

# HP Systems Insight Manager 5.2 Command Line Interface reference guide



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## Typographic Conventions

We use the following typographical conventions.

<i>audit</i> (5)	HP-UX manpage. <i>audit</i> is the name and 5 is the section in the <i>HP-UX Reference</i> . On the web and on the Instant Information DVD, it might be a hot link to the manpage itself. From the HP-UX command line, you can enter "man <i>audit</i> " or "man 5 <i>audit</i> " to view the manpage. See <i>man</i> (1).
<i>Book Title</i>	Title of a book. On the web and on the Instant Information DVD, it might be a hot link to the book itself.
Command	Command name or qualified command phrase.
ComputerOut	Text displayed by the computer.
<i>Emphasis</i>	Text that is emphasized.
<b>Emphasis</b>	Text that is strongly emphasized.
<b>KeyCap</b>	Name of a keyboard key. Note that <b>Return</b> and <b>Enter</b> both refer to the same key.
<b>Term</b>	Defined use of an important word or phrase.
<b>UserInput</b>	Commands and other text that you type.
<i>variable</i>	Name of a variable that you can replace in a command or function or information in a display that represents several possible values.

- [ ] Contents are optional in formats and command descriptions. If the contents are a list separated by |, you must choose one of the items.
- { } Contents are required in formats and command descriptions. If the contents are a list separated by |, you must choose one of the items.
- ... Preceding element can be repeated an arbitrary number of times.
- | Separates items in a list of choices.

---

# Table of Contents

1	About this guide.....	10
	Intended audience.....	10
	Prerequisites.....	10
	Related documentation.....	10
	Document conventions and symbols.....	10
	HP technical support.....	11
	Other HP web sites.....	11
2	About the HP SIM Command Line Interface.....	12
	Introduction.....	12
	Commands.....	12
	manpages (manual pages).....	12
	Command list.....	12
	Logging in to the CLI.....	14
	Logging in directly on the CMS.....	14
	Remotely using an SSH client.....	15
	Entering commands.....	15
	Application requirement.....	15
	Permissions.....	15
	Quotation marks.....	16
	Logging out of the CLI.....	16
3	Command descriptions.....	17
	mcompile.....	17
	Synopsis.....	17
	Description.....	17
	Options.....	17
	Return values.....	17
	Examples.....	17
	See also.....	18
	mxagentconfig.....	18
	Synopsis.....	18
	Description.....	18
	Options.....	18
	Return values.....	19
	Files.....	19
	Example.....	19
	See also.....	19
	mxauth.....	20
	Synopsis.....	20
	Description.....	20
	XML file support.....	21
	Options.....	21
	External influences.....	22
	Return values.....	22
	Examples.....	22
	Diagnostics.....	23
	Limitations.....	24
	See also.....	24
	mxcert.....	24
	Synopsis.....	24
	Description.....	24
	Options.....	24
	Return values.....	25
	Examples.....	25
	mxcollection.....	26

Synopsis.....	26
Description.....	26
Options.....	27
Return values.....	28
Examples.....	29
See also.....	29
mxexec.....	29
Synopsis.....	29
Description.....	30
Options.....	32
External influences.....	34
Return values.....	34
Examples.....	34
Example 2.....	35
Example 3.....	35
Limitations.....	36
See also.....	36
mxgetdbinfo.....	36
Synopsis.....	36
Description.....	36
Options.....	36
Return values.....	37
Examples.....	37
mxgethostname.....	37
Synopsis.....	37
Description.....	37
Options.....	37
Return values.....	38
Example.....	38
mxglobalprotocolsettings.....	38
Synopsis.....	38
Description.....	38
Options.....	38
Return values.....	38
Examples.....	39
See also.....	39
mxglobalsettings.....	39
Synopsis.....	39
Description.....	39
Options.....	39
Return values.....	40
Files.....	40
Examples.....	40
mxinitconfig.....	40
Synopsis.....	40
Description.....	40
Options.....	41
Return values.....	41
Files.....	41
Examples.....	41
mxlog.....	42
Synopsis.....	42
Description.....	42
Options.....	42
Return values.....	43
Limitations.....	43
Examples.....	43
mxmib.....	44
Synopsis.....	44

Description.....	44
Options.....	44
Return values.....	44
Examples.....	44
mxngroup.....	45
Synopsis.....	45
Description.....	45
XML file support.....	46
Options.....	46
External influences.....	47
Return values.....	47
Examples.....	48
Limitations.....	49
See also.....	49
mxnode.....	49
Synopsis.....	49
Description.....	49
XML file support.....	55
Options.....	55
External influences.....	56
Return values.....	57
Examples.....	57
Node proxy/management paths (MPO).....	60
Notes.....	63
Limitations.....	63
mxnodesecurity.....	63
Synopsis.....	63
Description.....	63
XML file support.....	64
Options.....	64
Return values.....	65
Examples.....	65
Limitations.....	66
See also.....	66
mxoracleconfig.....	67
Synopsis.....	67
Description.....	67
Options.....	67
Return values.....	67
See also.....	67
Example.....	68
mxpassword.....	68
Synopsis.....	68
Description.....	68
Options.....	68
Return values.....	69
Examples.....	69
mxquery.....	69
Synopsis.....	69
Description.....	70
Option.....	71
External influences.....	72
Return values.....	72
Examples.....	73
Limitations.....	73
See also.....	73
mxreport.....	73
Synopsis.....	73
Description.....	74

Options.....	75
External influences.....	76
Return values.....	76
Examples.....	76
Limitations.....	77
See also.....	77
mxstart.....	77
Synopsis.....	77
Description.....	78
Return values.....	78
Example.....	78
mxstm.....	78
Synopsis.....	78
Description.....	78
Options.....	78
Return values.....	79
Examples.....	79
See also.....	80
mxstop.....	80
Synopsis.....	80
Description.....	80
Return values.....	80
Example.....	80
See also.....	80
mxtask.....	80
Synopsis.....	80
Description.....	81
Options.....	82
The schedule parameterized string format.....	83
External influences.....	84
Return values.....	84
Examples.....	84
Limitations.....	87
See also.....	87
mxtool.....	87
Synopsis.....	87
Description.....	88
Options.....	89
External influences.....	90
Return values.....	90
Examples.....	90
Limitations.....	91
See also.....	91
mxtoolbox.....	91
Synopsis.....	91
Description.....	91
Toolbox attributes.....	92
XML file support.....	92
Options.....	93
External influences.....	93
Return values.....	93
Examples.....	94
Limitations.....	95
See also.....	95
mxuser.....	96
Synopsis.....	96
Description.....	96
XML file support.....	97
Options.....	98

External influences.....	99
Return values.....	99
Examples.....	100
Limitations.....	100
See also.....	101
mxwbemsub.....	101
Synopsis.....	101
Description.....	101
XML file support.....	102
Options.....	102
Return value.....	102
Examples.....	102
Limitations.....	103

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# List of Tables

1-1	Document conventions.....	10
2-1	HP SIM CLI commands.....	13

# 1 About this guide

This guide provides information about:

- Logging in to the command line interface (CLI)
- Logging out of the CLI
- CLI command reference



**NOTE:** In this guide, the terms node and node group are the same as system and system group, which are also used in the HP Systems Insight Manager (HP SIM) documentation set.

## Intended audience

This guide is intended for use by customers and HP authorized service providers who are experienced with the following:

- HP SIM
- CLIs

## Prerequisites

Prerequisites for using this product include:

- Knowledge of HP SIM
- Basic knowledge of CLIs

## Related documentation

For additional resources, go to the HP SIM web site at <http://www.hp.com/go/hpsim>.

## Document conventions and symbols

**Table 1-1 Document conventions**

Convention	Element
Blue text: Document conventions and symbols	Cross-reference links and e-mail addresses
Blue, underlined text: <a href="http://www.hp.com">http://www.hp.com</a>	Web site addresses
<b>Bold</b> text	<ul style="list-style-type: none"><li>• Keys that are pressed</li><li>• Text typed into a GUI element, such as a box</li><li>• GUI elements that are clicked or selected, such as menu and list items, buttons, tabs, and check boxes</li></ul>
<i>Italic</i> text	Text emphasis
Monospace text	<ul style="list-style-type: none"><li>• File and directory names</li><li>• System output</li><li>• Code</li><li>• Commands, their arguments, and argument values</li></ul>
<i>Monospace, italic</i> text	<ul style="list-style-type: none"><li>• Code variables</li><li>• Command variables</li></ul>
Monospace, <b>bold</b> text	Emphasized monospace text



**CAUTION:**

Indicates that failure to follow directions could result in damage to equipment or data.



---

**IMPORTANT:** Provides clarifying information or specific instructions.

---



---

**NOTE:** Provides additional information.

---



---

**TIP:** Provides helpful hints and shortcuts.

---

## HP technical support

Telephone numbers for worldwide technical support are listed on the HP support web site: <http://www.hp.com/support/>.

Collect the following information before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Error messages
- Operating system type and revision level
- Detailed questions

For continuous quality improvement, calls may be recorded or monitored.

## Other HP web sites

For additional information, see the following HP web sites:

- HP Systems Insight Manager web site at <http://www.hp.com/go/hpsim/> for general product information and links to software downloads, documentation, and troubleshooting information.
- HP Technical Documentation web site at <http://www.docs.hp.com/> for access to HP SIM manuals and release notes.
- HP Software Depot web site at <http://www.software.hp.com/> for access to HP SIM software downloads.
- HP Business Support Center web site at <http://www.hp.com/bizsupport/> for support information about HP SIM and HP Commercial products.
- HP IT Resource Center web site at <http://www.itrc.hp.com> for support information about HP SIM and HP Enterprise products.
- HP SIM Providers web site at <http://www.hp.com/go/hpsim/providers> for information about device support and SMI-S providers.
- Videos that showcase HP SIM and the Essentials at <http://h18013.www1.hp.com/products/servers/management/hpsim/infolibrary.html>.
- HP SIM forum at <http://http://forums1.itrc.hp.com/service/forums/categoryhome.do?categoryId=455> for discussions on HP SIM.

---

# 2 About the HP SIM Command Line Interface

## Introduction

HP SIM provides a command line interface (CLI) in addition to the graphical user interface (GUI). Many functions available in the GUI are also available in the CLI.

## Commands

HP SIM commands are installed in the following locations on the central management server (CMS):

- HP-UX and Linux: `/opt/mx/bin/`
- Windows: `C:\Program Files\HP\System Insight Manager\bin\`



**NOTE:** The Windows path varies if HP SIM is not installed in the default location.

---

## manpages (manual pages)

### Viewing manpages on Unix systems

You can use the `man` utility on HP-UX and Linux systems to format and display CLI command line usage manpages. Use the following format to specify a manpage to view: `# man [ sectionNumber ] ManpageName`.

#### HP-UX

- CLI command line usage manpages are specified as section 1M.
- CLI Extensible Markup Language (XML) usage manpages are specified as section 4.

Examples: To view the command line or XML usage for `mxtask`, enter one of the following:

- `# man mxtask` displays the command line usage for `mxtask`.
- `# man 1m mxtask` displays the command line usage for `mxtask`.
- `# man 4 mxtask` displays the XML usage for `mxtask`.

#### Linux

- CLI command line usage manpages are specified as section 8.
- CLI XML usage manpages are specified as section 4.

Examples: To view the command line or XML usage for `mxtask`, enter one of the following:

- `# man mxtask` displays the command line usage for `mxtask`.
- `# man 8 mxtask` displays the command line usage for `mxtask`.
- `# man 4 mxtask` displays the XML usage for `mxtask`.

### Viewing manpages on Windows systems

The HP SIM Windows manpages are available in the following folder: `HP\System Insight Manager\hpwebadmin\webapps\mxhelp\mxportal\en\manpages`. Double-click a manpage file to view the contents in a web browser.

## Command list

The following table lists the HP SIM CLI commands. For more details about each command, see ??? or the manpage for each command.



**NOTE:** The manpage section numbers for CLI command line usage manpages are different for each operating system (OS). The CLI command line usage manpage section number is 1M for HP-UX and Windows, and 8 for Linux. The CLI XML usage manpage section number is 4 for all operating systems.

