are as follows:

`--element-name` *name*. The name of the distribution workflow element.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-distribution-partition-prop`
This command is supported only for the proxy.

Modifies distribution partition properties. Suboptions are as follows:

`--element-name` *name*. The name of the distribution workflow element.

`--partition-name` *name*. The name of the distribution partition.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-extended-operation-handler-prop`
Modifies extended operation handler properties. Suboptions are as follows:

`--handler-name` *name* Name of the extended operation handler.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-global-configuration-prop`
Modifies global configuration properties. Suboptions are as follows:

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-global-index-prop`
This command is supported only for the proxy. To manage the global index see "gicadm" on page 130.

`set-global-index-catalog-replication-domain-prop`
This command is supported only for the proxy. To manage the global index see "gicadm" on page 130.

`set-group-implementation-prop`
This command is not supported for the proxy.

Modifies group implementation properties. Suboptions are as follows:

`--implementation-name` *name* Name of the group implementation.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-load-balancing-algorithm-prop`
This command is supported only for the proxy.

Modifies load-balancing algorithm properties. Suboptions are as follows:

`--element-name` *name*. The name of the load balancing workflow element.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-load-balancing-route-prop`
This command is supported only for the proxy.

Modifies load balancing algorithm properties. Suboptions are as follows:

`--element-name` *name*. The name of the load balancing workflow element.

`--route-name` *name*. The name of the load balancing route.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-matching-rule-prop`
This command is not supported for the proxy.

Modifies matching rule properties. Suboptions are as follows:

`--rule-name` *name* Name of the matching rule.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-monitor-provider-prop`
Modifies monitor provider properties. Suboptions are as follows:

`--provider-name` *name* Name of the monitor provider.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-network-group-prop`
This command is supported only for the proxy.

Modifies network group properties. Suboptions are as follows:

`--group-name` *name*. The name of the network group.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-network-group-qos-policy-prop`
This command is supported only for the proxy.

Modifies network group quality of service policy properties. Suboptions are as follows:

`--group-name` *name*. The name of the network group.

`--policy-type` *name*. The name of the QOS policy.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-plugin-prop`
Modifies plug-in properties. Suboptions are as follows:

`--plugin-name` *name* Name of the plug-in.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-plugin-root-prop`
Modifies plug-in root properties. Suboptions are as follows:

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-root-dn-prop`
Modifies root DN properties. Suboptions are as follows:

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-root-dse-backend-prop`
Modifies root DSE back end properties. Suboptions are as follows:

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-virtual-attribute-prop`
This command is not supported for the proxy.

Modifies virtual attribute properties. Suboptions are as follows:

`--name` *name* Name of the virtual attribute.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-work-queue-prop`
Modifies work queue properties. Suboptions are as follows:

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-workflow-element-prop`
This command is supported only for the proxy.

Modifies workflow element properties. Suboptions are as follows:

`--element-name` *name*. The name of the workflow element.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-workflow-prop`
This command is supported only for the proxy.

Modifies workflow properties. Suboptions are as follows:

`--workflow-name` *name*. The name of the workflow.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

Database Subcommands

The following subcommands configure caching and back ends.

These commands are not supported with Oracle Unified Directory proxy.

`create-entry-cache`

Creates entry caches. Suboptions are as follows:

`--cache-name` *name*. The name of the new entry cache.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. The type of entry cache that should be created. The value for *type* can be one of `custom`, `fifo`, `file-system`, or `soft-reference`.

`create-local-db-index`

Creates local DB indexes. Suboptions are as follows:

`--element-name` *name*. Name of the local DB back end workflow element.

`--index-name` *name*. Name of the new local DB index, which will also be used as the value of the `attribute` property. This specifies the name of the attribute for which the index is to be maintained.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`create-local-db-vlv-index`

Creates local DB VLV indexes. Suboptions are as follows:

`--element-name` *name*. Name of the local DB back end workflow element.

`--index-name` *name*. Name of the new local DB VLV index, which is also used as the value of the `name` property. This property specifies a unique name for this VLV index.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

	`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.
`delete-local-db-index`	Deletes local DB indexes. Suboptions are as follows: `--element-name` *name*. Name of the local DB back end workflow element. `--index-name` *name*. Name of the local DB index. `-f,--force`. Ignore nonexistent local DB indexes.
`delete-local-db-vlv-index`	Deletes local DB VLV indexes. Suboptions are as follows: `--element-name` *name*. Name of the local DB back end workflow element. `--index-name` *name*. Name of the local DB VLV index. `-f,--force`. Ignore nonexistent local DB VLV indexes.
`get-entry-cache-prop`	Shows entry cache properties. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the entry cache. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`get-local-db-index-prop`	Shows local DB index properties. Suboptions are as follows:

	`--element-name` *name*. Name of the local DB back end workflow element. `--index-name` *name*. Name of the local DB index. `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the local DB index. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`get-root-dse-backend-prop`	Shows root DSE backend properties. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the root DSE back end. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-local-db-vlv-index-prop` Shows the local DB VLV index properties. Suboptions are as follows:

`--element-name` *name*. Name of the local DB back end.

`--index-name` *name*. Name of the local DB VLV index.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the local DB VLV index.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-local-db-vlv-indexes` Lists existing local DB VLV indexes. Suboptions are as follows:

`--element-name` *name*. Name of the local DB back end workflow element.

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`set-entry-cache-prop` Modifies Entry Cache properties. Suboptions are as follows:

	`--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. `--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added. `--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.
`set-local-db-index-prop`	Modifies local DB Index properties. Suboptions are as follows: `--element-name` *name*. Name of the local DB back end workflow element. `--index-name` *name*. Name of the local DB Index. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. `--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added. `--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-root-dse-backend-prop` Modifies root DSE back end properties. Suboptions are as follows:

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-local-db-vlv-index-prop` Modifies local DB VLV Index properties. Suboptions are as follows:

`--element-name` *name*. Name of the local DB back end element name.

`--index-name` *name*. Name of the local DB VLV Index.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

Logging Subcommands

The following subcommands configure a server's logging settings.

`create-debug-target` — Creates debug targets. Suboptions are as follows:

`--publisher-name` *name*. Name of the debug log publisher.

`--target-name` *java-name*. Name of the new debug target, which will also be used as the value of the `debug-scope` property: The fully-qualified Oracle Unified Directory Java package, class, or method affected by the settings in this target definition. Use the hash symbol (#) to separate the class name and the method name (for example, `org.opends.server.core.DirectoryServer#startUp`).

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`create-log-publisher` — Creates log publishers. Suboptions are as follows:

`--publisher-name` *name*. Name of the new log publisher.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

	`-t,--type` *type*. The type of log publisher that should be created. The value for *type* can be one of `file-based-access`, `file-based-debug`, or `file-based-error`.
`create-log-retention-policy`	Creates Log Retention Policies. Suboptions are as follows: `--policy-name` *name*. Name of the new log retention policy. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `-t,--type` *type*. The type of log retention policy that should be created. The value for *type* can be one of `file-count`, `free-disk-space`, or `size-limit`.
`create-log-rotation-policy`	Creates log rotation policies. Suboptions are as follows: `--policy-name` *name*. Name of the new log rotation policy. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `-t,--type` *type*. The type of log rotation policy that should be created. The value for *type* can be one of `fixed-time`, `size-limit`, or `time-limit`.
`delete-debug-target`	Deletes debug targets. Suboptions are as follows: `--publisher-name` *name*. Name of the debug log publisher.

	`--target-name` *name*. Name of the debug target. `-f,--force`. Ignore nonexistent debug targets.
`delete-log-publisher`	Deletes log publishers. Suboptions are as follows: `--publisher-name` *name*. Name of the log publisher. `-f,--force`. Ignore nonexistent log publishers.
`delete-log-retention-policy`	Deletes Log Retention Policies. Suboptions are as follows: `--policy-name` *name*. Name of the log retention policy. `-f,--force`. Ignore nonexistent Log Retention Policies.
`delete-log-rotation-policy`	Deletes log rotation policies. Suboptions are as follows: `--policy-name` *name*. Name of the log rotation policy. `-f,--force`. Ignore nonexistent log rotation policies.
`get-debug-target-prop`	Shows debug target properties. Suboptions are as follows: `--publisher-name` *name*. Name of the debug log publisher. `--target-name` *name*. Name of the debug target. `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the debug target. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-log-publisher-prop`

Shows log publisher properties. Suboptions are as follows:

`--publisher-name` *name*. Name of the log publisher.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the log publisher.

`-E, --record`. Modifies the display output to show one property value per line.

`-z, --unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m, --unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-log-retention-policy-prop`

Shows log retention policy properties. Suboptions are as follows:

`--policy-name` *name*. Name of the log retention policy.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the log retention policy.

`-E, --record`. Modifies the display output to show one property value per line.

`-z, --unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m, --unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-log-rotation-policy-prop`	Shows log rotation policy properties. Suboptions are as follows: `--policy-name` *name*. Name of the log rotation policy. `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the log rotation policy. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-debug-targets`	Lists existing debug targets. Suboptions are as follows: `--publisher-name` *name*. Name of the debug log publisher. `--property` *property*. The name of a property to be displayed. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-log-publishers`	Lists existing log publishers. Suboptions are as follows: `--property` *property*. The name of a property to be displayed.

	`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-log-retention-policies`	Lists existing Log Retention Policies. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-log-rotation-policies`	Lists existing log rotation policies. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`set-debug-target-prop`	Modifies debug target properties. Suboptions are as follows: `--publisher-name` *name*. Name of the debug log publisher.

	`--target-name` *name*. Name of the debug target. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. `--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added. `--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.
`set-log-publisher-prop`	Modifies log publisher properties. Suboptions are as follows: `--publisher-name` *name*. Name of the log publisher. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. `--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

	`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.
`set-log-retention-policy-prop`	Modifies log retention policy properties. Suboptions are as follows: `--policy-name` *name*. Name of the log retention policy. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. `--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added. `--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.
`set-log-rotation-policy-prop`	Modifies log rotation policy properties. Suboptions are as follows: `--policy-name` *name*. Name of the log rotation policy. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

Replication Subcommands

The following subcommands configure server replication.

These subcommands are not supported with Oracle Unified Directory proxy.

`create-replication-domain`

Creates replication domains. Suboptions are as follows:

`--provider-name` *name*. Name of the multi-master synchronization provider.

`--domain-name` *name*. Name of the new replication domain.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`create-replication-server`

Creates replication servers. Suboptions are as follows:

`--provider-name` *name*. Name of the multi-master synchronization provider.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`create-synchronization-provider`	Creates synchronization providers. Suboptions are as follows: `--provider-name` *name*. Name of the new synchronization provider. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `-t,--type` *type*. The type of synchronization provider that should be created. The value for *type* is `multimaster`.
`delete-replication-domain`	Deletes replication domains. Suboptions are as follows: `--provider-name` *name*. Name of the synchronization provider. `--domain-name` *name*. Name of the replication domain. `-f,--force`. Ignore nonexistent replication domains.
`delete-replication-server`	Deletes replication servers. Suboptions are as follows: `--provider-name` *name*. Name of the synchronization provider. `-f,--force`. Ignore nonexistent replication servers.
`delete-synchronization-provider`	Deletes synchronization providers. Suboptions are as follows: `--provider-name` *name*. Name of the synchronization provider. `-f,--force`. Ignore nonexistent synchronization providers.

`get-replication-domain-prop`	Shows replication domain properties. Suboptions are as follows: `--provider-name` *name*. Name of the multi-master synchronization provider. `--domain-name` *name*. Name of the replication domain. `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the replication domain. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`get-replication-server-prop`	Shows replication server properties. Suboptions are as follows: `--provider-name` *name*. Name of the multi-master synchronization provider. `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the replication server. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

	`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`get-synchronization-provider-prop`	Shows synchronization provider properties. Suboptions are as follows: `--provider-name` *name*. Name of the synchronization provider. `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the synchronization provider. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-replication-domains`	Lists existing replication domains. Suboptions are as follows: `--provider-name` *name*. Name of the replication synchronization provider. `--property` *property*. The name of a property to be displayed. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

	`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-replication-server`	Lists existing replication server. Suboptions are as follows: `--provider-name` *name*. Name of the replication synchronization provider. `--property` *property*. The name of a property to be displayed. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-synchronization-providers`	Lists existing synchronization providers. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`set-replication-domain-prop`	Modifies replication domain properties. Suboptions are as follows: `--provider-name` *name*. Name of the replication synchronization provider.

`--domain-name` *name*. Name of the replication domain.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-synchronization-provider-prop` Modifies synchronization provider properties. Suboptions are as follows:

`--provider-name` *name*. Name of the synchronization provider.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

Security Subcommands

The following subcommands configure a server's security settings.

`create-certificate-mapper`

Creates certificate mappers. Suboptions are as follows:

`--mapper-name` *name*. Name of the new certificate mapper.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. The type of certificate mapper that should be created (default: `generic`). The value for *type* can be one of `custom`, `fingerprint`, `subject-attribute-to-user-attribute`, `subject-dn-to-user-attribute`, or `subject-equals-dn`.

`create-identity-mapper`

Creates identity mappers. Suboptions are as follows:

`--mapper-name` *name*. Name of the new identity mapper.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value*

	is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `-t,--type` *type*. The type of identity mapper that should be created. The value for *type* can be one of `exact-match` or `regular-expression`.
`create-key-manager-provider`	Creates key manager providers. Suboptions are as follows: `--provider-name` *name*. Name of the new key manager provider. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `-t,--type` *type*. The type of key manager provider that should be created (default: `generic`). The value for *type* can be one of `file-based`, `generic`, or `pkcs11`. PKCS#11 is not supported for Oracle Unified Directory proxy.
`create-sasl-mechanism-handler`	This command is not supported for the proxy. Creates SASL mechanism handlers. Suboptions are as follows: `--handler-name` *name*. Name of the new SASL mechanism handler. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

	`-t,--type` *type*. The type of SASL mechanism handler that should be created (default: `generic`). The value for *type* can be one of `anonymous`, `cram-md5`, `digest-md5`, `external`, `generic`, `gssapi`, or `plain`.
`create-trust-manager-provider`	Creates trust manager providers. Suboptions are as follows: `--provider-name` *name*. Name of the new trust manager provider. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `-t,--type` *type*. The type of trust manager provider that should be created (default: `generic`). The value for *type* can be one of `blind`, `file-based`, or `generic`.
`delete-certificate-mapper`	Deletes certificate mappers. Suboptions are as follows: `--mapper-name` *name*. Name of the certificate mapper. `-f,--force`. Ignore nonexistent certificate mappers.
`delete-identity-mapper`	Deletes identity mappers. Suboptions are as follows: `--mapper-name` *name*. Name of the identity mapper. `-f,--force`. Ignore nonexistent identity mappers.
`delete-key-manager-provider`	Deletes key manager providers. Suboptions are as follows: `--provider-name` *name*. Name of the key manager provider. `-f,--force`. Ignore nonexistent key manager providers.

`delete-sasl-mechanism-handler`	This command is not supported for the proxy. Deletes SASL mechanism handlers. Suboptions are as follows: `--handler-name` *name*. Name of the SASL mechanism handler. `-f,--force`. Ignore nonexistent SASL mechanism handlers.
`delete-trust-manager-provider`	Deletes trust manager providers. Suboptions are as follows: `--provider-name` *name*. Name of the trust manager provider. `-f,--force`. Ignore nonexistent trust manager providers.
`get-access-control-handler-prop`	Shows access control handler properties. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the access control handler. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`get-certificate-mapper-prop`	Shows certificate mapper properties. Suboptions are as follows: `--mapper-name` *name*. Name of the certificate mapper.

	`--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the certificate mapper. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`get-crypto-manager-prop`	Show crypto manager properties. Suboptions are as follows: `--advanced`. Modifies the display output to show the advanced properties of the crypto manager. `--property` *property*. The name of a property to be displayed. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`get-identity-mapper-prop`	Shows identity mapper properties. Suboptions are as follows: `--mapper-name` *name*. Name of the identity mapper.

	`--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the identity mapper. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`get-key-manager-provider-prop`	Shows key manager provider properties. Suboptions are as follows: `--provider-name` *name*. Name of the key manager provider. `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the key manager provider. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`get-sasl-mechanism-handler-prop`	This command is not supported for the proxy.

	Shows SASL mechanism handler properties. Suboptions are as follows: `--handler-name` *name*. Name of the SASL mechanism handler. `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the SASL mechanism handler. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`get-trust-manager-provider-prop`	Shows trust manager provider properties. Suboptions are as follows: `--provider-name` *name*. Name of the trust manager provider. `--property` *property*. The name of a property to be displayed. `--advanced`. Modifies the display output to show the advanced properties of the trust manager provider. `-E,--record`. Modifies the display output to show one property value per line. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

	`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-certificate-mappers`	Lists existing certificate mappers. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-identity-mappers`	Lists existing identity mappers. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-key-manager-providers`	Lists existing key manager providers. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

	`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-sasl-mechanism-handlers`	This command is not supported for the proxy. Lists existing SASL mechanism handlers. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`list-trust-manager-providers`	Lists existing trust manager providers. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. `-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes). `-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).
`set-access-control-handler-prop`	Modifies access control handler properties. Suboptions are as follows: `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value*

	is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. `--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added. `--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.
`set-certificate-mapper-prop`	Modifies certificate mapper properties. Suboptions are as follows: `--mapper-name` *name*. Name of the certificate mapper. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. `--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added. `--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.
`set-crypto-manager-prop`	Modifies crypto manager properties. Suboptions are as follows:

	`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. `--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added. `--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.
`set-identity-mapper-prop`	Modifies identity mapper properties. Suboptions are as follows: `--mapper-name` *name*. Name of the identity mapper. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. `--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added. `--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.
`set-key-manager-provider-prop`	Modifies key manager provider properties. Suboptions are as follows:

`--provider-name` *name*. Name of the key manager provider.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-sasl-mechanism-handler-prop`

This command is not supported for the proxy.

Modifies SASL mechanism handler properties. Suboptions are as follows:

`--handler-name` *name*. Name of the SASL mechanism handler.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

	`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added. `--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.
`set-trust-manager-provider-prop`	Modifies trust manager provider properties. Suboptions are as follows: `--provider-name` *name*. Name of the trust manager provider. `--advanced`. Allows the configuration of advanced properties during interactive mode. `--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. `--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added. `--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

User Management Subcommands

The following subcommands configure a server's user management settings.

These subcommands are not supported with Oracle Unified Directory proxy.

`create-account-status-notification-handler`

Creates account status notification handlers. Suboptions are as follows:

`--handler-name` *name*. Name of the new account status notification handler.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. The type of account status notification handler that should be created (default: `custom`). The value for *type* can be one of `custom`, `error-log`, or `smtp`.

`create-certificate-mapper`
Creates certificate mappers. Suboptions are as follows:

`--mapper-name` *name*. Name of the new certificate mapper.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. The type of certificate mapper that should be created (default: `custom`). The value for *type* can be one of `custom`, `fingerprint`, `subject-attribute-to-user-attribute`, `subject-dn-to-user-attribute`, or `subject-equals-dn`.

`create-identity-mapper`
Creates identity mappers. Suboptions are as follows:

`--mapper-name` *name*. Name of the new identity mapper.

`--advanced` Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. The type of identity mapper that should be created. The value for *type* can be one of `exact-match` or `regular-expression`.

`create-password-generator`
Creates password generators. Suboptions are as follows:

`--generator-name` *name*. Name of the new password generator.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. The type of password generator that should be created (default: `generic`). The value for *type* can be one of `generic` or `random`.

`create-password-policy`
Creates password policies. Suboptions are as follows:

`--policy-name` *name*. Name of the new password policy.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`create-password-storage-scheme`
Creates password storage schemes. Suboptions are as follows:

`--scheme-name` *name*. Name of the new password storage scheme.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. The type of password storage scheme that should be created (default: `generic`). The value for *type* can be one of `aes`, `base64`, `blowfish`, `clear`, `crypt`, `custom`, `md5`, `rc4`, `salted-md5`, `salted-sha1`, `salted-sha256`, `salted-sha384`, `salted-sha512`, `sha1`, or `triple-des`.

`create-password-validator`
Creates password validators. Suboptions are as follows:

`--validator-name` *name*. Name of the new password validator.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`-t,--type` *type*. The type of password validator that should be created (default: `generic`). The value for *type* can be one of `attribute-value`, `character-set`, `dictionary`, `generic`, `length-based`, `repeated-characters`, `similarity-based`, or `unique-characters`.

`delete-account-status-notification-handler`
Deletes account status notification handlers. Suboptions are as follows:

`--handler-name` *name*. Name of the account status notification handler.

`-f,--force`. Ignore nonexistent account status notification handlers.

`delete-certificate-mapper`
Deletes certificate mappers. Suboptions are as follows:

`--mapper-name` *name*. Name of the certificate mapper.

`-f,--force`. Ignore nonexistent certificate mappers.

`delete-identity-mapper`
Deletes identity mappers. Suboptions are as follows:

`--mapper-name` *name*. Name of the identity mapper.

`-f,--force`. Ignore nonexistent identity mappers.

`delete-password-generator`
Deletes password generators. Suboptions are as follows:

`--generator-name` *name*. Name of the password generator.

`-f,--force`. Ignore nonexistent password generators.

`delete-password-policy`
Deletes password policies. Suboptions are as follows:

`--policy-name` *name*. Name of the password policy.

`-f,--force`. Ignore nonexistent password policies.

`delete-password-storage-scheme`
Deletes password storage schemes. Suboptions are as follows:

`--scheme-name` *name*. Name of the password storage scheme.

`-f,--force`. Ignore nonexistent password storage schemes.

`delete-password-validator`
Deletes password validators. Suboptions are as follows:

`--validator-name` *name*. Name of the password validator.

`-f,--force`. Ignore nonexistent password validators.

`get-account-status-notification-handler-prop`
Shows account status notification handler properties. Suboptions are as follows:

`--handler-name` *name*. Name of the account status notification handler.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the account status notification handler.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-certificate-mapper-prop`
Shows certificate mapper properties. Suboptions are as follows:

`--mapper-name` *name*. Name of the certificate mapper.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the certificate mapper.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-identity-mapper-prop`
Shows identity mapper properties. Suboptions are as follows:

`--mapper-name` *name*. Name of the identity mapper.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the identity mapper.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-password-generator-prop`
Shows password generator properties. Suboptions are as follows:

`--generator-name` *name*. Name of the password generator.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the password generator.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-password-policy-prop`
Shows password policy properties. Suboptions are as follows:

`--policy-name` *name*. Name of the password policy.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the password policy.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-password-storage-scheme-prop`
Shows password storage scheme properties. Suboptions are as follows:

`--scheme-name` *name*. Name of the password storage scheme.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the password storage scheme.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`get-password-validator-prop`
Shows password validator properties. Suboptions are as follows:

`--validator-name` *name*. Name of the password validator.

`--property` *property*. The name of a property to be displayed.

`--advanced`. Modifies the display output to show the advanced properties of the password validator.

`-E,--record`. Modifies the display output to show one property value per line.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-account-status-notification-handler`
Lists existing account status notification handlers. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-certificate-mappers`
Lists existing certificate mappers. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-identity-mappers`
Lists existing identity mappers. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-password-generators`
Lists existing password generators. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-password-policies`
Lists existing password policies. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-password-storage-schemes`
Lists existing password storage schemes. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`list-password-validators`
Lists existing password validators. Suboptions are as follows:

`--property` *property*. The name of a property to be displayed.

`-z,--unit-size` *unit*. Displays size data using the specified unit. The value for *unit* can be one of `b`, `kb`, `mb`, `gb`, or `tb` (bytes, kilobytes, megabytes, gigabytes, or terabytes).

`-m,--unit-time` *unit*. Displays time data using the specified unit. The value for *unit* can be one of `ms`, `s`, `m`, `h`, `d`, or `w` (milliseconds, seconds, minutes, hours, days, or weeks).

`set-account-status-notification-handler-prop`
Modifies account status notification handler properties. Suboptions are as follows:

`--handler-name` *name*. Name of the account status notification handler.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-certificate-mapper-prop`
Modifies certificate mapper properties. Suboptions are as follows:

`--mapper-name` *name*. Name of the certificate mapper.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-identity-mapper-prop`
Modifies identity mapper properties. Suboptions are as follows:

`--mapper-name` *name*. Name of the identity mapper.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-password-generator-prop`
Modifies password generator properties. Suboptions are as follows:

`--generator-name` *name*. Name of the password generator.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-password-policy-prop`
Modifies password policy properties. Suboptions are as follows:

`--policy-name` *name*. Name of the password policy.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-password-storage-scheme-prop`
Modifies password storage scheme properties. Suboptions are as follows:

`--scheme-name` *name*. Name of the password storage scheme.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

`set-password-validator-prop`
Modifies password validator properties. Suboptions are as follows:

`--validator-name` *name*. Name of the password validator.

`--advanced`. Allows the configuration of advanced properties during interactive mode.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset.

`--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed.

Options

The `dsconfig` command accepts an option in either its short form (for example, `-h` *hostname*) or its long form equivalent (for example, `--hostname` *hostname*).

`--advanced` Allows the configuration of advanced components and properties.

LDAP Connection Options

The `dsconfig` command contacts the directory server over SSL through the administration connector (described in "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*). These connection options are used to contact the directory server.

`-D, --bindDN` *bindDN*

Use the bind DN to authenticate to the server. This option is used when performing simple authentication and is not required if SASL authentication is to be used. The default value for this option is `cn=Directory Manager`.

SASL is not supported for Oracle Unified Directory proxy.

`-h, --hostname` *hostname*	Contact the server on the specified hostname or IP address. If this option is not provided, a default of `localhost` is used.
`-j, --bindPasswordFile` *filename*	Use the bind password in the specified file when authenticating to the server. This option must not be used in conjunction with `--bindPassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.
`-N, --certNickname` *nickname*	Use the specified certificate for client authentication.
`-o, --saslOption` *name* = *value*	Use the specified options for SASL authentication. SASL is not supported for Oracle Unified Directory proxy.
`-p, --port` *port*	Contact the server at the specified administration port. If this option is not provided, the administration port of the local configuration is used.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.

`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.
`-w, --bindPassword` *password*	Use the bind password when authenticating to the server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`. SASL is not supported for Oracle Unified Directory proxy.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-X, --trustAll`	Trust all server SSL certificates that the server presents. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate. If the client and the server are running in the same instance, there is no certificate interaction.

Command Input/Output Options

`--commandFilePath` *path*	Specify the full path to the file, where the equivalent non-interactive commands will be written when this command is run in interactive mode.
`--displayCommand`	Display the equivalent non-interactive option in the standard output when this command is run in interactive mode.

`-F, --batchFile` *batchFilePath*	Specifies the path to a file that contains a set of `dsconfig` commands to be executed. This option supports line splitting, backslash ('\'), quotes ('') escaped quotes (\'') inside a quoted string, and hash for comments ('#').
`-n, --no-prompt`	Use non-interactive mode. If some data in the command is missing, you are not prompted and the command will fail.
`--noPropertiesFile`	Indicate that the command will not use a properties file to get the default command-line options.
`--propertiesFilePath` *path*	Specify the path to the properties file that contains the default command-line options.
`-Q, --quiet`	Run in quiet mode. No output will be generated unless a significant error occurs during the process.
`-s, --script-friendly`	Run in "script friendly" mode. Display the output in a format that can be easily parsed by a script.
`-v, --verbose`	Run in verbose mode, displaying diagnostics on standard output.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to stop or restart the server.
`-V, --version`	Display the version information for the server and exit rather than attempting to run this command.

Examples

The following examples show how to use the server commands.

For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

For additional `dsconfig` examples, see "Managing the Server Configuration With dsconfig" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

EXAMPLE 1–6 Viewing the Global Help Subcommands and Global Options

The following command displays the available global help subcommands and global options for the server:

EXAMPLE 1–6 Viewing the Global Help Subcommands and Global Options *(Continued)*

```
$ dsconfig --help
```

EXAMPLE 1–7 Viewing a Component's Subcommand Help Information

The following command displays the help information for the database subcommands:

```
$ dsconfig --help-database
```

EXAMPLE 1–8 Viewing Help on an Individual Subcommand

The following command displays the help information for the `create-local-db-index` subcommand:

```
$ dsconfig create-local-db-index --help
```

EXAMPLE 1–9 Displaying a Component's Properties

The following command displays the properties for `local-db-index`. If `-t` is not specified, the command displays the properties for all components.

```
$ dsconfig list-properties -c local-db-index
Option Types:

 r -- Property value(s) are readable
 w -- Property value(s) are writable
 m -- The property is mandatory
 s -- The property is single-valued
 a -- Administrative action is required for changes to take effect

Component       Type     Property                       Options  Syntax
-------------------------------------------------------------------------
local-db-index  generic  attribute                      r-ms-    OID
local-db-index  generic  index-entry-limit              rw-sa    INTEGER
local-db-index  generic  index-extensible-matching-rule rw--a    LOCALE | OID
local-db-index  generic  index-type                     rwm-a    TYPE
```

The following command displays the properties for `crypto-manager`.

```
$ dsconfig list-properties -c crypto-manager
Option Types:

 r -- Property value(s) are readable
 w -- Property value(s) are writable
 m -- The property is mandatory
 s -- The property is single-valued
 a -- Administrative action is required for changes to take effect

Component       Type     Property                    Options  Syntax
-----------------------------------------------------------------------
crypto-manager  generic  key-wrapping-transformation  rw-s-    STRING
crypto-manager  generic  ssl-cert-nickname           rw-sa    STRING
```

EXAMPLE 1–9 Displaying a Component's Properties *(Continued)*

```
crypto-manager  generic  ssl-cipher-suite             rw---    STRING
crypto-manager  generic  ssl-encryption               rw-s-    BOOLEAN
crypto-manager  generic  ssl-protocol                 rw---    STRING
```

EXAMPLE 1–10 Parameters Supported by the `-F, --batchFile` subcommand

This section describes the various parameters supported by the `-F, --batchFile` subcommand.

Executing the `-F, --batchFile` subcommand using the line splitting approach. The file /tmp/batch contains the following set of commands:

```
create-workflow-element \
--type db-local-backend \
--set base-dn:cn=myexample,cn=com \
--set enabled:true \
--element-name myBackend
```

Running the `-F, --batchFile` subcommand.

```
dsconfig -X -w password -F /tmp/batch -n
```

Executing the `-F, --batchFile` subcommand using quotes (") and escaped quotes (\") inside a quoted string. The file /tmp/batch contains the following set of commands:

```
set-access-control-handler-prop \
--add global-aci:"(targetattr != \"description || mail\") \
(version 3.0; acl \"Allow self entry modification except for \
description and mail attributes\"; allow (write)userdn =\"ldap:///self\";) "
```

Running the `-F, --batchFile` subcommand.

```
dsconfig -X -w password -F /tmp/batch -n
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 or greater indicates that an error occurred during processing.

Using a Properties File

The server supports the use of a *properties file* that passes in any default option values used with the `dsconfig` command. The properties file is convenient when working in different

configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

The following options can be stored in a properties file:

- `bindDN`
- `bindPassword`
- `bindPasswordFile`
- `certNickname`
- `hostname`
- `keyStorePassword`
- `keyStorePasswordFile`
- `keyStorePath`
- `port`
- `saslOption`

  SASL is not supported for Oracle Unified Directory proxy.
- `trustAll`
- `trustStorePassword`
- `trustStorePasswordFile`
- `trustStorePath`
- `useSSL`
- `useStartTLS`

Entries in the properties file have the following format:

```
toolname.propertyname=propertyvalue
```

For example:

```
dsconfig.trustAll=Yes
```

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/dsconfig`
- Windows: *instance-dir*`\OUD\bat\dsconfig.bat`

Related Commands

"gicadm" on page 130

"dsreplication" on page 107

dsreplication

The `dsreplication` command configures replication between directory servers so that the data of the servers is synchronized.

This command is not supported for the proxy.

Synopsis

`dsreplication` [*subcommands*] [*options*]

Description

The `dsreplication` command can be used to configure replication between directory servers so that the data of the servers is synchronized. First enable replication by using the `enable` subcommand and then initialize the contents of one directory server with the contents of another server by using the `initialize` subcommand.

The `dsreplication` command contacts the server over SSL using the administration connector (see "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*).

Like the `dsconfig` command, `dsreplication` can be run in interactive mode, which walks you through the replication setup process. To run `dsreplication` in interactive mode, type the command name with no parameters, as shown in the following example:

```
$ dsreplication
What do you want to do?

1)  Enable Replication
2)  Disable Replication
3)  Initialize Replication on one Server
4)  Initialize All Servers
5)  Pre External Initialization
6)  Post External Initialization
7)  Display Replication Status
8)  Purge Historical
9)  Set the trust flag of the Directory Server
```

```
c)  cancel

Enter choice: 1
...
```

To display the equivalent non-interactive command, use the `--displayCommand` or `--commandFilePath` option.

Server Subcommands

The following subcommands are used with the `dsreplication` command.

`disable`

Disable replication on the specified directory server for the specified base DN. This subcommand removes references to the specified server in the configuration of the servers with which this server is replicating data. Suboptions are as follows:

`-D, --bindDN` *bindDN*. The DN used to bind to the server on which replication will be disabled. This option must be used if no global administrator has been defined on the server or if you do not want to remove references in the other replicated servers. The password provided for the global administrator is used when this option is specified.

`-a, --disableAll`. Disable the replication configuration on the specified server. The contents of the server are no longer replicated and the replication server (change log and replication port) is disabled, if it is configured.

`--disableReplicationServer`. Disable the replication server. The replication port and change log are disabled on the specified server.

`-h, --hostname` *host*. Directory server host name or IP address.

`-p, --port` *port*. Directory server administration port number.

`enable`

Update the configuration of the directory servers to replicate data under the specified base DN. If one of the specified servers is already replicating the data under the

base DN to other servers, executing this subcommand updates the configuration of all the servers. It is therefore sufficient to execute the subcommand once for each server that is added to the replication topology. Suboptions are as follows:

`--bindDN2` *bindDN*. The DN used to bind to the second server whose contents will be replicated. If no bind DN is specified, the global administrator is used to bind.

`--bindPassword1` *bindPassword*. The password used to bind to the first server whose contents will be replicated. If no bind DN was specified for the first server, the password of the global administrator is used to bind.

`--bindPassword2` *password*. The password used to bind to the second server whose contents will be replicated. If no bind DN was specified for the second server, the password of the global administrator is used to bind.

`--bindPasswordFile1` *filename*. The file containing the password used to bind to the first server whose contents will be replicated. If no bind DN was specified for the first server, the password of the global administrator is used to bind.

`-D, --bindDN1` *bindDN*. The DN used to bind to the first server whose contents will be replicated. If no bind DN is specified, the global administrator is used to bind.

`-F, --bindPasswordFile2` *filename*. The file containing the password used to bind to the second server whose contents will be replicated. If no bind DN was specified for the second server, the password of the global administrator is used to bind.

`-h, --host1` *host*. Host name or IP address of the first server whose contents will be replicated.

`--noReplicationServer1`. Do not configure a replication port or change log on the first server. The first server will contain replicated data but will not contain a change log of modifications made to the replicated data.

Note that each replicated topology must contain at least two servers with a change log to avoid a single point of failure.

`--noReplicationServer2`. Do not configure a replication port or change log on the second server. The second server will contain replicated data but will not contain a change log of modifications made to the replicated data. Note that each replicated topology must contain at least two servers with a change log to avoid a single point of failure.

`--noSchemaReplication`. Do not replicate the schema between the servers. Note that schema replication is enabled by default. Use this option if you do not want the schema to be synchronized between servers.

`--onlyReplicationServer1`. Configure only a change log and replication port on the first server. The first server will not contain replicated data, but will contain a change log of the modifications made to the replicated data on other servers.

`--onlyReplicationServer2`. Configure only a change log and replication port on the second server. The second server will not contain replicated data, but will contain a change log of the modifications made to the replicated data on other servers.

`-O, --host2` *host*. Hostname or IP address of the second server whose contents will be replicated.

`-p, --port1` *port*. Directory server administration port number of the first server whose contents will be replicated.

`--port2` *port*. Directory server administration port number of the second server whose contents will be replicated.

`-r, --replicationPort1` *port*. The port that will be used by the replication mechanism in the first directory server to communicate with other servers. Only specify this option if replication was not previously configured on the first directory server.

`-R, --replicationPort2` *port*. The port that will be used by the replication mechanism in the second directory server to communicate with other servers. Only specify this option if replication was not previously configured in the second server.

`-S, --skipPortCheck`. Skip the check to determine whether the specified replication ports are usable. If this argument is not specified, the server checks that the port is available only if you are configuring the local host.

`--secureReplication1`. Specifies whether communication through the replication port of the first server is encrypted. This option is only taken into account the first time replication is configured on the first server.

`--secureReplication2`. Specifies whether communication through the replication port of the second server is encrypted. This option is only taken into account the first time replication is configured on the second server.

`--useSecondServerAsSchemaSource`. Use the second server to initialize the schema of the first server. If neither this option nor the `--noSchemaReplication` option is specified, the schema of the first server is used to initialize the schema of the second server.

`initialize`

Initialize the contents of the data under the specified base DN on the destination directory server with the contents on the source server. This operation is required after enabling replication. Suboptions are as follows:

`-h, --hostSource` *host*. Directory server host name or IP address of the source server whose contents will be used to initialize the destination server.

`-O, --hostDestination` *host*. Directory server hostname or IP address of the destination server whose contents will be initialized.

`-p, --portSource` *port*. Directory server administration port number of the source server whose contents will be used to initialize the destination server.

	`--portDestination` *port*. Directory server administration port number of the destination server whose contents will be initialized.
`initialize-all`	Initialize the data under the specified base DN, on all the directory servers in the topology, with the data on the specified server. This operation is required after enabling replication for replication to work. Alternatively, you can use the `initialize` subcommand on each individual server in the topology. Suboptions are as follows: `-h, --hostname` *host*. Directory server host name or IP address of the source server. `-p, --port` *port*. Directory server administration port number of the source server.
`post-external-initialization`	Enable replication to work after the entire topology has been reinitialized by using `import-ldif` or binary copy. This subcommand must be called after you initialize the contents of all directory servers in a topology by using `import-ldif` or binary copy. If you do not run this subcommand, replication will no longer work after the initialization. Suboptions are as follows: `-h, --hostname` *host*. Directory server host name or IP address. `-p, --port` *port*. Directory server administration port number.
`pre-external-initialization`	Prepare a replication topology for initialization by using `import-ldif` or binary copy. This subcommand must be called before you initialize the contents of all directory servers in a topology by using `import-ldif` or binary copy. If you do not run this subcommand, replication will no longer work after the initialization. After running this subcommand, initialize the contents of all the servers in the topology, then run the subcommand `post-external-initialization`. Suboptions are as follows: `-h, --hostname` *host*. Directory server host name or IP address.

`-l, --local-only`. Use this option when the contents of only the specified directory server will be initialized with an external method.

`-p, --port` *port*. Directory server administration port number.

`purge-historical`

Launches a purge processing of the historical information stored in the user entries by replication. Since this processing may take a while, you must specify the maximum duration for this processing. Suboptions are as follows:

`-h, --hostname` *host*. Directory server host name or IP address.

`-p, --port` *port*. Directory server administration port number.

`--maximumDuration` *maximum duration*. Specifies the maximum duration the purge processing must last expressed in seconds. The default value is 3600.

`-t, --start` *startTime*. Specifies the date and time at which this operation will start when scheduled as a server task expressed in YYYYMMDDhhmmssZ format for UTC time or YYYYMMDDhhmmss for local time. Use `0` to schedule the task for immediate execution. When this option is specified the operation is scheduled to start at the specified time after which the utility exits immediately.

`--recurringTask` *schedulePattern*. Indicates the task is recurring and will be scheduled according to the value argument expressed in crontab(5) compatible time/date pattern.

`--completionNotify` *emailAddress*. Indicates the e-mail address of the recipient to be notified when the task completes. You can specify this option more than once.

`--errorNotify` *emailAddress*. Indicates the e-mail address of the recipient to be notified if an error occurs when this task executes. You can specify this option more than once.

	`--dependency` *taskID*. Indicates the ID of a task upon which this task depends. A task will not start execution until all its dependent tasks have completed execution. `--failedDependencyAction` *action*. Indicates the action that should take place if one if its dependent tasks fail. It must have one of the following values: `PROCESS`,`CANCEL`, or `DISABLE`. The default value is CANCEL.
`set-trust`	Set the trust flag of a Directory Server. Any change sent by an untrusted Directory Server will be discarded by the rest of the topology. Only trusted Directory Servers are allowed to send changes to be replayed by other Directory Servers. Suboptions are as follows: `-h, --trustedHost` *host*. Specifies the fully qualified host name or IP address of the Directory Server that will perform the change. `-p, --trustedPort` *port*. Specifies the Directory Server administration port number of the Directory Server that will perform the change. `-M, --modifiedHost` *host*. Specifies the fully qualified host name or IP address of the Directory Server whose trust flag is modified. `-c, --modifiedPort` *port*. Specifies the Directory Server administration port number of the Directory Server whose trust flag is modified. `-t, --trustValue` *trusted*|*untrusted*. Specifies the new value of the trust flag for the Directory Server to be modified. It can be `trusted` or `untrusted`. The default value is `trusted`.
`status`	List the replication configuration for the specified base DNs of all directory servers defined in the registration information. If no base DNs are specified, the information for all base DNs is displayed. Suboptions are as follows: `-h, --hostname` *host*. Directory server host name or IP address.

`-p, --port` *port*. Directory server administration port number.

`-s, --script-friendly`. Display the status in a format that can be parsed by a script.

The `status` subcommand can have the following values:

- Normal: The connection to a replication server is established with the right data set. Replication is working. If assured mode is used, then acks signal from this directory server are sent.
- Degraded: The connection to a replication server is established with the right data set. Replication is working in degraded mode as the directory server has a lot of changes to be replayed pending in the replication server queue. If assured mode is used, then acks signal from this directory server are not expected.
- Full Update: The connection to a replication server is established and a new data set is received from this connection (online import), to initialize the local back end.
- Bad Data Set: The connection to a replication server is established with a data set that is different from the rest of the topology. The replication is not working. Either the other directory servers of the topology should be initialized with a compatible data set, or this server should be initialized with another data set compatible with other servers'.
- Not Connected: The directory server is not connected to any replication server.

Options

The `dsreplication` command accepts an option in either its short form (for example, `-H`) or its long form equivalent (for example, `--help`).

`-b, --baseDN` *baseDN* Specify the base DN of the data to be replicated or initialized, or for which replication should be disabled. Multiple base DNs can be specified by using this option multiple times.

Configuration Options

`--advanced` Use this option to access advanced settings when running this command in interactive mode.

LDAP Connection Options

`-I, --adminUID` *adminUID*
Specify the User ID of the global administrator to bind to the server. If no global administrator was defined previously for any of the servers, this option creates a global administrator by using the data provided.

`-w, --adminPassword` *bindPassword*
Use the global administrator password when authenticating to the directory server.

`-j, --adminPasswordFile` *bindPasswordFile*
Use the global administrator password in the specified file when authenticating to the directory server. This option must not be used in conjunction with `--adminPassword`.

`-o, --saslOption` *name=value*
Use the specified options for SASL authentication.

SASL is not supported for Oracle Unified Directory proxy.

`-X, --trustAll`
Trust any certificate that the server might present during SSL or StartTLS negotiation. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

`-P, --trustStorePath` *trustStorePath*
Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.

`-T, --trustStorePassword` *trustStorePassword*
Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.

`-U, --TrustStorePasswordFile` *path*
Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.

`-K, --keyStorePath` *keyStorePath*
Use the client keystore certificate in the specified path.

`-W, --keyStorePassword` *keyStorePassword*
Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.

`-u, --keyStorePasswordFile` *keyStorePasswordFile*
Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.

`-N, --certNickname` *nickname*
Use the specified certificate for authentication.

`--connectTimeout` *timeout*
Specifies the maximum length of time (in milliseconds) that can be taken to establish a connection. Use `0`to specify no time out. The default value is 30000.

Command Input/Output Options

`--commandFilePath` *path*	Specify the full path to the file in which the equivalent non-interactive commands are written when the command is run in interactive mode.
`--displayCommand`	Display the equivalent non-interactive command in the standard output when the command is run in interactive mode.
`-n, --no-prompt`	Run in non-interactive mode. If some data in the command is missing, the user will not be prompted and the command will fail.
`--noPropertiesFile`	Indicate that the command will not use a properties file to get the default command-line options.
`--propertiesFilePath` *propertiesFilePath*	Specify the path to the properties file that contains the default command-line options.
`-Q, --quiet`	Run in quiet mode. No output will be generated unless a significant error occurs during the process.

General Options

`-?, -H, --help` Display command-line usage information for the command and exit without making any attempt to stop or restart the server.

`-V, --version` Display the version information for the server and exit rather than attempting to run this command.

Examples

The following examples assume that two directory servers are installed: `host1` and `host2`. Both servers are configured with the default administration port (4444). The base DN `dc=example,dc=com` is populated with data on `host1`. The base DN exists on `host2`, but is empty. The examples configure replication between the two servers and initialize `host2` with data.

Note – The easiest way to use `dsreplication` is in interactive mode, in which case you are prompted for all of the relevant arguments. However, to illustrate which arguments are configured, these examples do not use the interactive mode.

EXAMPLE 1–11 Enabling Directory Server Replication

The following command enables replication for the base DN `dc=example,dc=com` on `host1` and `host2`. The command runs in non-interactive mode (`-n`) and specifies that all server certificates should be accepted (`-X`).

```
$ dsreplication enable \
  --host1 host1 --port1 4444 --bindDN1 "cn=Directory Manager" \
  --bindPassword1 password --replicationPort1 8989 \
  --host2 host2 --port2 4444 --bindDN2 "cn=Directory Manager" \
  --bindPassword2 password  --replicationPort2 8989 \
  --adminUID admin --adminPassword password --baseDN "dc=example,dc=com" -X -n
```

EXAMPLE 1–12 Initializing Directory Server Replication

To initialize one replica from another, use the `initialize` subcommand. The following command initializes the base DN `dc=example,dc=com` on `host2` with the data contained on `host1`. The command runs in non-interactive mode (`-n`) and specifies that all server certificates should be accepted (`-X`).

```
$ dsreplication initialize --baseDN "dc=example,dc=com" \
  --adminUID admin --adminPassword password \
  --hostSource host1 --portSource 4444 \
  --hostDestination host2 --portDestination 4444 -X -n
```

EXAMPLE 1–12 Initializing Directory Server Replication *(Continued)*

To initialize an entire topology, use the `initialize-all` subcommand. This subcommand takes the details of the source directory server as options and initializes all other replicas for which replication has been enabled.

EXAMPLE 1–13 Obtaining the Directory Server Replication Status

The following command obtains the replication status of the directory servers in the topology.

```
$ dsreplication status --hostname host1 \
--port 4444 --adminUID admin --adminPassword password -X -n

dc=example,dc=com - Replication Enabled
=======================================
Server    :Entries:M.C.[1]:A.O.M.C.[2]:Port[3]:Encryption[4]:Trust[5]:U.C.[6]:Status[7]
----------:-------:-------:-----------:-------:-------------:--------:-------:-----------
host1:1444:200000 :0      :N/A        :1898   :Disabled     :Trusted :N/A    :Normal
host2:2444:200000 :0      :N/A        :2898   :Disabled     :Trusted :N/A    :Normal

[1] The number of changes that are still missing on this server (and that have been
    applied to at least one of the other servers).
[2] Age of oldest missing change: the age (in seconds) of the oldest change that
    has not yet arrived on this server.
[3] The port used to communicate between the servers whose contents are being
    replicated.
[4] Whether the replication communication through the replication port is encrypted
    or not.
[5] Whether this directory server is trusted or not. Updates coming from an
    untrusted server are discarded and not propagated.
[6] The number of untrusted changes. These are changes generated on this server
    while it is untrusted. Those changes are not propagated to the rest of the topology
    but are effective on the untrusted server.
[7] The status of the replication domain on this directory server.
```

EXAMPLE 1–14 Obtaining the Replication Status

The following command obtains the replication status of two directory servers and one replication server in the topology.

```
$ dsreplication status --hostname host1 \
--port 4444 --adminUID admin --adminPassword password -X -n

dc=example,dc=com - Replication Disabled
========================================
Server           : Entries
-------------------------
host2:2444       : 1

dc=example,dc=com - Replication Enabled
=======================================
Server    :Entries:M.C.[1]:A.O.M.C.[2]:Port[3]:Encryption[4]:Trust[5]:U.C.[6]:Status[7]
----------:-------:-------:-----------:-------:-------------:--------:-------:----------
host2:2444:-- [9] :--     :--         :2898   :Disabled     :--      :--     :--
```

EXAMPLE 1–14 Obtaining the Replication Status *(Continued)*

```
host1:1444:200000 :0      :N/A        :-- [8] :--           :Trusted :N/A    :Normal
host3:3444:200000 :0      :N/A        :-- [8] :--           :Trusted :N/A    :Normal

[1] The number of changes that are still missing on this server (and that have been
    applied to at least one of the other servers).
[2] Age of oldest missing change: the age (in seconds) of the oldest change that
    has not yet arrived on this server.
[3] The port used to communicate between the servers whose contents are being
    replicated.
[4] Whether the replication communication through the replication port is encrypted
    or not.
[5] Whether this directory server is trusted or not. Updates coming from an
    untrusted server are discarded and not propagated.
[6] The number of untrusted changes. These are changes generated on this server
    while it is untrusted. Those changes are not propagated to the rest of the
    topology but are effective on the untrusted server.
[7] The status of the replication domain on this directory server.
[8] Server not configured as a replication server (no replication changelog).
[9] Server does not contain replicated data for the suffix.
```

EXAMPLE 1–15 Disabling Directory Server Replication

The following command disables replication for the base DN `dc=example,dc=com` on `host2`. Disabling replication on one directory server removes all references to that server from the other directory servers in the replication topology.

```
$ dsreplication disable --baseDN "dc=example,dc=com" \
  --hostname host2 --port 4444 --adminUID admin --adminPassword password -X -n
Establishing connections ..... Done.
Disabling replication on base DN cn=admin data of server host2:4444 ..... Done.
Disabling replication on base DN dc=example,dc=com of server host2:4444 ..... Done.
Disabling replication on base DN cn=schema of server host2:4444 ..... Done.
Removing references on base DN cn=admin data of server host1:4444 ..... Done.
Removing references on base DN dc=example,dc=com of server host1:4444 ..... Done.
Removing references on base DN cn=schema of server host1:4444 ..... Done.
Disabling replication port 8990 of server host2:4444 ..... Done.
```

Exit Codes

`0` Successful.

`1` Unable to initialize arguments.

`2` Cannot parse arguments because the provided arguments are not valid or there was an error checking the user data.

`3` The user canceled the operation in non-prompt mode.

`4` Unexpected error.

5 The specified base DNs cannot be used to enable replication.

6 The specified base DNs cannot be used to disable replication.

7 The specified base DNs cannot be used to initialize the contents of the replicas.

8 Error connecting with the credentials provided.

9 Could not find the replication ID of the domain to be used to initialize the replica.

10 The maximum number of attempts to start the initialization has been exceeded. A systematic "peer not found error" was received.

11 Error enabling replication on base DN.

12 Error initializing base DN.

13 Error reading configuration.

14 Error updating ADS.

15 Error reading ADS.

16 Error reading Topology Cache.

17 Error configuring the replication server.

18 Unsupported ADS scenario.

19 Error disabling replication on base DN.

20 Error removing replication port reference on base DN.

21 Error initializing Administration Framework.

22 Error seeding trust store.

23 Error launching pre-external initialization.

24 Error launching post-external initialization.

25 Error disabling replication server.

26 Error executing purge historical.

27 Historical cannot be purged on base DN.

28 Error launching purge historical.

29 Error local purge historical class load.

30 Error local purge historical server start.

31 Error local purge historical timeout.

32 Error local purge historical executing.

33 Trusted host not found.

34 Modified host not found.

Using a Properties File

The directory server supports the use of a *properties file* that passes in any default option values used with the `dsreplication` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

The following options can be stored in a properties file:

- `adminUID`
- `baseDN`
- `certNickname`
- `keyStorePassword`
- `keyStorePasswordFile`
- `keyStorePath`
- `saslOption`

  SASL is not supported for Oracle Unified Directory proxy.
- `trustAll`
- `trustStorePassword`
- `trustStorePasswordFile`
- `trustStorePath`

Entries in the properties file have the following format:

```
toolname.propertyname=propertyvalue
```

For example:

```
dsreplication.baseDN=dc=example,dc=com
```

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/dsreplication`
- Windows: *instance-dir*`\OUD\bat\dsreplication.bat`

Related Commands

"dsconfig" on page 25

ds2oud

The `ds2oud` command manages the migration from Oracle Directory Server Enterprise Edition directory server to Oracle Unified Directory server.

Synopsis

`ds2oud` [*options*]

Description

The `ds2oud` command enables you to manage the migration from Oracle Directory Server Enterprise Edition directory server to Oracle Unified Directory server. The `ds2oud` command first allows you to diagnose the targeted Oracle Directory Server Enterprise Edition directory server, and then performs the migration task. It is based on the premise that the existing Oracle Unified Directory instance is modified to be compatible with the Oracle Directory Server Enterprise Edition directory server to be migrated. The `ds2oud` command runs in interactive mode, if you do not specify options. Interactive mode works much like a wizard, walking you through every aspect of the migration.

You can run the `ds2oud` command in batch mode as well. It generates a batch file that comprises `dsconfig` commands, which are used to create equivalent Oracle Unified Directory configuration.

Options

The `ds2oud` command accepts the following options.

`-d, --diagnose`	Diagnoses the targeted Oracle Directory Server Enterprise Edition directory server.
`-f, --ldifDBFile` *file*	Diagnoses the Oracle Directory Server Enterprise Edition directory server LDIF database file.
`-u, --userSchemaFile` *file*	Specifies the user schema to be taken into consideration. It applies to `-f` subcommand.

`-a, --migrateAll`	Propagates schema and configuration elements from Oracle Directory Server Enterprise Edition directory server to Oracle Unified Directory server.
`-s, --migrateUserSchema`	Propagates the User schema from Oracle Directory Server Enterprise Edition directory server to Oracle Unified Directory server.
`-c, --migrateConfiguration`	Propagates configuration elements from Oracle Directory Server Enterprise Edition directory server to Oracle Unified Directory server.
`-w, --uniqueWorkflowElement`	Specifies the unique workflow element to use for all the naming contexts to migrate. It is used in context of `-c` subcommand.

Oracle Directory Server Enterprise Edition LDAP Connection Options

`-D, --odseeBindDN` *bindDN*
DN to use to bind to the Oracle Directory Server Enterprise Edition server.

`-j, --odseeBindPasswordFile` *filename*
Oracle Directory Server Enterprise Edition bind password file.

`-h, --odseeHostname` *host*
Oracle Directory Server Enterprise Edition server hostname. The default value is localhost.

`-p, --odseePort` *port*
Oracle Directory Server Enterprise Edition server port number. The default value is 389.

`-Z, --odseeUseSSL`
Establishes an Oracle Directory Server Enterprise Edition SSL-encrypted connection.

`-P, --odseeTrustStorePath` *trustStorePath*
Use the Oracle Directory Server Enterprise Edition trust store certificate in the specified path. This option is not needed if `-X` is used, although a trust store should be used when working in a production environment.

`-U, --odseeTrustStorePasswordFile` *filename*
Use the password in the specified file to access the certificates in the Oracle Directory Server Enterprise Edition trust store. This option is only required if `--odseeTrustStorePath` is used and the specified trust store requires a password to access its contents (most trust stores do not require this).

`-X, --odseeTrustAll`
Trust all certificate that the Oracle Directory Server Enterprise Edition server presents. This option can be used for testing purposes, but for security reasons, a trust store should be used to determine whether the Oracle Directory Server Enterprise Edition should accept the server certificate.

Oracle Unified Directory LDAP Connection Options

`--oudBindDN` *bindDN*	DN to use to bind to the Oracle Unified Directory server.
`--oudBindPasswordFile` *filename*	Oracle Unified Directory bind password file.
`--oudHostname` *host*	Oracle Unified Directory server hostname. The default value is localhost.
`--oudPort` *port*	Oracle Unified Directory server port number. The default value is 389.
`--oudAdminPort` *port*	Oracle Unified Directory server administration port. The default value is 444.
`--oudUseSSL`	Establishes an Oracle Unified Directory SSL-encrypted connection.
`--oudTrustStorePath` *trustStorePath*	Use the Oracle Unified Directory trust store certificate in the specified path.
`--oudTrustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the Oracle Unified Directory trust store. This option is only required if `--oudTrustStorePath` is used and the specified trust store requires a password to access its contents (most trust stores do not require this).
`--oudTrustAll`	Trust all certificate that the Oracle Unified Directory server presents. This option can be used for testing purposes, but for security reasons, a trust store should be used to determine whether the Oracle Unified Directory should accept the server certificate.

Command Input/Output Options

`-n, --no-prompt`	Use the non-interactive mode. If data in the command is missing, the user is not prompted and the tool fails.

`-o, --outputFile` *filename*	Redirects the output into the specified output file.
`-F, --batchFile` *filename*	Name of the output file that contains a set of `dsconfig` commands to execute to migrate the configuration.

General Options

`-?, -H, --help`	Displays command-line usage information for the command and exit without making any attempt to stop or restart the directory server.
`-V, --version`	Displays the version information for the directory server.

Examples

The following examples show how to use the `ds2oud` command. For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

EXAMPLE 1–16 Viewing the Global Help Subcommands

The following command displays the available global Help subcommands:

```
$ ds2oud --help
```

EXAMPLE 1–17 Running `ds2oud` in Interactive Mode From the Command Line

The `ds2oud` command can be run in interactive mode, where you are prompted for migration options. To run `ds2oud` in interactive mode, type the following command:

```
$ ds2oud
What do you want to do ?

1)  Diagnose an ODSEE directory server instance
2)  Diagnose an ODSEE LDIF data file
3)  Migrate all ( user schema + configuration )
4)  Migrate the user schema
5)  Migrate global configuration parameters

c)  cancel
```

For each preceding action, you first have to provide connection options either on Oracle Directory Server Enterprise Edition directory server for diagnose purpose or both Oracle Directory Server Enterprise Edition and Oracle Unified Directory servers for migration purpose.

EXAMPLE 1–18 Running `ds2oud` for Diagnosing Data

The following command is run to diagnose the data present in the Oracle Directory Server Enterprise Edition directory server:

```
$ ds2oud -f odseeDataFile.ldif -u 99user.ldif

******************************************************************************
* Diagnose ODSEE LDIF data file :  odseeDataFile.ldif
******************************************************************************
The data were validated successfully regarding the OUD schema
```

EXAMPLE 1–19 Migrating an Existing Oracle Directory Server Enterprise Edition Configuration to an Oracle Unified Directory Configuration

Use the following commands to migrate an existing Oracle Directory Server Enterprise Edition Configuration to a new Oracle Unified Directory Configuration

The following command migrates an existing Oracle Directory Server Enterprise Edition configuration and schema:

```
$ ds2oud --migrateAll -D "cn=directory manager"
-j /tmp/pwd -h hostname -p ldapPort
--oudBindDN "cn=directory manager" --oudBindPasswordFile /tmp/pwd
--oudHostname hostname2 --oudPort ldapPort2 --oudAdminPort adminPort  -n
```

The following command provides the path to a batch file containing a set of `dsconfig` commands to be executed to create a new Oracle Unified Directory configuration:

```
$ ds2oud --migrateConfiguration --batchFile batchFile
-D "cn=directory manager" -j /tmp/pwd -h hostname
-p ldapPort --oudBindDN "cn=directory manager"
--oudBindPasswordFile /tmp/pwd  --oudHostname hostname2
--oudPort ldapPort2 --oudAdminPort adminPort -n
```

Exit Codes

`0` Successful.

`1` Unable to initialize arguments.

`2` Cannot parse arguments because the provided arguments are not valid or there was an error checking the user data.

`3` At least one step into the migration process has failed.

`4` The user canceled the operation in interactive mode.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/ds2oud`
- Windows: *instance-dir*`\OUD\bat\ds2oud.bat`

Related Commands

- "dsconfig" on page 25

dps2oud

The `dps2oud` command allows you to migrate a Directory Proxy Server (DPS) configuration to an Oracle Unified Directory configuration.

Synopsis

`dps2oud` [*options*]

Description

The `dps2oud` command allows you to migrate a DPS configuration to an Oracle Unified Directory configuration. The `dps2oud` command takes a DPS configuration as the input and generates a batch file that comprises `dsconfig` commands, which are used to create an equivalent Oracle Unified Directory configuration. The `dps2oud` command reads the DPS configuration either through a file or through the LDAP protocol on a running DPS instance.

Options

The `dps2oud` command accepts the following options.

`-o, --outputFile` *file*	The output file for `dsconfig` commands.
`-f, --dpsConfigFile` *file*	Specifies the name of the DPS config file to use.
`-c, --createDisabledObjects`	Creates DPS-disabled objects.
`-P, --printDsConfigCmds`	Prints `dsconfig` commands.

LDAP Connection Options

`-h, --hostname` *host*	DPS server hostname or IP address.
`-p, --port` *port*	DPS server port number.
`-D, --BindDN` *bindDN*	DN to use to bind to the DPS server.
`-w, --bindPassword` *bindPassword*	Password to use to bind to the DPS server.

General Options

`-?, -H, --help`	Displays command-line usage information for the command and exit without making any attempt to stop or restart the directory server.
`-V, --version`	Displays the version information for the directory server.

Examples

The following examples show how to use the `dps2oud` command. For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

EXAMPLE 1–20 Viewing the Global Help Subcommands

The following command displays the available global Help subcommands:

```
$ dps2oud --help
```

EXAMPLE 1–21 Migrating a DPS Configuration to an Oracle Unified Directory Configuration

You can migrate a DPS configuration to an Oracle Unified Directory configuration using one of the following methods:

Method 1: Reading a DPS configuration from an LDIF file

The following command displays how to read a DPS configuration from an LDIF file:

```
$ dps2oud -f dse.ldif -o oud_conf_cmds
```

The following command provides the path to a batch file containing a set of `dsconfig` commands to be executed:

```
$ dsconfig -F oud_conf_cmds
```

Method 2: Reading a DPS configuration from a running DPS instance

EXAMPLE 1–21 Migrating a DPS Configuration to an Oracle Unified Directory Configuration *(Continued)*

The following command displays how to read a DPS configuration from a DPS instance:

```
$ dps2oud -h dpsHost -p 389 -D "cn=Proxy Manager" -w password -o oud_conf_cmds
```

The following command provides the path to a batch file containing a set of `dsconfig` commands to be executed:

```
$ dsconfig -F oud_conf_cmds
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. A nonzero exit code indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/dps2oud`
- Windows: *instance-dir*`\OUD\bat\dps2oud.bat`

Related Commands

"dsconfig" on page 25

gicadm

The `gicadm` command manages global indexes and global index catalogs.

This command is supported only for the proxy.

Synopsis

`gicadm` [*subcommand*] [*options*]

Description

The `gicadm` command enables you to create and delete a global index catalog, as well as add, modify, and delete global indexes in a global index catalog, and manage replication of global index catalogs. It also allows you to associate a global index to a distribution.

The `gicadm` command accesses the server over SSL through the administration connector.

Options

The `gicadm` command accepts the following options.

`add-index`

Adds a new global index to a global index catalog. Suboptions are as follows:

`-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument.

`--attributeName` *attribute-name*. The identifier for the global index attribute. This identifier should be unique in the context of the global index catalog and it is used to identify the global index.

`--set` *property*`:`*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it.

`associate`

Associates a global index catalog to a distribution workflow element. Suboptions are as follows:

`-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument.

`-d, --distributionWorkflowElement` *distribution-workflow-element*. Name of the distribution workflow element object using this global index catalog, from which the global index catalog is to be disassociated.

`create-catalog`

Creates a new global index catalog. Suboptions are as follows:

`-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument.

`delete-catalog`	Deletes a global index catalog. Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument.
`disable-replication`	Disables replication on the specified server for the specified global index catalog and removes any references to this server from the other servers in the replication topology. Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument. `--adminUID` *adminUID*. User ID of the global administrator used to bind to the server. For the `enable-replication` subcommand if no global administrator was defined previously the global administrator will be created using the provided data.
`disassociate`	Disassociates a global index catalog from a distribution workflow element. Suboptions are as follows: `-d, --distributionWorkflowElement` *distribution-workflow-element*. Name of the distribution workflow element object using this global index catalog, from which the global index catalog is to be disassociated.
`enable-replication`	Updates the server configuration to replicate the global index catalog and all its global indexes. If one of the specified servers already replicates the global index catalog for a given global index, executing this subcommand will update the configuration of all servers in the topology. Therefore, it is sufficient to execute this command once for each server added to the replication topology. Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument. `--adminUID` *adminUID*. User ID of the global administrator used to bind to the server. For the `enable-replication` subcommand, if no global administrator was defined previously, the global administrator will be created using the provided data.

`--adminPassword` *bindPassword*. The global administrator password.

`--adminPasswordFile` *bindPasswordFile*. The file containing the password of the global administrator.

`--localReplicationPort` *port*. Replication port number of the first server whose content will be replicated.

`--localSecureReplication`. Specifies whether or not the communication through the replication port of the first server is encrypted or not. This option will only be taken into account the first time replication is configured on the first server.

`--remoteAdminPort` *port*. Directory server administration port number of the second server whose contents will be replicated.

`--remoteHost` *host*. Fully qualified directory server host name or IP address of the second server whose contents will be replicated.

`--remoteBindDN` *bindDN*. DN to use to bind to the second server whose content will be replicated. If not specified the global administrator will be used to bind.

`--remoteBindPassword` *bindPassword*. Password to use to bind to the second server whose content will be replicated. If no bind DN was specified for the second server the password of the global administrator will be used to bind.

`--remoteBindPasswordFile` *bindPasswordFile*. File containing the password to use to bind to the second server whose content will be replicated. If no bind DN was specified for the second server the password of the global administrator will be used to bind.

`--remoteReplicationPort` *port*. Replication port number of the second server whose content will be replicated.

`--remoteSecureReplication`. Specifies whether or not the communication through the replication port of the

	second server is encrypted or not. This option will only be taken into account the first time.
`export`	Exports a global index catalog to file. Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument. `--exportDirectory` *directory*. Path to the directory to be used to export the global index catalog. This is a required argument. `-a, --attributeName` *attribute-name*. The name of the global index attribute. This option can be used multiple times to specify multiple indexed attributes. If this option is provided, any indexed attribute in the import source that does not match is skipped.
`get-catalog-prop`	Shows global index catalog properties. Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument. `--property` *property*. The name of a property to be displayed. `-E,--record`. Modifies the display output to show one property value per line.
`get-index-prop`	Shows index properties. Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument. `-a, --attributeName` *attribute-name*. The identifier for the global index attribute. This identifier should be unique in the context of the global index catalog and it is used to identify the global index. `--property` *property*. The name of a property to be displayed. Valid property names are:`all`, `global-index-deleted-entry-retention-timeout`, `db-cleaner-min-utilization`, `db-log-file-max`, `db-checkpointer-bytes-interval`, `db-checkpointer-wakeup-interval`,

	`db-num-lock-tables`, `db-num-cleaner-threads`, `db-txn-no-sync`, `db-txn-write-no-sync`, `je-property`, `db-directory`, `db-directory-permissions`, `global-index-catalogs-shared-cache`, and `global-index-attribute`.
`import`	Imports content of a file into a specified global index catalog. Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument. `--importDirectory` *directory*. Path to the file to be used to import the global index catalog. This is a required argument. `--attributeName` *attribute-name*. The identifier for the global index attribute. This identifier should be unique in the context of the global index catalog and it is used to identify the global index. `--append`. Append to an existing global index rather than overwriting it.
`initialize-replication`	Initializes the replication of a global index catalog. All the replicated global index catalogs (part of the replication topology) can be initialized at once or the local global index catalog is initialized from a given global index catalog (also part of the replication topology). Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument. `--adminUID` *adminUID*. User ID of the global administrator used to bind to the server. For the `initialize-replication` subcommand, if no global administrator was defined previously, the global administrator will be created using the provided data. `--fromServerPort` *port*. Directory server port number of the source server whose contents will be used to initialize the destination server.

	`--fromServerHost` *host*. Directory server hostname or IP address of the source server whose contents will be used to initialize the destination server. `--all`. Initializes the contents of the global index attribute on all the servers whose contents is being replicated with the contents on the specified server.
`list-catalogs`	Lists the global index catalogs that have been defined. Suboptions are as follows: `--property` *property*. The name of a property to be displayed. Valid property names are:`all`, `replication-server`, `server-id`, `window-size`, `heartbeat-interval` and `group-id`.
`list-indexes`	Lists the global indexes that have been defined in the global index catalog. Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument. `--property` *property*. The name of a property to be displayed. Valid property names are:`all`, `global-index-deleted-entry-retention-timeout`, `db-cleaner-min-utilization`, `db-log-file-max`, `db-checkpointer-bytes-interval`, `db-checkpointer-wakeup-interval`, `db-num-lock-tables`, `db-num-cleaner-threads`, `db-txn-no-sync`, `db-txn-write-no-sync`, `je-property`, `db-directory`, `db-directory-permissions`, `global-index-catalogs-shared-cache`, and `global-index-attribute`.
`post-external-initialization`	This subcommand must be called after initializing the contents of all the replicated global indexes using the import subcommand of this tool. It will use the generation id of the targeted instance as the valid one. Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument. `-a, --attributeName` *attribute-name*. The identifier for the global index attribute. This option can be used

multiple times to specify multiple indexed attributes. If this option is provided, any indexed attribute in the import source that does not match is skipped.

`pre-external-initialization` This subcommand can be called before initializing the contents of all the replicated servers using the import subcommand of this tool. It will erase the replication change logs stored in the replication servers. Suboptions are as follows:

`-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument.

`-a, --attributeName` *attribute-name*. The identifier for the global index attribute. This option can be used multiple times to specify multiple indexed attributes. If this option is provided, any indexed attribute in the import source that does not match is skipped.

`remove-index` Removes a global index from a global index catalog. Suboptions are as follows:

`-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument.

`--attributeName` *attribute-name*. The identifier for the global index attribute. This identifier should be unique in the context of the global index catalog and it is used to identify the global index.

`set-catalog-prop` Modifies the properties of the global index catalog. Suboptions are as follows:

`-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. Valid property names are: `all`, `global-index-deleted-entry-retention-timeout`, `db-cleaner-min-utilization`, `db-log-file-max`, `db-checkpointer-bytes-interval`, `db-checkpointer-wakeup-interval`, `db-num-lock-tables`, `db-num-cleaner-threads`,

	`db-txn-no-sync`, `db-txn-write-no-sync`, `je-property`, `db-directory`, `db-directory-permissions`, `global-index-catalogs-shared-cache`, and `global-index-attribute`. `--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. Valid property names are: `all`, `global-index-deleted-entry-retention-timeout`, `db-cleaner-min-utilization`, `db-log-file-max`, `db-checkpointer-bytes-interval`, `db-checkpointer-wakeup-interval`, `db-num-lock-tables`, `db-num-cleaner-threads`, `db-txn-no-sync`, `db-txn-write-no-sync`, `je-property`, `db-directory`, `db-directory-permissions`, `global-index-catalogs-shared-cache`, and `global-index-attribute`. `--add` *property*:*value*. Adds a single value to a property, where *property* is the name of the property and *value* is the single value to be added. `--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed. Valid property names are: `all`, `global-index-deleted-entry-retention-timeout`, `db-cleaner-min-utilization`, `db-log-file-max`, `db-checkpointer-bytes-interval`, `db-checkpointer-wakeup-interval`, `db-num-lock-tables`, `db-num-cleaner-threads`, `db-txn-no-sync`, `db-txn-write-no-sync`, `je-property`, `db-directory`, `db-directory-permissions`, `global-index-catalogs-shared-cache`, and `global-index-attribute`.
`set-index-prop`	Modifies the properties of an index. Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument.

`--attributeName` *attribute-name*. The identifier for the global index attribute. This identifier should be unique in the context of the global index catalog and it is used to identify the global index.

`--set` *property*:*value*. Assigns a value to a property, where *property* is the name of the property and *value* is the single value to be assigned. Specify the same property multiple times to assign more than one value to it. Valid property names are: `all`, `global-index-deleted-entry-retention-timeout`, `db-cleaner-min-utilization`, `db-log-file-max`, `db-checkpointer-bytes-interval`, `db-checkpointer-wakeup-interval`, `db-num-lock-tables`, `db-num-cleaner-threads`, `db-txn-no-sync`, `db-txn-write-no-sync`, `je-property`, `db-directory`, `db-directory-permissions`, `global-index-catalogs-shared-cache`, and `global-index-attribute`.

`--reset` *property*. Resets a property back to its default values, where *property* is the name of the property to be reset. Valid property names are: `all`, `global-index-deleted-entry-retention-timeout`, `db-cleaner-min-utilization`, `db-log-file-max`, `db-checkpointer-bytes-interval`, `db-checkpointer-wakeup-interval`, `db-num-lock-tables`, `db-num-cleaner-threads`, `db-txn-no-sync`, `db-txn-write-no-sync`, `je-property`, `db-directory`, `db-directory-permissions`, `global-index-catalogs-shared-cache`, and `global-index-attribute`.

`--remove` *property*:*value*. Removes a single value from a property, where *property* is the name of the property and *value* is the single value to be removed. Valid property names are: `all`, `global-index-deleted-entry-retention-timeout`, `db-cleaner-min-utilization`, `db-log-file-max`, `db-checkpointer-bytes-interval`, `db-checkpointer-wakeup-interval`, `db-num-lock-tables`, `db-num-cleaner-threads`,

	`db-txn-no-sync`, `db-txn-write-no-sync`, `je-property`, `db-directory`, `db-directory-permissions`, `global-index-catalogs-shared-cache`, and `global-index-attribute`.
`status-replication`	Displays a list with the basic replication configuration of the global index catalog. If no global index catalog is specified, the information for all replicated global index catalogs is displayed. Suboptions are as follows: `-c, --catalogName` *name*. A unique identifier for the global index catalog. This is a required argument. `--adminUID` *adminUID*. User ID of the global administrator used to bind to the server. For the `status-replication` subcommand, if no global administrator was defined previously, the global administrator will be created using the provided data. `-s, --scriptFriendly`. Use the script-friendly mode.

LDAP Connection Options

The `gicadm` command contacts the directory server over SSL through the administration connector (described in "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*). These connection options are used to contact the directory server.

`-h, --hostname` *host*	Directory server hostname or IP address.
`-D, --bindDN` *bindDN*	DN to use to bind to the server.
`-j, --bindPasswordFile` *filename*	Bind password file. This option must not be used in conjunction with `--bindPassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.
`-N, --certNickname` *nickname*	Use the certificate for SSL client authentication.
`-o, --saslOption`*name*=*value*	SASL bind option.
`-p, --port` *port*	Directory server administration port number.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if

	`--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.
`-w, --bindPassword` *password*	Use the bind password when authenticating to the directory server. This password can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--rootUserPasswordFile`. To prompt for the password, type `-w -`. SASL is not supported for Oracle Unified Directory proxy.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-X, --trustAll`	Trust any certificate that the server presents. This option can be used for testing purposes, but for security reasons, a trust store should be

	used to determine whether the client should accept the server certificate.
`--connectTimeout` *timeout*	Specifies the maximum duration of time (in milliseconds) that can be taken to establish a connection. Use `0`to indicate no time out. The default value is 30000 milliseconds.

Command Input/Output Options

`--noPropertiesFile`	Indicate that the command will not use a properties file to get the default command-line options.
`--propertiesFilePath` *propertiesFilePath*	Specify the path to the properties file that contains the default command-line options.
`-v, --verbose`	Run in verbose mode, displaying diagnostics on standard output.

General Options

`-?, -H, --help`	Displays command-line usage information for the command and exit without making any attempt to stop or restart the directory server.
`-V, --version`	Displays the version information for the directory server.

Examples

The following examples show how to use the Oracle Unified Directory proxy `gicadm` command. For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

Note – The following examples for creating a global index catalog, adding a global index, and associating a global index catalog to a distribution are the three steps needed to use a global index catalog with a distribution deployment of Oracle Unified Directory proxy.

EXAMPLE 1–22 Viewing the Global Help Subcommands and Global Options

The following command displays the available global Help subcommands and global options for managing the global index catalog:

EXAMPLE 1–22 Viewing the Global Help Subcommands and Global Options *(Continued)*

```
$ gicadm --help
```

EXAMPLE 1–23 Viewing Help on an Individual Subcommand

The following command displays the help information for the `create-catalog` subcommand:

```
$ gicadm create-catalog --help
```

EXAMPLE 1–24 Using `gicadm` to Create a Global Index Catalog

You must have deployed a Oracle Unified Directory proxy with distribution before running this command.

```
$ gicadm -h hostname -p 4444 -D "cn=Directory Manager" -w password -X \
create-catalog --catalogName myCatalog
```

EXAMPLE 1–25 Using `gicadm` to Add a Global Index to a Global Index Catalog

You must have deployed a Oracle Unified Directory proxy with distribution before running this command. Moreover, you must already have created the global index catalog before running this command.

```
$ gicadm -h hostname -p 4444 -D "cn=Directory Manager" -w password -X \
add-index --catalogName myCatalog \
--attributeName telephonenumber
```

EXAMPLE 1–26 Using `gicadm` to Associate a Global Index Catalog to a Distribution

You must have deployed a Oracle Unified Directory proxy with distribution before running this command. Moreover, you must already have created the global index catalog before running this command.

```
$ gicadm -h hostname -p 4444 -D "cn=Directory Manager" -w password -X \
associate --catalogName myCatalog \
--distributionWorkflowElement myDistributionName
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. A nonzero exit code indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/gicadm`
- Windows: *instance-dir*`\OUD\bat\gicadm.bat`

Related Commands

- `dsconfig`
- `split-ldif`

manage-tasks

The `manage-tasks` command manages and monitors tasks that have been scheduled to run on the directory server.

This command is not supported for the proxy.

Synopsis

`manage-tasks` [*options*]

Description

The `manage-tasks` command can be used to manage and monitor tasks that have been scheduled to run on the directory server. Tasks are scheduled by providing the appropriate scheduling information when the task is invoked (see "Configuring Commands As Tasks" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*). The `manage-tasks` command can be used to list tasks that are currently scheduled or that have already been executed. In addition, you can get more detailed information about a task's scheduled and execution time, its log messages, and its options.

The `manage-tasks` command can only be run on an online server instance, and accesses the task back end over SSL through the administration connector (described in "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.)

Options

The `manage-tasks` command accepts an option in either its short form (for example, `-c` *taskID*) or its long form equivalent (for example, `--cancel` *taskID*).

`-c, --cancel` *taskID* — Specify a particular task to cancel.

`-i, --info` *taskID* — Display information for a particular task.

`-s, --summary` — Print a summary of tasks.

LDAP Connection Options

`-D, --bindDN` *bindDN* — Use the bind DN to authenticate to the directory server. This option is used when performing simple authentication and is not required if SASL authentication is used. The default value for this option is `cn=Directory Manager`.

`-h, --hostname` *hostname* — Contact the directory server on the specified hostname or IP address. If this option is not provided, a default of `localhost` is used.

`-j, --bindPasswordFile` *filename* — Use the bind password in the specified file when authenticating to the directory server. This option must not be used in conjunction with `--bindPassword`.

`-K, --keyStorePath` *path* — Use the client keystore certificate in the specified path.

`-N, --certNickname` *nickname* — Use the specified certificate for client authentication.

`-o, --saslOption` *name=value* — Use the specified options for SASL authentication.

`-p, --port` *port* — Contact the directory server at the specified administration port. If this option is not provided, a default administration port of `4444` is used.

`-P, --trustStorePath` *path* — Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.

`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.
`-w, --bindPassword` *password*	Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-X, --trustAll`	Trust all server SSL certificates that the directory server presents. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

Command Input/Output Options

`-n,--no-prompt` Use non-interactive mode. If required option values are missing, you are not prompted and the command will fail.

`--noPropertiesFile` Indicates that a properties file is not used to obtain the default command-line options.

`--propertiesFilePath` *path* Specify the path to the properties file that contains the default command-line options.

General Options

`-?, -H, --help` Display command-line usage information for the command and exit without making any attempt to manage tasks.

`-V, --version` Display the version information for the directory server and exit rather than attempting to run this command.

Examples

The following examples show how to use the directory server commands.

EXAMPLE 1–27 Displaying a Summary of Scheduled Tasks

The following command displays a list of scheduled tasks:

```
$ manage-tasks -h localhost -p 4444 -D "cn=directory manager" -w password -X -s

  ID                Type     Status
  ------------------------------------------------
  2008101610361710  Backup   Completed successfully
  2008101610403710  Restore  Completed successfully
  2008101610442610  Restore  Waiting on start time
```

EXAMPLE 1–28 Obtaining Task Information

The following command returns information about a specific task:

```
$ manage-tasks -h localhost -p 4444 -D "cn=directory manager" -w password -X \
  -i 2008101610442610
  Task Details
  ------------------------------------------------------
  ID                       2008101610442610
  Type                     Restore
  Status                   Waiting on start time
  Scheduled Start Time     Jan 25, 2009 12:15:00 PM SAST
  Actual Start Time
```

EXAMPLE 1–28 Obtaining Task Information *(Continued)*

```
  Completion Time
  Dependencies              None
  Failed Dependency Action  None
  Email Upon Completion     admin@example.com
  Email Upon Error          admin@example.com

  Restore Options
  --------------------------------
  Backup Directory  /backup/userRoot
```

EXAMPLE 1–29 Canceling a Scheduled Task

The following command cancels a scheduled task. The command uses the `--no-prompt` option to run in non-interactive mode.

```
$ manage-tasks -h localhost -p 4444 -D "cn=directory manager" -w password -X \
  -c 2008101610442610
Task 2008101610442610 canceled
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 indicates that an error occurred during processing.

Using a Properties File

The directory server supports the use of a *properties file* that passes in any default option values used with the `manage-tasks` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/manage-tasks`
- Windows: *instance-dir*`\OUD\bat\manage-tasks.bat`

Related Commands

- "import-ldif" on page 225
- "export-ldif" on page 218

- "backup" on page 201
- "restore" on page 250
- "stop-ds" on page 179

oud-replication-gateway-setup

The `oud-replication-gateway-setup` command is used to setup the replication gateway instance.

Synopsis

`oud-replication-gateway-setup` [*options*]

Description

The `oud-replication-gateway-setup` command installs and configures a replication gateway instance, including specifying the ports on which it will listen, the DN and password for the initial root user, and the base DN for the replication gateway data. The replication gateway allows replication to work between a set of Oracle Directory Server Enterprise Edition servers and a set of Oracle Unified Directory servers.

The utility can be run in one of the following modes:

- **Graphical user interface (GUI) mode**. GUI mode is the default and recommended installation option. The `oud-replication-gateway-setup` GUI provides an easy interface for installing and configuring replication servers in replicated multi-network environments. GUI mode also allows for easy server setup using SSL or StartTLS if desired.