**Table 2-1 HP SIM CLI commands**

Command	Functionality	Available manpages
<code>mcompile</code>	Compiles a Simple Network Management Protocol (SNMP) Management Information Base (MIB) file into an intermediate format configuration (CFG) file for importing into HP SIM using <code>mxmib</code> .	<code>mcompile(1M, 8)</code>
<code>mxagentconfig</code>	Configures Secure Shell (SSH) on a managed node by copying the central management server (CMS) public key to a user's SSH key directory, and then appending that key to the authenticated keys file. The user must be a valid SSH user on the managed node before running this command.	<code>mxagentconfig(1M, 8)</code>
<code>mxauth</code>	Allows full configuration rights users to manage HP SIM authorizations.	<code>mxauth(1M, 8)</code> , <code>mxauth(4)</code>
<code>mxcert</code>	Creates a new certificate, imports a signed or trusted certificate, removes a certificate, lists certificates, generates a certificate signing request, notes whether or not to require trusted certificates, upgrades the certificate from HP SIM 4.x, and synchronizes the public certificate with the System Management Homepage share directory.	<code>mxcert(1M,8)</code>
<code>mxcollection</code>	Adds, modifies, removes, and lists collections. <b>Note:</b> <code>mxcollection</code> XML file components and tags are case sensitive.	<code>mxcollection(1M, 8)</code> , <code>mxcollection(4)</code>
<code>mxexec</code>	Executes HP SIM tools with associated arguments on specific HP SIM managed nodes or node groups, verifies the status of running tools, and enables a full configuration rights user to kill or cancel a running task.	<code>mxexec(1M, 8)</code>
<code>mxgetdbinfo</code>	Displays information about the HP SIM database.	<code>mxgetdbinfo(1M, 8)</code>
<code>mxgethostname</code>	Prints the name, IP address, or information about the local host in HP SIM.	<code>mxgethostname(1M, 8)</code>
<code>mxglobalprotocolsettings</code>	Used to manage global protocol settings from an XML file or the command line. This command lists global protocol settings in detailed or XML format.	<code>mxglobalprotocolsettings(1M, 8)</code> , <code>mxglobalprotocolsettings(4)</code>
<code>mxglobalsettings</code>	Used to manage the global settings in HP SIM.	<code>mxglobalsettings(1M, 8)</code>
<code>mxinitconfig</code>	Performs initial configuration for the CMS. <b>Note:</b> For best performance, running <code>mxinitconfig</code> is not recommended after HP SIM is configured.	<code>mxinitconfig(1M, 8)</code>
<code>mxlog</code>	Logs an entry to the log file or standard out.	<code>mxlog(1M, 8)</code>
<code>mxmib</code>	Adds, deletes, and processes a list of MIBs for HP SIM and lists registered MIBs and traps for a specific registered MIB.	<code>mxmib(1M, 8)</code>
<code>mxngroup</code>	Allows you to create, modify, remove, and list system groups in HP SIM.	<code>mxngroup(1M, 8)</code> , <code>mxngroup(4)</code>

Command	Functionality	Available manpages
<code>mxnode</code>	Adds, modifies, identifies, removes, or lists systems in HP SIM.	<code>mxnode(1M, 8)</code> , <code>mxnode(4)</code>
<code>mxnodesecurity</code>	Adds, modifies, or removes security credentials for SNMP and Web-Based Enterprise Management (WBEM) protocols.	<code>mxnodesecurity(1M, 8)</code> , <code>mxnodesecurity(4)</code>
<code>mxoracleconfig</code>	Allows you to configure HP SIM to use an Oracle database. This command does not initiate the database.	<code>mxoracleconfig(1M, 8)</code>
<code>mxpassword</code>	Adds, lists, modifies, or removes passwords stored in HP SIM. The passwords are displayed in clear text for readability.	<code>mxpassword(1M, 8)</code>
<code>mxquery</code>	Adds, lists, modifies, or removes queries in HP SIM. <b>Note:</b> Using <code>mxcollection</code> is preferred over using <code>category</code> with <code>mxquery</code> . Using <code>cat</code> will still work for <code>mxquery</code> , but you should switch to <code>mxcollection</code> for creating and manipulating collections (previously known as categories).	<code>mxquery(1M, 8)</code> , <code>mxquery(4)</code>
<code>mxreport</code>	Allows users with sufficient privileges to run reports and add, delete, and list reports and report categories.	<code>mxreport(1M, 8)</code> , <code>mxreport(4)</code>
<code>mxstart</code>	Starts the HP SIM daemons.	<code>mxstart(1M, 8)</code>
<code>mxstm</code>	Adds, removes, and lists System Type Manager rules.	<code>mxstm(1M, 8)</code>
<code>mxstop</code>	Stops the HP SIM daemons.	<code>mxstop(1M, 8)</code>
<code>mxtask</code>	Lists, executes, removes, creates, and changes ownership for HP SIM scheduled tasks via the command line or an external XML file.	<code>mxtask(1M, 8)</code> , <code>mxtask(4)</code>
<code>mxtool</code>	Allows users to add, list, modify, or remove HP SIM tools.	<code>mxtool(1M, 8)</code> , <code>mxtool(4)</code>
<code>mxtoolbox</code>	Allows full configuration rights users to add, rename, describe, disable, enable, remove, and list toolboxes.	<code>mxtoolbox(1M, 8)</code> , <code>mxtoolbox(4)</code>
<code>mxuser</code>	Adds, modifies, removes, or lists users. <code>mxuser</code> also allows you to assign authorizations for created users and user groups.	<code>mxuser(1M, 8)</code> , <code>mxuser(4)</code>
<code>mxwbemsub</code>	Allows you to add, list, delete, or move WBEM event subscriptions from nodes managed by the CMS. This command requires access to a file that allows only full configuration rights user access.	<code>mxwbemsub(1M, 8)</code>

## Logging in to the CLI

Access the HP SIM CLI directly on the CMS or from any network client using SSH client software.

## Logging in directly on the CMS

1. Log in to the CMS using a valid user name and password (SSH `system name` ).  
HP SIM grants authorizations based on your OS login.
2. Open a terminal window or a command prompt window to execute HP SIM commands.

## Remotely using an SSH client



**NOTE:** The preferred way to log in remotely is to use an SSH client. Telnet and rlogin work, but neither provides a secure connection.

---

1. Open an SSH client application on any network client.
2. Log in to the CMS through the SSH client software, using a valid user name and password.  
HP SIM grants authorizations based on your OS login.

## Entering commands

### Application requirement

Most of the commands in the CLI work only when HP SIM is running. The following CLI commands are exceptions to this rule, and can be invoked when HP SIM is not running.

- mxgethostname
- mxinitconfig
- mxnodesecurity
- mxpassword
- mxversion
- mxgetdbinfo
- mxoracleconfig

### Permissions

On an HP-UX or Linux CMS, you can log in to the OS as any valid HP SIM user and use the CLI (complete CLI functionality is available only to users with full configuration rights or limited configuration rights on the CMS). On a Windows CMS, the following commands require that the user be a member of the local Administrators group:

- mxagentconfig
- mxauth
- mxcert
- mxcollection
- mxexec
- mxglobalprotocolsettings
- mxglobalsettings
- mxlog
- mxmib
- mxngroup
- mxnode
- mxquery
- mxreport
- mxstm
- mxtask
- mxtool
- mxtoolbox
- mxuser
- mxwbemsub

On a Windows CMS, if you are not a member of the local Administrators group, add the options `--user username` and `--pass password` when running any of the listed commands. For example, to list information about one or more authorizations in compact or table form, enter `mxauth [-lt] --user username --pass password`.

On a Linux or HP-UX CMS, you can add the options `--user username` and `--pass password` to a command in order to run it under a different account than the one that is logged in. For example, if you have limited configuration rights, and you want to remove multiple authorizations by specifying an input file, which requires full configuration rights, enter `mxauth -a|r -f filename --user username --pass password` and use the login information of a full-configuration-rights user.

## Quotation marks

When you enter a CLI command with a string that includes spaces or special characters, you must enclose the string in quotation marks. For example: `mxreport -l -x report -n "Inventory - Servers"`.

## Logging out of the CLI

After you are finished with an SSH session, log out from HP SIM to prevent someone from accessing your active session.

To log out from the CLI, log off of the CMS or the Secure Shell (SSH) client application.

# 3 Command descriptions

This chapter describes the commands in the HP SIM CLI. The commands in this chapter use the following conventions:

- Optional items are enclosed in square brackets [ ].
- Required parameters are in italics.
- The | character indicates a choice between options.
- Curly brackets { } indicate an option that requires one or more values.

## mcompile

### Synopsis

```
mcompile [-d mib file directory] filespec
```

### Description

`mcompile` allows you to compile an SNMP MIB file into an intermediate format (CFG) file that can be registered via the `mxmib` utility for use with HP SIM. If the MIB file being compiled includes `IMPORTS` from other MIBs, the imported MIB files must be in the same directory as the MIB file being compiled.

### Options

*-d mib file directory*

Change to the specified directory to locate and process the MIB file. The *mib file directory* must include the absolute path name. The CFG file is placed in the same directory. By default, `mcompile` looks for the MIB file in the current directory and places the CFG file in the current directory.

*filespec*

Enter the name of the MIB file.

### Return values

Value	Meaning
0	Successful completion.
>0	An error occurred during operation.

### Examples

#### Example 1

To compile the MIB file `cpqHost.mib` located in the `mibs` folder in the current directory, enter `mcompile -d mibs cpqHost.mib`.

#### Example 2

To compile the MIB file `cpqHost.mib` located in the `c:\test\mibs` directory, enter `mcompile -d c:\test\mibs cpqHost.mib`.

The output will be similar to the following:

```
HP Systems Insight Manager Mib Compiler, Version 1.0  
Copyright (c) 2003 Hewlett Packard Corporation
```

```
Compiling cpqHost.mib
```

```
Processing import file: RFC1155-SMI.mib
```

```
Processing import file: RFC1155-SMI.mib
Processing import file: rfc1213.mib
Processing import file: RFC-1212.mib
Processing import file: RFC-1215.mib
Processing import file: rfc1213.mib
Mib Compilation completed successfully.
```

## See also

`mxmib(1)`

## mxagentconfig

### Synopsis

```
mxagentconfig -a [-n hostname] -u login [-o host/user] [-p password]
mxagentconfig -a [-n hostname] -u login [-o host/user] [-f filespec]
mxagentconfig -a [-n hostname] -u login [-o host/user] [-s password]
mxagentconfig -a [-n hostname] -u login [-o host/user]
mxagentconfig -c [-n hostname] -u login
mxagentconfig -r [-n hostname]
```

### Description

`mxagentconfig` configures SSH on a managed node by copying the CMS public key to a user's SSH key directory, and then appending that key to the authenticated keys file. The user must be a valid SSH user on the managed node before running this command. Each run-as user must have the CMS public key added to their authenticated keys file in order to use the Distributed Task Facility (DTF) to execute tasks on the specified managed node (including the CMS). Tool definitions that do not specify a run-as user will run as the calling user.

This command uses the login password of the specified user on the managed node.



---

**NOTE:** Be careful when entering passwords in the CLI. This makes them available in the command history, the process list during execution, and the audit log if the command is executed as part of a task. Be sure to clear your command history or use alternate methods for specifying passwords, for example, a prompt or input file.

---

This command can accept multiple hostnames. The user account and password must be the same for all hostnames entered in a single command. If the user account and password are not the same, use `-f filespec` to enter the account details from a file.

### Options

- a  
Copy the CMS public key to a designated user on one or more nodes.
- r  
Remove the managed node's host key from the `known_hosts` file on the CMS.
- c  
Check whether a managed node is configured for CMS access.
- n *hostname*  
Specify the hostname of a node to manage. If this option is not specified, the default is the CMS.
- o *host/user*

Specify whether to configure the managed node with SSH host-based authentication or user key-based authentication. If this option is not specified, the default is host-based authentication.

`-u login`

Enter the user name to enable SSH execution.

`-p password`

Enter the password of the specified user on the managed node. If the password contains special characters that the shell might interpret, for example, \$ or &, enclose the string in quotation marks.

`-s password`

Specify an encoded password used by the CMS internal tools.

`-f filespec`

Specify an input file. This file can contain a password or a managed node list to configure. If the file contains a node list, the first line must be `MXAGENTCONFIG_NODELIST_FILE`. Enter information for each node on a separate line in the format `nodename,username,password`. The nodename is required, but the username and password can be empty if you want to use the values entered into the command line. For example, if you enter `target1, ,` the command uses the username and password specified with the `-u` and `-p` options when configuring the node `target1`.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
>0	An error occurred during operation.

## Files

Server:

- `/etc/opt/mx/config/sshtools/.dtfSshKey.pub`
- `/etc/opt/mx/config/sshtools/known_hosts`

Managed node:

- `~/.ssh/.<cms_name>.dtfSshKey.pub`
- `~/.ssh/authorized_keys2`
- `~/.ssh/authorized_keys2.bak`

## Example

To copy the SSH-generated public key from the CMS to the node `node1` with the username `root` and password `password`, enter `mxagentconfig -a -n node1 -u root -p password`.

## See also

HP-UX

mxexec (1M)

Linux

mxexec (8)

# mxauth

## Synopsis

```
mxauth -a|r -u username -R toolboxname -n nodename
mxauth -a|r -u username -R toolboxname -g groupname
mxauth -a|r -f filename
mxauth [-l t]
mxauth -l f [-b encoding]
```

## Description

`mxauth` is used to manage authorizations. These associations between users, toolboxes, and nodes or node groups can be added or removed only by full configuration rights users. Any HP SIM user can list authorizations. Authorizations formed from users, toolboxes, and nodes are called *node authorizations*.

- `mxauth -a|r -u username -R toolboxname -n nodename`  
This command allows full configuration rights users to add or remove one node authorization. Asterisks are supported for the *nodename* parameter. HP SIM recognizes the asterisk as a wildcard character to indicate adding the node authorization for all currently configured nodes. When using the wildcard character on the command line, enclose it in quotation marks to prevent the shell interpreter from preprocessing it.
- `mxauth -a|r -u username -R toolboxname -g groupname`  
This command allows full configuration rights users to add or remove one node group authorization. Asterisks are supported for the *groupname* parameter. HP SIM recognizes the asterisk as a wildcard character to indicate adding the node group authorization for all currently configured node groups. When using the wildcard character on the command line, enclose it in quotation marks to prevent the shell interpreter from preprocessing it.
- `mxauth -a|r -f filename`  
This command allows full configuration rights users to add or remove multiple authorizations by specifying an input file containing node and node group authorizations. The file must be formatted in the required XML format. See [XML file support](#), [Examples](#), and the `mxauth(4)` manpage for more information.
- `mxauth [-l t]`  
This command lists information about one or more authorizations in simple or tabular format. When you run `mxauth` with no options, the output lists all authorization names in simple form with the authorization fields separated by colons (:).  
Node authorizations are listed in the format:  
`user:toolboxname:n:nodename`  
  
Node group authorizations are listed in the format:  
`user:toolboxname:g:groupname`  
  
When you use `-l t`, `mxauth` lists all authorizations in a table with column headings identifying each field.  
For HP SIM 5.1 and later, the enabled/disabled state of the Auto Update feature is displayed for node group authorizations. Auto Update allows you to configure authorizations that can be automatically updated (systems added or removed from the associated node group list) in the background at a configurable interval, for example, every five minutes.  
In the simple listing format, the Auto Update state for a node group authorization is appended and displayed as `:Auto` if Auto Update is enabled, or `:Manual` if you must manually click the **Update** button to update an authorization. For example:

```
user:toolboxname:g:groupname:Auto
user:toolboxname:g:groupname:Manual
```

In the tabular listing format, a new `AUTO` column is included. The Auto Update state for a node group authorization is `Auto` if Auto Update is enabled. If Auto Update is disabled, the column is blank.



**NOTE:** This command displays the current Auto Update state for node group authorizations, but you cannot use it to change or set the Auto Update state. Use `mxngroup` to set the Auto Update state.

- `mxauth -l f [-b encoding]`

This command outputs authorization information to an XML file.

Optionally, you can specify the character encoding of the XML file. The value for the character encoding must match a valid character encoding. If no encoding is specified, the system attempts to write the file in the encoding currently defined on the system. See <http://www.iana.org/assignments/character-sets> for the list of valid character sets.

## XML file support

`mxauth` allows you to add or remove authorizations by specifying an XML file containing a list of authorizations. See the [Examples](#) section and the `mxauth(4)` manpage for more information.

XML input files are processed in three passes:

1. The first pass attempts to parse the XML file and generate a list of authorizations to process. This pass ensures that the XML file is formatted correctly, and the authorization objects contain syntactically valid information.  
If an error is detected, the process is interrupted, an error is generated, and the HP SIM database is not changed.
2. During the second pass, `mxauth` tries to resolve the components in each authorization to objects in the database. If the command encounters a logic error, such as a nonexistent user, toolbox, node, or node group, the process is interrupted, an error is generated, and the HP SIM database is not changed.
3. During the third pass, `mxauth` performs the requested authorization addition or removal, and updates the database.

Duplicate and undefined authorizations are ignored during add and remove operations.

## Options

`-a`

Add authorizations. The wildcard character (\*) is supported for `nodename` and `groupname`.

`-r`

Remove authorizations. The wildcard character (\*) is supported for `nodename` and `groupname`.

`-f filename`

Specify a file that contains the list of authorizations to add or remove.

`-l t`

List all authorizations in tabular format.

`-l f`

List authorization information in XML format. The resulting file can be edited and used to add or remove authorizations with `-f`.

`-b encoding`

Specify the character encoding for the XML file. This is used with `-l f`.

- u *username*  
Specify the user for the authorization. This option does not support user groups.
- R *toolboxname*  
Specify the toolbox name for the authorization. Enclose toolbox names with embedded spaces in quotation marks.
- n *nodename*  
Specify the node name for the authorization. The wildcard character (\*) is supported for *nodename*.
- g *groupname*  
Specify the node group name for the authorization. The wildcard character (\*) is supported for *groupname*. This option does not support user groups.



**NOTE:** When duplicate options are specified, the last instance of the option is used. For example, if you enter `-f file1 -f file2, mxauth` uses `file2`.

## External influences

For HP-UX and Linux, `LANG` determines the default encoding that the system will use to output XML data if no encoding is specified on the command line. If `LANG` is not specified or null, or `LANG` does not correspond to a recognized encoding, it defaults to C (see `lang (5)`). In this case, use the `-b` option to specify the encoding of the XML data.

## Return values

Value	Meaning
0	Successful completion.
1	Command line syntax error.
2	Error in a file operation.
3	Nonexistent user, toolbox, node, or node group error.
21	Invalid name.
102	Database error.
222	The CMS is not initialized.
249	Unable to connect to the session manager.

## Examples

### Example 1

To add the authorizations in the file `my_auths.xml`, enter `mxauth -a -f my_auths.xml`.

The contents of `my_auths.xml` might look like:

```
<?xml version="1.0" encoding="UTF-8"?>
<auth-list>
  <node-authorization user-name="user1"
                    toolbox-name="webadmin"
                    node-name="node1.corp.com" />
  <node-authorization user-name="user2"
                    toolbox-name="operator"
                    node-name="node1.corp.com" />
  <node-authorization user-name="user3"
                    toolbox-name="dbadmin"
                    node-name="node2.corp.com" />
```

```
<node-group-authorization user-name="user4"
                           toolbox-name="All Tools"
                           node-group-name="All Managed Systems" />

</auth-list>
```

The first section in `my_auths.xml` gives *user1* the toolbox *webadmin* on *node1.corp.com*. The second section gives *user2* the toolbox *operator* on *node1.corp.com*. The third section gives *user3* the toolbox *dbadmin* on *node2.corp.com*. The fourth section gives *user4* the toolbox *All Tools* for the node group *All Managed Systems*.

#### Example 2

To add the node authorization allowing user *bill* to execute any tools assigned to the *webadmin* toolbox on node *web01*, enter `mxauth -a -u bill -R webadmin -n web01`.

#### Example 3

To use the wildcard character to add the node authorizations that allow user *jane* to execute any tools assigned to the *webadmin* toolbox on all configured nodes at the time the command is executed, enter `mxauth -a -u jane -R webadmin -n "*" .`

#### Example 4

To remove the node authorization for user *martha* to execute any tools assigned to the *sapadmin* toolbox on node *sap01*, enter `mxauth -r -u martha -n sap01 -R sapadmin`.

#### Example 5

To use the wildcard character to remove the node authorizations that allow user *wilma* to execute any tools assigned to the *webadmin* toolbox on all configured nodes at the time the command is executed, enter `mxauth -r -u wilma -R webadmin -n "*" .`

#### Example 6

To add the node group authorization to allow user *sue* to execute any tools assigned to the *webadmin* toolbox on nodegroup *webGroup*, enter `mxauth -a -u sue -R webadmin -g webGroup`.

#### Example 7

To use the wildcard character to add the node group authorizations that allow user *jane* to execute any tools assigned to the *operator* toolbox on all configured node groups at the time the command is executed, enter `mxauth -a -u jane -R operator -g "*" .`

#### Example 8

To remove the node group authorization for user *john* to execute any tools assigned to the *dbadmin* toolbox on nodegroup *dbGroup*, enter `mxauth -r -u john -R dbadmin -g dbGroup`.

#### Example 9

To remove the node group authorizations that allow user *john* to execute any tools assigned to the *dbadmin* toolbox on all configured node groups at the time the command is executed, enter `mxauth -r -u john -R dbadmin -g "*" .`

#### Example 10

To list, in tabular format, all authorizations assigned to all users in the database, enter `mxauth -l t`.

## Diagnostics

`mxauth` writes to `stdout`, `stderr`, and the HP SIM Audit Log file.

## Limitations

- This command can only be run on the CMS.
- It is not an error to remove an authorization that does not exist. This operation results in a return value of 0.
- An authorization is nonexistent if all of its attributes (user name, toolbox name, node or node group name) are valid HP SIM objects, but they are not associated as an authorization.
- It is not an error to add an authorization that already exists in HP SIM. This operation results in a return value of 0.

## See also

### HP-UX

`mxauth(4)`, `mxuser(1M)`, `mxngroup(1M)`, `mxngroup(4)`, `mxnode(1M)`, `mxtoolbox(1M)`

### Linux

`mxauth(4)`, `mxuser(8)`, `mxngroup(8)`, `mxnode(8)`, `mxtoolbox(8)`

## mxcert

### Synopsis

```
mxcert -n CN=common_name ALT=alternative name(s) OU=organization_unit
O=organization_name L=locality_name ST=state C=country_code
mxcert -i [-f filespec/-]
mxcert -t [-f filespec/-]
mxcert -r alias|CN
mxcert -ln [alias|CN]
mxcert -ld [alias|CN]
mxcert -l alias|CN
mxcert -c
mxcert -w
mxcert -w CN=common_name OU=organization_unit O=organization_name L=locality_name ST=state
C=country_code
mxcert -s
mxcert -b 1|3
```

### Description

`mxcert` allows you to manage the server certificate and the trusted certificates in the HP SIM keystore.

### Options

`-n`

Create a new server certificate.

`-n [CN=x] [ALT=x] [OU=x] [O=x] [L=x] [ST=x] [C=x]`

`-n [CN=x][ALT=x][OU=x][O=x][L=x][ST=x][C=x]` Create a new server certificate with the provided details, where CN=common\_name, ALT=alternative name(s), OU=organizational\_unit, O=organization\_name, L=locality\_name, ST=state, and C=country-code.

`-i [-f filespec]`

Import a signed server certificate from the specified file.

`-t [-f filespec]`

- Import a trusted certificate from the specified file
- i -  
Import a signed server certificate from the standard input.
- t -  
Import a trusted certificate from the standard input.
- r *alias* | *CN*  
Remove the certificate with the specified alias or certificate name.
- ln [*alias* | *CN*]  
List the certificate with the specified alias or certificate name in the short format.
- ld [*alias* | *CN*]  
List the certificate with the specified alias or certificate name in detailed format.
- l *alias* | *CN*  
List the Base 64 encoded contents of the certificate with the specified alias or certificate name.
- c  
Create a Certificate Signing Request (CSR).
- b [*1* | *3*]  
Set the trusted certificates flag (1= Always Accept, 3=Required).
- s  
Synchronize the server certificate in the SSL shared directory.
- w  
Create a new WBEM server certificate.
- [*OU=x*] [*O=x*] [*L=x*] [*ST=x*] [*C=x*]  
Create a new WBEM server certificate with the provided details, where *CN*=common\_name, *OU*=organizational\_unit, *O*=organization\_name, *L*=locality\_name, *ST*=state, and *C*=country-code.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
>0	An error occurred during operation.

## Examples

### Example 1

To create a new server certificate with the specified X.509 distinguished name, enter `mxcert -n CN=Bob O=BobCo L=Anytown C=US`.

### Example 2

To import a trusted certificate called `sample.cert` into the keystore, enter `mxcert -t -f sample.cert`.

### Example 3

To list the certificates in the keystore (short format), enter `mxcert -ln`.

## Example 4

To list the certificates in the keystore (long format), enter `mxcert -ld`.

**Note:** The `mxcert` output includes the alternative names only for the `-ld` option.

# mxcollection

## Synopsis

```
mxcollection -a -f filename
mxcollection -a mem -f filename
mxcollection -m mem -f filename
mxcollection -d existcollname
mxcollection -r mem -f filename
mxcollection -ln
mxcollection -lf existcollname [-b encoding]
mxcollection -mv existcollname -from fromparentcollname -to toparentcollname [-branch
sysbranch/evbranch]
mxcollection -cp existcollname -name newcollname -to toparentcollname [-branch
sysbranch/evbranch]
mxcollection -a combo newcombocollname -syscoll systemcollname -evcoll eventcollname
-parent toparentcollname [-branch sysbranch/evbranch]
```

## Description

`mxcollection` allows you to add, list, modify, copy or delete collections.



**NOTE:** In earlier HP SIM releases, categories were created and manipulated with `mxquery`. In HP SIM 5.0 and later, collections are an extension of categories, and are managed with `mxcollection`, which allows you to choose members individually by name. You can continue using `mxquery` to manage collections that are created by specifying member attributes.

- `mxcollection -a -f filename`  
This command allows you to add collections and collection members. Possible collection members include systems, queries, and other collections. Collection information is provided in an XML file, and you can add multiple collections with a single file. See the `mxcollection(4)` manpage and the [Examples](#) section for information about the required XML file format.  
During an add operation, HP SIM adds only collections whose names do not reference existing collections and node groups in the database. If a duplicate name is detected, the duplicate collection is skipped, and all non-duplicate collections are added. Skipping duplicate collections does not affect the return value.
- `mxcollection -a mem -f filename`  
This command allows you to add members to existing collections. When modifying a collection, you must be the collection owner or a full configuration rights user.
- `mxcollection -m mem -f filename`  
This command allows you to modify the properties of collection members. When modifying a collection and its contents, you must be the collection owner or a full configuration rights user.
- `mxcollection -d existcollname`  
This command allows you to delete collections. When deleting a collection, you must be the collection owner or a full configuration rights user. If you specify a nonexistent collection name, HP SIM notifies you that it cannot delete the collection. Collections cannot be deleted if they are used by tasks, reports, authorizations, or the banner status area. Collections with members cannot be deleted.

- `mxcollection -r mem -f filename`  
This command allows you to remove members from a collection. To remove collection members, you must be the collection owner or a full configuration rights user. Queries and sub-collections cannot be removed from the specified collection if they are not members of other collections.
- `mxcollection -ln`  
This command lists all HP SIM collections in a hierarchical tree. This command does not list collections that were added by attributes. Use `mxquery -ln` to list these collections.
- `mxcollection -lf existcollname [-b encoding ]`  
This command writes a complete definition of the specified collection to `stdout` in XML format.
- `mxcollection -mv existcollname -from fromparentcollname -to toparentcollname [-branch sysbranch/evbranch ]`  
This command moves an existing collection from its current parent collection to another parent collection. The `-branch` option lets you specify whether the new parent collection is in the **Systems** or **Events** list in the **System and Event Collections** panel.



**NOTE:** You can move collections within the **Systems** list or the **Events** list, but you cannot move collections from one list to another.