  The utility launches the graphical installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on.
- **Command-line interface (CLI) mode**. The command-line mode is either interactive or non-interactive. The interactive CLI mode prompts you for any required information before the configuration begins, and is used with the `--cli` option, or if no GUI is available.

  The utility launches the command-line installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on.

The non-interactive CLI mode enables you to set up the server without user intervention. Use the `--no-prompt` and the `--quiet` options to suppress interactivity and output information, respectively.

When the `oud-replication-gateway-setup` command is run without any options, it starts in GUI mode but falls back to interactive command-line mode if no GUI is available. To run the setup in interactive command-line mode use the `--cli` option. Note that no options are allowed if the command is run in GUI mode.

Options

The `oud-replication-gateway-setup` command accepts an option in either its short form (for example, `-i`) or its long form equivalent (for example, `--cli`).

`-i, --cli` Use the command line install. If not specified the graphical interface will be launched. The rest of the options (excluding help and version) will only be taken into account if this option is specified.

Replication Gateway Configuration Options

`-h, --hostname` *hostname*
The fully-qualified name of the host where the replication gateway will be installed. The Oracle Directory Server Enterprise Edition and Oracle Unified Directory servers in the replication topology must be able to access this hostname. If this option is not provided, a default of `localhost` is used.

`--adminConnectorPort` *port*
Specifies the port on which the administration connector should listen for administration traffic. For information about the administration connector, see "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*. The configuration and administration tools use this port to connect to the replication gateway. The default value is `4444`.

`--replicationPortForLegacy` *port*
Specifies the port that is used by the Oracle Directory Server Enterprise Edition server to communicate with the replication gateway to replicate contents.

`-S, --skipPortCheck`
Do not make any attempt to determine whether the specified port is available. Normally, when this option is not present, the `oud-replication-gateway-setup` command verifies if that port is in use or not, and if not in use then the user running the command can bind to that port. With the `--skipPortCheck` option, the `oud-replication-gateway-setup` command skips the port check.

`-D, --rootUserDN` *rootUserDN*
DN for the initial root user for the replication gateway.

`-w, --rootUserPassword` *rootUserPassword*
Password for the initial root user for the replication gateway.

`-j, --rootUserPasswordFile` *rootUserPasswordFile*
Path to a file containing the password for the initial root user for the replication gateway.

`-O, --doNotStart`
Do not start the replication gateway when the configuration is completed.

`-b, --baseDN` *baseDN*
Specify the base DN of the data to be replicated between the Oracle Unified Directory and the Oracle Directory Server Enterprise Edition server. Multiple base DN's can be provided by using this option multiple times.

Oracle Directory Server Enterprise Edition Server Options

`--hostNameLegacy` *hostname*
The fully-qualified name of the host or IP address of the Oracle Directory Server Enterprise Edition server whose contents will be replicated.

`--portLegacy` *port*
Specifies the port number of the Oracle Directory Server Enterprise Edition server whose contents will be replicated. This port is used by the replication mechanism to replicate contents.

`--bindDNLegacy` *bindDN*
Specifies the DN that is used to bind the Oracle Directory Server Enterprise Edition server whose contents will be replicated.

`--bindPasswordLegacy` *bindPassword*
Specifies the password that is used to bind the Oracle Directory Server Enterprise Edition server whose contents will be replicated.

`--bindPasswordFileLegacy` *bindPasswordFile*
Specifies the file that stores the password that is used to bind the Oracle Directory Server Enterprise Edition server whose contents will be replicated.

`--secureReplicationLegacy`
Specifies if the replication updates between the Oracle Directory Server Enterprise Edition server and the replication gateway are sent encrypted or not. If you enable this option, then you must specify the certificate to be used by the server using the options in `Replication Gateway Security Options` and the port specified using argument `--portLegacy` must be an LDAP port.

`--clientAuthenticationToLegacy`
Uses client authentication to send replication updates from the replication gateway to the Oracle Directory Server Enterprise Edition server. You can use this argument only if attribute `--secureReplicationLegacy` is used.

`--certFileForClientAuthenticationToLegacy` *certificateFile*
Specifies the file that contains the certificate to be used in client authentication mode when the replication gateway connects to the Oracle Directory Server Enterprise Edition server to send replication updates. The file must contain the certificate in X.509 format.

`--doNotSendUpdatesToLegacyServer`
Do not propagate the updates made in the Oracle Unified Directory servers to the Oracle Directory Server Enterprise Edition server. If you use this option the changes made directly in the Oracle Unified Directory servers will not be propagated to the Oracle Directory Server Enterprise Edition servers replication topology.

`--doNotUpdateTrustStoreWithLegacyCertsArg`
If you specify this argument and the replication gateway sends replication updates to the Oracle Directory Server Enterprise Edition server using an encrypted communication (specified using the `--secureReplicationLegacy` argument), then you will have to update the trust store used by the replication gateway with the server certificate of the Oracle Directory Server Enterprise Edition server for replication to work.

`--clientAuthenticationFromLegacy`
Uses client authentication to send replication updates from the Oracle Directory Server Enterprise Edition server to the replication gateway. You can use this argument only if attribute `--secureReplicationLegacy` is used.

Replication Gateway Security Options

`--generateSelfSignedCertificate`
Generates a self-signed certificate that the replication gateway will use as server certificate when accepting encrypted connections from the Oracle Directory Server Enterprise Edition server.

`--usePkcs11Keystore`
Use a certificate in a PKCS#11 token that the replication gateway will use as server certificate when accepting encrypted connections from the Oracle Directory Server Enterprise Edition server.

`--useJavaKeystore` *keyStorePath*
Specifies the path of a Java Key Store (JKS) that contains a certificate that the replication gateway will use as server certificate when accepting encrypted connections from the Oracle Directory Server Enterprise Edition server.

`--useJCEKS` *keyStorePath*
Specifies the path of a JCEKS that contains a certificate that the replication gateway will use as server certificate when accepting encrypted connections from the Oracle Directory Server Enterprise Edition server.

`--usePkcs12keyStore` *keyStorePath*
Path of a PKCS#12 key store that contains the certificate that the replication gateway will use as server certificate when accepting encrypted connections from the Oracle Directory Server Enterprise Edition server.

`--gatewayKeyStorePassword` *keyStorePassword*
Specifies the certificate key store PIN. It is required to access the key store that contains the certificate (JKS, JCEKS, PKCS#12, or PKCS#11) that the replication gateway will use as server certificate. This is required when the replication gateway is configured to have an encrypted replication communication with the Oracle Directory Server Enterprise Edition server.

`--gatewayKeyStorePasswordFile` *keyStorePasswordFile*
Specifies the file containing the certificate key store PIN. It is required to access the key store that contains the certificate (JKS, JCEKS, PKCS#12, or PKCS#11) that the replication gateway will use as server certificate. This is required when the replication gateway is configured to have an encrypted replication communication with the Oracle Directory Server Enterprise Edition server.

`--gatewayCertNickname` *nickname*
Specifies the nickname of the certificate that the replication gateway will use when accepting encrypted connections from the Oracle Directory Server Enterprise Edition server.

Oracle Unified Directory Server Options

`--hostNameNg` *hostname*	The fully-qualified name of the host or IP address of the Oracle Unified Directory server whose contents will be replicated.
`--portNg` *port*	Specifies the port number of the Oracle Unified Directory server whose contents will be replicated.
`--bindDNNg` *bindDN*	Specifies the DN that is used to bind the Oracle Unified Directory server whose contents will be replicated. If this attribute is not specified the global administrator is used to bind.
`--bindPasswordNg` *bindPassword*	Specifies the password that is used to bind the Oracle Unified Directory server whose contents will be replicated. If no bind DN is specified for

	this server the password of the global administrator is used to bind.
`--bindPasswordFileNg` *bindPasswordFile*	Specifies the file that stores the password that is used to bind the Oracle Unified Directory server whose contents will be replicated. If no bind DN is specified for this server the password of the global administrator is used to bind.
`--replicationPortNg` *port*	Specifies the port used by the replication mechanism in the Oracle Unified Directory server to communicate with other Oracle Unified Directory servers. You have to specify this option only if you have not configured replication for the provided Oracle Unified Directory server.
`--secureReplicationNg`	Specifies whether or not the communication through the replication port of the Oracle Unified Directory server is encrypted or not. This option is only taken into account if replication is not configured on the Oracle Unified Directory server.
`-I, --adminUID` *adminUID*	Specifies the user ID of the Global Administrator to use to bind to the Oracle Unified Directory server. If you have not defined a Global Administrator in the Oracle Unified Directory, then the Global Administrator is created using the provided data. The default value is admin.
`--adminPassword` *bindPassword*	The global administrator password.
`--adminPasswordFile` *bindPasswordFile*	The file that contains the password of the global administrator.

Secure Connection Options

`-o, --saslOption` *name=value*	These are SASL bind options. SASL is not supported for Oracle Unified Directory proxy.
`-X, --trustAll`	Trust all server SSL certificates that the server presents. This option can be used for convenience and testing purposes, but for security reasons a

	trust store should be used to determine whether the client should accept the server certificate.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-U, --trustStorePasswordFile` *path*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-N, --certNickname` *nickname*	Use the specified certificate for SSL client authentication.
`--connectTimeout` *timeout*	Specifies the maximum length of time (in milliseconds) that can be taken to establish a connection. Use `0`to specify no time out. The default value is 30000.

Command Input/Output Options

`-n, --no-prompt`	Run `setup` in non-interactive mode. If some data in the command is missing, the user will not be prompted and the command will fail.
`-Q, --quiet`	Run in quiet mode. No output will be generated unless a significant error occurs during the process.
`-v, --verbose`	Run in verbose mode, displaying diagnostics on standard output.
`--noPropertiesFile`	Indicate that the command will not use a properties file to get the default command-line options.
`--propertiesFilePath` *path*	Specify the path to the properties file that contains the default command-line options.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to stop or restart the server.
`--version`	Display the version information for the directory server and exit rather than attempting to run this command.

Examples

The following examples show how to use the replication server commands.

EXAMPLE 1–30 Running `oud-replication-gateway-setup` in GUI Mode

The following command runs an installation in GUI mode:

```
$ oud-replication-gateway-setup
```

The utility launches the graphical installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on. To specify a different instance name, set the INSTANCE_NAME environment variable before you run the setup, for example:

```
$ export INSTANCE_NAME=my-oud-instance
```

EXAMPLE 1–30 Running `oud-replication-gateway-setup` in GUI Mode *(Continued)*

The GUI is launched and provides several screens that walk you through setting up your replication server in standalone or replicated environments. You also have the option to set up SSL or StartTLS certificates.

EXAMPLE 1–31 Running `oud-replication-gateway-setup` in Interactive Mode From the Command Line

The `oud-replication-gateway-setup` command can be run in interactive mode, where you are prompted for installation options. To run `oud-replication-gateway-setup` in interactive mode, type the following command:

```
$ oud-replication-gateway-setup --cli
```

The command prompts you for the required setup values. Press Enter or Return to accept the default, or enter a value at the prompt.

The utility launches the command-line installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on. To specify a different instance name, set the INSTANCE_NAME environment variable before you run the setup, for example:

```
$ export INSTANCE_NAME=my-oud-instance
```

Exit Codes

`0` Successful completion or successful no-op.

`1` Error unexpected. Potential bug.

`2` Error user data. Cannot parse options, or data provided by user is not valid.

`3` Error server already installed.

`4` Error initializing server.

Using a Properties File

The directory server supports the use of a *properties file* that passes in any default option values used with the `oud-replication-gateway-setup` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

All the `oud-replication-gateway-setup` options can be stored in a properties file. Entries in the properties file have the following format:

```
toolname.propertyname=propertyvalue
```

For example:

```
oud-replication-gateway-setup.hostname=grevalon:1444
```

Log Files

The `oud-replication-gateway-setup` command writes a log file named `oud-setup-`*IDnumber* where *IDnumber* is a decimal number. The log files are located at these paths:

- UNIX (Solaris): `/var/tmp/`
- Linux: `/tmp/`
- Windows: `%TEMP%`

  By default, this folder is `C:\Documents and Settings\User\Local Settings\Temp`.

Location

The `oud-replication-gateway-setup` command is located at these paths:

- UNIX and Linux: *install-dir*`/oud-replication-gateway-setup`
- Windows: *install-dir*`\oud-replication-gateway-setup.bat`

Related Commands

- "oud-setup" on page 158
- "oud-proxy-setup" on page 167

oud-setup

The `oud-setup` command installs and minimally configures a directory server instance.

This command installs Oracle Directory Server Enterprise Edition directory server. For Oracle Unified Directory proxy installation, see "oud-proxy-setup" on page 167.

Synopsis

`oud-setup` [*options*]

Description

The `oud-setup` command installs and configure a directory server instance, including specifying the ports on which it will listen, the DN and password for the initial root user, the base DN for the directory data, and the manner in which the database should be populated. It can be run in one of the following modes:

- **Graphical user interface (GUI) mode**. GUI mode is the default and recommended installation option. The `oud-setup` GUI provides an easy interface for installing and configuring standalone directory servers or replication servers in replicated multi-network environments. GUI mode also allows for easy server setup using SSL or StartTLS if desired.

  The utility launches the graphical installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on.

- **Command-line interface (CLI) mode**. The command-line mode is either interactive or non-interactive. The interactive CLI mode prompts you for any required information before the configuration begins, and is used with the `--cli` option, or if no GUI is available.

  The utility launches the command-line installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on.

  The non-interactive CLI mode enables you to set up the server without user intervention. Use the `--no-prompt` and the `--quiet` options to suppress interactivity and output information, respectively.

When the `oud-setup` command is run without any options, it starts in GUI mode but falls back to interactive command-line mode if no GUI is available. To run `oud-setup` in command-line mode, use the `--cli` option. The options that can be provided are listed below. Note that no options are allowed if the command is run in GUI mode.

Options

The `oud-setup` command accepts an option in either its short form (for example, `-a`) or its long form equivalent (for example, `--addBaseEntry`).

`-a, --addBaseEntry`
: Indicates whether to create the base entry in the directory server database.

`-i, --cli`	Run the `setup` command in command-line interactive mode rather than in GUI mode. If `setup` is run without the `--cli` option, it cannot accept other options.
`-b, --baseDN` *baseDN*	Use the base DN for user information in the Directory Server. The default value for this option is `dc=example,dc=com`. Multiple base DNs can be specified by providing this option multiple times.
`-l, --ldifFile` *filename*	Use the specified LDIF file to populate the database. Data can be imported from multiple files by providing this option multiple times, in which case the files are processed in the order they are provided in the option list. This option must not be used in conjunction with either the `--addBaseEntry` or `--sampleData` option. If this option is not provided, then the database is left empty.
`-R, --rejectFile` *filename*	Write rejected entries to the specified file. Rejected entries occur if they do not comply with the default schema during an import using the `-l` or `--ldifFile` option.
`--skipFile` *filename*	Write skipped entries to the specified file. Skipped entries occur if entries cannot be placed under any specified base DN during an import using the `-l` or `--ldifFile` option.
`-d, --sampleData` *number-of-entries*	Populate the database with the specified number of sample user entries. The entries are generated by using the MakeLDIF facility of the `import` command and are based on the default `example.template` template. This option must not be used in conjunction with either `--addBaseEntry` or `--ldifFile`. If this option is not provided, then the database is left empty.
`-p,--ldapPort` *port*	Contact the directory server at the specified port. If it is not provided, then the default port of `1389` as non-root and `389` as root is used.
`--adminConnectorPort` *port*	Specifies the port on which the administration connector should listen for

	administration traffic. For information about the administration connector, see "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*. The default value is `4444`.
`-x, --jmxPort` *port*	Specify the port for a JMX MBeans server connection. The default value for this option is `1689`.
`-S, --skipPortCheck`	Do not make any attempt to determine whether the specified port is available. Normally, when this option is not present, the `oud-setup` command verifies that the port is not in use and that the user running the setup command can bind to that port. With the `--skipPortCheck` option, the `oud-setup` command skips the port check.
`-D, --rootUserDN` *rootUserDN*	Use the specified root user DN to authenticate the directory server. This option is used when performing simple authentication and is not required if SASL authentication is used. The default value for this option is `cn=Directory Manager`.
`-w, --rootUserPassword` *rootUserPassword*	Use the root user password to authenticate the directory server. This password can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--rootUserPasswordFile`. To prompt for the password, type `-w -`.
`-j, --rootUserPasswordFile` *filename*	Specifies the file containing the password for the initial root user while authenticating the directory server. This option cannot be used in conjunction with `--rootUserPassword`.
`-O, --doNotStart`	Do not start the directory server when the configuration is completed.
`-q, --enableStartTLS`	Enable StartTLS to allow secure communication with the directory server by using the LDAP port.

`-Z, --ldapsPort` *port*	Contact the directory server at the specified port for LDAP SSL (LDAPS) communication. The LDAPS port will be configured and SSL will be enabled only if this option is explicitly specified. The default value is `1636`.
`--generateSelfSignedCertificate`	Generate a self-signed certificate that the directory server should use when accepting SSL-based connection or performing StartTLS negotiation.
`-h, --hostname` *host*	Name of the directory server host or IP address that is used to generate the self-signed certificate. This argument is considered only if the self-signed certificate argument, `--generateSelfSignedCertificate` is specified
`--usePkcs11Keystore`	Use a certificate in a PKCS#11 format that the server should use when accepting SSL-based connections or performing StartTLS negotiation
`--useJavaKeystore` *path*	Specify the path to the Java Keystore (JKS) that contains the server certificate.
`--useJCEKS` *path*	Specify the path to the Java Cryptography Extension Keystore (JCEKS) that contains the server certificate.
`--usePkcs12Keystore` *path*	Specify the path to the PKCS#12 keystore that contains the server certificate.
`-W, --keyStorePassword` *password*	Use the password to the certificate keystore. A password is required when you specify an existing certificate (JKS, JCEKS, PKCS#11, or PKCS#12) as a server certificate.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificate keystore. A password is required when you specify an existing certificate (JKS, JCEKS, PKCS#11, or PKCS#12) as a server certificate.
`-N, --certNickname` *nickname*	Use the specified certificate for SSL or StartTLS client authentication.

`-e, --enableWindowsService`	Enable the directory server as a Windows service. For Windows-platforms only.

Command Input/Output Options

`-n, --no-prompt`	Run `setup` in non-interactive mode. If some data in the command is missing, the user will not be prompted and the command will fail.
`--noPropertiesFile`	Indicate that the command will not use a properties file to get the default command-line options.
`--propertiesFilePath` *path*	Specify the path to the properties file that contains the default command-line options.
`-Q, --quiet`	Run in quiet mode. No output will be generated unless a significant error occurs during the process.
`-v, --verbose`	Run in verbose mode, displaying diagnostics on standard output.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to stop or restart the server.
`-V, --version`	Display the version information for the directory server and exit rather than attempting to run this command.

Examples

The following examples show how to use the directory server commands.

EXAMPLE 1–32 Running `oud-setup` in GUI Mode

The following command runs an installation in GUI mode:

```
$ oud-setup
```

The GUI is launched and provides several screens that walk you through setting up your directory server in standalone or replicated environments. You also have the option to set up SSL or StartTLS certificates.

EXAMPLE 1–32 Running `oud-setup` in GUI Mode *(Continued)*

The utility creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on. To specify a different instance name, set the INSTANCE_NAME environment variable before you run the setup, for example:

```
$ export INSTANCE_NAME=my-oud-instance
```

EXAMPLE 1–33 Running `oud-setup` in Interactive Mode From the Command Line

The `oud-setup` command can be run in interactive mode, where you are prompted for installation options. To run `oud-setup` in interactive mode, type the following command:

```
$ oud-setup --cli
```

The command prompts you for the required setup values. Press Enter or Return to accept the default, or enter a value at the prompt.

The utility launches the command—line installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on. To specify a different instance name, set the INSTANCE_NAME environment variable before you run the setup, for example:

```
$ export INSTANCE_NAME=my-oud-instance
```

EXAMPLE 1–34 Running `oud-setup` in Non-Interactive CLI Mode

The non-interactive CLI mode enables you to create installation scripts with the `oud-setup` command when many directory server instances must be configured for large replicated environments. This mode requires the `--no-prompt` and `--quiet` options to be provided. If no option is present, the `oud-setup` command defaults to interactive mode.

The following command runs the installation in non-interactive (`--no-prompt`) and quiet (`-Q`) modes. It sets the LDAP port (`-p`), the administration connector port (`--adminConnectorPort`), the root DN (`-D`), the root DN password (`-w`), and adds a base entry (`-a`) with the specified base DN (`-b`),

```
$ oud-setup --cli --no-prompt -Q -p 1389 --adminConnectorPort 4444 \
  -D "cn=Directory Manager" -w password -a -b dc=example,dc=com
```

EXAMPLE 1–35 Running `oud-setup` in Non-Interactive CLI Mode With LDIF Import

The following command runs the installation in non-interactive (`--no-prompt`) and quiet (`-Q`) modes. It sets the LDAP port (`-p`), the administration connector port (`--adminConnectorPort`), the root DN (`-D`), the root DN password (`-w`), and adds the baseDN (`-b`) with data imported from an LDIF file (`-l`).

```
$ oud-setup --cli --no-prompt -Q -p 1389 --adminConnectorPort 4444 \
  -D "cn=Directory Manager" -w password -b dc=example,dc=com \
  -l "/home/ldif/company.ldif"
```

EXAMPLE 1–36 Running `oud-setup` in Non-Interactive Mode With Sample Entry Generation

The following command runs the installation in non-interactive (`--no-prompt`) and quiet (`-Q`) modes. It sets the LDAP port (`-p`), the administration connector port (`--adminConnectorPort`), the root DN (`-D`), the root DN password (`-w`), the baseDN (`-b`) and generates 2000 sample entries (`-d`).

```
$ oud-setup --cli --no-prompt -Q -p 1389 --adminConnectorPort 4444 \
  -D "cn=Directory Manager" -w password -b dc=example,dc=com -d 2000
```

EXAMPLE 1–37 Running `oud-setup` on Windows

The following command enables the directory server to run as a Windows service (`-e`). It sets the LDAP port (`-p`), the administration connector port (`--adminConnectorPort`), the JMX port (`-x`), the rootDN (`-D`), the rootDN password (`-w`), and the baseDN (`-b`), and generates 10000 sample entries.

```
C:\> oud-setup.bat --cli -e -p 1389 --adminConnectorPort 4444 -x 1689 \
  -D "cn=Directory Manager" -w password -b dc=example,dc=com -d 10000
```

The utility launches the graphical installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on. To specify a different instance name, set the INSTANCE_NAME environment variable before you run the setup, for example:

```
$ export INSTANCE_NAME=my-oud-instance
```

Exit Codes

`0` Successful completion or successful no-op.

`1` Error unexpected. Potential bug.

`2` Error user data. Cannot parse options, or data provided by user is not valid.

`3` Error server already installed.

4 Error initializing server.

Using a Properties File

The directory server supports the use of a *properties file* that passes in any default option values used with the `oud-setup` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

The following options can be stored in a properties file:

- `certNickname`
- `hostname`
- `keyStorePassword`
- `keyStorePasswordFile`

All the preceding `oud-setup` options can be stored in a properties file. Entries in the properties file have the following format:

```
toolname.propertyname=propertyvalue
```

For example:

```
oud-setup.hostname=grevalon:1444
```

Log Files

The `oud-setup` command writes a log file named `oud-setup-`*IDnumber* where *IDnumber* is a decimal number. The log files are located at these paths:

- UNIX (Solaris): `/var/tmp/`
- Linux: `/tmp/`
- Windows: `%TEMP%`

  By default, this folder is `C:\Documents and Settings\User\Local Settings\Temp`.

Location

The `oud-setup` command is located at these paths:

- UNIX and Linux: *install-dir*`/oud-setup`
- Windows: *install-dir*`\oud-setup.bat`

Related Commands

- "oud-replication-gateway-setup" on page 149
- "oud-proxy-setup" on page 167

oud-proxy-setup

The `oud-proxy-setup` command manages Oracle Unified Directory proxy setup.

This command is supported only for the proxy.

Synopsis

`oud-proxy-setup` [*options*]

Description

The `oud-proxy-setup` command installs and configures a directory server instance, including specifying the ports on which it will listen, the DN and password for the initial root user, the base DN for the directory data, authentication methods, as well load balancing, distribution, and a global index catalog, depending on the deployment chosen.

The `oud-proxy-setup` can only be launched once. It can be run in one of the following modes:

- **Graphical user interface (GUI) mode**. GUI mode is the default and recommended installation option. The setup GUI provides an easy interface for defining and deploying your Oracle Unified Directory proxy.

  The utility launches the graphical installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on.
- **Command-line interface (CLI) mode**. The command-line setup defines the proxy port, host name, and security configuration. If you specify the `--cli` option with `oud-proxy-setup` then you must provide the required values in the command line, else the default values are used. If you do not provide any value for a parameter that has no default value then the setup fails, and an error message is displayed.

  The utility launches the command-line installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on.

The proxy setup CLI mode prompts the user to accept the license. Use the `--no-prompt` option to automatically accept the license.

Options

The `oud-proxy-setup` command accepts an option in either its short form (for example, `-i`) or its long form equivalent (for example, `--cli`).

`-i, --cli`
Use the command line install. If not specified the graphical interface will be launched. The rest of the options (excluding help and version) will only be taken into account if this option is specified.

`-p, --ldapPort` *port*
Port on which the Directory Server should listen for LDAP communication. The default value is `389`.

`--adminConnectorPort` *port*
Port on which the Administration Connector should listen for communication. The default value is `4444`.

`-S, --skipPortCheck`
Skip the check to determine whether the specified ports are usable.

`-D, --rootUserDN` *rootUserDN*
DN for the initial root user for the Directory Server.

`-w, --rootUserPassword` *rootUserPassword*
Password for the initial root user for the Directory Server.

`-j, --rootUserPasswordFile` *rootUserPasswordFile*
Path to a file containing the password for the initial root user for the Directory Server.

`-q, --enableStartTLS`
Enable StartTLS to allow secure communication with the server using the LDAP port.

`-Z, --ldapsPort` *port*
Port on which the Directory Server should listen for LDAP SSL (LDAPS) communication. The LDAPS port will be configured and SSL will be enabled only if this argument is explicitly specified. The default value is `636`.

`--generateSelfSignedCertificate`
Generate a self-signed certificate that the server should use when accepting SSL-based connections or performing StartTLS negotiation.

`--usePkcs11keyStore` *keyStorePath*
Path of a PKCS#11 key store containing the certificate that the server should use when accepting SSL-based connections or performing StartTLS negotiation.

`--useJavaKeystore` *keyStorePath*
Path of a Java Key Store (JKS) containing a certificate to be used as the server certificate.

`--useJCEKS` *keyStorePath*
Path of a JCEKS containing a certificate to be used as the server certificate.

`--usePkcs12keyStore` *keyStorePath*
Path of a PKCS#12 key store containing the certificate that the server should use when accepting SSL-based connections or performing StartTLS negotiation.

`-W, --keyStorePassword` *keyStorePassword*
Certificate key store PIN. A PIN is required when you specify to use an existing certificate (JKS, JCEKS, PKCS#12, or PKCS#11) as server certificate.

`-u, --keyStorePasswordFile` *keyStorePasswordFile*
Certificate key store PIN file. A PIN is required when you specify to use an existing certificate (JKS, JCEKS, PKCS#12, or PKCS#11) as server certificate.

`-N, --certNickname` *nickname*
Nickname of the certificate that the server should use when accepting SSL-based connections or performing StartTLS negotiation.

`-O, --doNotStart`
Do not start the server when the configuration is completed.

Command Input/Output Options

`-Q, --quiet`	Run in quiet mode. No output will be generated unless a significant error occurs during the process.
`-v, --verbose`	Use verbose mode
`--propertiesFilePath` *path*	Specify the path to the properties file that contains the default command-line options.
`--noPropertiesFile`	Indicate that a properties file will not be used to get the default command-line options.
`-n, --no-prompt`	Perform an installation in non-interactive mode, for license acceptance only. If some data in the command is missing the user will not be prompted and the command will fail.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to stop or restart the server.

`-V, --version` Display the version information for the directory server and exit rather than attempting to run this command.

Examples

The following examples show how to use the `oud-proxy-setup` command.

See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 1–38 Running `oud-proxy-setup` in GUI Mode

The following command runs an installation in GUI mode:

```
$ oud-proxy-setup
```

The utility launches the graphical installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on. To specify a different instance name, set the INSTANCE_NAME environment variable before you run the setup, for example:

```
$ export INSTANCE_NAME=my-oud-proxy-instance
```

EXAMPLE 1–39 Running `oud-proxy-setup` in Non-Interactive CLI Mode

The non-interactive CLI mode enables you to create installation scripts with the setup command when many proxy server instances must be configured for large replicated environments. This mode requires the `--no-prompt` and `--quiet` options to be provided. If no option is present, the setup command defaults to interactive mode.

The following command runs the installation in non-interactive (`--no-prompt`) and quiet (`-Q`) modes. It sets the LDAP port (`-p`), the administration connector port (`--adminConnectorPort`), the root DN (`-D`), and the root DN password (`-w`).

```
$ oud-proxy-setup --cli --no-prompt -Q -p 1389 --adminConnectorPort 4444 \
  -D "cn=Directory Manager" -w password
```

The utility launches the command-line installer and creates the Oracle Unified Directory instance in *OUD-base-location/instance-dir*. The default instance directory name is `asinst_1`, with subsequent instances on the same server named `asinst_2`, `asinst_3`, and so on. To specify a different instance name, set the INSTANCE_NAME environment variable before you run the setup, for example:

```
$ export INSTANCE_NAME=my-oud-proxy-instance
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. A nonzero exit code indicates that an error occurred during processing.

Log Files

The `oud-proxy-setup` command writes a log file named `oud-proxy-setup.log`, once the setup in complete. The log file is located at these paths:

- UNIX (Solaris): `/var/tmp/`
- Linux:`/tmp/`
- Windows: The `%TEMP%` folder. By default, this folder is `C:\Documents and Settings\`*user*`\Local Settings\Temp`

Location

- UNIX and Linux: *install-dir*`/oud-proxy-setup`
- Windows: *install-dir*`\oud-proxy-setup.bat`

Related Commands

"oud-replication-gateway-setup" on page 149

"oud-setup" on page 158

start-ds

The `start-ds` command starts an installed server instance.

Synopsis

`start-ds` [*options*]

Description

The `start-ds` command is used to start the server and to provide general server information.

You can run `start-ds` without any options, which starts the server as a background process. In this case, the script will not exit until the server has either started successfully or has encountered an error that prevents it from starting.

On UNIX systems, the server will not start if it cannot log the process ID at *instance-dir*`/logs/server.pid`. Ensure that the file is writable by the user account that the server uses.

Options

The `start-ds` command accepts an option in either its short form (for example, `-N`) or its long form equivalent (for example, `--nodetach`).

`-L, --useLastKnownGoodConfig` — Attempt to start using the configuration that was in place at the last successful startup (if it is available) rather than using the current active configuration.

`-N, --nodetach` — Start the server as a foreground process that does not detach from the terminal. When the server is running in this mode, it can be stopped by using the `stop-ds` command from another window, or by pressing `Control+C` in the terminal window in which the server is running.

`-s, --systemInfo` — Display general information about the system on which the server is installed, including the instance and installation paths, and then exit rather than attempting to start the server.

`-t, --timeout` *seconds* — Wait no longer than the maximum time (in seconds) before the command returns. (The server continues the startup process, regardless). A value of `0` indicates an infinite timeout, which means that the command returns only when the server startup is completed. The default value is 60 seconds. This option cannot be used with the `-N, --nodetach` option.

Command Input/Output Options

`-Q, --quiet` — Run in quiet mode. No output is generated unless a significant error occurs during the process.

General Options

`-?, -H, --help` Display command-line usage information for the command and exit without making any attempt to stop or restart the server.

`-V, --version` Display the version information for the server and exit rather than attempting to run this command.

Examples

The following examples show how to use the server commands.

For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

EXAMPLE 1–40 Starting the Server

The following command starts the server:

```
$ start-ds
```

EXAMPLE 1–41 Starting the Server as a Foreground Process

The following command starts the server as a foreground process. You can stop the server by running the `stop-ds` command from another window or by pressing Control+C in the terminal window in which the server is running.

```
$ start-ds -N

[25/Jul/2007:10:39:17 -0500] category=CORE severity=NOTICE msgID=458887
msg=The Directory Server has started successfully
```

Exit Codes

Exit Code	Description
`0`	Server started successfully.
`1`	Check error. Generated from incompatible options.
`98`	Server already started.
`99`	Server must start as a detached process.
`100`	Server must start as a non-detached process.

Exit Code	Description
101	Server must start as a Windows service.
102	Server must start as a detached process and it is being called from a Windows service.

Location

- UNIX and Linux: *instance-dir*/OUD/bin/start-ds
- Windows: *instance-dir*\OUD\bat\start-ds.bat

Related Commands

- "stop-ds" on page 179

status

The status command displays basic server status information.

Synopsis

status [*options*]

Description

The status command can be used to display basic server information, such as the status of the server (started or stopped), the configured connection handlers, or the list of defined back ends and suffixes.

If the server is started, the status command connects to the server over SSL, through the administration connector.

For more information, see "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

If the server is stopped, you must run this command as a user with file system access rights to read the configuration files (particularly the config.ldif file).

Note – Certain monitoring data can only be displayed when the server is running (for example, the number of entries in a back end).

LDAP Connection Options

The `status` command contacts the server over SSL through the administration connector (described in "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*). These connection options are used to contact the server.

`-D, --bindDN` *bindDN*	Use the bind DN to authenticate to the server. This option is used when performing simple authentication and is not required if SASL authentication is to be used. The default value for this option is `cn=Directory Manager`.
`-j, --bindPasswordFile` *filename*	Use the bind password in the specified file when authenticating to the server. This option must not be used in conjunction with `--bindPassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.
`-N, --certNickname` *nickname*	Use the specified certificate for client authentication.
`-o, --saslOption` *name=value*	Use the specified options for SASL authentication. SASL is not supported for Oracle Unified Directory proxy.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be

	used in conjunction with `--trustStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.
`-w, --bindPassword` *password*	Use the bind password when authenticating to the server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`. SASL is not supported for Oracle Unified Directory proxy.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-X, --trustAll`	Trust all server SSL certificates that the server presents. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

Command Input/Output Options

`-n, --no-prompt`	Use non-interactive mode. If some data in the command is missing, you are not prompted and the command will fail.

`--noPropertiesFile`	Indicate that the command should not use a properties file to get the default command-line options.
`--propertiesFilePath` *path*	Specify the path to the properties file that contains the default command-line options.
`-r, --refresh` *period*	When this argument is specified, the status command will display its contents periodically. Used to specify the period (in seconds) between two displays of the status.
`-s, --script-friendly`	Run in "script friendly" mode. Display the output in a format that can be easily parsed by a script.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to stop or restart the server.
`-V, --version`	Display the version information for the server and exit rather than attempting to run this command.

Examples

The following examples show how to use the server commands.

For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

EXAMPLE 1–42 Displaying the Server Status

The following example displays the current status of a standalone server that is currently online:

```
$ status -D "cn=directory manager" -w password -X -n

          --- Server Status ---
Server Run Status:        Started
Open Connections:         1

          --- Server Details ---
Host Name:                hostname
Administrative Users:     cn=Directory Manager
Installation Path:        /path/OracleUnifiedDirectory
Instance Path:            /path/asinst_1/OUD
Version:                  Oracle Unified Directory 11.1.1.5.0
Java Version:             1.6.0_24
Administration Connector: Port 4444 (LDAPS)

          --- Connection Handlers ---
```

EXAMPLE 1–42 Displaying the Server Status *(Continued)*

```
Address:Port : Protocol    : State
-------------:-------------:---------
--           : LDIF        : Disabled
8989         : Replication : Enabled
0.0.0.0:161  : SNMP        : Disabled
0.0.0.0:636  : LDAPS       : Disabled
0.0.0.0:1389 : LDAP        : Enabled
0.0.0.0:1689 : JMX         : Disabled

          --- Data Sources ---
Base DN:                      dc=example,dc=com
Backend ID:                   userRoot
Entries:                      7
Replication:                  Enabled
Missing Changes:              0
Age Of Oldest Missing Change: not available
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. A nonzero exit code indicates that an error occurred during processing.

Using a Properties File

The server supports the use of a *properties file* that passes in any default option values used with the `status` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

The following options can be stored in a properties file:

- `bindDN`
- `bindPassword`
- `bindPasswordFile`
- `certNickname`
- `hostname`
- `keyStorePassword`
- `keyStorePasswordFile`
- `keyStorePath`
- `port`
- `saslOption`

SASL is not supported for Oracle Unified Directory proxy.

- `trustAll`
- `trustStorePassword`
- `trustStorePasswordFile`
- `trustStorePath`

Entries in the properties file have the following format:

```
toolname.propertyname=propertyvalue
```

For example:

```
status.bindPassword=password
```

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/status`
- Windows: *instance-dir*`\OUD\bat\status.bat`

stop-ds

The `stop-ds` command stops a server instance.

Synopsis

`stop-ds` [*options*]

Description

The `stop-ds` command is used to stop or restart the server. It can operate on either a local or remote server instance.

The ability to perform a local stop of the server is currently only available on UNIX based systems. When run locally, `stop-ds` sends a kill signal to the server process. This method of stopping the server is used if `stop-ds` is run without any options and if a PID file (*instance-dir*`/OUD/logs/server.pid`) exists.

The remote shutdown mechanism issues an LDAP request to create a task entry in the server. The command can be run from any system that can communicate with the server (local or

remote). It can also be used to restart the server. In this case, the server does an "in-core" restart, which reinitializes itself without shutting down the JVM.

When it is run remotely, `stop-ds` communicates with the server over SSL, through the administration connector. For more information, see "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

Options

The `stop-ds` command accepts an option in either its short form (for example, `-D` *bindDN*) or its long form equivalent (for example, `--bindDN` *bindDN*).

`-r,--stopReason` *reason*	Provide a human-readable reason for the shutdown. If a reason is provided, it appears in the server's error log, and is provided to shut down plug-ins and shut down listeners.
`-R,--restart`	Restart the server rather than shutting it down. If the `--restart` option is used along with authentication options, the server will reinitialize itself without shutting down the JVM. Because the JVM is not stopped, any configuration changes that require a JVM restart will not take effect. If the `--restart` option is used without authenticating, the server will first stop, then start. A new process will replace the original server.
`-t,--stopTime` *time*	Indicates the date and time at which the shutdown operation begins as a server task, expressed in the format `YYYYMMDDhhmmss`. A value of `0` causes the shutdown to be scheduled for immediate execution. When this option is used, the operation is scheduled to start at the specified time, after which this command exits immediately.
`-Y,--proxyAs` *authzID*	Use authorization control during the shutdown request. The value provided for this option should be an authorization ID, which can be in the form `dn:` followed by a user DN or `u:` followed by a user name. Clients will use the proxy authorization v2 control as described in RFC 4370 (`http://www.ietf.org/rfc/rfc4370.txt`).

LDAP Connection Options

The `stop-ds` command contacts the server over SSL through the administration connector (described in "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*). These connection options are used to contact the server.

`-D, --bindDN` *bindDN*	Use the bind DN to authenticate to the server. This option is used when performing simple authentication and is not required if SASL authentication is to be used. The default value for this option is `cn=Directory Manager`.
`-h, --hostname` *hostname*	Contact the server on the specified hostname or IP address. If this option is not provided, a default of `localhost` is used.
`-j, --bindPasswordFile` *filename*	Use the bind password in the specified file when authenticating to the server. This option must not be used in conjunction with `--bindPassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.
`-N, --certNickname` *nickname*	Use the specified certificate for client authentication.
`-o, --saslOption` *name=value*	Use the specified options for SASL authentication. SASL is not supported for Oracle Unified Directory proxy.
`-p, --port` *port*	Contact the server at the specified administration port. If this option is not provided, a default administration port of `4444` is used.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.

`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.
`-w, --bindPassword` *password*	Use the bind password when authenticating to the server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`. SASL is not supported for Oracle Unified Directory proxy.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-X, --trustAll`	Trust all server SSL certificates that the server presents. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

Command Input/Output Options

`--noPropertiesFile`	Indicate that a properties file will not be used to get the default command-line options.
`--propertiesFilePath` *path*	Specify the path to the properties file that contains the default command-line options.

`-Q, --quiet` Run in quiet mode. No output will be generated unless a significant error occurs during the process.

General Options

`-?, -H, --help` Display command-line usage information for the command and exit without making any attempt to stop or restart the server.

`--version` Display the version information for the server and exit rather than attempting to run this command.

Examples

The following examples show how to use the server commands.

For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

EXAMPLE 1–43 Stopping a Server Locally

The following command stops the server:

```
$ stop-ds
```

EXAMPLE 1–44 Stopping a Server Remotely

The following command stops a remote server instance.

```
$ stop-ds -h remotehost -p 4444 -D "cn=directory manager" -w password -X
```

EXAMPLE 1–45 Restarting a Server Remotely

The following command restarts a remote server instance.

```
$ stop-ds -R -h remotehost -p 4444 -D "cn=directory manager" -w password -X
```

Exit Codes

Exit Code	Description
`0`	Server stopped successfully.
`98`	Server already stopped.

Exit Code	Description
99	Server must be started.
100	Server must be stopped using a system call.
101	Server must be restarted using a system call.
102	Server must be stopped using a protocol.
103	Server must be stopped as a Windows service.
104	Server must be restarted as a Windows service.

Using a Properties File

The server supports the use of a *properties file* that passes in any default option values used with the `stop-ds` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications.

For more information, see "Using a Properties File With Server Commands" on page 343.