- `mxcollection -cp existcollname -name newcollname -to toparentcollname [-branch sysbranch/evbranch ]`  
This command copies an existing collection, renames it, and assigns it to an existing parent collection. Use `-branch` to specify whether the parent collection is in the **Systems** or **Events** list in the **System and Event Collections** panel.
- `mxcollection -a combo newcombocollname -syscoll systemcollname -evcoll eventcollname -parent toparentcollname [-branch sysbranch/evbranch ]`  
This command adds a new combination collection with the specified name, system collection and event collection to an existing parent collection. You must specify an event collection that was created by attributes in the GUI. The `-branch` option lets you specify whether the parent collection is in the **Systems** or **Events** list in the **System and Event Collections** panel. If a value is not specified, the default is the system branch.

## Options

- a  
Add one or more collections that are specified in a collection definition file.
- a mem  
Add one or more members to the collections defined in the specified collection definition file.
- m mem  
Modify one or more collection members defined in the specified collection definition file.
- r mem  
Remove one or more collection members defined in the specified collection definition file.
- d *existcollname*  
Delete the specified collection.
- f *filename*  
Specify the file name and path of a collection definition file. This option is used with `-a`, `-a mem`, `-m mem` and `-r mem`.
- lf *existcollname*

Write a complete definition of the specified collection to `stdout` in XML format.

`-ln`

Display the names of all collections in a hierarchical tree.

`-b encoding`

Specify the character encoding for the XML file. This is used with `-lf`.

`-mv existcollname`

Move an existing collection from one parent collection to another.

`-from fromparentcollname`

Specify the *from* parent collection when moving a collection from one parent to another.

`-to toparentcollname`

Specify an existing collection to be the new parent collection. This option is used with `-mv`, and `-cp`.

`-cp existcollname`

Copy an existing collection.

`-name newcollname`

Specify the name of a new collection created with `-cp`.

`-a combo newcombocollname`

Add a combination collection that contains one system collection and one event collection, with the specified collection name.

`-parent toparentcollname`

Specify an existing collection to be the new parent collection. This option is used with `-a combo`.

`-syscoll systemcollname`

Specify an existing system collection to include in a combination collection. This option is used with `-a combo`.

`-evcoll eventcollname`

Specify an existing event collection to include in a combination collection. This must be a collection that was created by attributes in the GUI. This option is used with `-a combo`.

`-branch sysbranch/evbranch`

Specify whether a parent collection is in the **Systems** or **Events** list in the **System and Event Collections** panel. This value is optional for collections in the **Systems** list, but you must enter `-branch evbranch` when you specify a collection that is in the **Events** list. If a value is not specified, the default is the system branch. This option is used with `-mv`, `-cp`, and `-a combo`.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
-1	An error occurred during operation.

## Examples

### Example 1

To add the collections *cupertino site* and *building 45*, each with two members, enter: `mxcollection -a -f my_collections.xml`.

The contents of `my_collections.xml` might look like:

```
<?xml version="1.0" encoding="UTF-8" ?>
<collection-list xmlns="http://www.hp.com/hpsim5.0.0.0">
  <collection name="cupertino site" type="system" parent="Systems by Type">
    <member name="All Servers" type="query" display-status="0"
      default-view="tableview" hidden="false" />
    <member name="ovwpc600" type="node" display-status="0" default-view="
      tableview" hidden="false" />
  </collection>
  <collection name="building 45" type="system" parent="cupertino site">
    <member name="All Enclosures" type="query" display-status="0"
      default-view="tableview" hidden="false" />
    <member name="All Racks" type="query" display-status="0"
      default-view="tableview" hidden="false" />
  </collection>
</collection-list>
```

### Example 2

To create a combination collection named *another new combo* that includes the system collection *All Servers* and the event collection *Important Events*, and is saved in the list of Event collections under the parent collection *Login Events*, enter `mxcollection -a combo "another new combo" -syscoll "All Servers" -evcoll "All Important Events" -to "Login Events" -branch evbranch`.

### Example 3

To move a collection called *test collection* from the parent collection *parent1* to the parent collection *parent2* in the list of System collections, enter `mxcollection -mv "test collection" -from "parent1" -to "parent2"`.

### Example 4

To copy a collection called *sample collection*, rename it to *sample collection copy*, and assign the parent collection *Private* in the Events list, enter `mxcollection -cp "sample collection" -name "sample collection copy" -to Private -branch evbranch`.

## See also

`mxcollection(4)`, `mxquery(1M)`

## mxexec

### Synopsis

```
mxexec -t toolname [-A argvalue argvalue... ] [-h|-O filename|-o directory] [-n target... /q
queryname... ]
mxexec -c [-k] -j job_ID
mxexec [-l n|t] [-i task_name...|-j job_ID... ] [-d date ]
mxexec -l d [-h] -j job_ID...
```

## Description

`mxexec` executes an HP SIM tool with associated arguments on specific managed nodes and node groups. A tool and its arguments, specified to run on one or more nodes, is called a task. An instance of the task running at a particular time is called a job.

- `mxexec -t toolname [-A argvalue... ] [-h|-O filename|-o directory ] [-n target...|-q queryname... ]`

This command allows you to run HP SIM tools. The `toolname` is required, and depending on the tool being run, the argument values and targets might be required.

The results returned by the tool can be saved in a file or a series of files, one per managed node.

You can specify the option to suppress the job header information and send the job's standard output to `stdout` and the job's standard error to `stderr`. The option to suppress the job header information is mutually exclusive with the options to send the job output to a file or directory.

- `mxexec -c [-k] -j job_ID`

This command allows you to cancel a specific job, and gives you the option to kill the command execution. Only a full configuration rights user or the user who initiated the job can cancel or kill a job.

- `mxexec [-l n|t] [-i task_name...|-j job_ID... ] [-d date ]`

`mxexec -l d [-h] -j job_ID...`

These commands allow you to list information about one or more running jobs. All jobs can be listed, specific jobs can be listed by `job_ID`, and all the jobs for a specific `task_name` can be listed. Use the `-d` option to list all jobs completed after a specific date. The date is specified in the format `month/day/year hour:minute AM|PM`, and must be enclosed in quotation marks to ensure that the date specification string is interpreted as a single argument, including the embedded spaces.

When `mxexec` is run with no options, it displays a list of the current user's jobs which have not completed. The capability to display several levels of detail for a specific job is supported.

Any user can view the details for any job.

When viewing job details, you can specify the option to suppress job headers and send the job output to `stdout` or `stderr`.

### Tool execution authorization

HP SIM verifies that the user invoking `mxexec` is authorized to execute the tool on the specified managed nodes. If the user is not authorized, the command terminates with an error message that is logged to the HP SIM log file, and the job is aborted.



---

**NOTE:** The default location of the log file is `/var/opt/mx/logs/mx.log`.

---

A user is authorized to run a tool on a node if all the following are true:

- The user is a valid HP SIM user (see `mxuser(1M)`).
- The tool is assigned to a toolbox (see `mxtool(1M)`).
- The user is authorized to have that toolbox on that node (see `mxauth(1M)`).

Tool authorization is *all or none*, meaning that it will fail if the user is not authorized to run the tool on all nodes in the target list.

### Default target node influence on tool

The value of the default targets tool attribute `defTargets` allows different tool execution behaviors if no targets are specified on the command line. The following table describes the behavior of tool execution for all values of `defTargets` if no target list is specified on the command line:

ALL	Use all of the user's authorized nodes as the target list.
CMS	The CMS is the only node in the target list.
[empty]	Error. A target list must be specified.

user-specified	The target list specified in the tool definition file is used as the target list.
----------------	---

The value of `defTargets` is ignored if a target list is specified on the command line. Authorization for each target node is verified before a tool is executed.

## Target execution environment

When a job is executing on a node, its environment contains information gathered on the CMS and sent to the HP SIM agent on the target nodes. These variables are placed in the environment in which the tool command runs:

- `MX_USER`. Contains the UNIX login name of the user running the job.
- `MX_TASKID`. The job ID assigned to the job.
- `MX_TOOL`. The toolname (this name might not be the same as the tool script name).
- `MX_TARGETS`. A space-separated list of target nodes for this job.
- `MX_CMS`. The CMS hostname.
- `MX_REPOSITORY`. The hostname of the system containing the SQL Server Service Repository.
- `DISPLAY`. The value copied from the user's environment so tools that use an X Window GUI can contact the correct X server.
- `HOME`. The home directory of the execution user specified in the tool definition.
- `SHELL`. This is set to `/usr/bin/sh`.

These variables are set to the empty string:

- `CLASSPATH`
- `ENV`
- `JAVA_HOME`
- `SHLIB_PATH`

In addition to the previously listed variables, the following environment variables are inherited from the `init(1m)` process that spawns the agent. These are default values.

- `INIT_STATE`
- `PATH`

A number of environment variables are set automatically by the POSIX shell (`/usr/bin/sh`). See the `sh-posix(1)` manpage for more information.

## Tool execution states

For every target node, a job goes through the following states that track the progress of the job on each node:

- **Pending.** The job has not started on this node. This state is used when there are a large number of target nodes and the CMS DTF is only able to run a job in parallel on a smaller number of nodes.
- **Copying files.** Any files that need to be copied are transmitted to the target, and the target writes the files and sets their ownership and permissions. The maximum number of files that can be copied is 16.
- **Running tool.** If there is a command line to execute (the command line is optional for a tool), the job enters the Running tool state. During this state, the target forks (starts) a process to run the command and establishes a clean process environment (see [Target Execution Environment](#)). It then executes (see `exec1(1)`) the POSIX shell with the command line as the argument (see `sh-posix(1)`). The command line is run from the HOME directory (as defined by `getpwuid(3C)` on the target) of the execution user specified by the `user` keyword in the tool definition. If the user does not exist on the target, `/` is used. The `stdin` for the process is set to `/dev/null`.

If the tool is a launch-only tool, as soon as the shell has successfully executed the command line, the agent on the target moves to the next state. If not, the target agent waits while the command executes,

and after it exits, it gathers up the `stdout`, `stderr`, and exit code of the process to be returned to the DTF. The results are returned to the DTF and the connection is closed.

- Complete. The job is finished and any available results are sent to the user interface and the log file.

## Task termination

Tasks can be terminated if they have not reached the Running tool state. Termination has no effect on target nodes in the Running tool or Complete state. To terminate a job, run `mxexec` with `-c` (and optionally, `-k`). Use `-i` to specify the `job_ID` of the job to cancel.

A cancelled job performs no further processing on the target node. If a file is being copied at the time of the cancellation, the copy is stopped and any contents already copied are removed. If a previous file existed before, it is restored. Files already copied to the target are not returned to the state prior to job execution.

The effect of killing a job is that, in addition to the cancellation steps described above, the shell process invoked to run the command line associated with the tool is killed. This is done by sending the `SIGKILL` signal (see `kill(1)`) to the process group.



**CAUTION:** Killing a running process can be a dangerous operation because it might leave the system in an inconsistent state.

---

## Limits on simultaneous task execution

HP SIM has three separate limits that affect the maximum number of simultaneous job executions.

- The DTF has a limit of ten simultaneous job executions. If ten jobs are already executing and another is requested (via `mxexec` or the portal), the new job will pause until one of the currently executing jobs is finished. If the currently executing jobs take a long time to complete (they are doing lengthy tasks such as installing a large software package using `SD`, or creating a recovery image using `I/UX`), the new job could pause for a long time. This limit is global to the DTF, and is not a per user limit.
- The DTF has a limit of sixteen simultaneous agent connections. This means that at any point in time, no more than sixteen agents are executing jobs sent by the DTF. If a job that references more than sixteen target nodes is started, only the first sixteen will be started immediately. The remaining targets will wait in the *Pending* state until one of the running targets finishes. This limit is global to the DTF, and is not a per job or per user limit. If a job is currently executing on twelve targets and a new job referencing six targets is requested, only the first four targets will start immediately, and the remaining targets will wait in the *Pending* state until earlier targets finish execution.
- The agent has a limit of four simultaneous job executions. If four jobs are executing on a target, and a new job is started that references that target, when the DTF contacts the agent on that target to run the new job, it gets an agent busy exception. The DTF will continue contacting any other referenced targets until the only ones remaining are those that are busy. It then periodically contacts the busy agent until one of the executing jobs finishes and the agent accepts the new job.

## Options

`-t toolname`

Specify the name of the tool to execute. If the `toolname` contains embedded spaces or other characters interpreted by the shell, enclose it in quotation marks.

`-A argvalue argvalue...`

Specify the arguments required for the intended tool execution. The values are matched to the arguments by order: first specified to first argument, second specified to second argument, and so on.

If an argument value contains embedded spaces or other characters interpreted by the shell, enclose it in quotation marks.

Argument values are separated by spaces. When specifying argument values, enter any necessary spaces. The CLI will not add additional spaces to those defined in the tool definition or argument value.

If you do not want to specify a value for an optional argument, enter `" "` to indicate a placeholder.

For security reasons HP SIM prohibits the following characters from being entered as part of an `argvalue`: grave accents (```), semicolon (`;`), ampersand (`&`), bar (`|`), left parenthesis (`'(`), hash mark (`#`), greater than sign (`>`), less than sign (`<`), and the new line character.

`-h`

Suppress job information headers and send the job output directly to `stdout` or `stderr` as appropriate. Exception information is sent to `stderr`.

`-O filename`

Save the `stdout` and `stderr` data produced by the tool execution to the file `filename`. The file's pathname can be absolute or relative to the current directory. If the file already exists, it will be replaced. If it does not exist, it will be created. If the output file cannot be created in the given path, HP SIM tries to write the file to the `/var/tmp` directory. If that fails, the output is sent to `stdout`.

`-o directory`

Save the `stdout` and `stderr` data produced by the tool execution, one results file per target node, in the specified `directory`. The name of each results file is in the format `nodename.job_ID`.

`-n target [target...]`

Specify the names of the managed nodes and node groups on which to execute the tool. This list of nodes and node groups is called the *target list*. The targets are separated by spaces, and node groups are identified by the `g:` prefix.

`-q queryname`

Specify the name of an existing query on which to execute the tool.

`-i task_name [task_name...]`

Specify the existing tasks on which to perform a specified operation.

`-j jobID [jobID...]`

Specify the currently running job on which to perform a specified operation.

`-d date`

List the jobs completed after a specific date. Enter the date in the format: `month/day/year hour:minute AM|PM`. Enclose the string specifying the date in quotation marks to ensure that it is interpreted as a single argument, including the embedded spaces.

`-c`

Cancel a job.

`-k`

Kill any running commands associated with a job.

`-l d`

Display detailed information for the specified job, including `stdout`, `stderr`, and completion status per target. An error occurs if you do not specify a job ID. One job ID and one `-l` option can be specified.

`-l n`

List job IDs only. `-l n` is the default for listing; it behaves as if no options are specified. Normally, `-l n` is not specified with any `job_ID` values, and it lists all jobs. Otherwise, it repeats the `job_ID` values specified on the command line, if they exist. Only one `-l` option can be specified.

`-l t`

List jobs in long format, including the task name, job ID, user, toolname, and state for each specified job ID, or for all jobs if no job IDs are specified. Only one `-l` option can be specified.

## External influences

The language setting of the command shell in which you execute this command is used as the preferred language that you want the command line tool to execute with on the target nodes.

For Windows, the current Code Page setting of the Command Prompt window is used to determine the preferred language. For example, if the `chcp` command returns `932`, the language is Japanese. The `chcp` command can be used to change the Code Page setting if the OS has the language installed and is configured to allow its use.

For Linux and HP-UX, the `LANG` environment variable describes the locale that is used to determine the preferred language. Valid settings for the `LANG` variable can be listed with the `locale -a` command. However, in order to view the output, the terminal window running the command shell where you list the output of this command must support the language and encoding defined by the `LANG` variable.

If the OS on the target node does not support the language setting or encoding selected by the CMS, the command shell on the target node will use the default language and encoding for that target's OS.

See `lang (5)`, `environ (5)`, and `local (1)` for additional information.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
3	Nonexistent tool error.
6	Nonexistent user error.
7	Nonexistent node error.
8	Nonexistent node group error.
9	Nonexistent job ID or task name error.
21	Invalid name.
27	Invalid operation.
28	Invalid tool.
29	Invalid runnable tool.
50	Unauthorized user.
51	Unauthorized or disabled toolbox.
52	Unauthorized node.
102	Database error.
222	The CMS is not initialized.
245	Unable to connect to the job manager.
249	Unable to connect to the session manager.
250	Remote exception.
254	Properties file error.

## Examples

### Example 1

To check the disk space on the database node group, `dbgroup`, which includes the nodes `db1`, `db2`, and `db3`, enter `mxexec -t "bdf" -n g:dbgroup`. The output might look like:

```

Running tool bdf with job id 143
Job ID      : 4
Tool Name   : bdf
Job State   : Some Failures
User Name   : root
Start Time  : Wednesday, March 15, 2000 3:18:46 PM MST
End Time    : Wednesday, March 15, 2000 3:18:47 PM MST
Elapsed Time : 500 milliseconds
Node        : db1.myco.com
Status      : Complete
Exit Code   : 0
STDOUT     :
Filesystem  kbytes    used    avail  %used  Mounted on
/dev/vg00/lvol1  119637  18192   89481  17%  /stand
/dev/vg00/lvol3   86016  29545   53251  36%  /
/dev/vg00/lvol4  1048576 347477  658305  35%  /home
/dev/vg00/lvol5   786432 604051  171001  78%  /opt
/dev/vg00/lvol7   524288  76726  419856  15%  /var
/dev/vg00/lvol8   339968 291563   45670  86%  /usr
/dev/vg00/lvol6   131072   2507  120594   2%  /tmp
Node        : db3.myco.com
Status      : Failed
Exit Code   : 0
EXCEPTION   : Exec failure - Not enough memory
Node        : db2.myco.com
Status      : Complete
Exit Code   : 0
STDOUT     :
Filesystem  kbytes    used    avail  %used  Mounted on
/dev/vg00/lvol3   83733  18455   56904  24%  /
/dev/vg00/lvol1   47829   8974   34072  21%  /stand
/dev/vg00/lvol8  480341 109209  323097  25%  /var
/dev/vg00/lvol7  466709 329650   90388  78%  /usr
/dev/vg00/lvol4   30597  12523   15014  45%  /tmp
/dev/vg00/lvol6  652619 505087   82270  86%  /opt
/dev/vg00/lvol5   19861    17   17857   0%  /home

```

## Example 2

To list all tasks, enter `mxexec -l t`. The output might look like:

```

TASKID  USER      TOOL NAME  STATE
839     tedr      Process   Status Complete
123     peterk    Install   PHCO92874 Running

```

## Example 3

To view more detail for job *123*, on a node-by-node basis, enter `mxexec -l d -j 123`. The output might look like:

```

Task Name   : defRunNowTaskId_10
Job ID      : 4
Tool Name   : Install Software
Job State   : Complete
User Name   : root
Start Time  : Wednesday, March 15, 2000 3:18:46 PM MST
End Time    : Wednesday, March 15, 2000 3:18:47 PM MST
Elapsed Time : 12 minutes 17 seconds 261 milliseconds
Node        : machine2.myco.com
Status      : Complete

```

```

Exit Code      : 1
STDOUT        :
===== 09/15/99 16:19:56 MDT BEGIN swinstall SESSION
          (non-interactive)
          * Session started for user "bozo@machine2.myco.com".
          * Beginning Selection
          * Target connection failed for
            "depotsys.myco.com:/patches/PHCO_98765".
          * Selection had errors.
===== 09/15/99 16:19:56 MDT END swinstall SESSION (non- interactive)
STDERR       :
ERROR:       More information may be found in the daemon logfile on this target
            (default
              location is machine2.myco.com:/var/adm/sw/swagentd.log) .
Node        : machine3.myco.com
Status      : Pending

```



**NOTE:** Even though the command executed on `machine2.myco.com` failed (exit code of 1), `mxexec` considers it complete because the command executed without any errors associated with `mxexec` or the agent on `machine2.myco.com`. There is no reliable way to determine if a failure has occurred based solely upon the return value of the command.

---

## Limitations

This command can only be run on the CMS.

## See also

### HP-UX

`mxtool(1m)`, `mxtool(4)`, `sh-posix(1)`

### Linux

`mxtool(8)`, `mxtool(4)`, `sh-posix(1)`

## mxgetdbinfo

### Synopsis

```
mxgetdbinfo
```

```
mxgetdbinfo [-a|-h|-p|-d|-u|-t|-r|-b]
```

### Description

`mxgetdbinfo` displays HP SIM database information such as the hostname of the database server, the TCP/IP port, database name, username, and database type.

### Options

`-a`

Display the hostname, port number, database name, username, and database type as key/value pairs. This is the default behavior if no options are supplied on the command line.

On HP-UX only, the returned information includes the location of the PostgreSQL data and program directories.

`-h`

Display the hostname of the server on which the database is installed.

- p  
Display the TCP/IP port used to connect to the database on the database server.
- d  
Display the name of the database/instance used by HP SIM.
- u  
Display the username used by HP SIM to log in to the database.
- t  
Display the database type, for example, SQLServer, PostgreSQL, or Oracle.
- r  
Display the path to the PostgreSQL program directory (HP-UX only).
- b  
Display the path to the PostgreSQL program directory (HP-UX only).

## Return values

Value	Meaning
0	Successful completion.
>0	An error occurred during operation.

## Examples

### Example 1

Enter `mxgetdbinfo` to display the hostname, port number, database name, username, and database type. The output might look like:

```
host=127.0.0.1
port=1433
dbname=Insight_v1_0
user=sa
dbtype=SQLServer
```

### Example 2

Enter `mxgetdbinfo -d` to display the database name. The output might look like: `Insight_v1_0`.

## mxgethostname

### Synopsis

```
mxgethostname
mxgethostname [-k]
mxgethostname [-i]
mxgethostname [-n hostname ]
```

### Description

`mxgethostname` displays the resolved name of the local host in HP SIM.

### Options

- k  
Display the resolved local host name.

- i  
Display the IP address and DNS name of the CMS.
- n  
Display information for the specified host.

## Return values

Value	Meaning
0	Successful completion.
>0	An error occurred during operation.

## Example

To view information for the host `rose.co.com`, enter `mxgethostname -n rose.co.com`.

# mxglobalprotocolsettings

## Synopsis

```
mxglobalprotocolsettings -s [file-name|- ]
mxglobalprotocolsettings -s {setting=value}...
mxglobalprotocolsettings [-ld]
mxglobalprotocolsettings -lf [encoding ]
```

## Description

`mxglobalprotocolsettings` is used to manage HP SIM's global protocol settings.

## Options

- s [*file-name*|- ]  
Set global protocol settings from a specified XML file or standard input. See the `mxglobalprotocolsettings(4)` manpage for XML file format details.
- s {*setting=value*}...  
Set global protocol settings on the command line. The *setting* is an element name from the XML file format shown in the `mxglobalprotocolsettings(4)` manpage, and can be any element defined in the `<xs:element name="global-protocol-settings">` section. The *value* is the value for the specified setting.
- ld  
List global protocol settings in detailed format.
- lf [*encoding* ]  
List global protocol settings in XML format. If `-b encoding` is specified, the XML is written in the specified encoding; otherwise the default encoding is used.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
-1	An error occurred during operation.

## Examples

### Example 1

To list the global protocol settings in detailed format, enter `mxglobalprotocolsettings -ld`. The output might look like:

```
Ping type = ICMP
Default ping timeout (in seconds) = 5
Default ping retries = 2
Enable WBEM = true
Enable HTTP and HTTPS = true
Enable SNMP = true
Default SNMP timeout (in seconds) = 5
Default SNMP retries = 1
Enable DMI = true
```

### Example 2

To list the global protocol settings in XML format, enter `mxglobalprotocolsettings -lf`. The output might look like:

```
<?xml version="1.0" encoding="UTF-8"?>
<global-protocol-settings xmlns="http://www.hp.com/hpsim5.1.0.0">
  <ping-type value="ICMP"/>
  <default-ping-timeout-seconds value="5" />
  <default-ping-retries value="2" />
  <enable-wbem value="true" />
  <enable-http-and-https value="true" />
  <enable-snmp value="true" />
  <default-snmp-timeout-seconds value="5" />
  <default-snmp-retries value="1" />
  <enable-dmi value="true" />
</global-protocol-settings>
```

### Example 3

To set the `enable-wbem` setting, enter `mxglobalprotocolsettings -s enable-wbem=false`.

## See also

`mxglobalprotocolsettings(4)`

## mxglobalsettings

### Synopsis

```
mxglobalsettings -s [-f] {setting=value}...
mxglobalsettings -ld [ setting... ]
```

### Description

`mxglobalsettings` manages the settings in `globalsettings.props`. Changes are effective immediately, and do not require a restart of HP SIM. When you make a change with this command, the `globalsettings.props` file is updated automatically.

### Options

```
-s {setting=value}...
```

Set one or more global settings on the command line. The *setting* is a key name in the `globalsettings.props` file, and the *value* is the value to assign to that setting.

-f

Use -f with -s, to force the creation of new settings in `globalsettings.props` without prompting for confirmation. Without this option, `mxglobalsettings` prompts you to confirm the assignment of values to previously undefined settings.

-ld

List global settings in `name = value` format. If individual setting names are specified, only those settings are listed; otherwise all settings are listed.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
-1	An error occurred during operation.

## Files

`/etc/opt/mx/config/globalsettings.props`

## Examples

### Example 1

To list all the settings from the `globalsettings.props` file, enter `mxglobalsettings -ld`.

The output might look like:

```
AllowAltIpForTrap = enabled
CMSDeviceKey = 2
CMSLocale = en_US
CertificateExpirationCriticalStart = 0
CertificateExpirationMajorStart = 10
CertificateExpirationMinorStart = 30
... many lines deleted
snmp_timeout = 4
snmp_timeout_default = 4
suspend_storage_dataCollection = false
switch_code_wakeup = true
wbemEnableState = enabled
```

### Example 2

To set the `CMSLocale` value in `globalsettings.props` to Japanese, enter `mxglobalsettings -s CMSLocale=ja_JP`.

## mxinitconfig

### Synopsis

```
mxinitconfig -a
mxinitconfig -r
mxinitconfig -l
```

### Description

`mxinitconfig` allows you to perform the initial HP SIM configuration, remove the HP SIM configuration information, or list the current configuration status.

If no options are entered, the configuration status is listed ( `-l` ).

When HP SIM is running, you can use `-l` to list the configuration status, but you cannot run `mxinitconfig -a` or `mxinitconfig -r`.

- `mxinitconfig -a`  
This command performs the initial configuration procedure. The following steps are performed during the initial configuration:
  - The initialization file and property file are set up.
  - The database is configured.
  - The server daemons are started.
  - The local system is configured to allow management by the server.
- `mxinitconfig -r`  
This command removes the HP SIM configuration information. The following steps are performed:
  - The server daemons are stopped.
  - The authentication keys are removed.
  - The database is unconfigured.
- `mxinitconfig -l`  
This command lists the current configuration status.

## Options

- a  
Configure the server.
- r  
Unconfigure the server
- l  
List the current configuration status.

## Return values

Value	Meaning
0	Successful completion.
>0	An error occurred during operation.