The following options can be stored in a properties file:

- `bindDN`
- `bindPassword`
- `bindPasswordFile`
- `certNickname`
- `hostname`
- `keyStorePassword`
- `keyStorePasswordFile`
- `keyStorePath`
- `saslOption`

  SASL is not supported for Oracle Unified Directory proxy.
- `trustAll`
- `trustStorePassword`
- `trustStorePasswordFile`
- `trustStorePath`

Entries in the properties file have the following format:

```
toolname.propertyname=propertyvalue
```

For example:

```
stop-ds.trustAll=yes
```

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/stop-ds`
- Windows: *instance-dir*`\OUD\bat\stop-ds.bat`

Related Commands

"start-ds" on page 171

uninstall

The `uninstall` command is used to uninstall the server instance. It is applicable for directory servers, proxy servers, and replication gateway servers. The command removes the server instance, and not the software.

Synopsis

`uninstall` [*options*]

Description

The `uninstall` command is used to uninstall a server instance. It can be run in one of the following modes:

- **Graphical user interface (GUI) mode**. GUI mode is the default and recommended uninstallation option. The `uninstall` GUI provides an easy interface for removing instance files.
- **Command-line interface (CLI) mode**. The command-line mode is either interactive or non-interactive. The interactive CLI mode prompts you for any required information before the uninstallation begins, and is used with the `--cli` option, or if no GUI is available.

  The non-interactive CLI mode enables you to uninstall the instance files without user intervention. Use the `--no-prompt` and the `--quiet` options to suppress interactivity and output information, respectively.

Whether running in GUI mode or in command-line mode, uninstall lists the components that you can remove. If uninstall cannot remove all of the instance files, it displays a message that lists any directories that are still present.

Depending on the type of server installed, you are presented with different uninstall options. These are broadly categorized into the following:

- "Removing a Directory Server" on page 186
- "Removing a Proxy Server" on page 188
- "Removing a Replication Gateway Server" on page 190

Note – For any instance (directory server, proxy, or replication gateway) type that you decide to remove, the uninstall procedure also stops the server. In addition, for a server instance that is part of a replication topology, the uninstall procedure removes the server that is under deletion from that topology. On a Windows platform, if the instance was installed as a windows service, the windows service is unregistered.

Removing a Directory Server

This section describes the options to remove a directory server instance.

Options

The `uninstall` command accepts an option in either its short form (for example, `-i`) or its long form equivalent (for example, `--cli`).

`-i, --cli`	Use the command line install. If not specified the graphical interface will be launched. The rest of the options (excluding help and version) will only be taken into account if this option is specified.
`-a, --remove-all`	Remove all components of the server (this option is not compatible with the rest of the remove options).
`-l, --server-libraries`	Remove server libraries and administrative tools.
`-d, --databases`	Remove all database content.
`-L, --log-files`	Remove all log files.
`-c, --configuration-files`	Remove configuration files.
`-b, --backup-files`	Remove all backup files.
`-e, --ldif-files`	Remove LDIF files.
`-f, --forceOnError`	Specifies whether the uninstall should continue if there is an error updating references to this server in remote server instances or not. This argument can only be used with the `--no-prompt` argument.

LDAP Connection Options

`-I, --adminUID` *user-ID*	Specify the user ID of the global administrator to bind to the server.
`-w, --bindPassword` *password*	Use the bind password when authenticating to the server. This password can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--rootUserPasswordFile`. To prompt for the password, type `-w -`.
`-j, --bindPasswordFile` *filename*	Use the bind password in the specified file when authenticating to the directory server. This option must not be used in conjunction with `--bindPassword`.
`-o, --saslOption` *name=value*	Use the specified options for SASL authentication.
`-X, --trustAll`	Trust any certificate that the server presents. This option can be used for testing purposes, but for security reasons, a trust store should be used to determine whether the client should accept the server certificate.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password to access its contents (most trust stores do not require this). This option must not

	be used in conjunction with `--trustStorePassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-N, --certNickname` *nickname*	Use the certificate for SSL client authentication.
`--connectTimeout` *timeout*	Maximum length of time that can be taken to establish a connect in milliseconds. Use `0` to specify no timeout. The default value is 30000.
`-h, --referencedHostName` *host*	Specify the name of this host (or IP address) as it is referenced in remote servers for replication.

Removing a Proxy Server

This section describes the options to remove a proxy server instance.

Options

The `uninstall` command accepts an option in either its short form (for example, `-i`) or its long form equivalent (for example, `--cli`).

`-i, --cli`	Use the command line install. If not specified the graphical interface will be launched. The rest of the options (excluding help and version) will only be taken into account if this option is specified.
`-a, --remove-all`	Remove all components of the server (this option is not compatible with the rest of the remove options).
`-l, --server-libraries`	Remove server libraries and administrative tools.
`-L, --log-files`	Remove all log files.

`-c, --configuration-files`	Remove configuration files.
`-b, --backup-files`	Remove all backup files.
`-e, --ldif-files`	Remove LDIF files.
`-f, --forceOnError`	Specifies whether the uninstall should continue if there is an error updating references to this server in remote server instances or not. This argument can only be used with the `--no-prompt` argument.

LDAP Connection Options

`-I, --adminUID` *user-ID*	Specify the user ID of the global administrator to bind to the server.
`-w, --bindPassword` *password*	Use the bind password when authenticating to the server. This password can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--rootUserPasswordFile`. To prompt for the password, type `-w -`.
`-j, --bindPasswordFile` *filename*	Use the bind password in the specified file when authenticating to the directory server. This option must not be used in conjunction with `--bindPassword`.
`-o, --saslOption` *name=value*	Use the specified options for SASL authentication.
`-X, --trustAll`	Trust any certificate that the server presents. This option can be used for testing purposes, but for security reasons, a trust store should be used to determine whether the client should accept the server certificate.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password to access its contents (which most trust stores

	do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-N, --certNickname` *nickname*	Use the certificate for SSL client authentication.
`--connectTimeout` *timeout*	Maximum length of time that can be taken to establish a connect in milliseconds. Use `0` to specify no timeout. The default value is 30000.
`-h, --referencedHostName` *host*	Specify the name of this host (or IP address) as it is referenced in remote servers for replication.

Removing a Replication Gateway Server

This section describes the options for removing an instance of the replication gateway server.

Options

The `uninstall` command accepts an option in either its short form (for example, `-i`) or its long form equivalent (for example, `--cli`).

`-i, --cli` Use the command line install. If not specified the graphical interface will be launched. The rest of the options (excluding help and version) will only be taken into account if this option is specified.

`-f, --forceOnError` Specifies whether the uninstall should continue if there is an error updating references to this server in remote server instances or not. This argument can only be used with the `--no-prompt` argument.

Gateway Connection Options

`-h, --hostname` *hostname* The fully-qualified name of the host where the replication gateway is installed. This name must be the one provided during the setup of the replication gateway.

Oracle Unified Directory Server Connection Options

`-I, --adminUID` *adminUID* User ID of the Global Administrator to use to bind to the Oracle Unified Directory server. If no Global Administrator was defined previously in the new generation server, then provide a Bind DN. The default value is `admin`.

`--adminPassword` *bindPassword* Password of the Global Administrator (or of the bind DN) to use to bind to the Oracle Unified Directory server.

`--adminPasswordFile` *bindPasswordFile* File containing the password of the Global Administrator (or of the bind DN) to use to bind to the Oracle Unified Directory server.

Oracle Directory Server Enterprise Edition Server Connection Options

`--bindDNLegacy` *bindDN*
Specifies the DN that is used to bind theOracle Directory Server Enterprise Edition server whose contents whose contents are replicated through the replication gateway. The default value is `cn=Directory Manager`.

`--bindPasswordLegacy` *bindPassword*
Specifies the password that is used to bind theOracle Directory Server Enterprise Edition server whose contents whose contents are replicated through the replication gateway.

`--bindPasswordFileLegacy` *bindPasswordFile*
Specifies the file that stores the password that is used to bind theOracle Directory Server Enterprise Edition server whose contents are replicated through the replication gateway.

Secure Connection Options

`-o, --saslOption` *name=value*	These are SASL bind options. SASL is not supported for Oracle Unified Directory proxy.
`-X, --trustAll`	Trust all server SSL certificates that the server presents. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.
`-P, --trustStorePath` *path*	Use the trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-U, --trustStorePasswordFile` *path*	Use the password in the specified file to access the certificates in the trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.
`-K, --keyStorePath` *path*	Use the keystore certificate in the specified path.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.

`-N, --certNickname` *nickname*	Use the specified certificate for SSL client authentication.
`--connectTimeout` *timeout*	Specifies the maximum length of time (in milliseconds) that can be taken to establish a connection. Use `0`to specify no time out. The default value is 30000.

Command Input/Output Options

`-n, --no-prompt`	Run `setup` in non-interactive mode. If some data in the command is missing, the user will not be prompted and the command will fail.
`-Q, --quiet`	Run in quiet mode. No output will be generated unless a significant error occurs during the process.
`-v, --verbose`	Run in verbose mode, displaying diagnostics on standard output.
`--noPropertiesFile`	Indicate that the command will not use a properties file to get the default command-line options.
`--propertiesFilePath` *path*	Specify the path to the properties file that contains the default command-line options.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to stop or restart the server.
`--version`	Display the version information for the directory server and exit rather than attempting to run this command.

Examples

The following examples show how to use the server commands.

EXAMPLE 1–46 Uninstalling by Using the Graphical Uninstaller

The following command opens the Uninstaller GUI and prompts you to select the components that must be deleted:

```
$ uninstall
```

EXAMPLE 1–47 Uninstalling by Using the Command Line

The following command prompts you to indicate whether all components, or specific components, should be removed, and then runs the `uninstall` command. If the server is running, you are prompted to stop the server before continuing.

```
$ uninstall --cli
```

EXAMPLE 1–48 Uninstalling in Non-Interactive CLI Mode

This mode enables you to create an uninstallation script with the `uninstall` command. It requires the `--no-prompt` (`-n`) and `--quiet` (`-Q`) options to be provided. If no option is present, the `uninstall` command defaults to interactive mode. Both, `-n` and `-Q` options work in the CLI mode only.

The following command uninstalls all instance components in non-interactive CLI mode.

```
$ uninstall --cli -a -n -Q
```

Exit Codes

The following exit codes are applicable for a directory server and a proxy server:

`0` Successful.

`1` User cancelled the operation.

`2` User provided invalid data.

`3` Error accessing file system (reading/writing).

`5` Error during the configuration of the Directory Server.

`7` Error starting the Oracle Unified Directory server.

`8` Error stopping the Oracle Unified Directory server.

`9` Error disabling the Windows service.

`10` Application specific error.

`11` Error invoking an Oracle Unified Directory tool.

`12` Bug.

`13` Java version non-compatible.

`14` User provided invalid input.

`50` Print Version.

`51` Print Usage.

`100` Return code for errors that are non-specified.

The following exit codes are applicable for a gateway server:

`0` Successful uninstall.

`1` Unexpected error (potential bug).

`2` Cannot parse arguments or data provided by user is not valid.

`3` The user canceled the uninstall.

`4` Incompatible Java version.

`5` Error initializing the replication gateway configuration (loading the admin framework classes, and so on).

`6` Error stopping the replication gateway.

`7` Error unconfiguring windows service.

`8` Error input limit.

`9` Error updating ADS Contents.

`10` An error with the configuration of the legacy server. The base DN specified in the replica configuration is not a valid DN.

`11` One of the specified legacy (Oracle Directory Server Enterprise Edition) servers is not compatible.

`12` One of the specified new generation (Oracle Unified Directory based) servers is not compatible.

`13` The user does not accept the certificate.

`14` The user does not want to continue because there were issues loading the configuration of some servers.

`15` An error with the configuration of the replication gateway.

`16` The user overcame the maximum number of tries in interactive mode.

`17` The user aborted the uninstall.

`18` Error accessing file system (for instance deleting installation files).

Using a Properties File

The directory server supports the use of a *properties file* that passes in any default option values used with the `uninstall` command. The properties file is convenient when working in different

configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

The following options can be stored in a properties file:

- `adminUID`
- `bindPassword`
- `bindPasswordFile`
- `certNickname`
- `hostname`
- `keyStorePassword`
- `keyStorePasswordFile`
- `keyStorePath`
- `saslOption`

  SASL is not supported for Oracle Unified Directory.
- `trustAll`
- `trustStorePassword`
- `trustStorePasswordFile`
- `trustStorePath`

Entries in the properties file have the following format:

```
toolname.propertyname=propertyvalue
```

For example:

```
uninstall.bindPassword=password
```

Log Files

The `uninstall` command writes a log file named `oud-uninstall-`*IDnumber*, where *IDnumber* is a decimal number. The log files are located at these paths:

- UNIX (Solaris): `/var/tmp/`
- Linux: `/tmp/`
- Windows: The `%TEMP%` folder. By default, this folder is `C:\Documents and Settings\`*user*`\Local Settings\Temp`.

Location

The `uninstall` command is located at these paths:

- UNIX and Linux: *instance-dir*`/OUD/uninstall`
- Windows: *instance-dir*`\OUD\uninstall.bat`

Related Commands

- "oud-replication-gateway-setup" on page 149
- "oud-setup" on page 158

windows-service

The `windows-service` command manually enables or disables the server as a Windows service.

Synopsis

`windows-service` [*options*]

Description

The `windows-service` command can be used to manually enable (or disable) the server as a Windows service. Windows services are applications similar to UNIX daemons that run in the background and are not in direct control by the user.

Command Options

The `windows-service` command accepts an option in either its short form (for example, `-d`) or its long form equivalent (for example, `--disableService`):

`-c,--cleanupService` *service-name*	Disable the service and clean up the Windows registry information associated with the provided service name.
`-d, --disableService`	Disable server as a Windows service.
`-e, --enableService`	Enable server as a Windows service.
`-s, --serviceState`	Display the state of the server as a Windows service.

General Options

`-?, -H, --help` Display command-line usage information for the command and exit without making any attempt to stop or restart the server.

`-V, --version` Display the version information for the server and exit rather than attempting to run this command.

Examples

The following examples show how to use the server commands. For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

EXAMPLE 1–49 Enabling the Server as a Windows Service

The following command enables the server as a Windows service:

```
$ windows-service -e
```

EXAMPLE 1–50 Disabling the Server as a Windows Service

The following command disables the server as a Windows service:

```
$ windows-service -d
```

EXAMPLE 1–51 Displaying a Status

The following command displays a status of the server as a Windows service:

```
$ windows-service -s
```

Exit Codes

`0` Server started/stopped successfully.

`1` Service not found.

`2` Server start error. Server already stopped

`3` Server stop error.

Location

instance-dir\OUD\bat\windows-service.bat

Related Commands

"oud-setup" on page 158

"oud-proxy-setup" on page 167

"oud-replication-gateway-setup" on page 149

◆ ◆ ◆ CHAPTER 2

Data Administration Commands

The following sections describe the data administration commands:

backup

The `backup` command archives the contents of one or more directory server back ends.

This command is not supported for the proxy.

Synopsis

`backup` [*options*]

Description

The `backup` command archives the contents of one or more directory server back ends. The command can perform this operation immediately or at a scheduled time. For more

information, see "Configuring Commands As Tasks" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

The `backup` command can be run when the server is online, or offline. If the backup is run while the server is online, the command contacts the server over SSL, through the administration connector, and registers a backup task. For more information about use of the administration connector, see "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

Options

The `backup` command accepts an option in either its short form (for example, `-B` *backupID*) or its long form equivalent (for example, `--incrementalBaseID` *backupID*).

`-a, --backUpAll`	Back up all configured back ends. This option must not be used in conjunction with `--backendID`.
`-A, --hash`	Generate a hash, or message digest, of the contents of the backup archive. The hash can be used as a checksum during the restore process to ensure that the backup has not been altered.
`-B, --incrementalBaseID` *backupID*	Specify the backup ID for the existing backup against which to take an incremental backup. If this ID is not provided, the incremental backup is based on the latest incremental or full backup contained in the backup directory.
`-c, --compress`	Compress the contents of the backup archive. The compression algorithm used may vary based on the back end type.
`-d, --backupDirectory` *path*	Write the backup files to the specified directory. If multiple back ends are archived, a subdirectory is created below this path for each back end. Otherwise, the backup files are placed directly in this directory. Note that multiple backups for the same back end can be placed in the same directory. If an incremental backup is to be performed, the backup directory must already contain at least one full backup. This is a required option.
`-i, --incremental`	Perform an incremental backup rather than a full backup. An incremental backup includes only the data that has changed since a previous incremental or full backup. Thus, running an incremental backup

	can be notably faster than a full backup. When restoring an incremental backup, it is first necessary to restore the original full backup and then any intermediate incremental backups, which can make the restore process somewhat slower than restoring just a full backup. Note that some types of back ends might not support performing incremental backups. In this case, this option is ignored and a full backup is performed.
`-I, --backupID` *backupID*	Specify an identifier to use for the backup. If this is not provided, a backup ID is generated, based on the current time. The backup ID must be unique among all backups in the provided backup directory.
`-n, --backendID` *backendID*	Specify the ID of the back-end to be saved. This option can be used multiple times in a single command to indicate that multiple back ends should be backed up. The available back ends in the server can be determined by using the `dsconfig list-backends` command.
`-s, --signHash`	Generate a signed hash. This provides even stronger assurance that neither the backup archive nor the hash of its contents have been altered. This option can only be used if a connection to an online directory server instance is present. In this case, you must specify the `--hostname`, `--port`, `--bindDN`, and `--bindPassword` options of the online directory server that will generate a signed hash of the archive.
`-y, --encrypt`	Encrypt the contents of the backup archive. This option can only be used if a connection to an online server instance is present. In this case, you must specify the `--hostname`, `--port`, `--bindDN`, and `--bindPassword` options of the online directory server that will encrypt the archive.

Task Back End Connection Options

Running an online backup requires access to the tasks back end. Access to the tasks back end is provided over SSL through the administration connector. These connection options are used when the backup runs online.

`-D, --bindDN` *bindDN*	Use the bind DN to authenticate to the directory server. This option is used when performing simple authentication and is not required if SASL authentication is to be used. The default value for this option is `cn=Directory Manager`.
`-h, --hostname` *hostname*	Contact the directory server on the specified hostname or IP address. If this option is not provided, a default of `localhost` is used.
`-j, --bindPasswordFile` *filename*	Use the bind password in the specified file when authenticating to the directory server. This option must not be used in conjunction with `--bindPassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.
`-N, --certNickname` *nickname*	Use the specified certificate for client authentication.
`-o, --saslOption` *name=value*	Use the specified options for SASL authentication .
`-p, --port` *port*	Contact the directory server at the specified administration port. If this option is not provided, a default administration port of `4444` is used.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is

used. This option must not be used in conjunction with `--keyStorePassword`.

`-U, --trustStorePasswordFile` *filename*
: Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.

`-w, --bindPassword` *password*
: Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.

`-W, --keyStorePassword` *password*
: Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.

`-X, --trustAll`
: Trust all server SSL certificates that the directory server presents. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

Task Scheduling Options

These options are used when you specify that the backup should run as a scheduled task.

`--completionNotify` *emailAddress*
: Specify the email address of a recipient to be notified when the task completes. This option can be specified more than once in a single command.

`--dependency` *taskId*
: Specify the ID of a task upon which this task depends. A task does not start executing until all of its dependencies have completed execution.

`--errorNotify` *emailAddress*	Specify the email address of a recipient to be notified if an error occurs when this task executes. This option can be specified more than once in a single command.
`--failedDependencyAction` *action*	Specify the action that this task will take if one of its dependent tasks fails. The value must be one of `PROCESS`, `CANCEL`, or `DISABLE`. If no value is specified, the default action is `CANCEL`.
`--recurringTask` *schedulePattern*	Indicates that the task is recurring and will be scheduled according to the `schedulePattern`, expressed as a crontab(5) compatible time and date pattern.
`-t, --start` *startTime*	Indicates the date and time at which the operation starts when scheduled as a directory server task expressed in the format `YYYYMMDDhhmmss`. A value of 0 schedules the task for immediate execution. When this option is specified, the operation is scheduled to start at the specified time after which the command exits immediately.

Command Input/Output Options

`--noPropertiesFile`	Indicates that a properties file is not used to obtain the default command-line options.
`--propertiesFilePath` *path*	Specify the path to the properties file that contains the default command-line options.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to back up data.
`-V, --version`	Display the version information for the directory server and exit rather than attempting to run this command.

Examples

The following examples show how to use the directory server commands.

EXAMPLE 2–1 Backing Up All Configured Back Ends

The following command archives all directory server back ends (`-a`), compresses them (`-c`), and saves them to a specified directory (`-d`).

```
$ backup -a -c -d /tmp/backup
```

Display the contents of the backup directory, to see the subdirectories for each back end:

```
$ ls /tmp/backup
config    schema    tasks     userRoot
```

Display the contents of a subdirectory, to see that the system assigned a backup ID based on the current time.

```
$ ls /tmp/backup/userRoot/
backup-userRoot-20081015151640Z  backup.info
```

You can assign your own unique backup ID by using the `-I` option. For example:

```
$ backup -a -c -d /tmp/backup -I October08
```

Display the contents of the `userRoot` subdirectory to see the assigned backup ID.

```
$ ls /tmp/backup/userRoot/
backup-userRoot-October08        backup.info
```

EXAMPLE 2–2 Backing Up a Specific Back End

Use the `-n` option to specify a back end to be backed up. The following command archives the `userRoot` back end only.

```
$ backup -n userRoot -d /tmp/backup
```

EXAMPLE 2–3 Running an Incremental Backup

The following command archives all directory server back ends (`-a`), using incremental backup (`-i`), compresses them (`-c`), and saves the data to a directory (`-d`).

```
$ backup -a -i -c -d /tmp/backup
```

EXAMPLE 2–4 Running an Incremental Backup on a Specific Back End

Use the `list-backends` command to display the current configured back ends.

```
$ list-backends
Backend ID     : Base DN
---------------:--------------------
adminRoot      : cn=admin data
ads-truststore : cn=ads-truststore
```

EXAMPLE 2–4 Running an Incremental Backup on a Specific Back End *(Continued)*

```
backup         : cn=backups
config         : cn=config
monitor        : cn=monitor
schema         : cn=schema
tasks          : cn=tasks
userRoot       : "dc=example,dc=com"
```

The following command runs an incremental backup (`-i`) on the `userRoot` back end (`-n`), compresses the backup (`-c`), and saves the data to a directory (`-d`).

```
$ backup -i -n userRoot -c -d /tmp/backup/userRoot
```

EXAMPLE 2–5 Running an Incremental Backup Against an Existing Backup

Assume that you have created two archived incremental backup files by using the `-I` or `--backupID` option and assigned the IDs `1234` and `4898` to the two files, respectively:

```
/tmp/backup/userRoot> ls
./     backup-userRoot-1234   backup.info
../    backup-userRoot-4898   backup.info.save
```

The following command runs an incremental backup (`-i`) on all configured back ends (`-a`) based on the backup ID `1234` (`-B`), assigns a backup ID of `5438` to the incremental backup, and saves the data to a directory (`-d`).

```
$ backup -a -i -B 1234 -I 5438 -d /tmp/backup
```

The contents of `backup.info` show that the latest incremental backup (`backup_id=5438`) has a dependency on `backup_id=1234`:

```
$ backend_dn=ds-cfg-backend-id=userRoot,cn=Backends,cn=config

backup_id=4898
backup_date=20070727202906Z
incremental=false
compressed=false
encrypted=false
signed_hash=VmBG/VkfMAMMPnR6M8b5kZil7FQ=
property.last_logfile_name=00000000.jdb
property.archive_file=backup-userRoot-4898
property.cipher_algorithm=AES/CBC/PKCS5Padding
property.mac_algorithm=HmacSHA1
property.last_logfile_size=490554

backup_id=1234
backup_date=20070727202934Z
incremental=false
compressed=false
encrypted=false
signed_hash=VmBG/VkfMAMMPnR6M8b5kZil7FQ=
property.last_logfile_name=00000000.jdb
```

EXAMPLE 2–5 Running an Incremental Backup Against an Existing Backup *(Continued)*

```
property.archive_file=backup-userRoot-1234
property.cipher_algorithm=AES/CBC/PKCS5Padding
property.mac_algorithm=HmacSHA1
property.last_logfile_size=490554

backup_id=5438
backup_date=20070727203107Z
incremental=true
compressed=false
encrypted=false
dependency=1234
property.last_logfile_name=00000000.jdb
property.archive_file=backup-userRoot-5438
property.last_logfile_size=490554
```

EXAMPLE 2–6 Backing Up All Configured Back Ends with Encryption and Signed Hash

The directory server provides support for backup encryption (using `--encrypt`), hash generation (using `--hash`), and signed hash (using `--signHash`) to secure archived data. These options require a connection to an online server instance, over SSL through the administration connector. When you use these options, you must therefore specify the connection details, including the host, administration port, bind DN and bind password. You must also specify the certificate details for the SSL connection.

The following command archives all directory server back ends (`-a`), compresses them (`-c`), generates a hash (`-A`), signs the hash (`-s`), encrypts the data while archiving the data (`-y`), assigns a back end ID of `123`, and saves the data to a directory (`-d`). The self signed certificate is trusted using the `-X` (`--trustAll`) option.

```
$ backup -h localhost -D "cn=Directory Manager" -w password -p 4444 -X \
  -a -c -A -s -y -I 123 -d /tmp/backup
Backup task 2008101609295810 scheduled to start immediately
...
```

EXAMPLE 2–7 Scheduling a Backup

Scheduling a backup requires online access to the tasks back end. Access to this back end is provided over SSL through the administration connector. When you schedule a backup, you must therefore specify the connection details, including the host, administration port, bind DN and bind password. You must also specify the certificate details for the SSL connection.

The following command schedules a backup of all components (`-a`) and writes it to the `/tmp/backups` directory (`-d`). The start time is specified with the `--start` option. The backup sends a completion notification and error notification to `admin@example.com`. The self signed certificate is trusted using the `-X` (`--trustAll`) option.

EXAMPLE 2–7 Scheduling a Backup *(Continued)*

```
$ backup -h localhost -D "cn=Directory Manager" -w password -p 4444 -X \
  -a -d /tmp/backups --start 20090124121500 --completionNotify admin@example.com \
  --errorNotify admin@example.com
Backup task 2007102914530410 scheduled to start Jan 24, 2009 12:15:00 PM SAST
```

You can view this scheduled task by using the `manage-tasks` command. For more information, see "Configuring Commands As Tasks" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 indicates that an error occurred during processing.

Using a Properties File

The directory server supports the use of a *properties file* that passes in any default option values used with the `backup` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

Location

The `backup` command is located at these paths:

- UNIX and Linux: *instance-dir*`/OUD/bin/backup`
- Windows: *instance-dir*`\OUD\bat\backup.bat`

Related Commands

- "restore" on page 250
- "list-backends" on page 235
- "manage-tasks" on page 144

base64

The `base64` command encodes binary strings using the base64 encoding format.

This command is not supported for the proxy.

Synopsis

`base64` *subcommand*[*options*]

Description

The `base64` command encodes binary strings into text representations using the base64 encoding format. Base64 encoding is often used in LDIF files to represent non-ASCII character strings. It is also frequently used to encode certificate contents or the output of message digests such as MD5 or SHA.

Subcommands

The following subcommands are used with the `base64` command.

`decode` Decodes base64-encoded information into raw data. Suboptions are as follows:

`-d, --encodedData` *encoded-data*. Base64-encoded data to be decoded to raw data.

`-f, --encodedDataFile` *filename*. Path to the file that contains the base64-encoded data to be decoded.

`-o, --toRawFile` *filename*. Path to the file to which the raw data should be written.

`encode` Encodes raw data to base64. Suboptions are as follows:

`-d, --rawData` *raw-data*. Raw data to be base64–encoded.

`-f, --rawDataFile` *filename*. Path to the file that contains the raw data to be base64–encoded.

`-o, --toEncodedFile` *filename*. Path to the file to which the base64-encoded data should be written.

Global Options

`-?, -H, --help` Display usage information.

`-V, --version` Display directory server version information.

Examples

The following examples show how to use the directory server commands.

EXAMPLE 2–8 Base64 Encoding a String

The following command base64-encodes the string `opends`.

```
$ base64 encode -d opends
b3BlbmRz
```

EXAMPLE 2–9 Base64 Encoding the Contents of a File

The following command base64-encodes the file (`-f`) and writes to an output file (`-o`).

```
$ base64 encode -f myrawdata -o myencodeddata
```

EXAMPLE 2–10 Decoding a Base64–Encoded String

The following command decodes a base64–encoded string.

```
$ base64 decode -d b3BlbmRz
opends
```

EXAMPLE 2–11 Decoding the Contents of a Base64–Encoded File

The following command decodes the file base64–encoded file (`-f`) and writes to an output file (`-o`).

```
$ base64 encode -f myencodeddata -o myoutput
```

EXAMPLE 2–12 Base64–Encoding and Decoding on Linux Systems

The following command encodes and decodes on Linux from the command-line. After you enter the clear-text string, press `Control-D` to signal the end of input on the command line.

```
$ base64 encode
hello world
<CTRL-D>
aGVsbGBqd29ybGQK

$ base64 decode
aGVsbG8gd29ybGQK
```

EXAMPLE 2–12 Base64–Encoding and Decoding on Linux Systems *(Continued)*

```
<CTRL-D>
hello world
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/base64`
- Windows: *instance-dir*`\OUD\bat\base64.bat`

dbtest

The `dbtest` command debugs an Oracle Berkeley Java Edition (JE) back end.

This command is not supported for the proxy.

Synopsis

`dbtest` *subcommands* [*options*]

Description

The `dbtest` command is used to debug an Oracle Berkeley Java Edition (JE) back end. The command lists the root, entry, database containers, and the status of indexes in the database. The command also provides a dump of the database for debugging purposes.

A *back end* is a repository for storing data on a directory server. The back end uses some type of database (DB) to store data and to maintain a set of indexes that allow the back end to locate the entries in the directory. The primary database for the directory server is the Berkeley Java Edition (JE) database, which organizes its data as a single collection of keyed records in B-tree form.

You can use the `dbtest` command to access the following information:

- **Root container**. Specifies the back end ID and the directory for the back end.
- **Entry container**. Specifies the base DN that the entry container stores on disk, the database prefix to use for the database names, and the number of entries in the database. Each base DN of a JE back end is given its own entry container.
- **Database container**. Specifies the database name, type, and JE database name for the specific back end ID.
- **Index Status**. Specifies the index name, type, status and associated JE database.

Currently, the `dbtest` command is a read-only command and cannot alter the database. The command can run in online or offline mode. However, running `dbtest` in online mode can take considerably longer than running it in offline mode.

Subcommands

`dump-database-container`

Dump records from the database container. Suboptions are as follows:

`-b, --baseDN` *baseDN*. Base DN of the entry container to debug. Required.

`-d, --databaseName` *databaseName*. Name of the database container to debug. Required.

`-k, --minKeyValue` *value*. Only show records with keys that should be ordered after the provided value using the comparator for the database container.

`-K, --maxKeyValue` *value*. Only show records with keys that should be ordered before the provided value using the comparator for the database container.

`-n, --backendID` *backendID*. ID of the local DB back end to debug. Required.

`-p, --skipDecode`. Skip decoding the local database to its appropriate types.

`-q, --statsOnly`. Display the statistics only, rather than the complete data.

`-s, --minDataSize` *size*. Only show records whose data is no smaller than the provided value.

	`-S, --maxDataSize` *size*. Only show records whose data is no larger than the provided value.
`list-database-containers`	List the database containers for the entry container. Suboptions are as follows: `-b, --baseDN` *baseDN*. Base DN of the entry container to debug. Required. `-n, --backendID` *backendID*. ID of the local DB back end to debug. Required.
`list-entry-containers`	List the entry containers for a root container. Suboptions are as follows: `-n, --backendID` *backendID*. ID of the local DB back end to debug. Required.
`list-index-status`	List the status of indexes in an entry container. Suboptions are as follows: `-b, --baseDN` *baseDN*. Base DN of the entry container to debug. Required. `-n, --backendID` *backendID*. ID of the local DB back end to debug. Required.
`list-root-containers`	List the root containers used by all local DB back ends.

Global Options

The `dbtest` command accepts an option in either its short form (for example, `-H`) or its long form equivalent (for example, `--help`).

`-?, -H, --help`	Display the usage information.
`-V, --version`	Display directory server version information.

Examples

The following examples show how to use the directory server commands.

EXAMPLE 2–13 Displaying the List of Root Containers

The following command lists the root containers used by all local DB back ends:

EXAMPLE 2–13 Displaying the List of Root Containers *(Continued)*

```
$ dbtest list-root-containers
Backend ID  Database Directory
-----------------------------
userRoot    db

Total: 1
```

EXAMPLE 2–14 Displaying a List of Entry Containers

The following command displays the list of entry containers on the local DB back end:

```
$ dbtest list-entry-containers -n userRoot
Base DN            JE Database Prefix  Entry Count
-----------------------------------------------
dc=example,dc=com  dc_example_dc_com   102

Total: 1
```

EXAMPLE 2–15 Displaying a List of Database Containers

The following command displays the list of database containers on the local DB back end:

```
$ dbtest list-database-containers -b dc=example,dc=com -n userRoot
Database Name              Database  JE Database Name                        Entry Count
                           Type
-------------------------------------------------------------------------------------
dn2id                      DN2ID     dc_example_dc_com_dn2id                 102
id2entry                   ID2Entry  dc_example_dc_com_id2entry              102
referral                   DN2URI    dc_example_dc_com_referral              0
id2children                Index     dc_example_dc_com_id2children           2
id2subtree                 Index     dc_example_dc_com_id2subtree            2
state                      State     dc_example_dc_com_state                 19
objectClass.equality       Index     dc_example_dc_com_objectClass.equality  6
givenName.equality         Index     dc_example_dc_com_givenName.equality    100
givenName.substring        Index     dc_example_dc_com_givenName.substring   396
member.equality            Index     dc_example_dc_com_member.equality       0
uid.equality               Index     dc_example_dc_com_uid.equality          100
cn.equality                Index     dc_example_dc_com_cn.equality           100
cn.substring               Index     dc_example_dc_com_cn.substring          1137
uniqueMember.equality      Index     dc_example_dc_com_uniqueMember.equality 0
telephoneNumber.equality   Index     dc_example_dc_com_telephoneNumber.equality  100
telephoneNumber.substring  Index     dc_example_dc_com_telephoneNumber.substring 956
sn.equality                Index     dc_example_dc_com_sn.equality           100
sn.substring               Index     dc_example_dc_com_sn.substring          541
ds-sync-hist.ordering      Index     dc_example_dc_com_ds-sync-hist.ordering 0
mail.equality              Index     dc_example_dc_com_mail.equality         100
mail.substring             Index     dc_example_dc_com_mail.substring        525
entryUUID.equality         Index     dc_example_dc_com_entryUUID.equality    102
aci.presence               Index     dc_example_dc_com_aci.presence          0

Total: 23
```

EXAMPLE 2–16 Dumping the Contents of a Database and Skipping Decode

The following command dumps the contents of a database and displays the indexed values of the entry, but skips the decode.

```
$ dbtest dump-database-container -b dc=example,dc=com -n userRoot \
  -d objectClass.equality -p

Key (6 bytes):
64 6F 6D 61 69 6E domain

Data (8 bytes):
00 00 00 00 00 00 00 01

Key (18 bytes):
67 72 6F 75 70 6F 66 75 6E 69 71 75 65 6E 61 6D groupofu niquenam
65 73 es

Data (40 bytes):
00 00 00 00 00 00 00 03 00 00 00 00 00 00 00 9C
00 00 00 00 00 00 00 9D 00 00 00 00 00 00 00 9E
00 00 00 00 00 00 00 9F
...
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/dbtest`
- Windows: *instance-dir*`\OUD\bat\dbtest.bat`

Related Commands

- “dsconfig” on page 25
- “import-ldif” on page 225
- “export-ldif” on page 218

export-ldif

The `export-ldif` command exports the contents of a directory server back end to LDIF format.

This command is not supported for the proxy.

Synopsis

`export-ldif` [*options*]

Description

The `export-ldif` command exports the contents of a directory server back end to LDIF format. This command can run the export immediately or can be scheduled to run at a specified date and time. For more information, see "Configuring Commands As Tasks" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

Because some back ends cannot be imported to the directory server, the `export-ldif` command does not export the following back ends: `monitor`, `ads-truststore`, `backup`, `config-file-handler`.

You can run the `export-ldif` command in online or offline mode.

- **Online mode**. In online mode, `export-ldif` contacts a running directory server instance over SSL, through the administration connector, and registers an export task. The command runs in online mode automatically if you specify any of the task back end connection options. For more information about the administration connector, see "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.
- **Offline mode**. In offline mode, `export-ldif` accesses the database directly rather than through a directory server instance. To perform an offline export, the directory server must be stopped.

Options

The `export-ldif` command accepts an option in either its short form (for example, `-b` *branchDN*) or its long form equivalent (for example, `--includeBranch` *branchDN*).

`-a, --appendToLDIF`
: Append the export to an existing LDIF file rather than overwriting it. If this option is not provided, the directory server overwrites the specified LDIF file, if it exists.

`-b, --includeBranch` *branchDN*
: Specify the base DN for a branch or subtree of the data to be exported. This option can be used multiple times to specify multiple base DNs. If this option is provided, entries contained in the back end that are not at or below one of the provided base DNs are skipped.

`-B, --excludeBranch` *branchDN*
: Specify the base DN for a branch or subtree of the data to be omitted from the export. This option can be used multiple times to specify multiple base DNs. If this option is provided, any entries contained in the back end that are at or below one of the provided base DNs are skipped. Note that the use of the `--excludeBranch` option takes precedence over the `--includeBranch` option. If an entry is at or below a DN contained in both the included and excluded lists, it is not included. This capability makes it possible to include data for only part of a branch. For example, you can include all entries below `dc=example,dc=com` except those below `ou=People,dc=example,dc=com`.

`-c, --compress`
: Compress the LDIF data as it is written. The data is compressed using the GZIP format, which is the format used by the `--isCompressed` option of the `import-ldif` command.

`-e, --excludeAttribute` *attribute*
: Exclude the specified attribute name during the export. This option can be used multiple times to specify multiple attributes. If this option is provided, any attributes listed are omitted from the entries that are exported.

`-E, --excludeFilter` *filter*
: Exclude the entries identified by the specified search filter during the export. This option can be used multiple times to specify multiple filters. If this option is provided, any entry in the back end that matches the filter is skipped. Note that the use of the `--excludeFilter` option takes precedence over the `--includeFilter` option. If an entry matches filters in both the included and excluded lists, the entry is skipped.

`-i, --includeAttribute` *attribute*	Include the specified attribute name in the export. This option can be used multiple times to specify multiple attributes. If this option is provided, any attributes not listed are omitted from the entries that are exported.
`-I, --includeFilter` *filter*	Include the entries identified by the specified search filter in the export. This option can be used multiple times to specify multiple filters. If this option is provided, any entry in the back end that does not match the filter is skipped.
`-l, --ldifFile` *filename*	Export the data to the specified LDIF file. This is a required option. For online exports, the root for relative paths is the *instance root*, rather than the current working directory. So, for example, a path of `exports/ldif.ldif` here refers to *instance-root*`/exports/ldif.ldif`.
`-n, --backendID` *backendID*	Specify the back end ID of the data to be exported. The available back ends in the directory server can be determined using the `list-backends` command. This is a required option.
`-O, --excludeOperational`	Exclude operational attributes in the export.
`--wrapColumn` *column*	Specify the column at which to wrap long lines when writing to the LDIF file. A value of `0` indicates that the data should not be wrapped.

Task Back End Connection Options

Running an online export requires access to the tasks back end. Access to the tasks back end is provided over SSL through the administration connector. These connection options are used when the export runs online.

`-D, --bindDN` *bindDN*	Use the bind DN to authenticate to the directory server. This option is used when performing simple authentication and is not required if SASL authentication is to be used. The default value for this option is `cn=Directory Manager`.
`-h, --hostname` *hostname*	Contact the directory server on the specified hostname or IP address. If this option is not provided, a default of `localhost` is used.

`-j, --bindPasswordFile` *filename*	Use the bind password in the specified file when authenticating to the directory server. This option must not be used in conjunction with `--bindPassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.
`-N, --certNickname` *nickname*	Use the specified certificate for client authentication.
`-o, --saslOption` *name=value*	Use the specified options for SASL authentication.
`-p, --port` *port*	Contact the directory server at the specified administration port. If this option is not provided, a default administration port of 4444 is used.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option

	must not be used in conjunction with `--trustStorePassword`.
`-w, --bindPassword` *password*	Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-X, --trustAll`	Trust all server SSL certificates that the directory server presents. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

Task Scheduling Options

These options are used when you specify that the export should run as a scheduled task.

`--completionNotify` *emailAddress*	Specify the email address of a recipient to be notified when the task completes. This option can be specified more than once in a single command.
`--dependency` *taskId*	Specify the ID of a task upon which this task depends. A task does not start executing until all of its dependencies have completed execution.
`--errorNotify` *emailAddress*	Specify the email address of a recipient to be notified if an error occurs when this task executes. This option can be specified more than once in a single command.
`--failedDependencyAction` *action*	Specify the action that this task will take if one of its dependent tasks fails. The value must be one of `PROCESS`, `CANCEL`, or `DISABLE`. If no value is specified, the default action is `CANCEL`.

`--recurringTask` *schedulePattern*	Indicates that the task is recurring and will be scheduled according to the `schedulePattern`, expressed as a crontab(5) compatible time and date pattern.
`-t, --start` *startTime*	Indicates the date and time at which the operation starts when scheduled as a directory server task expressed in the format `YYYYMMDDhhmmss`. A value of 0 schedules the task for immediate execution. When this option is specified, the operation is scheduled to start at the specified time after which the command exits immediately.