## Files

### HP-UX and Linux

- `/var/opt/mx/logs/initconfig.log`
- `/etc/opt/mx/config/initconfig.properties`

### Windows

- `\HP SIM directory\logs\initconfig.log`
- `\HP SIM directory\config\initconfig.properties`

## Examples

### Example 1

To configure the server, enter `mxinitconfig -a`.

## Example 2

To view the current configuration status, enter `mxinitconfig -l`.

# mxlog

## Synopsis

```
mxlog -l [-r result] [-a action] [-o object_type] [-n object_name] [-u user] [-s sessionID] [-t transactionID] [-v verbosity] [-m message]
```

```
mxlog -p [-r result] [-a action] [-o object_type] [-n object_name] [-u user] [-s sessionID] [-t transactionID] [-v verbosity] [-m message]
```

## Description

`mxlog` logs an entry to the log file or standard out. The category of the log entry is always set to APPLICATION.

- `mxlog -l [-r result] [-a action] [-o object_type] [-n object_name] [-u user] [-s sessionID] [-t transactionID] [-v verbosity] [-m message]`

This command logs the indicated entry to the log file.

- `mxlog -p [-r result] [-a action] [-o object_type] [-n object_name] [-u user] [-s sessionID] [-t transactionID] [-v verbosity] [-m message]`

This command saves the log entry to standard out.

## Options

`-l`

Log an entry to the log file. This will not print the entry to `stdout`. You cannot use `-l` with `-p`.

`-p`

Print a preview of the log entry to standard out. This will not log the entry to the log file. You cannot use `-p` with `-l`.

`-a action`

Specify the action that occurred. You must specify a value if `-a` is used. If `-a` is not used, the default is `START`. Valid values include `ACTION_NONE` (no action, which appears as a "`<>`" string), `ADD`, `MODIFY`, `DELETE`, `RUN`, `LIST`, `ENABLE`, `DISABLE`, `RESTORE`, `SAVE`, `SETUP`, `UNSETUP`, `START`, and `DONE`.

`-m message`

Specify the message to be logged. This value appears on the line after the log entry in the log file. The value must be a string, and if it includes spaces, it must be enclosed in double quotation marks.

`-n object_name`

Specify the name of the object or application that is making the logging call. You must specify a value if `-n` is used. If `-n` is not used, the default is `NONE` (which appears as a "`<>`" string). The value must be a string, and if it includes spaces, it must be enclosed in double quotation marks. If this option is not specified, the default is `NONE`.

`-o object_type`

Specify the type of object or application making this logging call. You must specify a value if `-o` is used. If `-o` is not used, the default is `TYPE_NONE`. Valid values include `APPLICATION`, `GUI`, and `TYPE_NONE` (no type, which appears as a "`<>`" string).

`-r result`

Specify the result of the event that occurred. You must specify a value if `-r` is used. If `-r` is not used, the default is `SUCCESS`. Valid values include `IN_PROGRESS`, `SUCCESS`, `FAILURE`, `SOME_FAILURES`, `CANCELED`, `KILLED` and `RESULT_NONE` (no result, which appears as a "`<>`" string).

`-s sessionID`

Enter the session ID in string form. You must specify a value if `-s` is used. If `-s` is not used, there is no value for this field.

`-t transactionID`

Enter the transaction ID in string form. You must specify a value if `-t` is used. If `-t` is not used, there is no value for this field.

`-u user`

Specify the user that submitted this log entry. You must specify a value if `-u` is used. If `-u` is not used, the default is the user name of the user running the command (usually `root`). This option is typically used to specify the name of the application logging a message rather than the run-as user of the application.

`-v verbosity`

Specify the level of verbosity of this log entry. You must specify a value if `-v` is used. If `-v` is not used, the default value is `SUMMARY`. Valid values include `SUMMARY`, `DETAIL`, `VERBOSE`, `ERROR`, `WARNING` and `NOTE`.

## Return values

Value	Meaning
0	Successful completion.
1	Command line syntax error or invalid user.
2	Command line syntax error.

## Limitations

Some columns in the entry will be filled with default values at all times. This includes the timestamp (set to the time the entry was created) and the Category column (set to `APPLICATION`).

## Examples

### Example 1

If the user Fred is logged in to SuperApp, which runs as `root`, and SuperApp wants to log a `WARNING` message that a configuration file is missing, enter `mxlog -l -v "WARNING" -o "APPLICATION" -n "SuperApp" -u "fred" -m "/opt/superapp/superapp.config file is missing."`.

The output will be:

```
2005-08-08 13:13:07 MDT APP fred START APP SuperApp START SUCCESS WARNING
/opt/superapp/superapp.config file is missing.
```

### Example 2

To preview a default entry with a simple message, enter: `mxlog -p -m "This is a test."`

The output will be:

```
2005-08-08 13:13:07 MDT APP root START <> NONE START SUCCESS
SUMMARY
This is a test.
```

# mxmib

## Synopsis

```
mxmib -a CFG filename
mxmib -d mib filename
mxmib -l
mxmib -f filespec
mxmib -t mib
```

## Description

mxmib allows you to register and unregister a mib, register a list of mibs from a file, list mibs registered in HP SIM, and list a registered mib's traps.

## Options

- a *CFG filename*  
Register a new CFG, file ( *filename.cfg* ), or replace the data of a registered mib.
- d *mib filename*  
Unregister a mib, ( *filename.mib* ).
- f *filespec*  
Read and process a list of CFGs (mibs) from the file, ( *myfile.list* ), to be registered to HP SIM. Each line in the file is a CFG (mib) to be registered. Use the -a option to register a single mib.
- l  
List the registered mibs.
- t *mib*  
List the traps in *filename.mib*. The filename is the name listed in HP SIM and can be viewed by entering mxmib -l.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
>0	An error occurred during operation.

## Examples

### Example 1

To view the list of registered mibs, enter `mxmib -l`.

### Example 2

To register the mib `testmib.cfg`, enter `mxmib -a testmib.cfg`.

### Example 3

To update a MIB file in HP SIM, complete the following steps:

1. Download the new mib and copy it into the mibs directory.
2. Run `mcompile` to update the existing `.cfg` file.



---

**NOTE:** If the existing `.cfg` file had any customizations, these must be reapplied.

---

3. Run `mxmib -a updatedfile.cfg` to update the MIB data in the HP SIM database.

## mxngroup

### Synopsis

```
mxngroup -a -g groupname [-d description] [-n [ member... ] ]
mxngroup -a -f filename
mxngroup -m -g groupname [-d description] [-n [ member... ] ] [-u [t|f] ]
mxngroup -m -f filename
mxngroup -r -g groupname
mxngroup -r -f filename
mxngroup [-l d|f|m|n] [-g groupname... ]
mxngroup [-l d|f|m|n] [-n [ member... ] ]
mxngroup -l f [-g groupname... ] [-b encoding ]
mxngroup -lf [-n [ member... ] ] [-b encoding ]
```

### Description

`mxngroup` allows you to create, modify, remove, and list system groups. System groups are collections of systems that are subsets of all the systems discovered by HP SIM. System groups can have overlapping memberships, so a single system can be a member of more than one group. The system grouping mechanism allows flexible partitioning of systems into logical collections that match their use model.

When a system group is created, its attributes and membership can be specified. When it is modified, its attributes can be selectively modified, its membership can be reset, and it can be updated based on a collection.

You must have full configuration rights to add, modify, or remove groups. Any user can list system groups and attributes.

- `mxngroup -a -g groupname [ -d description ] [ -n [ member... ] ]`  
`mxngroup -a -f filename`

These commands allow you to add system groups. The `mxngroup -a -f filename` command allows you to provide the system group information in an XML file. See `mxngroup(4)` for more information about the required XML file format.

- `mxngroup -m -g groupname [-d description] [-n [ member... ] ] [-u [t|f] ]`  
`mxngroup -m -f filename`

These commands allow you to modify system group information. As with adding system groups, the group can be specified on the command line or in an XML file in the format described in the `mxngroup(4)` manpage. When you modify a system group, HP SIM updates the authorization information for any authorizations associated with the modified system group.

- `mxngroup -r -g groupname`  
`mxngroup -r -f filename`

These commands allow you to remove a system group. You can specify an individual system group or an XML file containing multiple system groups. The file must be formatted as described in the `mxngroup(4)` manpage. When an HP SIM full configuration rights user removes a system group, the authorizations associated with the group are removed.

- `mxngroup [-l d|f|m|n] [-g groupname... ]`  
`mxngroup [-l d|f|m|n] [-n [ member... ] ]`

These commands allow you to list system group names and attributes. The `-l` option indicates that system group information is to be listed.

- `d` specifies a detailed listing of system group names and attributes.
- `f` results in a listing that matches the XML file format defined in `mxngroup(4)`.
- `m` specifies a combined list of system group members, one member per line.
- `n` lists system group names, one per line.

The set of system groups that gets listed can be constrained in two ways:

- `-g` lets you specify the names of the desired groups.
- `-n` lists system groups that contain all of the specified members.

The default is to list all system groups.

- `mxngroup -l f [-g groupname... ] [-b encoding ]`  
`mxngroup -lf [-n [ member... ] ] [-b encoding ]`

These commands allow you to list system group information in an XML file.

Optionally, you can specify the character encoding of the XML file. The value for the character encoding must match a valid character encoding. If no encoding is specified, the system attempts to write the file in the encoding currently defined on the system. See <http://www.iana.org/assignments/character-sets> for the list of valid character sets.

## XML file support

`mxngroup` allows full configuration rights users to add, modify, or remove system groups by specifying an XML file containing a list of system groups and system group attributes. See the [Examples](#) section and the `mxngroup(4)` manpage for more information.

XML input files are processed in two passes:

1. The first pass attempts to parse the XML file and generate a list of system groups to process. This pass ensures that the XML file is formatted correctly, that the system group names are valid, and the system group objects contain valid information. During the first pass, if an error is detected, HP SIM interrupts the process, issues an error message, and leaves the database unchanged.
2. If the XML file is successfully processed in the first pass, HP SIM attempts to process the system group list collected during the first pass. During the second pass, HP SIM processes the system group list until it processes the entire list or it encounters a logic error, such as specifying a duplicate system group during an add, or specifying a nonexistent system group during a modify or remove.

If an error occurs during the second pass, HP SIM interrupts processing and issues an error message. If the input file contains valid system group data prior to the invalid data, that data is processed completely, and the database is updated. Data subsequent to the invalid data is not processed.

## Options

- `-a`  
Add a group.
- `-m`  
Modify a group.
- `-r`  
Remove a group.
- `-l d`  
Display a detailed screen-viewable list of system group information.
- `-l f`  
Display a file-formatted list of system group information (see `mxngroup(4)`).

- l *m*  
Display the member systems of the system group.
- l *n*  
Display the names of the system groups.
- f *filename*  
Specify the path and name of the input file for an add, modify, or remove operation.
- g *groupname*  
Specify the name of the group to be added, modified, removed, or listed.  
System group names must be 80 characters or less, and must start with an alphabetic character. After the first character, system group names can contain alphanumeric, underscore (\_), dash (-), period (.), and embedded blank characters.
- n *member*  
When used with -a or -m, this option specifies the complete membership of an added or modified group. When used in a list command (-l), this option indicates that the system groups to be listed contain the specified members.
- d *description*  
Specify the group description.
- b *encoding*  
Specify the character encoding when used with -l *f*.
- u [*t* | *f*]  
Update the system group members based on the collection. This option can be used only in conjunction with -m as follows: -m -g *groupname* -u. The [*t* | *f*] parameters enable or disable the automatic update feature. If auto-update is enabled, system group members are automatically updated in the background on a periodic basis. To enable auto-update, use the -ut syntax. To disable auto-update, use -uf.



**NOTE:** When duplicate options are specified, the last instance of the option is used. For example, if you enter -f *file1* -f *file2*, mxauth uses *file2*.

## External influences

For HP-UX or Linux, `LANG` determines the default encoding that the system will use to output XML data if no encoding is specified on the command line. If `LANG` is not specified or null, or `LANG` does not correspond to a recognized encoding, it defaults to C (see `lang` (5)). In this case, use the -b option to specify the encoding of the XML data.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
3	Nonexistent system or system group error.
5	Duplicate name.
21	Invalid name.
50	Unauthorized user.
102	Database error.
222	The CMS is not initialized.

Value	Meaning
249	Unable to connect to the session manager.
250	Remote exception.

## Examples

### Example 1

To create the system group *group1* containing systems *systema*, *systemb*, and *systemc*, enter `mxngroup -a -g group1 -d "Example system group" -n systema systemb systemc`.

### Example 2

To modify the system group *group1* by replacing system *systemc* with system *systemd*, enter `mxngroup -m -g group1 -n systema systemb systemd`.

### Example 3

To update group *group1* enter `mxngroup -m -g group1 -u`.

### Example 4

To update group *group1* from the collection and enable automatic update, enter `mxngroup -m -g group1 -ut`.

### Example 5

To update the group *group1* from the collection and disable automatic update, enter `mxngroup -m -g group1 -uf`.

### Example 6

To list the member systems of group *group1* enter `mxngroup -l m -g group1`.

### Example 7

To list the names of all system groups that contain the member *systemb*, enter `mxngroup -l n -n systemb`.

### Example 8

To use the XML file `test.xml` to define a system group named *group1* with a description and two member systems, *system1.corp.com* and *system2.corp.com*, enter `mxngroup -a -f test.xml`

The `test.xml` file might look like:

```
<?xml version="1.0" encoding="UTF-8"?>
<node-group-list>
<node-group name="group1">
  <description>This is group1.</description>
  <member-node value="system1.corp.com" />
  <member-node value="system2.corp.com" />
</node-group>
</node-group-list>
```

### Example 9

To use the XML file `test2.xml` to define a system group named *group1* with a description and the member systems, *system1.corp.com* and *system2.corp.com*, with auto-update enabled, enter `mxngroup -a -f test2.xml` The `test2.xml` file might look like:

```
<?xml version="1.0" encoding="UTF-8"?>
<node-group-list>
<node-group name="group1" auto-update="true">
<description>This is group1.</description>
<member-node value="system1.corp.com" />
<member-node value="system2.corp.com" />
```

```
</node-group>
</node-group-list>
```

## Limitations

- This command can only be run on the CMS.
- Only full configuration rights users can use `mxngroup` to add, modify or remove system groups. Any user can list group information.

## See also

### HP-UX

`mxngroup` (1M), `mxuser` (1M), `mxnode` (1M), `mxauth` (1M)

### Linux

`mxngroup` (8), `mxuser` (8), `mxnode` (8), `mxauth` (8)

## mxnode

### Synopsis

```
mxnode -a hostname(s) | ipaddress(es) [-w]
mxnode -a -f filename [-w] [-v]
mxnode -a -m -f filename [-w] [-v]
mxnode -m [-p] -f filename [-w] [-v]
mxnode -r nodename(s) | hostname(s) | ipaddr(es) [-x force] [-v]
mxnode -r -f filename [-x force] [-v]
mxnode -ln [ systemname(s) ]
mxnode -ld [ systemname(s) ]
mxnode -lt [ systemname(s) ]
mxnode -lf [ systemname(s) ] [-b encoding ]
mxnode -lmpo [-b encoding ]
```

### Description

`mxnode` allows you to add, modify, remove or list HP SIM systems. When entering `mxnode` commands, you can specify systems on the command line or in an XML file. See the `mxnode` (4) manpage for the required XML format for input files. To view an example, enter `mxnode -lf mysystem`, and substitute one of your system names for `mysystem`.

Only full configuration rights users can add, modify or remove systems. Any user can view system information.

#### Adding systems

```
mxnode -a hostname(s) | ipaddress(es) [-w]
mxnode -a -f filename [-w] [-v]
mxnode -a -m -f filename [-w] [-v]
```

- When a system is added to the database with the `-a` option, `mxnode` stores the system name, the fully-qualified network hostname (if it exists), and an IP address as system attributes.
- The system is *identified*, meaning it is examined via the SNMP and WBEM management protocols to determine the device type, the OS type and revision, and other information needed to determine which tools are appropriate for use with the system. The information collected during system identification is stored in system attributes. Since it can take some time to gather this information, it might take up to thirty seconds for a system to appear in list results.

- Successful system identification depends on system access credentials which must be set before you run `mxnode`. See the `mxnodesecurity` section or the `mxnodesecurity(1M)` manpage for information about system access credentials.
- The `-a` option requires a hostname or IP address since it affects systems that have not yet been added to the database.

## Removing systems

```
mxnode -r nodename(s) /hostname(s) /ipaddr(es) [-x force] [-v]
```

```
mxnode -r -f filename [-x force] [-v]
```

- The `-r` option allows you to remove a system from the database. The system to be removed can be specified by its system name, hostname, or IP address. Removing a system only removes its context from the database. The CMS itself and non-empty container systems cannot be removed.
- During the removal process, the system is removed from all system groups and all authorizations (see `mxauth(1M)`) for the system are removed.
- It is not an error to remove a system from the database while a task is running on the system. HP SIM does not terminate the task on the system; task results and status are sent to HP SIM when the task is complete.

## Listing systems

```
mxnode -ln [ systemname(s) ]
```

```
mxnode -ld [ systemname(s) ] []
```

```
mxnode -lt [ systemname(s) ]
```

```
mxnode -lf [ systemname(s) ] [-b encoding ]
```

```
mxnode -lmpo [-b encoding ]
```

- The `-l*` forms of this command allow you to list system information.
- Specifying no options with this command provides a list of system names with no other information. This listing is the same as `-ln`.
- `-ld` provides a detailed screen-viewable list of systems.
- `-lt` provides a tabular listing of systems with detailed information.
- `-lmpo` lists the names of systems that may have one or more associated management path objects (MPOs, also known as Management Paths or CIMOMs).

Two types of MPOs may or may not exist on a system. One type of MPO is a Management Agent (MAO), and defines an actual Agent residing on the system. The other MPO type is a Management Route (MRO), which specifies the routing information to an associated MAO, which may reside on this system or another system. One or more MPOs can reside on a system.

- `-lf` provides an XML list of systems.

Optionally, you can specify the character encoding of the XML file. The value for the character encoding must match a valid character encoding. If no encoding is specified, the system attempts to write the file in the encoding currently defined on the system. See <http://www.iana.org/assignments/character-sets> for the list of valid character sets.

## Modifying systems

```
mxnode -m [-p] -f filename [-w] [-v]
```

- The `-m -f` option allows you to modify the attributes of an existing system in the database.
- This option requires the system name rather than the hostname or IP address (`mxnode` can look up the system name if the hostname or IP address is provided in XML input).
- The system attributes to be modified for a particular system must reside within a specified `mxnode` XML file.



---

**NOTE:** See `mxnode (4)` for additional information about using XML input files with `mxnode`.

---

## Predefined system attributes/properties

The following is the complete list of system attributes that are predefined and recognized by HP SIM. Invoking `mxnode` with `-ld` or `-lf` on an existing system displays the current values for some or all of the attributes in the following list:

- *System name* . The system name is, by default, the same as the hostname, if a hostname exists. If the hostname does not exist, the system name defaults to the IP address. The system name can be anything as long as it is unique among all the systems in the database, and it can be changed.
- *Host name* . The hostname is available from `gethostbyname (1)` . It can have embedded spaces, and its maximum length is 16 characters. Hostnames are not case sensitive and are represented internally as fully-qualified names.
- *IP address* . The IP address corresponding to the hostname.
- *OS name* . The name of the OS on the managed system.
- *OS revision* . The revision level of the OS.
- *OS revision text* . The OS revision with vendor-specific descriptive information.
- *OS vendor* . The OS vendor.
- *Protocols* . The management protocols supported by the managed system, with the revision level of each protocol.
- *GUID* . A unique identifier assigned to a system in the database
- *Hardware device ID* . A unique identifier assigned to the hardware-specific portion of a system in the database.
- *Device type* . The major type of the device.
- *Device subtype* . The subtype of the device within the major type.
- *Model* . The device model.
- *Added By* . The login of the user who added the system.
- *Added Date* . The date and time the system was added.
- *Preferred Node Name* . An alternate system/node name of your choosing which can make it easier for you to identify, find, or organize systems/nodes in the database.
- *System Description* . A description of the system.
- *Serial Number* . The serial number of the system.
- *Asset Number* . The asset number of the system.
- *OS Description* . The description of the system's OS.
- *Contact* . The person to contact if system maintenance is needed.
- *Location* . The physical location of the system.

- *AgentUUID* . The unique identifier value from the SNMP agent installed on the system. On Proliant servers, this is the cpqHoGUID MIB value from the Proliant Insight Agent. For certain switches, this value is the same as the switch serial number from the SNMP agent.
- *UniqueIdentifier* . The unique identifier value of the system from the WBEM provider. For standalone servers, this value is the unique identifier property from the ComputerSystem provider as defined as the unique identifier of the machine. For partition systems, this value is constructed from both the unique identifier of the machine plus the partition id from the npartition provider. For HP Integrity Virtual Machines, the value is constructed from the unique identifier of the virtual partition server (vParMonitor) plus the virtual partition name.

## System attributes that can be locked

The following is the complete list of system attributes that can be modified and locked with the `mxnode -m -f filename` command. Locking an attribute prevents that attribute from being overwritten by the Discovery and Identification processes.

These attributes can be modified in the **Edit System Properties** page of the HP SIM GUI. However, there are some differences in the wording between the attribute name as required in the XML file, and the attribute label displayed in the GUI. The following list can be used as a cross reference:

XML attribute name	GUI attribute label
PreferredNodeName	Preferred display name
DeviceType	System type
DeviceSubType	System subtype
Model	Product model
SysDescription	Hardware description
SerialNumber	Serial number
AssetNumber	Asset number
OSDescription	Operating System description
OSName	Operating System for tool filtering
OSRevision	Operating System version
Contact	Contact
Location	Location
AgentUUID	UUID:
UniqueIdentifier	N/A

System attributes are categorized into two groups, hardware and software. When specifying an attribute in an `mxnode` XML input file, the correct attribute modifier must be used. The following examples show the two attribute modifiers:

- The Device Type attribute is a *hardware* attribute and is specified in the XML file by using the `hw-attribute` modifier: `<hw-attribute name="DeviceType">Device Type here</hw-attribute>`.
- The OS Name is a *software* attribute and is specified in the XML file by using the `sw-attribute` modifier: `<sw-attribute name="OSName">Your OS name here</sw-attribute>`.

Only the following system attributes can be locked:



---

**NOTE:** The attribute name in parentheses is the actual attribute name that would be used in the mxnode XML file.

---

## Software attributes

- *Preferred Node Name (PreferredNodeName)* . An alternate system/node name of your choosing which can make it easier for you to identify, find, or organize systems/nodes in the database.
- *System Description (SystemDescription)* . This attribute describes the device. Any displayable text can be used as a value for this attribute.
- *Asset Number (AssetNumber)* . The asset number of the system. Any displayable text can be used as a value for this attribute.
- *OS Description (OSDescription)* . The description of the system's OS. Any displayable text can be used as a value for this attribute.
- *OS Name (OSName)* . The name of the OS on the managed system. Only the following predefined valid values can be used for this attribute: HPUX, WINNT, LINUX, NOVEL, and Tru64.
- *OS Revision (OSRevision)* . The revision level of the OS. Any displayable text can be used as a value for this attribute.
- *Contact (Contact)* . The person to contact if system maintenance is needed. Any displayable text can be used as a value for this attribute.
- *Location (Location)* . The physical location of the system. Any displayable text can be used as a value for this attribute.

## Hardware attributes

- *Device Type (DeviceType)* . The major type of the device. Only the following predefined valid device types can be used as values for this attribute. Some device type values differ slightly from the device types in the GUI, as shown in the following table:

GUI name	mxnode attribute name
Unmanaged	Unmanaged
Rack	Rack
Enclosure	Enclosure
KVM Switch	KVM
UPS	UPS
Power Distribution Unit	PDU
Environmental Monitor	Env
Complex	Complex
Handheld	Handheld
Partition	Partition
Power Supply	PowerSupply
Thin Client	ThinClient
Storage Device	Storage
Server	Server
Desktop	Desktop
Workstation	Workstation
Notebook	Portable
Router	Router
Cluster	Cluster

GUI name	mxnode attribute name
Printer	Printer
Switch	Switch
Hub	Hub
Remote Access Device	RAS
Unknown	Unknown
Management Processor	MgmtProc
Tape Library	Tapelibrary
Shared Resource Domain	SRD
Resource Partition	RESPAR
Application	Application

- *Device Subtype (DeviceSubType)* . The subtype of the device within the major type. Only the following predefined valid device subtypes can be used as values for a device subtype. Some subtypes differ slightly from the subtypes in the GUI, as shown in the following table:

GUI name	mxnode attribute name
Power Supply Enclosure	PowerEnc
None	None
Server Enclosure	ServerEnc
HP Vectra	HPVectra
HP NetServer	HPNetServer
HP ProLiant	HPProLiant
Dell	Dell
HP Kayak	HPKayak
HP Omnibook	HPOmnibook
HP Visualize	HPVisualize
<make selection>	select
HP Integrity Server	HPIntegrityServer
HP Virtual Partition	vPar
Unconfigured HP System	HPUNCFG
HP Alpha Server	HPAlphaServer
Virtual Machine Guest	VMGuest
HP BladeSystem p-Class	p-Class
HP BladeSystem e-Class/CCI	e-Class
SMI	SMI
HP Workstation	HPWorkstation
NonStop Server	HPNonStop
Blade	Blade
HP Evo	HP Evo
Storage	Storage
HP Server	HPServer
HP BladeSystem	BladeSystem

GUI name	mxnode attribute name
HP Virtual Partition Server	vParMonitor
Storage Essentials Managed	StorageEssentials
HP 9000 Superdome	HP9000Superdome
HP Integrity	HPIntegrity
HP Alpha Station	HPAlphaStation
Virtual Machine Host	VMHost
HP Serviceguard	HP Serviceguard
High Availability Cluster	HighAvailabilityCluster
nPar	nPar
HP Deskpro	HPDeskpro
HP Integrity Superdome	HPSuperdome
MSCS	MSCS
HP Integrity Workstation	HPIntegrityWorkStation
High Availability Array	HighAvailabilityArray
HP Integrity Virtual Machine Host	HPVMHost
HP Integrity Virtual Machine Guest	HPVMGuest
HP Serviceguard Cluster Member	HPSGCMember

- *Model (Model)* . The device model. Any displayable text can be used as a value for this attribute.
- *Serial Number (SerialNumber)* . The serial number of the system. Any displayable text can be used as a value for this attribute.

In addition to the predefined options, HP SIM plug-in extension applications can define their own system attributes.

## XML file support

If HP SIM detects a formatting error when processing an XML input file, processing is interrupted, an error message is issued, and the database is not changed. See the [Examples](#) section and the `mxnode (4)` manpage for more information about XML input files.

## Options

`-a hostname (s) | ipaddress (es)`

Specify one or more systems to add. You can use the hostname or IP address. Hostnames may or may not be fully-qualified, and are resolved internally. Identification will also run.