Command Input/Output Options

`--noPropertiesFile`	Indicates that a properties file is not used to obtain the default command-line options.
`--propertiesFilePath` *path*	Specify the path to the properties file that contains the default command-line options.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to run an export.
`-V, --version`	Display the version information for the directory server and exit rather than attempting to run this command.

Examples

The following examples show how to use the directory server commands.

EXAMPLE 2–17 Performing an Offline Export

The following example exports the `userRoot` back end, starting at the base DN specified by the `-b` option. The command exports the data to an LDIF file specified by `-l`. The directory server must be stopped before performing an offline export.

```
$ stop-ds
$ export-ldif -b dc=example,dc=com -n userRoot -l /usr/tmp/export.ldif
[17/Oct/2008:12:24:33 +0200] category=JEB severity=NOTICE msgID=8847447
msg=Exported 102 entries and skipped 0 in 0 seconds (average rate 159.4/sec)
```

EXAMPLE 2–18 Performing an Online Export

An export is automatically run online if you specify any of the task back end connection options. Because an online export contacts the server over SSL, you must specify how to trust the SSL server certificate. This examples uses the `-X` option to trust all certificates.

```
$ export-ldif -h localhost -p 4444 -D "cn=Directory Manager" -w password -X \
  --includeBranch "dc=example,dc=com" --backendID userRoot \
  --ldifFile /usr/tmp/export.ldif
```

EXAMPLE 2–19 Scheduling an Export

You can schedule an export to run at some future date by using the `-t` or `--start` option to specify the start time. Like a regular online export, a scheduled export contacts the task back end of a running directory server and the relevant task back end connection options must be specified.

This example schedules an export of the `userRoot` back end to start on December 24.

```
$ export-ldif -h localhost -p 4444 -D "cn=Directory Manager" -w password -X \
  --includeBranch "dc=example,dc=com" --backendID userRoot \
  --ldifFile /usr/tmp/export.ldif --start 20081224121500
Export task 2008101712361910 scheduled to start Dec 24, 2008 12:15:00 PM SAST
```

You can view a scheduled task by using the `manage-tasks` command. For more information, see "Configuring Commands As Tasks" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

Exit Codes

- **Offline mode**. An exit code of 0 indicates that the operation completed successfully. A non-zero exit code indicates that an error occurred during processing.
- **Online mode**. If `-t` or `--start` is specified, an exit code of 0 indicates that the task was created successfully. A nonzero exit code indicates that an error occurred when the task was created. If `-t` or `--start` is not specified, the exit codes are the same as those specified for offline mode.

Using a Properties File

The directory server supports the use of a *properties file* that passes in any default option values used with the `export-ldif` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/export-ldif`
- Windows: *instance-dir*`\OUD\bat\export-ldif.bat`

Related Commands

- "import-ldif" on page 225
- "ldif-diff" on page 328
- "ldifmodify" on page 331
- "ldifsearch" on page 333
- "manage-tasks" on page 144

import-ldif

The `import-ldif` command populates an Oracle Berkeley DB Java Edition (JE) back end with data read from an LDIF file.

This command is not supported for the proxy.

Synopsis

`import-ldif` *options*

Description

The `import-ldif` command populates an Oracle Berkeley DB Java Edition (JE) back end with data read from an LDIF file, or with data generated based on a MakeLDIF template. In most cases, using `import-ldif` is significantly faster than adding entries by using `ldapmodify`. Note that a complete import to an entire JE back end has better performance than a partial import to a branch of the JE back end.

The `import-ldif` command can run the import immediately or can schedule the import to run at a specified date and time. For more information, see "Configuring Commands As Tasks" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

You can run the `import-ldif` command in online or offline mode.

- **Online mode**. In online mode, `import-ldif` contacts a running directory server instance over SSL, through the administration connector, and registers an import task. The command runs in online mode automatically if you specify any of the task back end connection options. For more information about the administration connector, see "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.
- **Offline mode**. In offline mode, `import-ldif` accesses the database directly rather than through a directory server instance. To perform an offline import, the directory server must be stopped.

Options

The `import-ldif` command accepts an option in either its short form (for example, `-b` *baseDN*) or its long form equivalent (for example, `--includeBranch` *baseDN*).

`-a, --append`	Append the imported data to the data that already exists in the back end, rather than clearing the back end before starting the import.
`-A, --templateFile` *filename*	Specify the path to a MakeLDIF template to generate the import data.
`-b, --includeBranch` *branchDN*	Specify the base DN for a branch or subtree of the data that should be included in the import. This option can be used multiple times to specify multiple base DNs. If this option is provided, entries contained in the import source that are not at or below one of the provided base DNs are skipped. Any existing entries above the provided base DNs are preserved.
`-B, --excludeBranch` *branchDN*	Specify the base DN branch or subtree that should be omitted from the import. This option can be used multiple times to specify multiple base DNs. If this option is provided, entries contained in the import source that are at or below one of the base DNs are skipped. Note that the use of the `--excludeBranch` option takes precedence over the `--includeBranch` option. If an entry is at or below a DN contained in both the included and excluded lists, it is omitted from the import. This capability makes it possible to include data for only a part of a branch (for example, all entries below `dc=example,dc=com` except those below `ou=People,dc=example,dc=com`).

`-c, --isCompressed`	Specify that the LDIF import file is compressed. The file should be compressed using the GZIP format, which is the format used by the `--compressLDIF` option of the `export-ldif` command.
`--countRejects`	Return the number of rejected entries during import. If the number of rejected entries is between 0 and 255, that number is returned. If the number of rejected entries is greater than 255, the command returns the value `255`. For example, if you run `import-ldif` with the `--countRejects` option and get 16 rejected entries, the command returns the value `16`. If you run `import-ldif` and get 300 rejected entries, the command returns the value `255`. Note that this option is not supported for online imports.
`-e, --excludeAttribute` *attribute*	Specify the name of an attribute that should be excluded from the import. This option can be used multiple times to specify multiple attributes.
`-E, --excludeFilter` *filter*	Specify the search filter to identify entries that should be excluded from the import. This option can be used multiple times to specify multiple filters. If this option is provided, any entry in the import source that matches the filter is skipped. Note that the `--excludeFilter` option takes precedence over the `--includeFilter` option. If an entry matches filters in both the include and exclude filters, the entry is skipped during import.
`-F, --clearBackend`	Confirm deletion of all existing entries for all base DNs in the specified back end when importing without the `--append` option. This only applies when importing a multiple base DN back end specified by the back end ID. This option is implied for back ends with only one base DN.
`-i, --includeAttribute` *attribute*	Specify the attributes that should be included in the import. This option can be used multiple times to specify multiple attributes. If this option is used, attributes not listed in this set are omitted from the entries that are imported.
`-I, --includeFilter` *filter*	Specify the search filter to identify entries that should be included in the import. This option can be used multiple times to specify multiple filters. If this option

	is provided, any entry in the import source that does not match the results of the filter is skipped.
`-l, --ldifFile` *filename*	Read the LDIF file located at the specified path. This option must not be used in conjunction with `--templateFile`. For online imports, the root for relative paths is the *instance root*, rather than the current working directory. So, for example, a path of `imports/ldif.ldif` here refers to *instance-root*`/imports/ldif.ldif`.
`-n, --backendID` *backendID*	Specify the ID of the back end into which the data should be imported. To display the available back ends in the server, use the `list-backends` command.
`-O, --overwrite`	Overwrite the specified skip file or reject file, if it already exists. If this option is not provided, any skipped or rejected entries are appended to their corresponding files rather than overwriting them. This option is only applicable if the `--rejectFile` or `--skipFile` options are provided.
`-r, --replaceExisting`	Replace existing data with the content from the import. If this option is not provided, existing entries are not overwritten. This is only applicable if the `--append` option has also been provided.
`-R, --rejectFile` *filename*	Use the specified file to hold any rejected entries during the import. Rejected entries occur if entries are not compliant with the default schema. A comment is included before the entry indicating the reason that it was rejected. If this option is not provided, no reject file is written.
`-s, --randomSeed` *seed*	Use the specified seed number for the random number generator when generating entries from a MakeLDIF template. Seeding the random number generator with a particular value can help to ensure that the same template and random seed always generate exactly the same data.
`--skipDNValidation`	Perform limited parental DN validation during a later part of the LDIF import. If this option is specified, no

duplicate DN checking is done. Do not use this option if you are not certain that your LDIF import file is correct.

`--skipFile` *filename*
: Use the specified file to identify entries that were skipped during the import. Skipped entries occur if entries cannot be placed under any specified base DN during an import or if the `--excludeBranch`, `--excludeAttribute`, or `--excludeFilter` option is used.

`-S, --skipSchemaValidation`
: Do not perform any schema validation on the entries as they are imported. This option can provide improved import performance, but should only be used if you are certain that the import data is valid.

`--threadCount` *count*
: Specify the number of threads that are used to read the LDIF file. If this option is not specified, a default of two threads per CPU is used.

  You can use this option to increase the number of threads if you are importing particularly large LDIF files, but you should not use the option unless you are certain of the resulting impact on performance.

`--tmpDirectory` *directory*
: Use the specified directory for index scratch files created during the import. If no directory is specified, the default *instance-dir*`/OUD/import-tmp` is used.

Task Back End Connection Options

Running an online import requires access to the tasks back end. Access to the tasks back end is provided over SSL through the administration connector. These connection options are used when the import runs online.

`-D, --bindDN` *bindDN*
: Use the bind DN to authenticate to the directory server. This option is used when performing simple authentication and is not required if SASL authentication is to be used. The default value for this option is `cn=Directory Manager`.

`-h, --hostname` *hostname*
: Contact the directory server on the specified hostname or IP address. If this option is not provided, a default of `localhost` is used.

`-j, --bindPasswordFile` *filename*	Use the bind password in the specified file when authenticating to the directory server. This option must not be used in conjunction with `--bindPassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.
`-N, --certNickname` *nickname*	Use the specified certificate for client authentication.
`-o, --saslOption` *name=value*	Use the specified options for SASL authentication.
`-p, --port` *port*	Contact the directory server at the specified administration port. If this option is not provided, a default administration port of `6664` is used.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option

must not be used in conjunction with `--trustStorePassword`.

`-w, --bindPassword` *password*
: Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.

`-W, --keyStorePassword` *password*
: Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.

`-X, --trustAll`
: Trust all server SSL certificates that the directory server presents. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

Task Scheduling Options

These options are used when you specify that the import should run as a scheduled task.

`--completionNotify` *emailAddress*
: Specify the email address of a recipient to be notified when the task completes. This option can be specified more than once in a single command.

`--dependency` *taskId*
: Specify the ID of a task upon which this task depends. A task does not start executing until all of its dependencies have completed execution.

`--errorNotify` *emailAddress*
: Specify the email address of a recipient to be notified if an error occurs when this task executes. This option can be specified more than once in a single command.

`--failedDependencyAction` *action*
: Specify the action that this task will take if one of its dependent tasks fails. The value must be one of `PROCESS`, `CANCEL`, or `DISABLE`. If no value is specified, the default action is `CANCEL`.

`--recurringTask` *schedulePattern*	Indicates that the task is recurring and will be scheduled according to the `schedulePattern`, expressed as a crontab(5) compatible time and date pattern.
`-t, --start` *startTime*	Indicates the date and time at which the operation starts when scheduled as a directory server task expressed in the format `YYYYMMDDhhmmss`. A value of 0 schedules the task for immediate execution. When this option is specified, the operation is scheduled to start at the specified time after which the command exits immediately.

Command Input/Output Options

`--noPropertiesFile`	Indicates that a properties file is not used to obtain the default command-line options.
`--propertiesFilePath` *path*	Specify the path to the properties file that contains the default command-line options.
`-Q, --quiet`	Run in quiet mode. Using quiet mode, no output is generated unless a significant error occurs during the import process.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to run an import.
`-V, --version`	Display the version information for the directory server and exit rather than attempting to run this command.

Examples

The following examples show how to use the directory server commands.

EXAMPLE 2–20 Running an Offline Import

This example imports an LDIF file to the `userRoot` back end. The LDIF file path must be an absolute path on all platforms. The directory server must be stopped before running an offline import.

EXAMPLE 2–20 Running an Offline Import *(Continued)*

```
$ stop-ds
$ import-ldif -b dc=example,dc=com -n userRoot -l /usr/tmp/Example.ldif
```

EXAMPLE 2–21 Importing Part of an LDIF File Offline

This example imports part of an LDIF file to the `userRoot` back end. The import includes the base DN `dc=example,dc=com` but excludes the branch `ou=people`. Existing entries are replaced (`-r`) and information about any rejected entries are written to `/usr/tmp/rejects.ldif`. The LDIF file path must be an absolute path on all platforms. The directory server must be stopped before running an offline import.

```
$ stop-ds
$ import-ldif -b dc=example,dc=com -B "ou=people,dc=example,dc=com" \
  -l /usr/tmp/Example.ldif -n userRoot -r -R /usr/tmp/rejects.ldif
```

EXAMPLE 2–22 Importing Data From a MakeLDIF Template

This example imports sample data from a MakeLDIF template to the `userRoot` back end. The random seed (`-s`) determines the randomness of the data. The directory server must be stopped before running an offline import.

```
$ stop-ds
$ import-ldif -n userRoot -A example.template -s 0
```

EXAMPLE 2–23 Importing User Attributes Only

This example imports an LDIF file to the `userRoot` back end. Only user attributes are imported, specified by `-i "*"`. The LDIF file path must be an absolute path on all platforms. On some systems, you might be required to enclose the asterisk in quotation marks (`"*"`) or to escape the asterisk using a character appropriate to your shell. The directory server must be stopped before running an offline import.

```
$ stop-ds
$ import-ldif -b dc=example,dc=com -n userRoot -l /usr/tmp/Example.ldif -i "*"
```

EXAMPLE 2–24 Importing User Attributes and Excluding an Attribute

This example imports an LDIF file to the `userRoot` back end. All user attributes are imported, specified by `-i "*"`, but the `roomnumber` attribute is excluded. The LDIF file path must be an absolute path on all platforms. On some systems, you might be required to enclose the asterisk in quotation marks (`"*"`) or to escape the asterisk using a character appropriate to your shell. The directory server must be stopped before running an offline import.

```
$ stop-ds
$ import-ldif -b dc=example,dc=com -n userRoot -l /usr/tmp/Example.ldif \
  -i "*" -e "roomnumber"
```

EXAMPLE 2–25 Importing Operational Attributes Only

This example imports an LDIF file to the `userRoot` back end. Only operational attributes are imported, specified by `-i "+"`. The LDIF file path must be an absolute path on all platforms. On some systems, you might be required to enclose the plus sign in quotation marks ("+") or to escape the plus sign using a character appropriate to your shell. The directory server must be stopped before running an offline import.

```
$ stop-ds
$ import-ldif -b dc=example,dc=com -n userRoot -l /usr/tmp/Example.ldif -i "+"
```

EXAMPLE 2–26 Importing Selected User and Operational Attributes

This example imports an LDIF file to the `userRoot` back end. Only the `uid`, `cn`, `sn`, `dc`, and `creatorsname` attributes are imported. The LDIF file path must be an absolute path on all platforms. The directory server must be stopped before running an offline import.

```
$ stop-ds
$ import-ldif -b dc=example,dc=com -n userRoot -l /var/tmp/Example.ldif \
  -i "uid" -i "cn" -i "sn" -i "dc" -i "creatorsname"
```

EXAMPLE 2–27 Running an Online Import

An import is automatically run online if you specify any of the task back end connection options. Because an online import contacts the server over SSL, you must specify how to trust the SSL server certificate. This examples uses the `-X` option to trust all certificates.

```
$ import-ldif -h localhost -p 6664 -D "cn=Directory Manager" -w password -X \
    -b dc=example,dc=com -n userRoot -l /usr/tmp/Example.ldif
```

EXAMPLE 2–28 Scheduling an Import

You can schedule an import to run at some future date by using the `-t` or `--start` option to specify the start time. Like a regular online import, a scheduled import contacts the task back end of a running directory server and the relevant task back end connection options must be specified.

This example schedules an import to the `userRoot` back end to start on December 24.

```
$ import-ldif -h localhost -p 6664 -D "cn=Directory Manager" -w password -X \
  -b dc=example,dc=com -n userRoot -l /usr/tmp/Example.ldif --start 20081224121500
Import task 2008101712361910 scheduled to start Dec 24, 2008 12:15:00 PM SAST
```

You can view a scheduled task by using the `manage-tasks` command. For more information, see "Configuring Commands As Tasks" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

Exit Codes

- **Offline mode**. An exit code of 0 indicates that the operation completed successfully. A non-zero exit code indicates that an error occurred during processing.
- **Online mode**. If `-t` or `--start` is specified, an exit code of 0 indicates that the task was created successfully. A nonzero exit code indicates that an error occurred when the task was created. If `-t` or `--start` is not specified, the exit codes are the same as those specified for offline mode.

Using a Properties File

The directory server supports the use of a *properties file* that passes in any default option values used with the `export-ldif` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/import-ldif`
- Windows: *instance-dir*`\OUD\bat\import-ldif.bat`

Related Commands

- "export-ldif" on page 218
- "ldif-diff" on page 328
- "ldifmodify" on page 331
- "ldifsearch" on page 333
- "manage-tasks" on page 144

list-backends

The `list-backends` command displays information about the available back ends.

This command is not supported for the proxy.

Synopsis

`list-backends` [*options*]

Description

The `list-backends` command can be used to obtain information about the back ends defined in a directory server instance. Back ends are responsible for providing access to the server database.

The `list-backends` command has three modes of operation:

- **No options.** When invoked with no options, display the back-end IDs for all back ends configured in the server, along with the base DNs for those back ends.
- **With backend ID.** When used with the `--backendID`, list all of the base DNs for the back end with the specified back-end ID.
- **With baseDN.** When used with the `--baseDN` option, list the back-end ID of the back end that should be used to hold the entry with the given DN and also indicate whether that DN is one of the configured base DNs for that back end.

Options

The following are available for use but are not required. The `list-backends` command accepts an option in either its short form (for example, `-b` *baseDN*) or its long form equivalent (for example, `--baseDN` *baseDN*).

Command Options

`-b, --baseDN` *baseDN* Specify the base DN from which the `list-backends` command should list the back-end ID. The option also indicates whether the specified DN is a baseDN for that back end.

`-n, --backendID` *backendID* Specify the back-end ID from which the command should display the associated base DN. This option can be used multiple times to display the base DNs for multiple back ends.

General Options

`-?, -H, --help` Display the command usage information and exit immediately without taking any other action.

`-V, --version` Display the directory server version information and exit rather than attempting to run this command.

Examples

The following examples show how to use the directory server commands. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 2–29 Listing the Current Back Ends

The following command lists the current back ends on the directory server:

```
$ list-backends

Backend ID  Base DN
----------  -----------------
backup      cn=backups
config      cn=config
monitor     cn=monitor
schema      cn=schema
tasks       cn=tasks
userRoot    dc=example,dc=com
```

EXAMPLE 2–30 Listing the Back-end ID

The following command lists the back-end ID on the directory server:

```
$ list-backends --backendID monitor

Backend ID  Base DN
----------  ----------
monitor     cn=monitor
```

EXAMPLE 2–31 Listing the Base DN

The following command lists the base DN on the directory server:

```
$ list-backends --baseDN cn=backups

The provided DN 'cn=backups' is a base DN for the back end 'backup'
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/list-backends`
- Windows: *instance-dir*`\OUD\bat\list-backends.bat`

manage-account

The `manage-account` command manages user account information, primarily related to password policy state details.

This command is not supported for the proxy.

Synopsis

`manage-account` *subcommands options*

Description

The `manage-account` command manages user account information, primarily related to password policy state details. The command interacts with the Password Policy State extended operation, which returns account, login, and password information for a user. Although the Password Policy State extended operation allows multiple operations per use, the `manage-account` command can run only one operation at a time. Users must have the `password-reset` privilege to use the Password Policy State extended operation.

Note that all time values are returned in generalized time format. All duration values are returned in seconds.

The `manage-account` command connects to the server over SSL through the administration connector (described in "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.)

Subcommands

`clear-account-is-disabled`
: Clear the disabled state for the user account. This will have the effect of enabling the account if it is disabled.

`get-account-expiration-time`
: Return the account expiration time.

`get-account-is-disabled`
Return the disabled state for the user account.

`get-all`
Return all Password Policy State information for the user account.

`get-authentication-failure-times`
Return the authentication failure times for the user account.

`get-grace-login-use-times`
Return the grace login use times for the user account.

`get-last-login-time`
Return the last login time for the user.

`get-password-changed-by-required-time`
Return the password changed by the required time for the user.

`get-password-changed-time`
Return the time the password was last changed.

`get-password-expiration-warned-time`
Return the time the user was first warned about an upcoming password expiration.

`get-password-history`
Return the password history for the user account.

`get-password-is-reset`
Return the password reset state for the user, which indicates whether the user will be forced to change his password on the next login.

`get-password-policy-dn`
Return the DN of the password policy for a given user.

`get-remaining-authentication-failure-count`
Return the number of remaining authentication failures for the user before the user's account is locked.

`get-remaining-grace-login-count`
Return the number of remaining grace logins for the user.

`get-seconds-until-account-expiration`
Return the length of time before the account expires.

`get-seconds-until-authentication-failure-unlock`
Return the length of time before the user's account is automatically unlocked.

`get-seconds-until-idle-lockout`
Return the length of time before the account is idle-locked.

`get-seconds-until-password-expiration`
Return the length of time before the password expires.

`get-seconds-until-password-expiration-warning`
Return the length of time before the user is first warned about an upcoming password expiration.

`get-seconds-until-password-reset-lockout`
Return the length of time before the password reset lockout occurs.

`get-seconds-until-required-change-time`
Return the length of time before the user is required to change his password due to the required change time.

`set-account-is-disabled`
Disable the account. Required suboption:

`--operationValue` *true*/*false*. If set to `TRUE`, disable the user. If set to `FALSE`, enable the user.

Options

The `manage-account` command accepts an option in either its short form (for example, `-b` *targetDN*) or its long form equivalent (for example, `--targetDN` *targetDN*).

`-b, --targetDN` *targetDN*	Specify the DN of the user entry for which to get and set password policy state information.

LDAP Connection Options

The `manage-account` command contacts the directory server over SSL through the administration connector. These connection options are used to contact the directory server.

`-D, --bindDN` *bindDN*	Use the bind DN to authenticate to the directory server. This option is used when performing simple authentication and is not required if SASL authentication is to be used. The default value for this option is `cn=Directory Manager`.
`-h, --hostname` *hostname*	Contact the directory server on the specified hostname or IP address. If this option is not provided, a default of `localhost` is used.
`-j, --bindPasswordFile` *filename*	Use the bind password in the specified file when authenticating to the directory server. This option must not be used in conjunction with `--bindPassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.

`-N, --certNickname` *nickname*	Use the specified certificate for client authentication.
`-o, --saslOption` *name=value*	Use the specified options for SASL authentication.
`-p, --port` *port*	Contact the directory server at the specified administration port. If this option is not provided, a default administration port of 4444 is used.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.
`-w, --bindPassword` *password*	Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.

`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-X, --trustAll`	Trust all server SSL certificates that the directory server presents. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to run the command.
`-V, --version`	Display the version information for the directory server.

Examples

The following examples show how to use the directory server commands.

EXAMPLE 2–32 Viewing All Password Policy State Information for a User

The following command returns the password policy state information for a user:

```
$ manage-account get-all -h localhost -p 4444 -D "cn=Directory Manager" \
  -w password -X -b "uid=scarter,ou=People,dc=example,dc=com" \

Password Policy DN:  cn=Default Password Policy,cn=Password Policies,cn=config
Account Is Disabled:  false
Account Expiration Time:
Seconds Until Account Expiration:
Password Changed Time:  19700101000000.000Z
Password Expiration Warned Time:
Seconds Until Password Expiration:
Seconds Until Password Expiration Warning:
Authentication Failure Times:
Seconds Until Authentication Failure Unlock:
Remaining Authentication Failure Count:
Last Login Time:
Seconds Until Idle Account Lockout:
Password Is Reset:  false
Seconds Until Password Reset Lockout:
Grace Login Use Times:
Remaining Grace Login Count:  0
```

EXAMPLE 2–32 Viewing All Password Policy State Information for a User *(Continued)*

```
Password Changed by Required Time:
Seconds Until Required Change Time:
```

EXAMPLE 2–33 Disabling a User Account

The following command disables a user's account `uid=scarter`:

```
$ manage-account set-account-is-disabled --operationValue true \
  -h localhost -p 4444 -D "cn=Directory Manager" -w password -X \
  -b "uid=scarter,ou=People,dc=example,dc=com"

Account Is Disabled:  true
```

EXAMPLE 2–34 Enabling a User Account

The following command re-enables a user's disabled account:

```
$ manage-account clear-account-is-disabled \
  -h localhost -p 4444 -D "cn=Directory Manager" -w password -X \
  -b "uid=scarter,ou=People,dc=example,dc=com"

Account Is Disabled:  false
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. A nonzero exit code indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/manage-account`
- Windows: *instance-dir*`\OUD\bat\manage-account.bat`

Related Commands

"ldappasswordmodify" on page 294

rebuild-index

The `rebuild-index` command rebuilds a directory server index.

This command is not supported for the proxy.

Synopsis

`rebuild-index` *options*

Description

The `rebuild-index` command is used to rebuild directory server indexes. Indexes are files that contain lists of values, where each value is associated with a list of entry identifiers to suffixes in the directory server database. When the directory server processes a search request, it searches the database using the list of entry identifiers in the indexes, thus speeding up the search. If indexes did not exist, the directory server would have to look up each entry in the database, which dramatically degrades performance.

The `rebuild-index` command is useful in the following cases:

- When the `index-entry-limit` property of an index changes
- When a new index is created

The `rebuild-index` command can be run with the server online. However, the backend database is unavailable while `rebuild-index` is running. Also, the `rebuild-index` command usually runs faster with the server offline, especially if the `--rebuildAll` option is specified.

Options

The `rebuild-index` command accepts an option in either its short form (for example, `-b` *baseDN*) or its long form equivalent (for example, `--baseDN` *baseDN*).

Command Options

`-b, --baseDN` *baseDN* — Specify the base DN of a back end that supports indexing. The rebuild operation is performed on indexes within the scope of the given base DN.

`-i, --index` *index*	Specify the name of the indexes to rebuild. For an attribute index, this is simply an attribute name. At least one index must be specified for rebuild.
`--rebuildAll`	Rebuild all indexes that are contained in the back end that is specified by the base DN. This option not only re-indexes all attribute indexes but also the `dn2id` system index, any extensible and VLV indexes, and the `dn2uri` index. The `rebuildAll` option cannot be used with the `-i` option.
`--tmpDirectory`	Specify the location of a temporary work directory for scratch index files. The default temporary work directory is *instance-dir*`/OUD/import-tmp`.

Task Back End Connection Options

Rebuilding an index online requires access to the tasks back end. Access to the tasks back end is provided over SSL through the administration connector. These connection options are used when the rebuild runs online.

`-D, --bindDN` *bindDN*	Use the bind DN to authenticate to the directory server. This option is used when performing simple authentication and is not required if SASL authentication is used. The default value for this option is `cn=Directory Manager`.
`-h, --hostname` *hostname*	Contact the directory server on the specified hostname or IP address. If this option is not provided, a default of `localhost` is used.
`-j, --bindPasswordFile` *filename*	Use the bind password in the specified file when authenticating to the directory server. This option must not be used in conjunction with `--bindPassword`.
`-K, --keyStorePath` *path*	Use the client keystore certificate in the specified path.
`-N, --certNickname` *nickname*	Use the specified certificate for client authentication.
`-o, --saslOption` *name=value*	Use the specified options for SASL authentication .

`-p, --port` *port*	Contact the directory server at the specified administration port. If this option is not provided, the default administration port of 4444 is used.
`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.
`-w, --bindPassword` *password*	Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This

option must not be used in conjunction with `--keyStorePasswordFile`.

`-X, --trustAll`

Trust all server SSL certificates that the directory server presents. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

Task Scheduling Options

These options are used when you specify that the index should be rebuilt as a scheduled task.

`--completionNotify` *emailAddress*

Specify the email address of a recipient to be notified when the task completes. This option can be specified more than once in a single command.

`--dependency` *taskId*

Specify the ID of a task upon which this task depends. A task does not start executing until all of its dependencies have completed execution.

`--errorNotify` *emailAddress*

Specify the email address of a recipient to be notified if an error occurs when this task executes. This option can be specified more than once in a single command.

`--failedDependencyAction` *action*

Specify the action that this task will take if one of its dependent tasks fails. The value must be one of `PROCESS`, `CANCEL`, or `DISABLE`. If no value is specified, the default action is `CANCEL`.

`--recurringTask` *schedulePattern*

Indicates that the task is recurring and will be scheduled according to the `schedulePattern`, expressed as a crontab(5) compatible time and date pattern.

`-t, --start` *startTime*

Indicates the date and time at which the operation starts when scheduled as a directory server task expressed in the format `YYYYMMDDhhmmss`. A value of 0 schedules the task for immediate execution. When this option is specified, the operation is scheduled to start at the specified time after which the command exits immediately.

Utility Input/Output Options

`--propertiesFilePath` *propertiesFilePath*	Path to the file containing default property values used for command line
`--noPropertiesFile`	No properties file will be used to get default command line argument values.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to stop or restart the directory server.
`-V, --version`	Display the version information for the directory server and exit rather than attempting to run this command.

Examples

The following examples show how to use the directory server commands. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 2–35 Rebuilding an Index

First, display a list of indexes by using the `dsconfig` command. The command specifies the subcommand `list-je-indexes`, the port (`-p`), the back-end name `userRoot` (`-n`), the bind DN (`-D`), and the bind password (`-w`) and displays the indexes for the given back end:

```
$ dsconfig -h localhost -p 4444 -D "cn=Directory Manager" -w password -X -n \
  list-local-db-indexes --backend-name userRoot

Local DB Index  : Type    : index-type
----------------:---------:--------------------
aci             : generic : presence
cn              : generic : equality, substring
ds-sync-hist    : generic : ordering
entryUUID       : generic : equality
givenName       : generic : equality, substring
mail            : generic : equality, substring
member          : generic : equality
objectClass     : generic : equality
sn              : generic : equality, substring
telephoneNumber : generic : equality, substring
uid             : generic : equality
uniqueMember    : generic : equality
```

The following command rebuilds indexes (`-i`) with a base DN (`-b`).

EXAMPLE 2–35 Rebuilding an Index *(Continued)*

Because this command runs offline, the directory server must be stopped before you run it.

```
$ rebuild-index -b dc=example,dc=com -i uid -i mail

[31/Jul/2007:01:51:59 -0500] category=BACKEND severity=NOTICE msgID=8388745 msg
Rebuild of index(es) uid, mail started with 320 total records to process
[31/Jul/2007:01:52:00 -0500] category=BACKEND severity=NOTICE msgID=8388741 msg
Rebuild complete. Processed 320 records in 0 seconds (average rate 445.7/sec)
```

EXAMPLE 2–36 Rebuilding All Indexes

This example uses the `--rebuildAll` option to rebuild all indexes.

```
$ rebuild-index -b "dc=example,dc=com" --rebuildAll
```

EXAMPLE 2–37 Rebuilding Extensible Indexes

You can rebuild an extensible index in any of three ways:

- Rebuild all indexes by specifying the `--rebuildAll` option.
- Rebuild the attribute index on which the extensible index is based, by specifying the `-i` option. For example, `-i cn`.

  All indexes based on this attribute are rebuilt, including any extensible indexes that are associated with the attribute.
- Rebuild a specific extensible index by specifying it with the `-i` option. For example, `-i cn.es.lte` or `-i sn.en.sub`.

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/rebuild-index`
- Windows: *instance-dir*`\OUD\bat\rebuild-index.bat`

Related Commands

- "verify-index" on page 260
- "dsconfig" on page 25

restore

The `restore` command restores a backup of a directory server back end.

This command is not supported for the proxy.

Synopsis

`restore` *options*

Description

The `restore` command restores a backup of a directory server back end. Only one back end can be restored at a time. You can use this command to perform a restore operation immediately, or to schedule a restore to run at a later time. For more information, see "Configuring Commands As Tasks" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

You can restore a back end when the server is offline or schedule a task when the server is online to restore a back end at a later stage. If the server is online, the restore command connects to the server over SSL through the administration connector. For more information about the administration connector, see "Managing Administration Traffic to the Server" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

Options

The `restore` command accepts an option in either its short form (for example, `-I` *backupID*) or its long form equivalent (for example, `--backupID` *backupID*).

`-d, --backupDirectory` *path*
: Restore using the directory that contains the backup archive. This directory must exist and must contain a backup descriptor file and one or more backups for a given back end. The backup descriptor file is read to obtain information about the available backups and the options used to create them. This is a required option.

`-I, --backupID` *backupID*
: Specify the backup ID of the backup to be restored. If this option is not provided, the latest backup contained in the backup directory is restored.

`-l, --listBackups`
: Display information about the available backups contained in the backup directory. This option causes the command to exit without performing any restore.

`-n, --dry-run`
: Verify that the specified backup is valid (that is, ensure that it appears to be a valid archive, and that any hash, signature matches its contents, or both). This option does not actually attempt to restore the backup.

Task Back End Connection Options

Running an online restore requires access to the tasks back end. Access to the tasks back end is provided over SSL through the administration connector. These connection options are used when the restore runs online.

`-D, --bindDN` *bindDN*
: Use the bind DN to authenticate to the directory server. This option is used when performing simple authentication and is not required if SASL authentication is to be used. The default value for this option is `cn=Directory Manager`.

`-h, --hostname` *hostname*
: Contact the directory server on the specified hostname or IP address. If this option is not provided, a default of `localhost` is used.

`-j, --bindPasswordFile` *filename*
: Use the bind password in the specified file when authenticating to the directory server. This option must not be used in conjunction with `--bindPassword`.

`-K, --keyStorePath` *path*
: Use the client keystore certificate in the specified path.

`-N, --certNickname` *nickname*
: Use the specified certificate for client authentication.

`-o, --saslOption` *name=value*
: Use the specified options for SASL Authentication.

`-p, --port` *port*
: Contact the directory server at the specified administration port. If this option is not provided, a default administration port of `4444` is used.

`-P, --trustStorePath` *path*	Use the client trust store certificate in the specified path. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.
`-T, --trustStorePassword` *password*	Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.
`-u, --keyStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.
`-U, --trustStorePasswordFile` *filename*	Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.
`-w, --bindPassword` *password*	Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.
`-W, --keyStorePassword` *password*	Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.
`-X, --trustAll`	Trust all server SSL certificates that the directory server presents. This option can be used for convenience and testing purposes, but

for security reasons a trust store should be used to determine whether the client should accept the server certificate.

Task Scheduling Options

`--completionNotify` *emailAddress*
: Specify the email address of a recipient to be notified when the task completes. This option can be specified more than once in a single command.

`--dependency` *taskId*
: Specify the ID of a task upon which this task depends. A task does not start executing until all of its dependencies have completed execution.

`--errorNotify` *emailAddress*
: Specify the email address of a recipient to be notified if an error occurs when this task executes. This option can be specified more than once in a single command.

`--failedDependencyAction` *action*
: Specify the action this task will take should one if its dependent tasks fail. The value must be one of `PROCESS`,`CANCEL`,`DISABLE`. If not specified, the backup defaults to `CANCEL`.

`--recurringTask` *schedulePattern*
: Indicates that the task is recurring and will be scheduled according to the `schedulePattern`, expressed as a crontab(5) compatible time and date pattern.

`-t, --start` *startTime*
: Indicates the date and time at which the operation starts when scheduled as a directory server task expressed in the format `YYYYMMDDhhmmss`. A value of 0 causes the task to be scheduled for immediate execution. When this option is specified, the operation is scheduled to start at the specified time after which this command exits immediately.

Command Input/Output Options

`--noPropertiesFile`
: Indicate that a properties file will not be used to get the default command-line options.

`--propertiesFilePath` *path*
: Specify the path to the properties file that contains the default command-line options.

General Options

`-?, -H, --help` Display command-line usage information for the command and exit without making any attempt to stop or restart the server.

`-V, --version` Display the version information for the directory server and exit rather than attempting to run this command.

Examples

The following examples show how to use the directory server commands. For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

EXAMPLE 2–38 Displaying the Backup Information

The following command lists (`-l`) the backup information in the backup descriptor file (`backup.info`) for the directory server. You can use this option to display backup information whether the server is running or stopped.

```
$ restore -l -d /tmp/backup/userRoot
Backup ID:          20081016050258Z
Backup Date:        16/Oct/2008:09:30:00 +0200
Is Incremental:     false
Is Compressed:      true
Is Encrypted:       true
Has Unsigned Hash:  false
Has Signed Hash:    true
Dependent Upon:     none
```

EXAMPLE 2–39 Restoring a Backup

The following command restores a back end from the backup directory. You can only restore one back end at a time. The server must be stopped before you run this command.

```
$ stop-ds
$ restore -d /tmp/backup/userRoot
[16/Oct/2008:10:32:52 +0200] category=JEB severity=NOTICE msgID=8847445
msg=Restored: 00000000.jdb (size 321954)
```

EXAMPLE 2–40 Restoring an Encrypted Backup

Restoring a hashed or encrypted backup requires a connection to an online server instance, over SSL through the administration connector. When you restore an encrypted backup, you must therefore specify the connection details, including the host, administration port, bind DN and bind password. You must also specify the certificate details for the SSL connection.

EXAMPLE 2–40 Restoring an Encrypted Backup *(Continued)*

The following command restores an encrypted, hashed backup. The self signed certificate is trusted using the `-X` (`--trustAll`) option.

```
$ restore -h localhost -p 4444 -D "cn=directory manager" -w password -X \
  -d /tmp/backup/userRoot/
Restore task 2008101610403710 scheduled to start immediately
[16/Oct/2008:10:40:38 +0200] severity="NOTICE" msgCount=0 msgID=9896306
 message="The backend userRoot is now taken offline"
[16/Oct/2008:10:40:39 +0200] severity="NOTICE" msgCount=1 msgID=8847445
 message="Restored: 00000000.jdb (size 331434)"
[16/Oct/2008:10:40:40 +0200] severity="NOTICE" msgCount=2 msgID=8847402
 message="The database backend userRoot containing 102 entries has started"
Restore task 2008101610403710 has been successfully completed
```

EXAMPLE 2–41 Scheduling a Restore

Scheduling a restore requires online access to the tasks back end. Access to this back end is provided over SSL through the administration connector. When you schedule a restore, you must therefore specify the connection details, including the host, administration port, bind DN and bind password. You must also specify the certificate details for the SSL connection.

The following command schedules a task to restore the `userRoot` back end at a specific start time by using the `--start` option. The command sends a completion and error notification to `admin@example.com`. The self signed certificate is trusted using the `-X` (`--trustAll`) option.

You can view this scheduled task by using the `manage-tasks` command. For more information, see "Configuring Commands As Tasks" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*. You must ensure that the server is running prior to the scheduled restore date and time.

```
$ restore -h localhost -p 4444 -D "cn=directory manager" -w password -X \
  -d /backup/userRoot --start 20081025121500 --completionNotify admin@example.com \
  --errorNotify admin@example.com
Restore task 2008101610442610 scheduled to start Oct 25, 2008 12:15:00 PM SAST
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 indicates that an error occurred during processing.

Using a Properties File

The directory server supports the use of a *properties file* that passes in any default option values used with the `restore` command. The properties file is convenient when working in different

configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/restore`
- Windows: *instance-dir*`\OUD\bat\restore.bat`

Related Commands

- "backup" on page 201
- "manage-tasks" on page 144

split-ldif

The `split-ldif` command splits an LDIF file into multiple LDIF files according to a given distribution workflow element. The generated LDIF files are used to populate the partitions of a distribution deployment.

This command is supported only for the proxy.

Synopsis

`split-ldif` *options*

Description

The `split-ldif` command splits an LDIF file into multiple LDIF files according to a given distribution workflow element. The data in the LDIF file is split based on the attributes indicated and based on the distribution type defined. The generated LDIF files are then used to populate the partitions. For each partition the split-ldif command creates a partition file as follows:

outputDirectory/*outputFilenamePrefix-partitionID*.ldif

Sometimes, the distribution algorithm is not able to determine the partition to which an entry should be sent, either because the entry does not contain all the parameters required by the algorithm, or the required parameters are present but they match no partition. In such a scenario, the output is written to an error file.

All the entries that do not have all the required parameters are written to the following error file:

outputDirectory/*outputFilenamePrefix*-`missingrequired-param`.ldif

All the entries that have the required parameters but whose parameters do not match any configured partition are written to the following error file:

outputDirectory/*outputFilenamePrefix*-`partition-not-found`.ldif

However, for the global index initialization you use the directory containing the files compatible with the global index format. The `split-ldif` command creates one directory per attribute to be indexed, and each directory contains files for initializing the global index.

The global index catalog is populated using the files in the directory created, which do not have a LDIF format. For more information, see "gicadm" on page 130.

Options

The `split-ldif` command accepts an option in either its short form (for example, `-i` *ldifFile*) or its long form equivalent (for example, `--ldifFile` *ldifFile*).

`-i, --ldifFile` *ldifFile*	Name of the LDIF file to split. Global Index Options and Split Options can be used to customize the behavior.
`-l, --listDistributionNames`	Lists the available distribution workflow elements from the directory server's configuration.

Global Index Options

`-x, --index` *attributeTypeName*	Generates an index file to be used for the global index catalog, for the listed attribute type.
`-c, --onlyCatalog`	Generates only the index file.

Split Options

`-d, --distributionName` *distributionName*
: Name of the distribution workflow element to split the data.

`-p, --forcePartitionId` *partitionId*
: Generates an index file where all the entries are distributed to the same single partition having the listed partitionId.

`-o, --outputDirectory` *outputDirectory*
The directory where output LDIF files will be generated.

`-O, --outputFilenamePrefix` *outputFilePrefix*
The prefix of the filename to generate (will contain the partition ID and the .ldif extension).

`-f, --force`
Overwrites generated files that may already exist from previous use.

General Options

`-V, --version`	Display the version information for the directory server.
`-e, --help-examples`	Display examples of the usage.
`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to stop or restart the directory server.

Examples

EXAMPLE 2–42 Using `split-ldif` to Populate a Global Index with One Indexed Attribute

The following command uses an existing database file (`-i`) which it splits into several files, based on the distribution information already defined in the Oracle Unified Directory proxy deployment. The command defines the distribution workflow element name (`-d`), the database file (`-i`) to be split, and the attribute to be indexed in the global index files (`-x`). Indicating `-f` will overwrite any existing LDIF files.

You must have deployed a Oracle Unified Directory proxy with distribution before running this command.

```
$ split-ldif -d "distrib-we" -i database.ldif -x employeenumber -f
```

Assuming, for this example, that your distribution algorithm was numeric, and that you set two partitions with boundaries 1–1000 and 1000–2000. When you run the command above, the following directory and LDIF files are created:

`database-1.ldif`	This file contains all the entries from database with employee numbers from 1–999, which will be used to populate partition 1.
`database-2.ldif`	This file contains all the entries from database with employee numbers from 1000–1999, which will be used to populate partition 2.
`catalog\employeenumber.db`	This directory contains the global index files for the employee number attribute.

EXAMPLE 2–43 Using `split-ldif` to Populate a Global Index with Several Indexed Attributes

The following command uses an existing database file (`-i`) which it splits into several files, based on the distribution information already defined in the Oracle Unified Directory proxy deployment. The command defines the distribution workflow element name (`-d`), the database file (`-i`) to be split, and the attributes to be indexed in the global index files (`-x`). Indicating `-f` will overwrite any existing LDIF files.

You must have deployed a Oracle Unified Directory proxy with distribution before running this command.

```
$ split-ldif -d "distrib-we" -i database.ldif \
  -x employeenumber -x uid -f
```

Assuming, for this example, that your distribution algorithm was numeric, and that you set two partitions with boundaries 1–50000 and 50000–100001. When you run the command above, the following LDIF files and directories are created:

`database-1.ldif`	This file contains all the entries from database with employee numbers from 1–49999, which will be used to populate partition 1.
`database-2.ldif`	This file contains all the entries from database with employee numbers from 50000–100000, which will be used to populate partition 2.
`catalog\employeenumber`	This directory contains the global index files for the employee number attribute.
`catalog\uid`	This directory contains the global index files for the uid attribute.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/split-ldif`
- Windows: *instance-dir*`\OUD\bat\split-ldif.bat`

Related Commands

`gicadm`

verify-index

The `verify-index` command validates directory index data.

This command is not supported for the proxy.

Synopsis

`verify-index` *options*

Description

The `verify-index` command can be used to check the consistency between the index and entry data within the directory server database. This command also provides information about the number of index keys that have reached the index entry limit.

The command checks the following information:

- All entries are properly indexed
- All index data reference entries exist
- Data matches the corresponding index data

At the present time, this command is only available for a directory server back end that uses Oracle Berkeley DB Java Edition to store its information. None of the other back end types currently available maintain on-disk indexes. Therefore, there is no need to have any command that can verify index consistency.

Directory administrators can use this command when the directory server is running or stopped. Note, however, that using `verify-index` when the server is running impacts the overall performance of the directory server as well as the command. For example, on a very busy online server, the `verify-index` command could take significantly longer to process compared to running the command on an offline, or stopped, directory server.

To use this command, the `--baseDN` option must be used to specify the base DN of the back end below which to perform the validation.

Options

The `verify-index` command accepts an option in either its short form (for example, `-b` *baseDN*) or its long form equivalent (for example, `--baseDN` *baseDN*).

Command Options

`-b, --baseDN` *baseDN*
: Specify the base DN for which to perform the verification. The provided value must be a base DN for a back end based on the Berkeley DB Java Edition. This is a required option, and only one base DN may be provided.

`-c, --clean`
: Verify that an index is "clean", which means that all of the entry IDs in all of the index keys refer to entries that actually exist and match the criteria for that index key. If this option is provided, then exactly one index should be specified using the `--index` option. If this option is not given, then the verification process will clean the `id2entry` database (which is a mapping of each entry ID to the actual data for that entry) and ensure that all of the entry contents are properly indexed.

`--countErrors`
: Count the number of errors found during the verification and return that value as the exit code. Values greater than 255 will be returned as 255 due to exit code restrictions.

`-i, --index` *index*
: Specify the name of an index for which to perform the verification. If the `--clean` option is provided, then this argument must be provided exactly once. Otherwise, it may be specified zero or more times. If the option is not provided, then all indexes will be checked. For an attribute index, the index name should be the name of the attribute, and an index must be configured for that attribute in the associated back end. You can also specify the following internal indexes, which are used internally on the server:

  `dn2id`
  : A mapping of entry DNs to their corresponding entry IDs.

  `id2children`
  : A mapping of the entry ID for an entry to the entry IDs of its immediate children.

  `id2subtree`
  : A mapping of the entry ID for an entry to the entry IDs of all of its subordinates.

General Options

`-?, -H, --help`
: Display command-line usage information for the command and exit without making any attempt to stop or restart the server.

`-V, --version`
: Display the version information for the directory server and exit rather than attempting to run this command.

Examples

The following examples show how to use the directory server commands. For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

EXAMPLE 2–44 Verifying an Index

The following command verifies that the uid index (`-i uid`) under `dc=example,dc=com` (`-b dc=example,dc=com`) is "clean" (`-c`). This "clean" option checks that each entry in the `uid` index maps to an actual database entry with the `uid` attribute.

```
$ verify-index -b dc=example,dc=com -c -i uid

[26/Jul/2007:16:42:31 -0500] category=BACKEND severity=NOTICE msgID=8388709
msg=Checked 150 records and found 0 error(s) in 0 seconds (average rate 331.1/sec)
```

EXAMPLE 2–45 Verifying an Index and Counting Errors

The following command counts the number of discrepancies (`--countErrors`) in the `sn` (surname) index (`-i sn`) under the `dc=example,dc=com` base DN (`-b dc=example,dc=com`):

```
$ verify-index -b dc=example,dc=com -c -i sn --countErrors

[31/Jul/2007:02:23:52 -0500] category=BACKEND severity=NOTICE msgID=8388709 msg=
Checked 466 records and found 0 error(s) in 0 seconds (average rate 1298.1/sec)
[31/Jul/2007:02:23:52 -0500] category=BACKEND severity=NOTICE msgID=8388710 msg=
Number of records referencing more than one entry: 225
[31/Jul/2007:02:23:52 -0500] category=BACKEND severity=NOTICE msgID=8388711 msg=
Number of records that exceed the entry limit: 0
[31/Jul/2007:02:23:52 -0500] category=BACKEND severity=NOTICE msgID=8388712 msg=
Average number of entries referenced is 2.59/record
[31/Jul/2007:02:23:52 -0500] category=BACKEND severity=NOTICE msgID=8388713 msg=
Maximum number of entries referenced by any record is 150
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 or greater indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/verify-index`
- Windows: *instance-dir*`\OUD\bat\verify-index.bat`

Related Commands

- "rebuild-index" on page 244

◆ ◆ ◆ CHAPTER 3

LDAP Client Commands

The following sections describe the LDAP client utilities:

ldapcompare

The `ldapcompare` command compares LDAP entries.

Synopsis

`ldapcompare` *options*

Description

The `ldapcompare` command is used to issue LDAP compare requests to the directory server. Compare requests can be used to determine whether a given entry or set of entries have a particular attribute-value combination. The only information returned from a successful compare operation is an indication as to whether the comparison evaluated to true or false. No other information about the entry is provided.

The syntax of the `ldapcompare` tool on the command-line can take any of these forms:

```
ldapcompare [ options ] attribute:value [ "targetDN" ... | -f DNfile]
ldapcompare [ options ] attribute::base64value [ "targetDN" ... | -f DNfile ]
ldapcompare [ options ] attribute:fileURL [ "targetDN" ... | -f DNfile ]
```

where

- *options* are the command-line options, described in the following section.
- *attribute* is the name of the attribute type, followed by one of the three ways to specify its comparative value. The attribute type name and value string should be enclosed in single quotes (') for the shell.
- *targetDN* is the distinguished name (DN) or list of DNs in which to search for the given attribute and compare its value.
- *DNfile* is a file with a list of DNs, one per line, to search for the given attribute and compare its value.

Options

The `ldapcompare` command accepts an option in either its short form (for example, `-D` *bindDN*) or its long form equivalent (for example, `--bindDN` *bindDN*).

Command Options

`--assertionFilter` *filter*
: Perform a search using the LDAP assertion control (as defined in RFC 4528) to indicate that the operation should only be processed if the assertion contained in the provided filter is true.

`-c, --continueOnError`
: Continue processing even if an error occurs. This applies when multiple entry DNs have been given either as trailing options or in a file specified with the `--filename` option. If an error occurs while processing a compare request, then the client will continue with the next entry DN if the `--continueOnError` option has been provided, or it will exit with an error if it was not provided.

`-f, --filename` *filename*
: Specify the path to a file that contains one or more filters to use when processing the search operation. If there are to be multiple entry DNs, then the file should be structured with one DN per line. All comparisons will be performed using the same connection to the directory server in the order that they appear in the file. If this option is not provided, at least one entry DN must follow the attribute-value assertion. If this option is used, the only trailing option required is the attribute-value assertion. The `--filename` option takes precedence over any DNs provided as additional command-line options. Additional DNs are simply ignored.

`-J, --control` *controloid*`[`*criticality*`[:`*value*`|::`*b64value*`|:<`*fileurl*`]]`
: Perform a search with the specified control in search requests sent to the directory server. This option makes it possible to include arbitrary request controls that the client cannot directly support. The value for this option must be in the form:

oid[:*criticality*[:*value*|::*b64value*|:<*fileurl*]]

The elements of this value include:

- `oid` Use the OID for the control. For certain types of controls, a text name may be used instead of the numeric OID (for search operations, this includes `managedsait` for the manage DSA IT control). This element is required. Human-readable names can be used in place of the OID to reference controls that do not require values using the `-J` or `control` option. These OID names are the following:
  - `accountusable` or `accountusability` Use in place of the Account Usability Request Control OID: 1.3.6.1.4.1.42.2.27.9.5.8 (no value)
  - `authzid` or `authorizationidentity` Use in place of the Authorization Identity Request Control OID: 2.16.840.1.113730.3.4.16 (no value)
  - `effectiverights` Use in place of the Get Effective Rights Control OID: 1.3.6.1.4.1.42.2.27.9.5.2 (value = authorization ID)
  - `managedsait` Use in place of the Manage DSA IT Control OID: 2.16.840.1.113730.3.4.2 (no value)
  - `noop` or `no-op` Use in place of the LDAP No-op Control OID: 1.3.6.1.4.1.4203.1.10.2 (no value)
  - `pwpolicy` or `password policy` Use in place of the Password Policy Request OID: 1.3.6.1.4.1.42.2.27.8.5.1 (no value)
  - `subtreedelete` or `treedelete` Use in place of the Subtree Delete Request Control OID: 1.2.840.113556.1.4.805 (no value)
- `criticality` If `true`, the control should be marked critical (meaning that the directory server should not process the operation unless it can meet the requirements of this control). If `false`, the control should not be marked critical. If this subcommand is not provided, then the control is not marked critical.
- *value* Specifies the value for the control. This form should only be used if the value can be expressed as a string. It must not be used in conjunction with either the ::*b64value* or :<*fileurl* forms. If none of these subcommands is present, then the control will not have a value.
- *b64value* Specifies the value for the control in base64-encoded form. This subcommand must not be used in conjunction with either the :*value* or :<*fileurl* forms. If none of these subcommands is present, then the control will not have a value.
- *fileurl* Specifies a URL that references a file from which the value of the control should be taken. It must not be used in conjunction with either the :*value* or ::*b64value* forms. If none of these subcommands is present, then the control will not have a value.

For example, the value
`1.3.6.1.4.1.42.2.27.9.5.2:true:dn:uid=dmiller,ou=people,dc=example,dc=com`
will include a critical control with an OID of `1.3.6.1.4.1.42.2.27.9.5.2`, marked as critical (true), and with a string value for the authorization ID

`dn:uid=dmiller,ou=people,dc=example,dc=com`. Or, you can use the OID names: `effectiverights:true:dn:uid=dmiller,ou=people,dc=example,dc=com`.

`-n, --dry-run`
Run in `no-op` mode. That is, report what should happen but do not actually perform any searches or communicate with the server in any way.

LDAP Connection Options

`-D, --bindDN` *bindDN*
Use the bind DN to authenticate to the directory server. This option is used when performing simple authentication and is not required if SASL authentication is to be used. The default value for this option is `cn=Directory Manager`.

`-h, --hostname` *address*
Contact the directory server on the specified host name or IP address. If it is not provided, then a default address of `localhost` will be used.

`-j, --bindPasswordFile` *bindPasswordFile*
Use the bind password in the specified file when authenticating to the directory server. The option is used for simple authentication, as well as for password-based SASL mechanisms such as CRAM-MD5, DIGEST-MD5, and PLAIN. It is not required if no authentication is to be performed. This option must not be used in conjunction with `--bindPassword`.

SASL is not supported for Oracle Unified Directory proxy.

`-K, --keyStorePath` *keyStorePath*
Use the client keystore certificate in the specified path for secure communication when using the SSL or the StartTLS extended operation. This option should only be necessary if the client needs to present a certificate to the directory server, for example, when using SASL EXTERNAL authentication.

SASL is not supported for Oracle Unified Directory proxy.

`-N, --certNickName` *certNickName*
Use the specified certificate for certificate-based client authentication.

`-o, --saslOption` *name=value*
Use the specified option when performing SASL authentication. Multiple SASL options can be provided by using this option multiple times, once for each option.

SASL is not supported for Oracle Unified Directory proxy.

`-p, --port` *port*
Contact the directory server at the specified port. If this option is not provided, then a default port of `389` will be used.

`-P, --trustStorePath` *trustStorePath*
Use the client trust store certificate in the specified path for secure communication when using the SSL or the StartTLS extended operation. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.

`-q, --useStartTLS`
Use the StartTLS Extended Operation when communicating with the directory server. This option must not be used in conjunction with `--useSSL`.

`-r, --useSASLExternal`
Use the SASL EXTERNAL mechanism for authentication, which attempts to identify the client by using an SSL certificate that it presents to the directory server. If this option is used, then the `--keyStorePath` option must also be provided to specify the path to the client keystore and either the `--useSSL` or the `--useStartTLS` option must be used to establish a secure communication channel with the server.

SASL is not supported for Oracle Unified Directory proxy.

`--trustStorePassword` *trustStorePassword*
Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.

`-u, --keyStorePasswordFile` *keyStorePasswordFile*
Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.

`-U, --trustStorePasswordFile` *trustStorePasswordFile*
Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.

`-V, --ldapVersion` *version*
Set the LDAP protocol version that the client should use when communicating with the directory server. The value must be either `2` (for LDAPv2 communication) or `3` (for LDAPv3). If this option is not provided, then the client will use LDAPv3.

`-w, --bindPassword` *bindPassword*
Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.

SASL is not supported for Oracle Unified Directory proxy.

`-W, --keyStorePassword` *keyStorePassword*
Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.

`-X, --trustAll`
Trust any certificate that the directory server might present during SSL or StartTLS negotiation. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

`-Z, --useSSL`
Use Secure Sockets Layer when communicating with the directory server. If SSL is to be used, then the `--port` option should be used to specify the server's secure port.

Command Input/Output Options

`--noPropertiesFile`	Indicate that a properties file will not be used to get the default command-line options.
`--propertiesFilePath` *propertiesFilePath*	Specify the path to the properties file that contains the default command-line options.
`-v, --verbose`	Run in verbose mode, displaying process and diagnostic information on standard output.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to run the command.
`-V, --version`	Display the version information for the directory server.

Examples

The following examples show how to use the directory server commands.

For more information, see "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory*.

EXAMPLE 3–1 Comparing an Entity for Group Membership

The following command specifies the host name (`-h`) that is connected to port `1389` (`-p`) and verifies if an employee (`uid=scarter`) is a member of a group (`cn=Accounting Managers`).

EXAMPLE 3–1 Comparing an Entity for Group Membership *(Continued)*

```
$ ldapcompare -h hostname -p 1389 \
"uniquemember:uid=scarter,ou=People,dc=example,dc=com" \
"cn=Accounting Managers,ou=groups,dc=example,dc=com"

Comparing type uniquemember with value uid=scarter,ou=People,dc=example,dc=com
in entry cn=Accounting Managers,ou=groups,dc=example,dc=com
Compare operation returned true for entry
cn=Accounting Managers,ou=groups,dc=example,dc=com
```

EXAMPLE 3–2 Comparing an Attribute Value to an Entry

The following command specifies the hostname (`-h`) that is connected to port `1389` (`-p`) and verifies if an attribute (`ou=Accounting`) is present in an entity's (`cn=Sam Carter`) record.

```
$ ldapcompare -h hostname -p 1389 "ou:Accounting" \
"uid=scarter,ou=People,dc=example,dc=com"

Comparing type ou with value Accounting in entry uid=scarter,ou=People,dc=example,dc=com
Compare operation returned true for entry uid=scarter,ou=People,dc=example,dc=com
```

EXAMPLE 3–3 Using `ldapcompare` with Server Authentication

The following command uses server authentication, specifies the host name (`-h`), SSL port (`-p`), base DN (`-b`), the bind DN (`-D`), the bind password (`-w`), trust store file path (`-P`), and checks if the attribute is present in the entry. For Windows platforms, use the path where your trust store file resides (for example, `-P \temp\certs\cert.db`).

```
$ ldapcompare -h hostname -p 1636 -D "cn=Directory Manager" \
-w password -P /home/kwinters/certs/cert.db \
'givenname:Sam' "uid=scarter,ou=People,dc=example,dc=com"

Comparing type givenname with value Sam in entry uid=scarter,ou=People,dc=example,dc=com
Compare operation returned true for entry uid=scarter,ou=People,dc=example,dc=com
```

EXAMPLE 3–4 Using `ldapcompare` with Client Authentication

The following command uses client authentication with the compare. The command uses SSL (`-Z`) with the SSL port (`-p`), specifies the trust store file path (`-P`), the certificate nickname (`-N`), the keystore file path (`-K`), the keystore password (`-W`) and checks if the entity's given name `givenname=Sam` is present in the entry. For Windows platforms, use the path where your trust store file resides (for example, `-P \temp\certs\cert.db`) and where the path where your keystore file resides (`-K \temp\security\key.db`).

```
$ ldapcompare -h hostname -p 1636 -Z \
-P /home/kwinters/security/cert.db -N "kwcert" \
-K /home/kwinters/security/key.db -W KeyPassword \
'givenname:Sam' "uid=scarter,ou=People,dc=example,dc=com"

Comparing type givenname with value Sam in entry uid=scarter,ou=People,dc=example,dc=com
```

EXAMPLE 3–4 Using `ldapcompare` with Client Authentication *(Continued)*

```
Compare operation returned true for entry uid=scarter,ou=People,dc=example,dc=com
```

Exit Codes

An exit code of 6 indicates that the comparison is successful. An exit code of 5 indicates that the comparison is unsuccessful. Any other exit code indicates that an error occurred during processing.

Using a CLI Properties File

The directory server supports the use of a *properties file* that passes in any default option values used with the `ldapcompare` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. For more information, see "Using a Properties File With Server Commands" on page 343.

The following options can be stored in a properties file:

- `assertionFilter`
- `bindDN`
- `bindPassword`
- `bindPasswordFile`
- `certNickname`
- `continueOnError`
- `control`
- `dry-run`
- `filename`
- `hostname`
- `keyStorePassword`
- `keyStorePasswordFile`
- `keyStorePath`
- `ldapVersion`
- `port`
- `saslOption`
- `trustAll`
- `trustStorePassword`
- `trustStorePasswordFile`
- `trustStorePath`
- `useSASLExternal`
- `useSSL`
- `useStartTLS`

- `verbose`

Entries in the properties file have the following format:

```
toolname.propertyname=propertyvalue
```

For example:

```
ldapcompare.ldapport=12345
```

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/ldapcompare`
- Windows: *instance-dir*`\OUD\bat\ldapcompare.bat`

Related Commands

- "ldapdelete" on page 273
- "ldapmodify" on page 282
- "ldappasswordmodify" on page 294
- "ldapsearch" on page 302

ldapdelete

The `ldapdelete` command issues LDAP delete requests to the directory server in order to remove entries.

Synopsis

`ldapdelete` [*option*] [*DN*]

Description

The `ldapdelete` command issues LDAP delete requests to the directory server in order to remove entries. Unless the `--filename` option is given, an entry DN must be given as the only trailing option to specify which entry should be removed.

Before You Begin

Many UNIX or Linux operating systems provide an installed version of common LDAP client commands, such as `ldapsearch`, `ldapmodify`, and `ldapdelete` in the `/usr/bin` directory. You can check if a version is on your system by entering the command: `which ldapdelete`. If the command returns a value (seen below), you will need to update your `$PATH` to the *instance-dir*`/OUD/bin` directory or create an alias to the directory server instance.

```
$ which ldapdelete (UNIX/Linux)
/usr/bin/ldapdelete
```

Options

The `ldapdelete` command accepts an option in either its short form (for example, `-D` *bindDN*) or its long form equivalent (for example, `--bindDN` *bindDN*).

Command Options

`-c, --continueOnError`
: Continue processing even if an error occurs. This operation applies when multiple entry DNs have been given either as trailing options or in a file specified with the `--filename` option. If an error occurs while processing a compare request, then the client will continue with the next entry DN if the `--continueOnError` option has been provided, or it will exit with an error if that option was not provided.

`-f, --filename` *filename*
: Specify the path to a file that contains one or more filters to use when processing the search operation. If there are multiple entry DNs, then the file should be structured with one DN per line. If this option is used, then do not add any trailing options. The DN of the entry to remove should be the only trailing option.

`-J, --control` *controloid*[:*criticality*[:*value*|::*b64value*|:<*fileurl*]]
: Perform a search with the specified control in search requests sent to the directory server. This option makes it possible to include arbitrary request controls that the client cannot directly support. The value for this option must be in the form:

  oid[:*criticality*[:*value*|::*b64value*|:<*fileurl*]]

  The elements of this value include:

  oid — Use the OID for the control. For certain types of controls, a text name may be used instead of the numeric OID (for search operations, this includes `managedsait` for the manage DSA IT control). This element is required.

Human-readable names can be used in place of the OID to reference controls that do not require values using the -J or `control` option. These OID names are the following:

`accountusable` or `accountusability`	Use in place of the Account Usability Request Control OID : 1.3.6.1.4.1.42.2.27.9.5.8 (no value)
`authzid` or `authorizationidentity`	Use in place of the Authorization Identity Request Control OID: 2.16.840.1.113730.3.4.16 (no value)
`effectiverights`	Use in place of the Get Effective Rights Control OID: 1.3.6.1.4.1.42.2.27.9.5.2 (value = authorization ID)
`managedsait`	Use in place of the Manage DSA IT Control OID: 2.16.840.1.113730.3.4.2 (no value)
`noop` or `no-op`	Use in place of the LDAP No-op Control OID: 1.3.6.1.4.1.4203.1.10.2 (no value)
`pwpolicy` or `password policy`	Use in place of the Password Policy Request Control OID: 1.3.6.1.4.1.42.2.27.8.5.1 (no value)
`subtreedelete` or `treedelete`	Use in place of the Subtree Delete Request Control OID: 1.2.840.113556.1.4.805 (no value)

criticality If `true`, the control should be marked critical (meaning that the directory server should not process the operation unless it can meet the requirements of this control). If `false`, the control should not be marked critical. If this subcommand is not provided, then the control is not marked critical.

value Specifies the value for the control. This form should only be used if the value can be expressed as a string. It must not be used in conjunction with either the `::` *b64value* or `:<` *fileurl* forms. If none of these subcommands is present, then the control will not have a value.

b64value Specifies the value for the control in base64-encoded form. This subcommand must not be used in conjunction with either the `:` *value* or `:<` *fileurl* forms. If none of these subcommands is present, then the control will not have a value.

fileurl Specifies a URL that references a file from which the value of the control should be taken. It must not be used in conjunction with either the `:` *value* or

: : *b64value* forms. If none of these subcommands is present, then the control will not have a value.

For example, the value `1.3.6.1.4.1.42.2.27.9.5.2:true:dn:uid=dmiller,ou=people,dc=example,dc=com` will include a critical control with an OID of `1.3.6.1.4.1.42.2.27.9.5.2`, marked as critical (true), and with a string value for the authorization ID `dn:uid=dmiller,ou=people,dc=example,dc=com`. Or, you can use the OID names: `effectiverights:true:dn:uid=dmiller,ou=people,dc=example,dc=com`.

`-n, --dry-run`
Run in `no-op` mode. That is, report what should happen but do not actually perform any searches or communicate with the server in any way.

`-x, --deleteSubtree`
Delete the specified entry and all entries below it.

LDAP Connection Options

`-D, --bindDN` *bindDN*
Use the bind DN to authenticate to the directory server. This option is used when performing simple authentication and is not required if SASL authentication is to be used. The default value for this option is `cn=Directory Manager`.

`-h, --hostname` *address*
Contact the directory server on the specified host name or IP address. If it is not provided, then a default address of `localhost` will be used.

`-j, --bindPasswordFile` *bindPasswordFile*
Use the bind password in the specified file when authenticating to the directory server. The option is used for simple authentication, as well as for password-based SASL mechanisms such as CRAM-MD5, DIGEST-MD5, and PLAIN. It is not required if no authentication is to be performed. This option must not be used in conjunction with `--bindPassword`.

SASL is not supported for Oracle Unified Directory proxy.

`-K, --keyStorePath` *keyStorePath*
Use the client keystore certificate in the specified path for secure communication when using the SSL or the StartTLS extended operation. This option should only be necessary if the client needs to present a certificate to the directory server, for example, when using SASL EXTERNAL authentication.

SASL is not supported for Oracle Unified Directory proxy.

`-N, --certNickName` *certNickName*
Use the specified certificate for certificate-based client authentication.

`-o, --saslOption` *name* = *value*
Use the specified option when performing SASL authentication. Multiple SASL options can be provided by using this option multiple times, once for each option. See "Using SASL Authentication" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory* for more information.

SASL is not supported for Oracle Unified Directory proxy.

`-p, --port` *port*
Contact the directory server at the specified port. If this option is not provided, then a default port of `389` will be used.

`-P, --trustStorePath` *trustStorePath*
Use the client trust store certificate in the specified path for secure communication when using the SSL or the StartTLS extended operation. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.

`-q, --useStartTLS`
Use the StartTLS Extended Operation when communicating with the directory server. This option must not be used in conjunction with `--useSSL`.

`-r, --useSASLExternal`
Use the SASL EXTERNAL mechanism for authentication, which attempts to identify the client by using an SSL certificate that it presents to the directory server. If this option is used, then the `--keyStorePath` option must also be provided to specify the path to the client keystore and either the `--useSSL` or the `--useStartTLS` option must be used to establish a secure communication channel with the server.

SASL is not supported for Oracle Unified Directory proxy.

`--trustStorePassword` *trustStorePassword*
Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.

`-u, --keyStorePasswordFile` *keyStorePasswordFile*
Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.

`-U, --trustStorePasswordFile` *trustStorePasswordFile*
Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.

`-V, --ldapVersion` *version*
Set the LDAP protocol version that the client should use when communicating with the directory server. The value must be either `2` (for LDAPv2 communication) or `3` (for LDAPv3). If this option is not provided, then the client will use LDAPv3.

`-w, --bindPassword` *bindPassword*
Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.

SASL is not supported for Oracle Unified Directory proxy.

`-W, --keyStorePassword` *keyStorePassword*
Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.

`-X, --trustAll`
Trust any certificate that the directory server might present during SSL or StartTLS negotiation. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

`-Z, --useSSL`
Use Secure Sockets Layer when communicating with the directory server. If SSL is to be used, then the `--port` option should be used to specify the server's secure port.

Command Input/Output Options

`--noPropertiesFile`	Indicate that a properties file will not be used to get the default command-line options.
`--propertiesFilePath` *propertiesFilePath*	Specify the path to the properties file that contains the default command-line options.
`-v, --verbose`	Run in verbose mode, displaying process and diagnostic information on standard output.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to run the command.
`-V, --version`	Display the version information for the directory server.

Examples

The following examples show how to use the directory server commands. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 3–5 Deleting an Entry from the Command Line

The following command specifies the host name (`-h`), the port (`-p`), the bind DN (`-D`), the bind password (`-w`), and deletes a single entry:

```
$ ldapdelete -h hostname -p 1389 -D "cn=Directory Manager" -w password \
"uid=mgarza,ou=People,dc=example,dc=com"
```

EXAMPLE 3–6 Deleting Multiple Entries by Using a DN File

The following file contains a list of DN's for deletion. The file must list each DN on a separate line.

```
uid=mgarza,ou=People,dc=example,dc=com
uid=wsmith,ou=People,dc=example,dc=com
uid=jarrow,ou=People,dc=example,dc=com
uid=mbean,ou=People,dc=example,dc=com
```

The following command specifies the host name (`-h`), the port (`-p`), the bind DN (`-D`), and the bind password (`-w`), and reads the entries in a file for deletion. If an error occurs, the command continues (`-c`) to the next search item. For Windows platforms, use the path where the deletion file resides (for example, `-f \temp\delete.ldif`):

```
$ ldapdelete -h hostname -p 1389 -D "cn=Directory Manager" -w password \
-c -f /usr/local/delete.ldif
```

EXAMPLE 3–7 Deleting Entries by Using Server Authentication

The following command uses server authentication to delete an entry. The command specifies the host name (`-h`), SSL port (`-p`), bind DN (`-D`), the bind password (`-w`), trust store file path (`-P`), and LDIF file (`-f`) that contains the deletes. If an error occurs, the command continues (`-c`) to the next search item. For Windows platforms, use the path where the deletion file resides (for example, `-f \temp\delete.ldif`) and the file where the trust store password resides (for example, `-P \temp\certs\cert.db`):

```
$ ldapdelete -h hostname -p 1636 -c -f /usr/local/delete.ldif \
-D "cn=Directory Manager" -w password \
-P /home/kwinters/certs/cert.db
```

EXAMPLE 3–8 Deleting Entries by Using Client Authentication

The following command uses client authentication to perform a delete option. The command uses SSL (`-Z`) with the SSL port (`-p`), specifies the trust store file path (`-P`), the certificate

EXAMPLE 3–8 Deleting Entries by Using Client Authentication *(Continued)*

nickname (`-N`), the keystore file path (`-K`), the keystore password (`-W`) and the LDIF file (`-f`) that contains the deletions. If an error occurs, the command continues (`-c`) to the next search item. For Windows platforms, use the path where the deletion file resides (for example, `-f \temp\delete.ldif`), the file where the trust store password resides (for example, `-P \temp\certs\cert.db`), and the file where the keystore password resides (for example, `-K \temp\security\key.db`).

```
$ ldapdelete -h hostname -p 1636 -c -f /usr/local/delete.ldif \
-Z -P /home/kwinters/security/cert.db -N "kwcert" \
-K /home/kwinters/security/key.db -W keypassword
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. A nonzero exit code indicates that an error occurred during processing.

Using a CLI Properties File

The directory server supports the use of a properties file that passes in any default option values used with the `ldapdelete` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. See "Using a Properties File With Server Commands" on page 343 for more information.

The following options can be stored in a properties file:

- `bindDN`
- `bindPassword`
- `bindPasswordFile`
- `certNickname`
- `continueOnError`
- `control`
- `deleteSubtree`
- `dry-run`
- `filename`
- `hostname`
- `keyStorePassword`
- `keyStorePasswordFile`

- `keyStorePath`
- `ldapVersion`
- `port`
- `saslOption`

  SASL is not supported for Oracle Unified Directory proxy
- `trustAll`
- `trustStorePassword`
- `trustStorePasswordFile`
- `trustStorePath`
- `useSASLExternal`

  SASL is not supported for Oracle Unified Directory proxy.
- `useSSL`
- `useStartTLS`
- `verbose`

Entries in the properties file have the following format:

```
toolname.propertyname=propertyvalue
```

For example:

```
ldapdelete.ldapport=12345
```

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/ldapdelete`
- Windows: *instance-dir*`\OUD\bat\ldapdelete.bat`

Related Commands

- "ldapcompare" on page 265
- "ldapmodify" on page 282
- "ldappasswordmodify" on page 294
- "ldapsearch" on page 302

ldapmodify

The `ldapmodify` command modifies directory entries.

Synopsis

`ldapmodify` [*options*] [*filter*] [*attributes*]

Description

The `ldapmodify` command can be used to perform LDAP modify, add, delete, and modify DN operations in the directory server. The operations to perform in the directory server should be specified in LDIF change format, as described in RFC 2849. This change syntax uses the `changetype` keyword to indicate the type of change.

An `add` change record is straightforward, because it is a complete entry in LDIF form with a `changetype` value of `add`. For example:

```
dn: uid=john.doe,ou=People,dc=example,dc=com
changetype: add
objectClass: top
objectClass: person
objectClass: organizationalPerson
objectClass: inetOrgPerson
uid: john.doe
givenName: John
sn: Doe
cn: John Doe
mail: john.doe@example.com
userPassword: password
```

A `delete` change record is even simpler than an `add` change record. The `add` record consists of a line with the entry DN followed by another line with a `changetype` of `delete`. For example:

```
dn: uid=john.doe,ou=People,dc=example,dc=com
changetype: delete
```

The `modify` change record is the most complex operation, because of the number of variants. The `modify` change records all start with the entry DN followed by a `changetype` of `modify`. The next line consists of either `add`, `delete`, or `replace` followed by an attribute name indicating what modification will be and to which attribute. The change record may optionally be followed by one or more lines containing the attribute name followed by a value to use for the modification (that is, a value to add to that attribute, remove from that attribute, or use to replace the existing set of values). Multiple attribute changes can be made to an entry in the same `modify` operation by separating changes with a line containing only a dash, starting the

next line with a new `add`, `delete`, or `replace` tag followed by a colon and the next attribute name, and then setting of values for that attribute. For example:

```
dn: uid=john.doe,ou=People,dc=example,dc=com
changetype: modify
replace: description
description: This is the new description for John Doe
-
add: mailAlternateAddress
mailAlternateAddress: jdoe@example.com
```

Modify DN change records should always contain the `newRDN` and `deleteOldRDN` elements and can optionally contain the `newSuperior` component to specify a new parent for the target entry. For example:

```
dn: uid=john.doe,ou=People,dc=example,dc=com
changetype: moddn
newRDN: uid=jdoe
deleteOldRDN: 1
```

If no arguments are provided to the `ldapmodify` command, it attempts to interact with a Directory Server instance using an unauthenticated connection using the loopback address on port 389, and information about the changes to request will be read from standard input. This is unlikely to succeed, as it will almost certainly be necessary to at least provide arguments that will be used to specify how to authenticate to the server.

Before You Begin

Many UNIX and Linux operating systems provide an installed version of common LDAP client commands, such as `ldapsearch`, `ldapmodify`, and `ldapdelete` in the `/usr/bin` directory. You can check if a version is on your system by entering the command: `which ldapmodify`. If the command returns a value (seen below), you will need to update your `$PATH` to *instance-dir*`/OUD/bin` or create an alias to the directory server instance.

```
$ which ldapmodify (Unix/Linux)
/usr/bin/ldapmodify
```

Options

The `ldapmodify` command accepts an option in either its short form (for example, `-D` *bindDN*) or its long form equivalent (for example, `--bindDN` *bindDN*).

Command Options

`-a, --defaultAdd`
Add entries. Treat records with no `changetype` element as an add request. This option can be used to add entries from a standard LDIF file that does not contain information in the LDIF change format.

`--assertionFilter` *filter*
Perform a search using the LDAP assertion control (as defined in RFC 4528) to indicate that the operation should only be processed if the assertion contained in the provided filter is true.

`-c, --continueOnError`
Continue processing even if an error occurs. Use this option when using multiple search filters in a file `--filename`. If an error occurs during processing, the directory server will continue processing the next search filter. Otherwise the command will exit before all searches have been completed.

`-f, --filename` *filename*
Read modifications from the specified file containing one or more filters to use during the modify operation. The records in the LDIF file should be in the LDIF change format (that is, including the `changetype` element). If the LDIF file only contains entries that should be added to the directory server, then the file can be used with the `--defaultAdd` option even if the entries do not have a `changetype` element. The provided file can contain multiple changes as long as there is at least one blank line between change records.

If this option is not provided, then the `ldapmodify` command will attempt to read change information from standard input. This makes it possible to have the change records either provided interactively by the target user on the command line or piped into the command from some other source.

`-J, --control` *controloid*[:*criticality*[:*value*|::*b64value*|:<*fileurl*]]
Perform a search with the specified control in search requests sent to the directory server. This option makes it possible to include arbitrary request controls that the client cannot directly support. The value for this option must be in the form:

oid[: *criticality*[:*value*|::*b64value*|:<*fileurl*]]

The elements of this value include:

oid — Use the OID for the control. For certain types of controls, a text name may be used instead of the numeric OID (for search operations, this includes `managedsait` for the manage DSA IT control). This element is required. Human-readable names can be used in place of the OID to reference controls that do not require values using the `-J` or `control` option. These OID names are the following:

`accountusable` or `accountusability`	Use in place of the Account Usability Request Control OID 1.3.6.1.4.1.42.2.27.9.5.8 (no value)
`authzid` or `authorizationidentity`	Use in place of the Authorization Identity Request Control OID: 2.16.840.1.113730.3.4.16 (no value)
`effectiverights`	Use in place of the Get Effective Rights Control OID: 1.3.6.1.4.1.42.2.27.9.5.2 (value = authorization ID)
`managedsait`	Use in place of the Manage DSA IT Control OID: 2.16.840.1.113730.3.4.2 (no value)
`noop` or `no-op`	Use in place of the LDAP No-op Control OID: 1.3.6.1.4.1.4203.1.10.2 (no value)
`pwpolicy` or `password policy`	Use in place of the Password Policy Request OID: 1.3.6.1.4.1.42.2.27.8.5.1 (no value)
`subtreedelete` or `treedelete`	Use in place of the Subtree Delete Request Control OID: 1.2.840.113556.1.4.805 (no value)

criticality If `true`, the control should be marked critical (meaning that the directory server should not process the operation unless it can meet the requirements of this control). If `false`, the control should not be marked critical. If this subcommand is not provided, then the control is not marked critical.

value Specifies the value for the control. This form should only be used if the value can be expressed as a string. It must not be used in conjunction with either the `::` *b64value* or `:<` *fileurl* forms. If none of these subcommands is present, then the control will not have a value.

b64value Specifies the value for the control in base64-encoded form. This subcommand must not be used in conjunction with either the `:` *value* or `:<` *fileurl* forms. If none of these subcommands is present, then the control will not have a value.

fileurl Specifies a URL that references a file from which the value of the control should be taken. It must not be used in conjunction with either the `:` *value* or `::` *b64value* forms. If none of these subcommands is present, then the control will not have a value.

For example, the value `1.3.6.1.4.1.42.2.27.9.5.2:true:dn:uid=dmiller,ou=people,dc=example,dc=com` will include a critical control with an OID of `1.3.6.1.4.1.42.2.27.9.5.2`, marked as critical (true), and with a string value for the authorization ID `dn:uid=dmiller,ou=people,dc=example,dc=com`. Or, you can use the OID names: `effectiverights:true:dn:uid=dmiller,ou=people,dc=example,dc=com`.

`-n, --dry-run`
Run in `no-op` mode. That is, report what should happen but do not actually perform any searches or communicate with the server in any way.

`--postReadAttributes` *attrList*
Use the LDAP ReadEntry Post-read Control (as defined in RFC 4527) to indicate that the directory server should return a copy of the target entry as it was immediately after the update. This is only applicable for add, modify, and modify DN operations. The value for this option should be a comma-separated list of the attributes to include in the representation of the pre-read entry. The same conventions apply to this list as for the list of attributes to return in the `ldapsearch` command (that is, it is possible to use * for all user attributes, + for all operational attributes, `@`*ocname* for all attributes in the specified objectclass, and so on). If no attributes are specified (signified with empty quotes), then all user attributes will be returned.

`--preReadAttributes` *attrList*
Use the LDAP ReadEntry Pre-read Control (as defined in RFC 4527) to indicate that the directory server should return a copy of the target entry as it was immediately before the update. This is only applicable for delete, modify, and modify DN operations. The value for this option should be a comma-separated list of the attributes to include in the representation of the pre-read entry. The same conventions apply to this list as for the list of attributes to return in the `ldapsearch` command (that is, it is possible to use * for all user attributes, + for all operational attributes, `@`*ocname* for all attributes in the specified objectclass, and so on). If no attributes are specified (signified with empty quotes), then all user attributes will be returned.

`-Y, --proxyAs` *authzID*
Use the Proxied Authorization Control to specify the identity of the user for whom the operations should be performed. This will use version 2 of the Proxied Authorization Control as defined in RFC 4370. The value of the option should be an authorization ID in the form `dn:` followed by the DN of the target user (for example, `dn:uid=john.doe,ou=People,dc=example,dc=com`), or `u:` followed by the user name (for example, `u:john.doe`). If this option is not provided, then proxied authorization will not be used.

LDAP Connection Options

`-D, --bindDN` *bindDN*
Use the bind DN to authenticate to the directory server. This option is used when performing simple authentication. The default value for this option is `cn=Directory Manager`. It is not required when using SASL authentication or if no authentication is to be performed.

`-E, --reportAuthzID`
Use the authorization identity request control (as defined in RFC 3829) in the bind request so that the directory server returns the corresponding authorization ID to the client when authentication has completed. (The line containing the authorization ID will be prefixed with a # character, making it a comment if the output is to be interpreted as an LDIF.)

`-h, --hostname` *address*
Contact the directory server on the specified host name or IP address. If it is not provided, then a default address of `localhost` will be used.

`-j, --bindPasswordFile` *bindPasswordFile*
Use the bind password in the specified file when authenticating to the directory server. The option is used for simple authentication, as well as for password-based SASL mechanisms such as CRAM-MD5, DIGEST-MD5, and PLAIN. It is not required if no authentication is to be performed. This option must not be used in conjunction with `--bindPassword`.

SASL is not supported for Oracle Unified Directory proxy.

`-K, --keyStorePath` *keyStorePath*
Use the client keystore certificate in the specified path for secure communication when using the SSL or the StartTLS extended operation. This option should only be necessary if the client needs to present a certificate to the directory server, for example, when using SASL EXTERNAL authentication.

SASL is not supported for Oracle Unified Directory proxy.

`-N, --certNickName` *certNickName*
Use the specified certificate for certificate-based client authentication.

`-o, --saslOption` *name* = *value*
Use the specified option when performing SASL authentication. Multiple SASL options can be provided by using this option multiple times, once for each option. For information about using SASL authentication in clients, see "Configuring SASL Authentication" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory*.

SASL is not supported for Oracle Unified Directory proxy.

`-p, --port` *port*
Contact the directory server at the specified port. If this option is not provided, then a default port of `389` will be used.

`-P, --trustStorePath` *trustStorePath*
Use the client trust store certificate in the specified path for secure communication when using the SSL or the StartTLS extended operation. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.

`-q, --useStartTLS`
Use the StartTLS extended operation when communicating with the directory server. This option must not be used in conjunction with `--useSSL`.

`-r, --useSASLExternal`
Use the SASL EXTERNAL mechanism for authentication, which attempts to identify the client by using an SSL certificate that it presents to the directory server. If this option is used, then the `--keyStorePath` option must also be provided to specify the path to the client keystore and either the `--useSSL` or the `--useStartTLS` option must be used to establish a secure communication channel with the server.

SASL is not supported for Oracle Unified Directory proxy.

`--trustStorePassword` *trustStorePassword*
Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.

`-u, --keyStorePasswordFile` *keyStorePasswordFile*
Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.

`-U, --trustStorePasswordFile` *trustStorePasswordFile*
Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.

`-V, --ldapVersion` *version*
Set the LDAP protocol version that the client should use when communicating with the directory server. The value must be either `2` (for LDAPv2 communication) or `3` (for LDAPv3). If this option is not provided, then the client will use LDAPv3.

`-w, --bindPassword` *bindPassword*
Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.

SASL is not supported for Oracle Unified Directory proxy.

`-W, --keyStorePassword` *keyStorePassword*
Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.

`-X, --trustAll`
Trust any certificate that the directory server might present during SSL or StartTLS negotiation. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

`-Z, --useSSL`
Use SSL when communicating with the directory server. If SSL is to be used, then the `--port` option should be used to specify the server's secure port.

Command Input/Output Options

`--noPropertiesFile`	Indicate that a properties file will not be used to get the default command-line options.
`--propertiesFilePath` *propertiesFilePath*	Specify the path to the properties file that contains the default command-line options.
`-v, --verbose`	Run in verbose mode, displaying process and diagnostic information on standard output.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to run the command.
`-V, --version`	Display the version information for the directory server.

Examples

The following examples show how to use the directory server commands. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 3–9 Adding an Entry

The following LDIF file contains an entry for an employee:

EXAMPLE 3–9 Adding an Entry *(Continued)*

```
dn: uid=Marcia Garza,ou=People,dc=example,dc=com
cn: Marcia Garza
sn: Garza
givenName: Marcia
objectClass: person
objectClass: inetOrgPerson
objectClass: top
objectClass: organizationalPerson
ou: Accounting
ou: People
```

The following command specifies the host name (`-h`), port (`-p`), bind DN (`-D`), bind password (`-w`), reads the modifications from the file (`-f`) and adds the entry (`-a`) to the database. For Windows platforms, specify the path to your LDIF file (for example, `-f \temp\add_entry.ldif`).

```
$ ldapmodify -h hostname -p 1389 -D "cn=Directory Manager" -w password \
-a -f /usr/local/add_entry.ldif
```

EXAMPLE 3–10 Adding an Attribute to an Entry

The following LDIF file modifies an entry by adding a `telephonenumber` attribute:

```
dn: uid=Marcia Garza,ou=People,dc=example,dc=com
changetype: modify
add: telephonenumber
telephonenumber: +1 408 555 8283
```

The following command specifies the host name (`-h`), port (`-p`), bind DN (`-D`), bind password (`-w`), reads the modifications from the file (`-f`) and adds an attribute to the entry. For Windows platforms, specify the path to your LDIF file (for example,

`-f \temp\add_attribute.ldif`).

```
$ ldapmodify -h hostname -p 1389 -D "cn=Directory Manager" -w password \
-f /usr/local/add_attribute.ldif
```

EXAMPLE 3–11 Modifying the Value of an Attribute

The following LDIF file modifies the value of the `telephonenumber` attribute:

```
dn: uid=Marcia Garza,ou=People,dc=example,dc=com
changetype: modify
replace: telephonenumber
telephonenumber: +1 408 555 6456
```

The following command specifies the hostname (`-h`), port (`-p`), bind DN (`-D`),

EXAMPLE 3–11 Modifying the Value of an Attribute *(Continued)*

bind password (`-w`), reads the modifications from the file (`-f`) and modifies the attribute's value. For Windows-platforms, specify the path to your LDIF file (for example, `-f \temp\modify_attribute.ldif`).

```
$ ldapmodify -h hostname -p 1389 -D "cn=Directory Manager" -w password \
-f /usr/local/modify_attribute.ldif
```

EXAMPLE 3–12 Modifying Multiple Attributes

The following LDIF file contains multiple modifications to an entry:

```
dn: uid=Marcia Garza,ou=People,dc=example,dc=com
changetype: modify
replace: telephonenumber
telephonenumber: +1 408 555 6465
-
add: facsimiletelephonenumber
facsimiletelephonenumber: +1 408 222 4444
-
add: l
l: Sunnyvale
```

The following command specifies the host name (`-h`), port (`-p`), bind DN (`-D`), bind password (`-w`), reads the modifications from the file (`-f`) and processes the changes to the database. For Windows platforms, specify the path to your LDIF file (for example,`-f \temp\mod_attribute.ldif`):

```
$ ldapmodify -h hostname -p 1389 -D "cn=Directory Manager" -w password \
-f /usr/local/mod_attribute.ldif
```

EXAMPLE 3–13 Deleting an Attribute from the Command Line

The following command specifies the host name (`-h`), port (`-p`), bind DN (`-D`), bind password (`-w`), and deletes the `facsimiletelephonenumber` attribute for an entry. Because the command is run from the command line, enter the `dn`, `changetype`, modification operation, and then press Control-D (UNIX, Linux) or Control-Z (Windows) to process it:

```
$ ldapmodify -h hostname -p 1389 -D "cn=Directory Manager" -w password
dn: uid=Marcia Garza,ou=People,dc=example,dc=com
changetype: modify
delete: facsimiletelephonenumber
(Press Control-D for Unix, Linux)
(Press Control-Z for Windows)
```

EXAMPLE 3–14 Deleting an Entry from the Command Line

The following command specifies the hostname (`-h`), port (`-p`), bind DN (`-D`), bind password (`-w`), and deletes the entry. Because the command is run from the command line, enter the `dn`, `changetype`, and then press Control-D (UNIX, Linux) or Control-Z (Windows) to process it:

```
$ ldapmodify -h hostname -p 1389 -D "cn=Directory Manager" -w password
dn: uid=Marcia Garza,ou=People,dc=example,dc=com
changetype: delete
(Press Control-D for Unix, Linux)
(Press Control-Z for Windows)
```

EXAMPLE 3–15 Using `ldapmodify` with Server Authentication

The following command uses the `-P` SSL option to perform a modify with server authentication. The command specifies the host name (`-h`), SSL port (`-p`), base DN (`-b`), the bind DN (`-D`), the bind password (`-w`), trust store file path (`-P`), and LDIF file (`-f`) that contains the changes. For Windows platforms, specify the paths for the modification file (for example, `-f \temp\myldif.ldif`) and trust store file (for example, `-P \temp\certs\cert.db`):

```
$ ldapmodify -h hostname -p 1636 -f /home/local/myldif.ldif \
-D "cn=Directory Manager" -w password \
-P /home/scarter/certs/cert.db
```

EXAMPLE 3–16 Using `ldapmodify` with Client Authentication

The following command uses the `-P` SSL option to perform a modify using client authentication. The command uses SSL (`-Z`) with the SSL port (`-p`) and specifies the trust store file path (`-P`), the certificate nickname (`-N`), the keystore file path (`-K`), the keystore password (`-W`) and the LDIF file (`-f`) that contains the changes. For Windows platforms, specify the paths for the modification file (for example, `-f \temp\myldif.ldif`), trust store file (for example, `-P \certs\cert.db`), and the keystore file (for example, `-K \security\key.db`):

```
$ ldapmodify -h hostname -p 1636 -f /home/local/myldif.ldif \
-Z -P /home/scarter/security/cert.db -N "sccert" \
-K /home/scarter/security/key.db -W keypassword
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. A nonzero exit code indicates that an error occurred during processing.

Using a CLI Properties File

The directory server supports the use of a properties file that passes in any default option values used with the `ldapmodify` command. The properties file is convenient when working in

different configuration environments, especially in scripted or embedded applications. See "Using a Properties File With Server Commands" on page 343 for more information.

The following options can be stored in a properties file:

- `assertionFilter`
- `bindDN`
- `bindPassword`
- `bindPasswordFile`
- `certNickname`
- `continueOnError`
- `control`
- `dry-run`
- `filename`
- `hostname`
- `keyStorePassword`
- `keyStorePasswordFile`
- `keyStorePath`
- `ldapVersion`
- `port`
- `postReadAttributes`
- `preReadAttributes`
- `proxyAs`
- `reportAuthzID`
- `saslOption`

  SASL is not supported for Oracle Unified Directory proxy.
- `trustAll`
- `trustStorePassword`
- `trustStorePasswordFile`
- `trustStorePath`
- `useSASLExternal`

  SASL is not supported for Oracle Unified Directory proxy.
- `useSSL`
- `useStartTLS`
- `verbose`

Entries in the properties file have the following format:

```
toolname.propertyname=propertyvalue
```

For example:

```
ldapmodify.ldapport=12345
```

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/ldapmodify`
- Windows: *instance-dir*`\OUD\bat\ldapmodify.bat`

Related Commands

- "ldapcompare" on page 265
- "ldapdelete" on page 273
- "ldappasswordmodify" on page 294
- "ldapsearch" on page 302

ldappasswordmodify

The `ldappasswordmodify` command modifies LDAP passwords.

Synopsis

`ldappasswordmodify` *options*

Description

The `ldappasswordmodify` command can be used to change or reset user passwords with the LDAP password modify extended operation as defined in RFC 3062.

Using this mechanism for changing user passwords offers a number of benefits over a simple LDAP modify operation targeted at the password attribute, including the following:

- Changing one's own password. The command allows a user to change his own password even after it has expired, provided that this capability is allowed in that user's password policy.
- Supplying clear-text password. The command provides a mechanism for supplying the clear-text version of the current password for further validation of the user's identity.
- Using authorization ID. When changing a user's password, the user can be specified by using an authorization ID (prefixed by `dn:` or `u:`) in addition to a full DN.
- Generating passwords. If a new password is not provided, then the server can generate one for the user, provided that this capability is allowed in that user's password policy.

Options

The `ldappasswordmodify` command accepts an option in either its short form (for example, `-D` *bindDN*) or its long form equivalent (for example, `--bindDN` *bindDN*).

Command Options

`-a, --authzID` *authzID*
: Specify an authorization ID for the user whose password is to be changed. The authorization ID can be in the form `dn:` followed by the DN of the target user, or `u:` followed by the user name of the target user. If this option is not provided, then no authorization ID will be included in the request and the password for the authenticated user will be changed. This option must not be used in conjunction with the `--provideDNForAuthzID` option.

`-A, --provideDNForAuthzID`
: Indicate that the bind DN should be used as the authorization ID for the password modify operation. This option must not be used in conjunction with the `--authzID` option.

`-c, --currentPassword` *currentPassword*
: Specify the current password for the user. It must not be used in conjunction with `--currentPasswordFile`. The user's current password must be provided in cases in which no authentication is performed, for example, if a user is trying to change his password after it has already expired. The password might also be required by the server based on the password policy configuration even if a bind password was provided.

`-C, --currentPasswordFile` *currentPasswordFile*
: Read the current password from the specified file. It must not be used in conjunction with `--currentPassword`. The user's current password must be provided in cases in which no authentication is performed, for example, if a user is trying to change his password after it

has already expired. The password might also be required by the server based on the password policy configuration even if a bind password was provided.

`-J, --control` *controloid*[:*criticality*[:*value*|::*b64value*|:<*fileurl*]]
Perform a search with the specified control in search requests sent to the directory server. This option makes it possible to include arbitrary request controls that the client cannot directly support. The value for this option must be in the form:

oid[:*criticality*[:*value*|::*b64value*|:<*fileurl*]]

The elements of this value include:

oid Use the OID for the control. For certain types of controls, a text name may be used instead of the numeric OID (for search operations, this includes `managedsait` for the manage DSA IT control). This element is required. Human-readable names can be used in place of the OID to reference controls that do not require values using the `-J` or `control` option. These OID names are the following:

`accountusable` or `accountusability`	Use in place of the Account Usability Request Control OID: 1.3.6.1.4.1.42.2.27.9.5.8 (no value)
`authzid` or `authorizationidentity`	Use in place of the Authorization Identity Request Control OID: 2.16.840.1.113730.3.4.16 (no value)
`effectiverights`	Use in place of the Get Effective Rights Control OID: 1.3.6.1.4.1.42.2.27.9.5.2 (value = authorization ID)
`managedsait`	Use in place of the Manage DSA IT Control OID: 2.16.840.1.113730.3.4.2 (no value)
`noop` or `no-op`	Use in place of the LDAP No-op Control OID: 1.3.6.1.4.1.4203.1.10.2 (no value)
`pwpolicy` or `password policy`	Use in place of the Password Policy Request OID: 1.3.6.1.4.1.42.2.27.8.5.1 (no value)
`subtreedelete` or `treedelete`	Use in place of the Subtree Delete Request Control OID: 1.2.840.113556.1.4.805 (no value)

criticality If `true`, the control should be marked critical (meaning that the directory server should not process the operation unless it can meet the requirements of this control). If `false`, the control should not be marked critical. If this subcommand is not provided, then the control is not marked critical.

value Specifies the value for the control. This form should only be used if the value can be expressed as a string. It must not be used in conjunction with either the `::`*b64value* or `:<` *fileurl* forms. If none of these subcommands is present, then the control will not have a value.

b64value Specifies the value for the control in base64-encoded form. This subcommand must not be used in conjunction with either the `:`*value* or `:<` *fileurl* forms. If none of these subcommands is present, then the control will not have a value.

fileurl Specifies a URL that references a file from which the value of the control should be taken. It must not be used in conjunction with either the `:`*value* or `::`*b64value* forms. If none of these subcommands is present, then the control will not have a value.

For example, the value `1.3.6.1.4.1.42.2.27.9.5.2:true:dn:uid=dmiller,ou=people,dc=example,dc=com` will include a critical control with an OID of `1.3.6.1.4.1.42.2.27.9.5.2`, marked as critical (true), and with a string value for the authorization ID `dn:uid=dmiller,ou=people,dc=example,dc=com`. Or, you can use the OID names: `effectiverights:true:dn:uid=dmiller,ou=people,dc=example,dc=com`.

`-n, --newPassword` *newPassword*
Specify the new password that should be assigned to the target user. This option must not be used in conjunction with `--newPasswordFile`. If neither of these options is provided, then the server will automatically generate a new password for the user, provided that a password generator is configured in the user's password policy.

`-N, --newPasswordFile` *newPasswordFile*
Read the new password from the specified file that should be assigned to the target user. This option must not be used in conjunction with `--newPassword`. If neither of these options is provided, then the server will automatically generate a new password for the user, provided that a password generator is configured in the user's password policy.

LDAP Connection Options

`--certNickname` *nickname*
Use the certificate for certificate-based client authentication.

`-D, --bindDN` *bindDN*
Use the DN when binding to the directory server through simple authentication. If this option is not provided, then the `--authzID` option must be used to specify the authorization

ID for the target user, and either the `--currentPassword` or `--currentPasswordFile` option must be provided to specify the current password for the user. (This mode of use will be required for users to change their passwords after the passwords have expired.)

`-h, --hostname` *address*
Contact the directory server on the specified host name or IP address. If it is not provided, then a default address of `localhost` will be used.

`-j, --bindPasswordFile` *bindPasswordFile*
Use the bind password in the specified file when authenticating to the directory server. The option is used for simple authentication, as well as for password-based SASL mechanisms such as CRAM-MD5, DIGEST-MD5, and PLAIN. It is not required if no authentication is to be performed. This option must not be used in conjunction with `--bindPassword`.

SASL is not supported for Oracle Unified Directory proxy.

`-K, --keyStorePath` *keyStorePath*
Use the client keystore certificate in the specified path for secure communication when using the SSL or the StartTLS extended operation. This option should only be necessary if the client needs to present a certificate to the directory server, for example, when using SASL EXTERNAL authentication.

SASL is not supported for Oracle Unified Directory proxy.

`-o, --saslOption` *name=value*
Use the specified option when performing SASL authentication. Multiple SASL options can be provided by using this option multiple times, once for each option. See "Using SASL Authentication" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory* for more information.

`-p, --port` *port*
Contact the directory server at the specified port. If this option is not provided, then a default port of `389` will be used.

`-P, --trustStorePath` *trustStorePath*
Use the client trust store certificate in the specified path for secure communication when using the SSL or the StartTLS extended operation. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.

`-q, --useStartTLS`
Use the StartTLS extended operation when communicating with the directory server. This option must not be used in conjunction with `--useSSL`.

`--trustStorePassword` *trustStorePassword*
Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.

`-u, --keyStorePasswordFile` *keyStorePasswordFile*
Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.

`-U, --trustStorePasswordFile` *trustStorePasswordFile*
Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.

`-w, --bindPassword` *bindPassword*
Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.

SASL is not supported for Oracle Unified Directory proxy.

`-W, --keyStorePassword` *keyStorePassword*
Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.

`-X, --trustAll`
Trust any certificate that the directory server might present during SSL or StartTLS negotiation. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

`-Z, --useSSL`
Use the Secure Sockets Layer when communicating with the directory server. If SSL is to be used, then the `--port` option should be used to specify the server's secure port.

Command Input/Output Options

`--noPropertiesFile`	Indicate that a properties file will not be used to get the default command-line options.
`--propertiesFilePath` *propertiesFilePath*	Specify the path to the properties file that contains the default command-line options.

General Options

`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to run the command.

`-V, --version` Display the version information for the directory server.

Examples

The following examples show how to use the directory server commands. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 3–17 Modifying Your User Password

The following command connects to the host (`-h`) using port `1389` (`-p`), specifies the authorization ID `uid=abergin` (`-a`) of an administrator, specifies the user's current password file (`-C`), and changes it with a new one specified in a new password file (`-N`). For Windows platforms, use the file paths where your current and new passwords exist, respectively. For example, use `-C \temp\currentPasswordFile` and `-N \temp\newPasswordFile`.

```
$ ldappasswordmodify -h hostname -p 1389 \
-a "dn:uid=abergin,ou=People,dc=example,dc=com" \
-C /tmp/currentPasswordFile -N /tmp/newPasswordFile

The LDAP password modify operation was successful
```

EXAMPLE 3–18 Modifying and Generating a Password for Another User

The following command connects to the host (`-h`) using port `1389` (`-p`), specifies the bind DN (`-D`), specifies the bind password file (`-j`), and modifies and generates a password for another user (`-a`) connecting over simple authentication. For Windows platforms, specify the file where the bind password file resides, for example, `-j \temp\bindPasswordFile`.

```
$ ldappasswordmodify -h hostname -p 1389 \
-D "cn=Directory Manager" -j /tmp/bindPasswordFile \
-a "dn:uid=abergin,ou=People,dc=example,dc=com"

The LDAP password modify operation was successful
Generated Password:  blb44hjm
```

EXAMPLE 3–19 Modifying a Password for Another User

The following command connects to the host (`-h`) using port `1389` (`-p`), specifies the bind DN (`-D`), specifies the bind password file (`-j`), and modifies the password with a new one (`-N`) for another user (`-a`) connecting over simple authentication. For Windows platforms, specify the bind password file (for example, `-j \temp\bindPasswordFile`) and the new password file (for example, `-N \temp\newPassword`).

```
$ ldappasswordmodify -h hostname -p 1389 \
-D "cn=Directory Manager" -j /tmp/bindPasswordFile \
-a "dn:uid=abergin,ou=People,dc=example,dc=com" -N /tmp/newPassword
```

EXAMPLE 3–19 Modifying a Password for Another User *(Continued)*

```
The LDAP password modify operation was successful
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. A nonzero exit code indicates that an error occurred during processing.

Using a CLI Properties File

The directory server supports the use of a properties file that passes in any default option values used with the `ldappasswordmodify` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. See "Using a Properties File With Server Commands" on page 343 for more information.

The following options can be stored in a properties file:

- `authzID`
- `bindDN`
- `bindPassword`
- `bindPasswordFile`
- `currentPassword`
- `currentPasswordFile`
- `control`
- `hostname`
- `keyStorePassword`
- `keyStorePasswordFile`
- `keyStorePath`
- `newPassword`
- `newPasswordFile`
- `port`
- `provideDNForAuthzID`
- `trustAll`
- `trustStorePassword`
- `trustStorePasswordFile`
- `trustStorePath`
- `useSSL`
- `useStartTLS`

Entries in the properties file have the following format:

```
toolname.propertyname=propertyvalue
```

For example:

```
ldappasswordmodify.ldapport=12345
```

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/ldappasswordmodify`
- Windows: *instance-dir*`\OUD\bat\ldappasswordmodify.bat`

Related Commands

- "ldapcompare" on page 265
- "ldapdelete" on page 273
- "ldapmodify" on page 282
- "ldapsearch" on page 302

ldapsearch

The `ldapsearch` command searches directory server entries.

Synopsis

`ldapsearch` [*options*] [*filter*] [*attributes*]

Description

The `ldapsearch` command can be used to enter a search request to the directory server. The command opens a connection to the directory server, binds to it, and returns all entries that meet the search filter and scope requirements starting from the specified base DN. It can also be used to test other components of the directory server, such as authentication, control, and secure communication mechanisms.

If the `--filename` option is used to specify a file containing one or more search filters, then the search filter should not be included as an option. All trailing options will be interpreted as requested attributes.

If no specific attributes are requested, then all user attributes (that is, all non-operational attributes) will be returned. If one or more attribute names are listed, then only those attributes will be included in the entries that are returned.

Before You Begin

Many UNIX and Linux operating systems provide an installed version of common LDAP client commands, such as `ldapsearch`, `ldapmodify`, and `ldapdelete` in the `/usr/bin` directory. You can check if a version is on your system by entering the command: `which ldapsearch`. If the command returns a value (seen below), you will need to update your `$PATH` to directory server installation directory or create an alias to the directory server instance.

```
$ which ldapsearch (Unix/Linux)
/usr/bin/ldapsearch
```

Options

The `ldapsearch` command accepts an option in either its short form (for example, `-b` *baseDN*) or its long form equivalent (for example, `--baseDN` *baseDN*).

Command Options

`-a, --dereferencePolicy` *dereferencePolicy*
: Specify the dereference alias policy during a search. *Dereference alias* allows you to set an entry to point to another object. If this option is not provided, then a default of `never` will be used. Possible values are the following:

  `always` Dereference aliases both when finding the base DN and when searching below it.

  `find` Dereference alias when finding the base DN.

  `never` Never dereference aliases (default).

  `search` Dereference aliases when searching below the base DN but not when finding the base DN.

`-A, --typesOnly`
: Perform a search to include attribute names in matching entries but not the attribute values. If this option is not provided, then both attribute names and values will be included in the matching entries.

`--assertionFilter` *filter*
Perform a search using the LDAP assertion control (as defined in RFC 4528) to indicate that the operation should only be processed if the assertion contained in the provided filter is true.

`-b, --baseDN` *baseDN*
Specify the base DN to use for the search operation. If a file containing multiple filters is provided using the `--filename` option, then this base DN will be used for all of the searches. This is a required option. If a base DN with a null value ("") is specified, the server returns the root DSE entry.

`-c, --continueOnError`
Continue processing even if an error occurs. Use this option when you use multiple search filters in a file (`--filename`). If an error occurs during processing, the server will continue processing the next search filter. Otherwise the command will exit before all searches have been completed.

`-C, --persistentSearch ps[:`*changetype*`[:`*changesonly*`[:`*entrychangecontrols*`]]]`
Use the persistent search control (as defined in draft-ietf-ldapext-psearch.txt) in the search request to obtain information about changes that are made to entries that match the provided search criteria. The value for this option must be in the form:

`ps[:`*changetype*`[:`*changesonly*`[:`*entrychangecontrols*`]]]`

The elements of this value include:

`ps`	Required operator.
changetype	Indicates the types of changes for which the client wants to receive notification. It can be any of `add`, `del`, `mod`, or `moddn`, or it can be `all` to register for all change types, or it can be a comma-separated list to register for multiple specific change types. If this element is not provided, then it will default to including `all` change types.
changesonly	If `true`, the client is only notified of changes that occur to matching entries after the search is registered. If `false`, the directory server sends all existing entries in the directory server that match the provided search criteria. If this element is not provided, then it will default to only returning entries for updates that occurred since the search was registered.
entrychangecontrols	If `true`, the directory server includes the entry change notification control in entries sent to the client as a result of changes. If `false`, the entry change notification control is not included. If this element is not provided, then it will default to including the entry change notification controls.

For example, the value `ps:add,del:true:true` returns only entries matching the search criteria that have been added or deleted since the time that the persistent search was registered, and those entries will include entry change notification controls.

`--countEntries`
Display the total number of matching entries returned by the directory server. If the `--filename` option is used to specify the path to a file containing multiple search filters, the total number of matching entries for all searches is displayed.

`-e, --getEffectiveRightsAttribute` *attribute*
Return the effective rights on the specified attribute. This option can be used to specify attributes that would not normally appear in the search results for the entry. For example, use this option to determine if a user has permission to add an attribute that does not currently exist in the entry. The `-e` option requires the `--getEffectiveRightsAuthzid` or `-g` option.

`-f, --filename` *filename*
Specify the path to a file that contains one or more filters to use when processing the search operation. If the file contains multiple filters, the file should be structured with one filter per line. The searches will be performed using the same connection to the directory server in the order that they appear in the filter file. If this option is used, any trailing options will be treated as separate attributes. Otherwise the first trailing option must be the search filter.

`-g, --getEffectiveRightsAuthzid` *authzid*
Display the effective rights of the user binding with the given *authzid*. This option can be used with the `-e` option but cannot be used with the `-J` option.

`-G, --virtualListView` *before*:*after*:*index*:*count*|*before*:*after*:*value*
Retrieve the virtual list view displaying a portion of the total search results. Use one of two patterns to specify the size of the virtual list view:

before:*after*:*index*:*count*
Return the target entry and the specified number of entries *before* the target entry and *after* the target entry. The target entry depends on the `index` and the `count` options. The `count` option can take the following values:

`count=0`
The target entry is the entry at the specified *index* position, starting from 1 and relative to the entire list of sorted results.

`count=1`
The target entry is the first entry in the list of sorted results.

`count>1`
The target entry is the first entry in the portion of the list represented by the fraction *index*/*count*. To target the last result in the list, use an *index* option greater than the *count* option.

For example, `-G 5:10:2:4` specifies the *index* closest to the beginning of the second quarter of the entire list. If the search yielded 100 entries, the target index would be 26, and this pattern would return entries 21 through 36.

before:*after*:*value*
: Return the target entry and specified number of entries before and after the target entry. The target entry is the first entry in the sorted results whose sort attribute is greater than or equal to the specified value.

  For example, `-G 5:10:johnson -S sn` returns 16 entries in alphabetical order from the surname attribute: `5` less than `johnson`, the entry equal to or following `johnson`, and the `10` entries after `johnson`.

`-J, --control` *controloid*`[:`*criticality*`[:`*value*`|::`*b64value*`|:<`*filePath*`]]`
: Perform a search with the specified control in search requests sent to the directory server. This option makes it possible to include arbitrary request controls that the client cannot directly support. The value for this option must be in the form:

  oid`[:`*criticality*`[:`*value*`|::`*b64value*`|:<`*filePath*`]]`

  The elements of this value include:

  oid
  : Use the OID for the control. For certain types of controls, a text name may be used instead of the numeric OID (for search operations, this includes `managedsait` for the manage DSA IT control). This element is required. Human-readable names can be used in place of the OID to reference controls that do not require values using the `-J` or `control` option. These OID names are the following:

    `accountusable` or `accountusability`
    : Use in place of the Account Usability Request Control OID: 1.3.6.1.4.1.42.2.27.9.5.8 (no value)

    `authzid` or `authorizationidentity`
    : Use in place of the Authorization Identity Request Control OID: 2.16.840.1.113730.3.4.16 (no value)

    `effectiverights`
    : Use in place of the Get Effective Rights Control OID: 1.3.6.1.4.1.42.2.27.9.5.2 (value = authorization ID)

    `managedsait`
    : Use in place of the Manage DSA IT Control OID: 2.16.840.1.113730.3.4.2 (no value)

	`noop` or `no-op`	Use in place of the LDAP No-op Control OID: 1.3.6.1.4.1.4203.1.10.2 (no value)
	`pwpolicy` or `password policy`	Use in place of the Password Policy Request OID: 1.3.6.1.4.1.42.2.27.8.5.1 (no value)
	`subtreedelete` or `treedelete`	Use in place of the Subtree Delete Request Control OID: 1.2.840.113556.1.4.805 (no value)
criticality	If `true`, the control should be marked critical (meaning that the directory server should not process the operation unless it can meet the requirements of this control). If `false`, the control should not be marked critical. If this subcommand is not provided, then the control is not marked critical.	
value	Specifies the value for the control. This form should only be used if the value can be expressed as a string. It must not be used in conjunction with either the `::` *b64value* or `:<` *fileurl* forms. If none of these subcommands is present, then the control will not have a value.	
b64value	Specifies the value for the control in base64-encoded form. This subcommand must not be used in conjunction with either the `:` *value* or `:<` *fileurl* forms. If none of these subcommands is present, then the control will not have a value.	
filePath	Specifies a URL that references a file from which the value of the control should be taken. It must not be used in conjunction with either the `:` *value* or `::` *b64value* forms. If none of these subcommands is present, then the control will not have a value.	

For example, the value `1.3.6.1.4.1.42.2.27.9.5.2:true:dn:uid=dmiller,ou=people,dc=example,dc=com` will include a critical control with an OID of `1.3.6.1.4.1.42.2.27.9.5.2`, marked as critical (true), and with a string value for the authorization ID `dn:uid=dmiller,ou=people,dc=example,dc=com`. Or, you can use the OID names: `effectiverights:true:dn:uid=dmiller,ou=people,dc=example,dc=com`.

`-l, --timeLimit` *numSeconds*

Set the maximum length of time, in seconds, that the directory server should spend processing any search request. If this option is not provided, no time limit is requested by the client. Note that the directory server can enforce a lower time limit than the one that is requested by the client.

`--matchedValuesFilter` *filter*

Use the LDAP matched values control (as defined in RFC 3876) to indicate that only attribute values matching the specified filter should be included in the search results. This option can be provided multiple times to specify multiple matched values filters.

`-n, --dry-run`
Run in `no-op` mode. That is, report what should happen but do not actually perform any searches or communicate with the server in any way.

`-s, --searchScope` *scope*
Set the scope for the search operation. The scope value must be one of the following:

`base`	Search only the entry specified by the `--baseDN` or `-b` option.
`one`	Search only the entry specified by the `--baseDN` or `-b` option and its immediate children.
`sub` or `subordinate`	Search the subtree whose base is the entry specified by the `--baseDN` or `-b` option. This is the default option when the `--searchScope` is not provided.

`-S, --sortOrder` *sortOrder*
Sort the results before returning them to the client. The sort order is a comma-delimited list of sort keys, where each sort key consists of the following elements:

`+/- (plus or minus sign)`	Indicates that the sort should be in ascending (`+`) or descending (`-`) order. If this element is omitted, then the sort will be in ascending order.
`attribute name`	The name of the attribute to use when sorting the data. This element must always be provided.
`name` or `OID Matching Rule`	An optional colon followed by the name or OID of the matching rule to use to perform the sort. If this element is not provided, then the default ordering matching rule for the specified attribute type will be used. For example, the sort order string `sn,givenName` sorts entries in ascending order first by `sn` and then by `givenName`. Alternately, the value `--modifyTimestamp` will cause the results to be sorted with the most recent values first.

`--simplePageSize` *numEntries*
Use the Simple Paged Results control with the given page size.

`--subEntries`
Use the subentries control to specify that subentries are visible, and normal entries are not.

`-Y, --proxyAs`*authzID*
Use the Proxied Authorization Control to specify the identity of the user for whom the operations should be performed. This will use version 2 of the Proxied Authorization Control as defined in RFC 4370. The value of the option should be an authorization ID in the form `dn:` followed by the DN of the target user (for example, `dn:uid=john.doe,ou=People,dc=example,dc=com`), or `u:` followed by the user name (for example, `u:john.doe`). If this option is not provided, proxied authorization is not used.

`-z, --sizeLimit` *numEntries*
Set the maximum number of matching entries that the directory server should return to the client. If this option is not provided, then there will be no maximum requested by the client. Note that the directory server can enforce a lower size limit than the one requested by the client.

LDAP Connection Options

`-D, --bindDN` *bindDN*
Use the bind DN to authenticate to the directory server. This option is used when performing simple authentication. The default value for this option is `cn=Directory Manager`. It is not required when using SASL authentication or if no authentication is to be performed.

`-E, --reportAuthzID`
Use the authorization identity request control (as defined in RFC 3829) in the bind request so that the directory server returns the corresponding authorization ID to the client when authentication has completed. (The line containing the authorization ID will be prefixed with a # character, making it a comment if the output is to be interpreted as an LDIF.)

`-h, --hostname` *address*
Contact the directory server on the specified host name or IP address. If it is not provided, then a default address of `localhost` will be used.

`-j, --bindPasswordFile` *bindPasswordFile*
Use the bind password in the specified file when authenticating to the directory server. The option is used for simple authentication, as well as for password-based SASL mechanisms such as CRAM-MD5, DIGEST-MD5, and PLAIN. It is not required if no authentication is to be performed. This option must not be used in conjunction with `--bindPassword`.

SASL is not supported for Oracle Unified Directory proxy.

`-K, --keyStorePath` *keyStorePath*
Use the client keystore certificate in the specified path for secure communication when using the SSL or the StartTLS extended operation. This option should only be necessary if the client needs to present a certificate to the directory server, for example, when using SASL EXTERNAL authentication.

SASL is not supported for Oracle Unified Directory proxy.

`-N, --certNickName` *certNickName*
Use the specified certificate for certificate-based client authentication.

`-o, --saslOption` *name=value*
Use the specified option when performing SASL authentication. Multiple SASL options can be provided by using this option multiple times, once for each option. See “Configuring

SASL Authentication" in *Oracle Fusion Middleware Administration Guide for Oracle Unified Directory* for more information on using SASL authentication in clients.

SASL is not supported for Oracle Unified Directory proxy.

`-p, --port` *port*
Contact the directory server at the specified port. If this option is not provided, then a default port of `389` will be used.

`-P, --trustStorePath` *trustStorePath*
Use the client trust store certificate in the specified path for secure communication when using the SSL or the StartTLS extended operation. This option is not needed if `--trustAll` is used, although a trust store should be used when working in a production environment.

`-q, --useStartTLS`
Use the StartTLS Extended Operation extended operation when communicating with the directory server. This option must not be used in conjunction with `--useSSL`.

`-r, --useSASLExternal`
Use the SASL EXTERNAL mechanism for authentication, which attempts to identify the client by using an SSL certificate that it presents to the directory server. If this option is used, then the `--keyStorePath` option must also be provided to specify the path to the client keystore and either the `--useSSL` or the `--useStartTLS` option must be used to establish a secure communication channel with the server.

SASL is not supported for Oracle Unified Directory proxy.

`--trustStorePassword` *trustStorePassword*
Use the password needed to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (which most trust stores do not require). This option must not be used in conjunction with `--trustStorePasswordFile`.

`-u, --keyStorePasswordFile` *keyStorePasswordFile*
Use the password in the specified file to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePassword`.

`--usePasswordPolicyControl`
Use the Password Policy Request Control in the bind request so that the directory server returns the corresponding result control in the bind response. This can be used to obtain information about any warnings or errors with regard to the state of the client's account.

`-U, --trustStorePasswordFile` *trustStorePasswordFile*
Use the password in the specified file to access the certificates in the client trust store. This option is only required if `--trustStorePath` is used and the specified trust store requires a password in order to access its contents (most trust stores do not require this). This option must not be used in conjunction with `--trustStorePassword`.

`-V, --ldapVersion` *version*
Set the LDAP protocol version that the client should use when communicating with the directory server. The value must be either `2` (for LDAPv2 communication) or `3` (for LDAPv3). If this option is not provided, then the client will use LDAPv3.

`-w, --bindPassword` *bindPassword*
Use the bind password when authenticating to the directory server. This option can be used for simple authentication as well as password-based SASL mechanisms. This option must not be used in conjunction with `--bindPasswordFile`. To prompt for the password, type `-w -`.

SASL is not supported for Oracle Unified Directory proxy.

`-W, --keyStorePassword` *keyStorePassword*
Use the password needed to access the certificates in the client keystore. This option is only required if `--keyStorePath` is used. This option must not be used in conjunction with `--keyStorePasswordFile`.

`-X, --trustAll`
Trust any certificate that the directory server might present during SSL or StartTLS negotiation. This option can be used for convenience and testing purposes, but for security reasons a trust store should be used to determine whether the client should accept the server certificate.

`-Z, --useSSL`
Use SSL when communicating with the directory server. If SSL is to be used, then the `--port` option should be used to specify the server's secure port.

Command Input/Output Options

`--noPropertiesFile`	Indicate that a properties file will not be used to get the default command-line options.
`--propertiesFilePath` *propertiesFilePath*	Specify the path to the properties file that contains the default command-line options.
`-T, --dontWrap`	Do not wrap long lines when displaying matching entries. If this option is not provided, then long lines will be wrapped (in a manner compatible with the LDIF specification) to fit on an 80-column terminal.
`-v, --verbose`	Run in verbose mode, displaying process and diagnostic information on standard output.

General Options

`-?, -H, --help` Display command-line usage information for the command and exit without making any attempt to run the command.

`-V, --version` Display the version information for the directory server.

Examples

The following examples show how to use the directory server commands. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 3–20 Returning All Entries

The following command returns all entries on the directory server. The command connects to the default port `1389` (`-p`) on the host (`-h`), specifies the base DN as `example.com` (`-b`), and returns all entries by using the search filter `(objectclass=*)`. Because the scope (`-s`) is not specified, the scope is set to the default value of `sub`, the full subtree of the base DN. Because no attributes are specified, the command returns all attributes and values.

```
$ ldapsearch -h hostname -p 1389 -b dc=example,dc=com "(objectclass=*)"

dn: dc=example,dc=com
objectClass: domain
objectClass: top
dc: example

dn: ou=Groups,dc=example,dc=com
objectClass: organizationalunit
objectClass: top
ou: Groups

dn: cn=Directory Administrators,ou=Groups,dc=example,dc=com
objectClass: groupofuniquenames
objectClass: top
ou: Groups
cn: Directory Administrators
uniquemember: uid=kvaughan, ou=People, dc=example,dc=com
uniquemember: uid=rdaugherty, ou=People, dc=example,dc=com
uniquemember: uid=hmiller, ou=People, dc=example,dc=com
```

EXAMPLE 3–21 Returning Attributes Names but No Values

The following command returns the attribute names (`-A`) but no values. The command connects to the default port `1389` (`-p`) on the host (`-h`), specifies the base DN as `dc=example,dc=com` (`-b`), matches all entries by using the search filter `objectclass=*`, and returns three (`-z`) entries. Using the `-A` option is a convenient way to check if an attribute is present in the database.

EXAMPLE 3–21 Returning Attributes Names but No Values *(Continued)*

```
$ ldapsearch -h hostname -p 1389 -b dc=example,dc=com -A -z 3 "(objectclass=*)"

dn: dc=example,dc=com
objectClass
dc

dn: ou=Groups,dc=example,dc=com
objectClass
ou

dn: cn=Directory Administrators,ou=Groups,dc=example,dc=com
objectClass
ou
cn
uniquemember
```

EXAMPLE 3–22 Returning Specific Attribute Values

The following command returns a specific attribute and its value. The command connects to the port `1389` (`-p`) on the host (`-h`), specifies the base DN as `dc=example,dc=com` (`-b`), matches all entries by using the search filter `cn=Sam Carter`, and returns the value of the attribute, `telephonenumber`.

```
$ ldapsearch -h hostname -p 1389 -b dc=example,dc=com "(cn=Sam Carter)" telephoneNumber

dn: uid=scarter,ou=People,dc=example,dc=com
telephonenumber: +1 408 555 4798
```

EXAMPLE 3–23 Returning the Root DSE

The root DSE is a special entry that provides information about the directory server's name, version, naming contexts, and supported features. You specify the root DSE by using a base DN with a null value (for example, `-b ""`) from which the directory server searches below all public naming contexts by default. You can override the null base DN default by specifying specific sets of base DNs with the `subordinate-base-dn` property by using the `dsconfig` command. The following example connects to the default port `1389` (`-p`) on the host (`-h`), specifies the root DSE as an empty base entry (`-b`), specifies the scope of the search to `base` (`-s`), matches all entries by using the search filter `objectclass=*`, and returns the directory server's root DSE information for supported controls:

```
$ ldapsearch -h hostname -p 1389 -b "" -s base "(objectclass=*)" supportedControl

dn:
supportedControl: 1.2.826.0.1.3344810.2.3
supportedControl: 1.2.840.113556.1.4.319
supportedControl: 1.2.840.113556.1.4.473
supportedControl: 1.2.840.113556.1.4.805
...
```

EXAMPLE 3–24 Searching by Using Server Authentication

The following command uses the SSL option to run a search with server authentication. The command specifies the host name (`-h`), SSL port `1636` (`-p`), base DN (`-b`), the bind DN (`-D`), the bind password (`-w`), trust store file path (`-P`), and the entity's given name. For Windows platforms, specify the paths for trust store file (for example, `-P \certs\cert.db`).

```
$ ldapsearch -h hostname -p 1636 -b "dc=example,dc=com" \
-D "uid=scarter,ou=people,dc=example,dc=com" -w bindPassword \
-P /home/scarter/certs/cert.db "(givenname=Sam)"
```

EXAMPLE 3–25 Searching by Using Client Authentication

The following command uses the SSL option to perform a search by using client authentication. The command uses SSL (`-Z`) with the SSL port (`-p`) and specifies the trust store file path (`-P`), the certificate nickname (`-N`), the keystore file path (`-K`), the keystore password (`-W`) and the entity's given name `(givenname=Sam)`. For Windows platforms, specify the paths for the trust store file (for example, `-P \certs\cert.db`), and the keystore file (for example, `-K \security\key.db`):

```
$ ldapsearch -h hostname -p 1636 -b "dc=example,dc=com" \
-Z -P /home/scarter/security/cert.db -N "sccert" \
-K /home/scarter/security/key.db -W KeyPassword \
"(givenname=Sam)"
```

EXAMPLE 3–26 Returning the Effective Rights of a User

The following command returns the effective rights granted to a user, in addition to the user's attribute entries. Only a directory administrator can access this information for another user. The command specifies the host name (`-h`), port `1389` (`-p`), bindDN (`-D`), bindDN password (`-w`), base DN (`-b`), control spec option that includes the OID name `effectiverights` (alternately, you can enter the OID equivalent: `1.3.6.1.4.1.42.2.27.9.5.2`), search filter `objectclass=*`, and the `aclRights` attribute.

```
$ ldapsearch -h hostname -p 1389 -D "cn=Directory Manager" -w password \
-b dc=example,dc=com -J "1.3.6.1.4.1.42.2.27.9.5.2"  "(objectclass=*)" \
aclRights

dn: dc=example,dc=com
aclRights;entryLevel: add:0,delete:0,read:1,write:0,proxy:0

dn: ou=Groups, dc=example,dc=com
aclRights;entryLevel: add:0,delete:0,read:1,write:0,proxy:0

dn: ou=People, dc=example,dc=com
aclRights;entryLevel: add:0,delete:0,read:1,write:0,proxy:0

dn: cn=Accounting Managers,ou=groups,dc=example,dc=com
aclRights;entryLevel: add:0,delete:0,read:1,write:0,proxy:0

dn: cn=HR Managers,ou=groups,dc=example,dc=com
aclRights;entryLevel: add:0,delete:0,read:1,write:0,proxy:0
```

EXAMPLE 3–26 Returning the Effective Rights of a User *(Continued)*

```
dn: uid=bjensen,ou=People, dc=example,dc=com
aclRights;entryLevel: add:0,delete:0,read:1,write:0,proxy:0

dn: uid=cfuente, ou=People, dc=example,dc=com
aclRights;entryLevel: add:0,delete:0,read:1,write:1,proxy:0
```

EXAMPLE 3–27 Returning the Schema

The following command searches the `cn=schema` entry for the object classes and attributes defined on the directory instance. The command connects to the port `1389` (`-p`) on the host (`-h`), sets the scope of the search to `base` (`-s`), matches all entries by using the search filter `(objectclass=\*)` and returns the objectClass definitions in the schema entry, `cn=schema`. You can also use the + symbol to view the schema. Place it after the search filter.

```
$ ldapsearch -h hostname -p 1389 -b cn=schema -s base "(objectclass=*)" objectClasses

dn: cn=schema
objectClasses: ( 2.5.6.0 NAME 'top' ABSTRACT MUST objectClass X-ORIGIN 'RFC 4512
' )
objectClasses: ( 2.5.6.1 NAME 'alias' SUP top STRUCTURAL MUST aliasedObjectName
X-ORIGIN 'RFC 4512' )
objectClasses: ( 2.5.6.2 NAME 'country' SUP top STRUCTURAL MUST c MAY ( searchGu
ide $ description ) X-ORIGIN 'RFC 4519' )
objectClasses: ( 2.5.6.3 NAME 'locality' SUP top STRUCTURAL MAY ( street $ seeAl
so $ searchGuide $ st $ l $ description ) X-ORIGIN 'RFC 4519' )
...
```

EXAMPLE 3–28 Performing a Persistent Search

The `ldapsearch` command provides an option to run a persistent search (`-C`) that keeps the connection open and displays the entries that matching the scope and filter whenever any changes (`add`, `delete`, `mod`, or `all`) occur. The command connects to the port `1389` (`-p`), sets the scope of the search to `base` (`-s`), and matches all entries by using the search filter `(objectclass=\*)`. You can quit out of the search by pressing `Control-C`.

```
$ ldapsearch -b dc=example,dc=com -p 1389 -D "cn=Directory Manager" \
-w password -C ps:add:true:true "(objectclass=*)"
```

EXAMPLE 3–29 Viewing ACI Attributes

The following command displays the access control instruction (ACI) attributes from the specified base DN. The command connects to the port `1389` (`-p`), sets the scope of the search to `base` (`-s`), matches all entries using the search filter `(objectclass=\*)` and specifies the `aci` attribute.

```
$ ldapsearch -p 1389 -D "cn=Directory Manager" -w password -b dc=example,dc=com \
-s base "(objectclass=*)" aci
```

EXAMPLE 3–29 Viewing ACI Attributes *(Continued)*

```
dn: dc=example,dc=com
aci: (target ="ldap:///dc=example,dc=com")(targetattr h3.="userPassword")(version
3.0;acl "Anonymous read-search access";allow (read, search, compare)(userdn = "
ldap:///anyone");)
aci: (target="ldap:///dc=example,dc=com") (targetattr = "*")(version 3.0; acl "a
llow all Admin group"; allow(all) groupdn = "ldap:///cn=Directory Administrator
s,ou=Groups,dc=example,dc=com";)
```

EXAMPLE 3–30 Viewing Monitoring Information

The following command searches the cn=monitor entry for information on the activity on the directory server. The command specifies the host name (`-h`), port (`-p`), base DN (`-b`) for `cn=monitor`, authenticates using the bind DN (`-D`) and bind password (`-w`) and specifies the filter `(objectclass=\*)`.

```
$ ldapsearch --useSSL -X -h hostname -p 4444 -b cn=monitor -D "cn=Directory Manager" \
-w password "(objectclass=*)"

dn: cn=monitor
objectClass: top
objectClass: extensibleObject
objectClass: ds-monitor-entry
currentTime: 20070803161832Z
startTime: 20070803132044Z
productName: Oracle Unified Directory
...
```

EXAMPLE 3–31 Searching by Using a Properties File

The directory server supports the use of a *properties file* that passes in any default option values used with the `ldapsearch` command. The properties file is convenient when working in different configuration environments, especially in scripted or embedded applications. See "Using a Properties File With Server Commands" on page 343 for more information.

The following options can be stored in a properties file:

- `assertionFilter`
- `bindDN`
- `bindPassword`
- `bindPasswordFile`
- `certNickname`
- `continueOnError`
- `control`
- `countEntries`
- `dereferencePolicy`

EXAMPLE 3–31 Searching by Using a Properties File *(Continued)*

- `dry-run`
- `dontWrap`
- `filename`
- `getEffectiveRightsAttribute`
- `getEffectiveRightsAuthzid`
- `hostname`
- `keyStorePassword`
- `keyStorePasswordFile`
- `keyStorePath`
- `ldapVersion`
- `matchedValuesFilter`
- `persistentSearch`
- `port`
- `proxyAs`
- `reportAuthzID`
- `saslOption`

  SASL is not supported for Oracle Unified Directory proxy.
- `searchScope`
- `simplePageSize`
- `sizeLimit`
- `sortOrder`
- `timeLimit`
- `trustAll`
- `trustStorePassword`
- `trustStorePasswordFile`
- `trustStorePath`
- `typesOnly`
- `usePasswordPolicyControl`
- `useSASLExternal`

  SASL is not supported for Oracle Unified Directory proxy.
- `useSSL`

EXAMPLE 3–31 Searching by Using a Properties File *(Continued)*

- `useStartTLS`
- `verbose`
- `virtualListView`

To Search by Using a Properties File

1. Create a properties file in any text editor. Here, save the file as `tools.properties`.

```
hostname=host
port=1389
bindDN=cn=Directory Manager
bindPassword=password
baseDN=dc=example,dc=com
searchScope=sub
sortOrder=givenName
virtualListView=0:2:1:0
```

2. Use `ldapsearch` with the `--propertiesFilePath` option. `$ ldapsearch --propertiesFilePath tools.properties "(objectclass=*)"`

Search Attributes

A number of special search attributes can also be used for various purposes, including the following:

*This symbol indicates that all user attributes should be included in the entries returned by the directory server.

```
$ ldapsearch -h hostname -p 1389 -b dc=example,dc=com "(objectclass=*)" *
```

+This symbol indicates that all operational attributes are to be included in the entries returned by the directory server. By default, no operational attributes will be returned. Note that even if this is specified, there might be some operational attributes that are not returned automatically for some reason for example, if an expensive computation is required to construct the value). On some systems, you might need to escape the + symbol by enclosing it in quotation marks, "+" or by using a backslash, \+.

```
$ ldapsearch -h hostname -p 1389 -b dc=example,dc=com "(objectclass=*)" "+"
```

`1.1`This indicates that no attribute values should be included in the matching entries. On some systems, you might need to escape the `1.1` character by enclosing it in quotation marks, "`1.1`", or by using a backslash, `\1.1`.

```
$ ldapsearch -h hostname -p 1389 -b dc=example,dc=com "(objectclass=*)" "1.1"
```

`@_objectclass_` This indicates that all attributes associated with the specified object class should be included in the entries returned by the server. For example, `@person` indicates that the server should include all attributes associated with the `person` object class.

```
$ ldapsearch -h hostname -p 1389 -b dc=example,dc=com "(objectclass=*)" @person
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. A nonzero exit code indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/ldapsearch`
- Windows: *instance-dir*`\OUD\bat\ldapsearch.bat`

Related Commands

- "ldapcompare" on page 265
- "ldapdelete" on page 273
- "ldapmodify" on page 282
- "ldappasswordmodify" on page 294

◆ ◆ ◆ CHAPTER 4

Other Commands

The following sections describe additional commands that are available with the directory server:

dsjavaproperties

The `dsjavaproperties` command specifies the JVM version and Java arguments that are used by each server command.

Synopsis

`dsjavaproperties` [*options*]

Description

The `dsjavaproperties` command can be used to specify the JVM version and Java arguments that are used by each server command. The JVM and Java arguments for each command are specified in a properties file, located at *instance-dir*`/OUD/config/java.properties`. The properties file is not used unless you run the `dsjavaproperties` command. If you edit the properties file, you must run `dsjavaproperties` again for the new settings to be taken into account.

`dsjavaproperties` can be used to specify (among other arguments) whether a command runs using the JVM in `-server` mode or `-client` mode. By default, all client applications run in `-client` mode, and all of the server utilities run in `-server` mode. Generally, `-server` mode provides higher throughput than `-client` mode, at the expense of slightly longer startup times.

For certain commands (`import-ldif`, `export-ldif`, `backup`, and `restore`) you can also specify different Java arguments (and a different JVM) depending on whether the command is run in online or offline mode.

If the value of the `overwrite-env-java-home` property is set to `false` in the `java.properties` file, the `OPENDS_JAVA_HOME` environment variable takes precedence over the arguments specified in the properties file. Similarly, if the value of the `overwrite-env-java-args` property is set to `false` in the `java.properties` file, the `OPENDS_JAVA_ARGS` environment variable takes precedence over the arguments specified in the properties file.

Options

The `dsjavaproperties` command accepts an option in either its short form (for example, `-Q`) or their long form equivalent (for example, `--quiet`).

`-Q, --quiet`	Run in quiet mode. Quiet mode does not output progress information to standard output.
`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to stop or restart the server.
`-V, --version`	Display the version information for the server and exit rather than attempting to run this command.

Example

The following example shows how to use the server commands. You can use the commands on any UNIX, Linux, or Windows system that has at least the Java SE 6 runtime environment installed on its target system. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 4–1 Modifying a Script

This example shows how to change the `export-ldif` script to use a maximum JVM heap size of 256 Mbytes when the command is run with the server online.

1. Edit the *instance-dir*`/OUD/config/java.properties` file and set the `export-ldif.online` arguments as follows:`export-ldif.online.java-args=-client -Xms8m -Xmx256m`

EXAMPLE 4–1 Modifying a Script *(Continued)*

2. Run the `dsjavaproperties` command for the change to take effect. `$ dsjavaproperties`
   `The script files were successfully updated. The Oracle Unified Directory command-line utilities will use the java properties specified in the properties file` *instance-dir*`/OUD/config/java.properties`

Exit Codes

An exit code of 0 indicates that the operation completed successfully. A nonzero exit code indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/dsjavaproperties`
- Windows: *instance-dir*`\OUD\bat\dsjavaproperties.bat`

encode-password

The `encode-password` command encodes and compares user passwords.

This command is not supported for the proxy.

Synopsis

`encode-password` *options*

Description

The `encode-password` command can be used to interact with the password storage schemes defined in the directory server. It has three modes of operation:

- **List schemes mode**. List the password storage schemes that are available in the directory server. In this mode, only the `--listSchemes` option is required.
- **Encode clear-text mode**. Encode a clear-text password using a provided password storage scheme. In this mode, the `--storageScheme` option is required, along with a clear-text password either given as an option with `--clearPassword` or read from a file by using `--clearPasswordFile`.

- **Validate password mode**. Determine whether a given clear-text password is correct for a provided encoded password. In this mode, both a clear-text password (either from `--clearPassword` or `--clearPasswordFile`) and an encoded password (either from `--encodedPassword` or `--encodedPasswordFile`) are required.

The set of authentication passwords available for use in the directory server can be retrieved from the `supportedAuthPasswordSchemes` attribute of the root DSE entry. You can use `ldapsearch` to view this information.

Options

The `encode-password` command accepts an option in either its short form (for example, `-c` *clearPassword*) or its long form equivalent (for example, `--clearPassword` *clearPassword*).

`-a, --authPasswordSyntax`
Use the Authentication Password Syntax (as defined in RFC 3112 (`http://www.ietf.org/rfc/rfc3112.txt`)), which encodes values in a form *scheme*$*authInfo*$*authValue*. If this option is not provided, then the user password syntax (which encodes values in a form *scheme*$*value* will be used.

`-c, --clearPassword` *clearPassword*
Specify the clear-text password on which to operate when either encoding a clear-text password or comparing a clear-text password against an encoded password. This option must not be used in conjunction with `--clearPasswordFile`.

`-e, --encodedPassword` *encodedPassword*
Use the encoded password to compare against a given clear-text password. If the `--authPasswordSyntax` option is also provided, then this password must be encoded using the authentication password syntax. Otherwise, it should be encoded using the user password syntax. This option must not be used in conjunction with `--encodedPasswordFile`.

`-E, --encodedPasswordFile` *encodedPasswordFile*
Use the encoded password from the specified file to compare against a given clear-text password. If the `--authPasswordSyntax` option is also provided, then this password must be encoded using the authentication password syntax. Otherwise, it should be encoded using the user password syntax. This option must not be used in conjunction with `--encodedPassword`.

`-f, --clearPasswordFile` *clearPasswordFile*
Use the clear-text password from the specified file when either encoding a clear-text password or comparing a clear-text password against an encoded password. The option must not be used in conjunction with `--clearPassword`.

`-i, --interactivePassword`
The password to encode or to compare against an encoded password is interactively requested from the user.

`-l, --listSchemes`
Display a list of the password storage schemes that are available for use in the directory server. If the option is used by itself, it displays the names of the password storage schemes that support the user password syntax. If the option used in conjunction with `--authPasswordSyntax`, it displays the names of the password storage schemes that support the authentication password syntax.

`-r, --useCompareResultCode`
Use an exit code that indicates whether a given clear-text password matched a provided encoded password. If this option is provided, the directory server results in an exit code of `6` (`COMPARE_TRUE`) or an exit code of `5` (`COMPARE_FALSE`). Any other exit code indicates that the command failed to complete its processing to make the necessary determination. If this option is not provided, an exit code of zero will be used to indicate that the command completed its processing successfully, or something other than zero if an error occurred.

`-s, --storageScheme` *storageScheme*
Specify the name of the password storage scheme to use when encoding a clear-text password. If the `--authPasswordSyntax` option is provided, the value must be the name of a supported authentication password storage scheme. Otherwise, specify the name of a supported user password storage scheme.

`-?, -H, --help`
Display the command-line usage information for the command and exit immediately without taking any other action.

`-V, --version`
Display the version information for the directory server.

Examples

The following examples show how to use the directory server commands. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 4–2 Listing the Storage Schemes on the Server

The following command lists the storage schemes (`-l`) available for use on the directory server.

```
$ encode-password -l
3DES
AES
BASE64
BLOWFISH
CLEAR
```

EXAMPLE 4–2 Listing the Storage Schemes on the Server *(Continued)*

```
CRYPT
MD5
RC4
SHA
SMD5
SSHA
SSHA256
SSHA384
SSHA512
```

EXAMPLE 4–3 Listing the Authenticated Passcode Syntax Storage Schemes on the Server

The following command lists the storage schemes (`-l`) that support the authentication passcode syntax (`-a`) on the directory server.

```
$ encode-password -l -a

MD5
SHA1
SHA256
SHA384
SHA512
```

EXAMPLE 4–4 Encoding a Clear-Text Password to Another Scheme

The following command encodes a clear-text password (`-c`) using the specified scheme (`-s`).

```
$ encode-password -c opendsrocks -s MD5

Encoded Password:  "{MD5}AjxHKRFkRwxx3j9lM2HMow=="
```

EXAMPLE 4–5 Encoding a Clear-Text Password to Another Scheme using the Authentication Password Syntax

The following command encodes a clear-text password (`-c`) using the specified scheme (`-s`) and the authentication password syntax (`-a`).

```
$ encode-password -c opendsrocks -s MD5 -a

Encoded Password:  "MD5$/imERhcEu3U=$AFqmpZi8EiTIvMFwkcrf8A=="
```

EXAMPLE 4–6 Comparing a Clear-Text Password to an Encoded Password

The following command compares a clear-text password (`-c`) with an encoded password (`-e`). Do not include the password scheme (for example, `MD5`) in your encoded password.

```
$ encode-password -c opendsrocks -e "AjxHKRFkRwxx3j9lM2HMow==" -s MD5

The provided clear-text and encoded passwords match
```

EXAMPLE 4–7 Comparing a Clear-Text Password to an Encoded Password and Return an Exit Code

The following command compares a clear-text password (`-f`) with an encoded password (`-e`) using the scheme (`-s`) and returns the exit code (`-r`) (`6` for COMPARETRUE; `5` for COMPAREFALSE). Do not include the password scheme (for example, `MD5`) in your encoded password.

```
$ encode-password -c opendsrocks -e "AjxHKRFkRwxx3j9lM2HMow==" -s MD5 -r

The provided clear-text and encoded passwords match

echo $?
6
```

EXAMPLE 4–8 Encoding a Password contained in a File using SSHA

The following command encodes a clear-text password in a file (`-f`) using the specified scheme (`-s`). For Windows platforms, specify the path to your clear-text password file (for example, `-f \temp\testpassword`):

```
$ encode-password -s SSHA -f /tmp/testpassword

Encoded Password:   "{SSHA}QX2fMu+2N22N9qI+zu6fIZxsBVID3EsUlYYEbQ=="
```

Exit Codes

TABLE 4–1 Exit Codes

Exit Code	Description
`0`	Operation completed successfully.
`1`	Error occurred during operation.
`5`	COMPARE_FALSE. Used with the `--r` or `--useCompareCodeResult` option, an exit code of `5` indicates a given clear-text password does not match the provided encoded password.
`6`	COMPARE_TRUE. Used with the `--r` or `--useCompareCodeResult` option, an exit code of `6` indicates that a given clear-text password matches the provided encoded password.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/encode-password`
- Windows: *instance-dir*`\OUD\bat\encode-password.bat`

ldif-diff

The `ldif-diff` command identifies the differences between two LDIF files.

Synopsis

`ldif-diff` *options*

Description

The `ldif-diff` command can be used to identify the differences between two LDIF files. The resulting output can be displayed on the terminal or saved to an output file. The resulting output contains all of the information necessary for someone to reverse any changes if necessary. For modify operations, only sets of `add` and `delete` change types are used, not the `replace` change type. For delete operations, the contents of the entry that has been removed are included in the changes displayed in the form of comments.

This command was designed to work on small data sets. It is only suitable in cases in which both the source and target data sets can fit entirely in memory at the same time. It is not intended for use on large data sets that cannot fit in available memory.

Options

The `ldif-diff` command accepts an option in either its short form (for example, `-o` *outputFile*) or its long form equivalent (for example, `--outputLDIF` *outputFile*).

`-a, --ignoreAttrs` *file*	Specify a file containing a list of attributes to ignore when computing the difference
`--checkSchema`	Consider the syntax of the attributes as defined in the schema to make the value comparison. The specified LDIF files must be conform to the server schema.
`-e, --ignoreEntries` *file*	Specify a file containing a list of entries (DNs) to ignore when computing the difference
`-o, --outputLDIF` *outputLDIF*	Specify the path to the output file to record the changes between the source and target LDIF data. If this is not provided, then the change information will be written to standard output.
`-O, --overwriteExisting`	Overwrite the output file specified with the `--outputLDIF` option. This option indicates that if the specified output file

	already exists that the file should be overwritten rather than appending to it. The option is only applicable if `--outputLDIF` is used.
`-s, --sourceLDIF` *sourceLDIF*	Specify the path to the source LDIF file, which contains the original data with no changes applied. This option is required.
`-S, --singleValueChanges`	Run in *Single Value Change* mode, in which each modify operation is broken into a separate modification per attribute value. For example, if a single modification adds five values to an attribute, the changes appear in the output as five separate modifications, each adding one attribute.
`-t, --targetLDIF` *targetLDIF*	Specify the path to the target LDIF file that contains the differences from the source LDIF. This option is required.
`-?, -H, --help`	Display command usage information and exit without attempting to perform any additional processing.
`-V, --version`	Display the directory server version information and exit rather than attempting to run this command.

Examples

The following examples show how to use the directory server commands. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 4–9 Comparing Two LDIF files and Sending the Differences to Standard Output

The following command compares a source file (`-s`) with a target file (`-t`) and outputs the differences. For Windows platforms, specify the paths for the source file (for example, `-s \temp\quentin.ldif`) and the target file (for example, `-t \temp\quentin.ldif`):

```
$ ldif-diff -s /usr/local/quentin.ldif -t /usr/local/quentinr.ldif

dn: uid=qcubbins,ou=People,dc=example,dc=com
changetype: delete
# objectClass: person
# objectClass: organizationalPerson
# objectClass: top
# objectClass: inetOrgPerson
# cn: Quentin Cubbins
# sn: Cubbins
# uid: qcubbins
# userPassword: qcubbins
# givenName: Quentin
# description: This is Quentin's description.
```

EXAMPLE 4–9 Comparing Two LDIF files and Sending the Differences to Standard Output *(Continued)*

```
# mail: qcubbins@example.com

dn: uid=qrcubbins,ou=People,dc=example,dc=com
changetype: add
objectClass: person
objectClass: organizationalPerson
objectClass: top
objectClass: inetOrgPerson
cn: Quentin R Cubbins
sn: Cubbins
uid: qrcubbins
userPassword: qrcubbins
givenName: Quentin
description: This is Quentin R's description.
mail: qrcubbins@example.com
```

EXAMPLE 4–10 Comparing Two LDIF files and Sending the Differences to a File

The following command compares a source file (`-s`) with a target file (`-t`) and sends the output to a file (`-o`). For Windows platforms, specify the paths for the source file (for example, `-s \temp\quentin.ldif`) and the target file (for example, `-t \temp\quentin.ldif`):

```
$ ldif-diff -s /usr/local/quentin.ldif -t /usr/local/quentinr.ldif \
  -o output.ldif
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 or greater indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/ldif-diff`
- Windows: *instance-dir*`\OUD\bat\ldif-diff.bat`

Related Commands

- "ldifsearch" on page 333
- "ldifmodify" on page 331
- "make-ldif" on page 337

ldifmodify

The `ldifmodify` command makes changes to the contents of an LDIF file.

Synopsis

`ldifmodify` *options*

Description

The `ldifmodify` command can be used to make changes to the contents of an LDIF file. Although similar to the `ldapmodify` command, the `ldifmodify` command does not connect to the directory server but rather operates locally on the LDIF file. The command also does not accept change information on standard input. It must read all changes from a file.

To make it possible to operate on very large LDIF files with limited amounts of memory, the following limitations will be enforced on the types of changes that can be made:

- **No modify DNs**. Modify DN operations are not supported. Only add, delete, and modify operations will be allowed.
- **No concurrent modify or delete operations**. It is not possible to modify or delete an entry that is to be added during the course of processing.

Options

All options (with the exception of `--help` and `--version`) are required. The `ldifmodify` command accepts an option in either its short form (for example, `-m` *changeFile*) or its long form equivalent (for example, `--changesLDIF` *changeFile*).

`-m, --changesLDIF` *changeFile*	Specify the path to the file containing the changes to apply. The contents of this file must be in LDIF change format.
`-s, --sourceLDIF` *sourceFile*	Specify the path to the source LDIF file, which contains the data to be updated.
`-t, --targetLDIF` *targetFile*	Specify the path to the target LDIF file, which will consist of the data from the source LDIF with all of the specified changes applied.
`-?, -H, --help`	Display command usage information and exit without attempting to perform any additional processing.

`-V, --version`	Display the directory server version information and exit rather than attempting to run this command.

Examples

The following examples show how to use the directory server commands. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 4–11 Modifying an LDIF File

Suppose that the source file is as follows:

```
dn: uid=qcubbins,ou=People,dc=example,dc=com
objectclass: top
objectclass: person
objectclass: organizationalPerson
objectclass: inetOrgPerson
uid: qcubbins
givenName: Quentin
sn: Cubbins
cn: Quentin Cubbins
mail: qcubbins@example.com
userPassword: qcubbins
description: This is Quentin's description.
```

And suppose that the update (change) file is as follows:

```
## Add new telephone number for Quentin Cubbins
dn: uid=qcubbins,ou=People,dc=example,dc=com
changetype: modify
add: telephoneNumber
telephoneNumber: 512-401-1241
```

The following command updates a source file (`-s`) with changes listed in a modify file (`-m`) and outputs to a target file (`-t`). For Windows platforms, use the file paths for the modify file (for example, `-m \temp\update.ldif`), the source file (for example, `-s \temp\quentin.ldif`), and the target file (for example, `-s \temp\quentin_updated.ldif`):

```
$ ldifmodify -m /usr/local/update.ldif -s /usr/local/quentin.ldif \
-t /usr/local/quentin_updated.ldif
```

The updated file is as follows:

```
dn: uid=qcubbins,ou=People,dc=example,dc=com
objectClass: inetOrgPerson
objectClass: person
objectClass: top
objectClass: organizationalPerson
sn: Cubbins
```

EXAMPLE 4–11 Modifying an LDIF File *(Continued)*

```
userPassword: qcubbins
description: This is Quentin's description.
cn: Quentin Cubbins
telephoneNumber: 512-401-1241
givenName: Quentin
uid: qcubbins
mail: qcubbins@example.com
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 or greater indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/ldifmodify`
- Windows: *instance-dir*`\OUD\bat\ldifmodify.bat`

Related Commands

- "ldifsearch" on page 333
- "ldif-diff" on page 328
- "make-ldif" on page 337

ldifsearch

The `ldifsearch` command performs searches in an LDIF file.

Synopsis

`ldifsearch` [*options*]

Description

The `ldifsearch` command can be used to perform searches in an LDIF file. Although similar to the `ldapsearch` command, the `ldifsearch` command does not perform any LDAP communication with the directory server but rather operates locally on the LDIF file.

Options

The `ldifsearch` command accepts an option in either its short form (for example, `-b` *baseDN*) or its long form equivalent (for example, `--baseDN` *baseDN*).

`-b, -baseDN` *baseDN*
: Specify the base DN to use for the search operation. Multiple base DNs can be provided by using this option multiple times. If multiple values are provided, then an entry will be examined if it is within the scope of any of the search bases. If no search base is provided, then any entry contained in the LDIF files will be considered in the scope of the search.

`-f, --filterFile` *filterFile*
: Specify the path to a file containing one or more filters to use when processing the search operation. If there are to be multiple filters, then the file should be structured with one filter per line. If this option is used, then any trailing options will be treated as separate attributes. Otherwise, the first trailing option must be the search filter.

`-l, -ldifFile` *ldifFile*
: Specify the path to the LDIF file containing the data to be searched. Multiple LDIF files can be specified by providing this option multiple times. This option is required.

`-o, -outputFile` *outputFile*
: Specify the path to the output file that contains the entries matching the provided search criteria. If this option is not provided, the matching entries will be written to standard output.

`-O, --overwriteExisting`
: Overwrite the output file specified with the `--outputFile` option. This option indicates that if the specified output file already exists that the file should be overwritten rather than appending the data to existing data. This is only applicable if the `--outputFile` option is used.

`-s, -searchScope` *searchScope*
: Specify the scope of the search operation. Its value must be one of the following:

  - `base` Examine only the entry specified by the `--baseDN` option.

	■ `one` Examine only the entry specified by the `--baseDN` option and its immediate children. ■ `sub` or `subordinate` Examine the entry specified by the `--baseDN` option and its subtree. Default value `sub` if the option is not specified.
`-t, --timeLimit` *numSeconds*	Indicate the maximum length of time in seconds that should be spent performing the searches. After this length of time has elapsed, the search ends.
`-z, --sizeLimit` *sizeLimit*	Set the maximum number of matching entries that the directory server should return to the client. If this is not provided, then there will be no maximum requested by the client. Note that the directory server can enforce a lower size limit than the one requested by the client.
`-T, --dontWrap`	Do not wrap long lines when displaying matching entries. If this option is not provided, long lines will be wrapped (in a manner compatible with the LDIF specification) to fit on an 80-column terminal.
`-?, -H, --help`	Display command usage information and exit without attempting to perform any additional processing.
`-V, --version`	Display the version information for the directory server.

Examples

The following examples show how to use the directory server commands. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 4–12 Searching an LDIF File

The following command specifies the base DN (`-b`) and searches an LDIF file (`-l`) for an entry and returns its result to the screen if any entries match the search filter `cn=Sam Carter`. For Windows platforms, use the path where the LDIF file resides (for example, `-l \temp\Example.ldif`.

```
$ ldifsearch -b dc=example,dc=com -l /usr/local/Example.ldif "(cn=Sam Carter)"

dn: uid=scarter,ou=People,dc=example,dc=com
objectClass: inetOrgPerson
objectClass: person
objectClass: top
objectClass: organizationalPerson
```

EXAMPLE 4–12 Searching an LDIF File *(Continued)*

```
ou: Accounting
ou: People
sn: Carter
facsimiletelephonenumber: +1 408 555 9751
roomnumber: 4600
userpassword: sprain
l: Sunnyvale
cn: Sam Carter
telephonenumber: +1 408 555 4798
uid: scarter
givenname: Sam
mail: scarter@example.com
```

EXAMPLE 4–13 Searching an LDIF File by Using a Filter File

Suppose that the file, `filter.ldif`, which contains the following search filter:

```
(&(ou=Accounting)(l=Cupertino))
```

The following command searches the LDIF file for entries that match the filter in the search filter file and outputs the results in an output file. The command specifies the base DN (`-b`) and searches the LDIF file (`-l`) using the search filter file (`-f`) and outputs the results in a file (`-o`). For Windows platforms, use the file paths for the LDIF file (for example, `-l \temp\Example.ldif`), the filter file (for example, `-f \temp\filter.ldif`), and the output file (for example, `-o \temp\results.ldif`):

```
$ ldifsearch -b dc=example,dc=com -l /usr/local/Example.ldif -f /usr/local/filter.ldif \
-o /home/local/results.ldif
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 or greater indicates that an error occurred during processing.

Location

- UNIX and Linux: *instance-dir*`/OUD/bin/ldifsearch`
- Windows: *instance-dir*`\OUD\bat\ldifsearch.bat`

Related Commands

- “ldifmodify” on page 331
- “ldif-diff” on page 328

make-ldif

The `make-ldif` command generates LDIF data based on a template file.

Synopsis

`make-ldif` [*options*]

Description

The `make-ldif` command can be used to generate LDIF data based on a template file. The command allows you to construct any amount of realistic sample data that is suitable for use in applications, such as performance and scalability testing, or to attempt to reproduce a problem observed in a production environment.

Options

The `make-ldif` command accepts an option in either its short form (for example, `-o` *ldifFile*) or its long form equivalent (for example, `--ldifFile` *ldifFile*).

`-o, --ldifFile` *ldifFile*	Specify the path to the LDIF file to which the generated data should be written. This is a required option.
`-s, --randomSeed` *seed*	Specify the integer value that should be used to seed the random number generator. If a random seed is provided, then generating data based on the same template file with the same seed will always generate exactly the same LDIF output. If no seed is provided, then the same template file will likely generate different LDIF output each time it is used.
`-t, --templateFile` *templateFile*	Specify the path to the template file that describes the data to be generated. This is a required option. You must specify an absolute path to the template file.
`-?, -H, --help`	Display command-line usage information for the command and exit without making any attempt to run the command.
`-V, --version`	Display the version information for the directory server.

Examples

The following examples show how to use the directory server commands. See "System Requirements and Certification" in *Oracle Fusion Middleware Installation Guide for Oracle Unified Directory* for more information.

EXAMPLE 4–14 Creating a Sample LDIF File

The following command creates an LDIF file using the template (`-t`), writes to an output file (`-o`), and specifies the random seed (`-s`). For Windows platforms, enter the file paths to your output LDIF file (for example, `-o path\to\Example.ldif`) and to your template file (for example, `-t` *instance-dir*`\OUD\config\MakeLDIF\example.template`).

The `example.template` file is located in the *instance-dir*`/OUD/config/MakeLDIF` `directory`.

```
$ make-ldif -o /path/to/sample.ldif -s 0 \
-t instance-dir/OUD/config/MakeLDIF/example.template

Processed 1000 entries
Processed 2000 entries
Processed 3000 entries
Processed 4000 entries
Processed 5000 entries
Processed 6000 entries
Processed 7000 entries
Processed 8000 entries
Processed 9000 entries
Processed 10000 entries
LDIF processing complete.  10003 entries written
```

EXAMPLE 4–15 Creating a Large Sample LDIF File

The `example.template` file (located in the installation directory under *instance-dir*`/OUD/config/MakeLDIF`) contains a variable that sets the number of entries generated by the `make-ldif` command. You can change the number to create a very large sample LDIF file for your tests.

Open the `example.template` file, and change the `numusers` variable. By default, the variable is set to `10001`. In this example, set the variable to `1000001`:

```
define suffix=dc=example,dc=com
define maildomain=example.com
define numusers=1000001
...
```

Rerun the `make-ldif` command:

```
$ make-ldif -o /path/to/sample.ldif -s 0 \
-t instance-dir/OUD/config/MakeLDIF/example.template
...
Processed 999000 entries
```

EXAMPLE 4–15 Creating a Large Sample LDIF File *(Continued)*

```
Processed 1000000 entries
LDIF processing complete.  1000003 entries written
```

Exit Codes

An exit code of 0 indicates that the operation completed successfully. An exit code of 1 indicates that an error occurred during processing.

Locations

- UNIX and Linux: *instance-dir*`/OUD/bin/make-ldif`
- Windows: *instance-dir*`\OUD\bat\make-ldif.bat`

Related Commands

- "ldifsearch" on page 333
- "ldifmodify" on page 331
- "ldif-diff" on page 328

◆ ◆ ◆ CHAPTER 5

General Command-Line Usage Information

The following sections provide general information about command usage:

Summary of Server Commands and Their Use

The tables in this section provide a summary of the server commands and how they can be used. The tables use the following legend:

Remote	The command can be launched on a remote server
Offline	The command can be launched when the server is stopped
Online	The command connects to a running server instance
Administration Port Only	The command *must* use the administration connector to access the server (on port 4444 by default)

Note – Not all the commands listed in the following tables are supported for Oracle Unified Directory proxy.

TABLE 5–1 Server Administration Commands

Command	Remote	Offline	Online	Administration Connector
create-rc-script				
dsconfig	X		X	X
dsreplication	X		X	X
gicadm	X		X	X

TABLE 5–1 Server Administration Commands *(Continued)*

Command	Remote	Offline	Online	Administration Connector
start-ds		X		
status	X	X	X	X
stop-ds	X		X	X
uninstall		X	X	X
		X		
windows-service		X		

TABLE 5–2 Data Administration Commands

Command	Remote	Offline	Online	Administration Connector
backup	X *	X	X	X
base64		X		
dbtest		X		
export-ldif	X *	X	X	X
import-ldif	X *	X	X	X
list-backends		X		
manage-account	X		X	X
manage-tasks	X		X	X
rebuild-index		X		
restore	X *	X	X	X
split-ldif		X	X	
verify-index		X		

* The command can be launched remotely but the data files must be on the host on which the server is running.

TABLE 5–3 Server Administration Commands

Command	Remote	Offline	Online	Administration Connector
ldapcompare	X		X	
ldapdelete	X		X	

TABLE 5–3 Server Administration Commands *(Continued)*

Command	Remote	Offline	Online	Administration Connector
ldapmodify	X		X	
ldappasswordmodify	X		X	
ldapsearch	X		X	

TABLE 5–4 Other Command-Line Utilities

Command	Remote	Offline	Online	Administration Connector
dsjavaproperties		X		
encode-password		X		
ldifsearch		X		
ldifmodify		X		
ldif-diff		X		
make-ldif		X		

Using a Properties File With Server Commands

Certain command-line utilities can use a common properties file to provide default values for options such as the following:

- The host name and port number of the server
- Whether to use SSL or StartTLS to communicate with the server
- The bind DN to use when connecting to the server

The following utilities can use a properties file:

- `backup`
- `dsconfig`
- `dsreplication`
- `export-ldif`
- `gicadm`
- `import-ldif`
- `split-ldif`
- `ldapcompare`
- `ldapdelete`
- `ldapmodify`
- `ldappasswordmodify`
- `ldapsearch`
- `manage-tasks`

- `oud-setup`
- `oud-proxy-setup`
- `oud-replication-gateway-setup`
- `restore`
- `status`
- `stop-ds`
- `uninstall`

The following mutually exclusive options are used with the command-line utilities to indicate whether a properties files is used:

`--propertiesFilePath` *path*	Specify the path to the file that contains default values for command-line options.
`--noPropertiesFile`	Indicates that the properties file is not used to obtain default values for command-line options.

Locating the Properties File

Utilities that use the common properties file have the following default behavior:

- If the `--noPropertiesFile` option is specified, the command-line interface does not try to locate a properties file. Only options specified on the command line are evaluated.
- If the `--propertiesFilePath` option is specified, property values are read from this file.
- If neither `--propertiesFilePath` nor `--noPropertiesFile` is specified, the command-line interface attempts to find a properties file in the following locations:
  - *userdirectory*`/.opends/tools.properties`
  - *instance-dir*`/OUD/config/tools.properties`
- If no properties file is found in either of these locations, the default behavior is applied (only arguments specified on the command line are evaluated).

Order of Precedence of Options and Properties

If an option is provided on the command line, this option and its corresponding value are used by the command-line interface. In other words, options specified on the command line take precedence over the properties defined in the properties file.

The properties file has the standard JAVA properties file format (*property-name*=*value*). As such, the file supports variations on property names to enable them to be overridden according to the command that uses them. For example, the properties file might contain the following:

```
hostname=localhost
port=4444
bindDN=cn=Directory Manager
bindPassword=password
baseDN=dc=example,dc=com
searchScope=sub
sortOrder=givenName
virtualListView=0:2:1:0
```

If a command-line interface uses the `port` property, the command first tries to locate a *toolname*`.port` definition. If this is not defined, the command tries to locate a `port` definition. For example, the properties file might have several port options defined for different utilities:

```
port=4444
ldapsearch.port=1389
ldapcompare.port=1389
ldapmodify.port=1389
ldapdelete.port=1389
```

Note – Do **not** use quotation marks around the values in the properties file (for example, `port="4444"`).