`-m systemname (s)`

Specify one or more systems to modify and re-identify. You can enter one or more system names.

`-m -f filename`

Specify that the systems to modify are in an xml file. The contents and format of the xml file are shown in the [Examples](#) section. See `mxnode (4)` for additional information about using XML input files with `mxnode`.

This is the only option that allows MPO or Contract and Warranty data residing in an XML file to be recognized and evaluated. MPO and Contract and Warranty data within the XML is not available with `-a` because a system must first exist before the MPO or Contract and

Warranty data can be added or modified. MPO or Contract and Warranty data for a system can be added, modified or removed only through the use of an external XML file. This data cannot be specified directly on the command line for add, modify or remove operations.

`-f filename`

Specify a filename containing systems to be added, modified, removed or listed. The contents and format of the xml file are shown in the [Examples](#) section. See `mxnode(4)` for additional information about using XML input files with `mxnode`.

`-w`

Force `mxnode` to wait until the specified nodes have actually been added to the database. Using this option ensures that any subsequent operations related to the added nodes will succeed because the nodes are guaranteed to exist in the database. Using the wait option will cause an `mxnode` add or modify operation to take up to several minutes or longer, depending on the total number of nodes being added. As a result, the `mxnode` CLI will take longer to return control to the user or caller.

`-p`

The prune option must be used in conjunction with the `-m` option when you want to use XML input to remove one or more existing MPOs from a system. Any system's existing MPO that is omitted from the XML MPO section is removed from the system, thus the "pruning" operation. When using the `-p` option to remove MPOs, the command line format and order is important and should look like: `-m -p -f filename`.

`-ld systemname (s)`

Display a detailed list of system attributes for the specified system or all systems.

`-ln systemname (s)`

Display a simple list of system names for the specified system or all systems.

`-lt systemname (s)`

Display a tabular listing of system attributes for the specified system or all systems.

`-lmpo`

Display a name listing of systems that have one or more associated MPOs.

`-lf systemname (s)`

Display an XML list of system attributes for the specified system or all systems. The output from this option is suitable for use as the contents of the `filename` for the `-f` option.

`-r [-x force]`

Remove the specified systems. Use `[-x force]` to force the removal of systems that have dependencies on or from other systems.

`-b encoding`

Specify the character encoding when used with `-lf`.

`-v`

Display verbose progress information.

## External influences

For HP-UX or Linux, `LANG` determines the default encoding the system will use to output XML data if no encoding is specified on the command line. If `LANG` is not specified or null, or `LANG` does not correspond to a recognized encoding, it defaults to C (see `lang(5)`). In this case, use the `-b` option to specify the encoding of the XML data.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
3	Undefined system error.
5	Duplicate system error.
6	Nonexistent user error.
7	System is locked error.
8	Nonexistent system group error.
21	Invalid name.
31	Unknown network host.
33	Missing mxnode plug-in identification collector.
38	Undefined node name.
50	Unauthorized user.
102	Database error.
221	Authentication failure.
222	The CMS is not initialized.
224	System installation error.
249	Unable to connect to the session manager.
250	Remote exception.
252	File input parsing error.
253	Duplicate name.
254	Properties file error.

## Examples

### Example 1

To identify and add the nodes defined in `new_nodes.xml`, enter: `mxnode -a -f new_nodes.xml`.

The contents of `new_nodes.xml` might look like:

```
<?xml version="1.0" encoding="UTF-8"?>
<node-list>
<node name="abc" host-name="abc.mycompany.com" />
<node>
<sw-attribute name="IPAddress">192.1.1.1</sw-attribute>
</node>
<node name="maple" />
</node-list>
```

### Example 2

To remove node `abc` from the database, enter `mxnode -r abc`.

### Example 3

To list, in detailed format, all attributes for the node `abc`, enter `mxnode -ld abc`.

The output might look like:

```
Node name: abc
Host name: abc.mycompany.com
```

```

IP addresses: 192.1.1.2.3
OS name: HPUX
OS revision: 11.00
OS revision text: 11.00
OS vendor: HP
Protocols: SNMP:1.0
GUID: 00000000864162de0f07e31d86c00000
Hardware device ID: 00000000864162de0f07e31d86b00000
Device type: UnixWorkstation
Device subtype: HP9000
Model: 9000/785
Added by: root
Added on: Sep 24, 2002 4:15:46 PM
Monitoring: Not suspended
OS description:
Preferred node name: LABabc
System description: Hardware: x86 Family
Contact: ph: 555-1234
Location: Bldg 6,Room123
UUID: n...n
Attributes locked: No

```

#### Example 4

To list, in tabular format, a subset of node attributes for all nodes in the database, enter: `mxnode -lt`.

The output might look like:

NAME	HOST NAME	OS NAME	ADDED ON	IP ADDRESSES
abc	abc.mycompany.com	HPUX	Sep 24, 2002 4:15:46 PM	192.1.2.3
xyz	xyz.mycompany.com	Linux	Sep 24, 2002 4:15:47 PM	192.1.2.4

#### Example 5

To list node *abc* in XML format, enter: `mxnode -lf abc`.

The output might look like:

```

<?xml version="1.0" encoding="UTF-8"?>
<node-list>
<node name="abc" guid="..." host-name="abc.mycompany.com">
<hw-attribute name="DeviceType">UnixWorkstation</hw-attribute>
<hw-attribute name="DeviceSubType">HP9000</hw-attribute>
<hw-attribute name="Model">9000/785</hw-attribute>
<hw-attribute name="ProcessorFamily">pa-risc</hw-attribute>
<sw-attribute name="OSName">HPUX</sw-attribute>
<sw-attribute name="OSVendor">HP</sw-attribute>
<sw-attribute name="OSRevision">11.00</sw-attribute>
<sw-attribute name="IPAddress">192.1.2.3</sw-attribute>
<sw-attribute name="ProtocolSupport">SNMP:1.0</sw-attribute>
<sw-attribute name="Description">HP-UX phoenix</sw-attribute>
<sw-attribute name="SystemName">abc.mycompany.com</sw-attribute>
<managementpath-list />
</node>
</node-list>

```

#### Example 6

The sample XML file below lists a node in XML format and includes all predefined system attributes for reference, including those that can be modified or locked.

One method for modifying a system is to use the `mxnode -lf > filename` command to output the XML data to an external output file. The output file can then be edited to change or add attributes that need to be modified or locked.

After editing the file, modify the system by entering `mxnode -m -f filename` and specifying the edited file as the input file.

The sample XML includes the method for locking the lockable attributes. If you want to keep certain attributes from being overwritten by the Discovery and Identification processes, all three of the attribute lock flags must be set to *false*, as shown below. Otherwise, all three attributes must be set to *true*.

```
<sw-attribute name="DefaultProtoSettings">false</sw-attribute>
<sw-attribute name="DefaultAttributeSettings">false</sw-attribute>
<sw-attribute name="DefaultSystemName">false</sw-attribute>
```



---

**NOTE:** Attribute lock flags can also be modified through the **Edit System Properties** page of the GUI. Selecting or clearing the **Prevent the Discovery and Identification processes from changing these system attributes** check box is the same as setting the attribute lock flags. Selecting the check box is the same as setting all three flags to false. Clearing the check box is the same as setting all three flags to true.

---

The sample XML also includes the monitoring feature attribute within the node element. This feature allows you to control the monitoring of a system/node by HP SIM. In normal operation, the system is continuously monitored (includes Discovery and Identification). System monitoring can be suspended for a predefined time period, or indefinitely. If the monitoring attribute is not included in the XML file for a `-m -f` command, the current monitoring state for the node is left as is.



---

**NOTE:** The monitoring feature can also be modified through the **Suspend/Resume Monitoring** page in the GUI.

---

Valid values for the monitoring attribute are as follows.

```
monitoring="resume" Do not suspend monitoring
monitoring="suspend" Suspend monitoring indefinitely
monitoring="suspend.5m" Suspend monitoring for 5 minutes
monitoring="suspend.15m" Suspend monitoring for 15 minutes
monitoring="suspend.1h" Suspend monitoring for 1 hour
monitoring="suspend.1d" Suspend monitoring for 1 day
```

All attributes that can be modified and locked are marked with an L.

The attributes that can be modified and locked, but require a predefined value, are marked with an asterisk.

See the [System attributes that can be locked](#) section for the valid values for the `DeviceType`, `DeviceSubType` and `OSName` attributes. Ensure that the correct category is used for each attribute (hardware or software).

The three attribute lock flags are marked with an LF marker.

Sample XML file with all system attribute formats and syntax:

```
<?xml version="1.0" encoding="windows-1252"?>
<node-list>
<node name="systemName" host-name="hostName" monitoring="resume">
L* <hw-attribute name="DeviceType">your data here</hw-attribute>
L* <hw-attribute name="DeviceSubType">your data here</hw-attribute>
L <hw-attribute name="Model">your data here</hw-attribute>
L <hw-attribute name="SerialNumber">your data here</hw-attribute>
<hw-attribute name="OverallStatus">10</hw-attribute>
<hw-attribute name="ProductID">12345</hw-attribute>
L* <sw-attribute name="OSName">your data here</sw-attribute>
L <sw-attribute name="OSRevision">your data here</sw-attribute>
<sw-attribute name="OSRevisionText">info here</sw-attribute>
<sw-attribute name="TrustStatus">false</sw-attribute>
```

```

L <sw-attribute name="AssetNumber">your data here</sw-attribute>
L <sw-attribute name="Contact">your data here</sw-attribute>
L <sw-attribute name="Location">your data here</sw-attribute>
L <sw-attribute name="PreferredNodeName">your data here</sw-attribute>
L <sw-attribute name="SysDescription">your data here</sw-attribute>
L <sw-attribute name="OSDescription">your data here</sw-attribute>
<sw-attribute name="OSNameStr">OS name str</sw-attribute>
<sw-attribute name="OSVendor">OS vendor info</sw-attribute>
<sw-attribute name="IPAddress">0.0.0.0</sw-attribute>
<sw-attribute name="ProtocolSupport">SNMP:1.0</sw-attribute>
<sw-attribute name="discovery.source">Ping</sw-attribute> LF
<sw-attribute name="DefaultProtoSettings">>false</sw-attribute>
LF <sw-attribute name="DefaultAttributeSettings">>false</sw-attribute>
LF <sw-attribute name="DefaultSystemName">>false</sw-attribute>
<managementpath-list />
</node>
</node-list>

```

### Example 7

To change the PreferredNodeName attribute for system *abc* to *LABabc*:

1. Obtain the XML for the node by running `mxnode -lf >filename`.
2. Edit the output file. You can leave all the current attributes as is, or remove all attributes except for PreferredNodeName (if it does not exist, add it).
3. Use the XML file as the input for the `mxnode -m -f filename` command.

The following example shows what the XML file might look like:

```

<node-list>
<node name="abc">
<sw-attribute name="PreferredNodeName">LABabc</sw-attribute>
<sw-attribute name="DefaultProtoSettings">>false</sw-attribute>
<sw-attribute name="DefaultAttributeSettings">>false</sw-attribute>
<sw-attribute name="DefaultSystemName">>false</sw-attribute>
<managementpath-list />
</node>
</node-list>

```



**NOTE:** In this example, all three attribute lock flags are set to false so the PreferredNodeName attribute will not be overwritten by the Discovery or Identification process.

---

## Node proxy/management paths (MPO)

A node can have zero or more associated management paths. Node management paths (MPOs - Management Path Objects) are created to assist WBEM CIMOM protocol identification as well as other proxy type management. When dealing with CIMOMs and the other sources of management data that may not come directly from a node itself, a proxy type MPO is added to the node by identification. This MPO must be able to define and handle the WMI mapper and SMI-S based CIMOMs as proxies to a storage device that does not support a network connection. The MPO must also be able to support defining a path to obtain SNMP data for a server via an iLO for cases in which a server is in a DMZ with the iLO on a management network. The two types of MPOs that might reside on a node are a Management Agent (MAO) and a Management Route (MRO).

An MAO defines and supports a management agent such as a CIMOM or SNMP agent. The MAO contains information specific to accessing the agent, which includes attributes such as agent type, port number, and the IP address by which it was accessed.

An MRO provides the information required to access an agent (MAO). An MRO always has an associated MAO included in its overall information. An MRO on a node points to an MAO residing on the same node, or another node.

The following sample XML list shows a node with one MAO and one MRO residing on the node. A node's MPOs are included in the XML within the `<managementpath-list>` block. Within this list block, each MPO is included in its own `<managementpath>` block, where an `mpotype` attribute defines an MRO, MPO, or MAO type. The MRO in the following sample has an associated MAO that resides on another system. Adding, modifying, or removing MPO data for a node is available only through the `mxnode` CLI `modify` option which requires the MPO data to be provided via XML input. See the `mxnode(4)` manpage for more information about using an XML file to add or modify a node's MPO data.

```
<node-list>
<node name="abc" guid="..." host-name="..." monitoring="resume">
<hw-attribute name="DeviceType">Server</hw-attribute>
<sw-attribute name="PreferredNodeName">abc</sw-attribute>
<sw-attribute name="OverallStatus">NORMAL</sw-attribute>
<sw-attribute name="IPAddress">nn.nn.nnn.nn</sw-attribute>
<sw-attribute name="ProtocolSupport">WBEM:1.0</sw-attribute>
<sw-attribute name="ProtocolSupport">SNMP:1.0</sw-attribute>
<sw-attribute name="discovery.source">Ping</sw-attribute>
<sw-attribute name="DefaultProtoSettings">>true</sw-attribute>
<sw-attribute name="DefaultAttributeSettings">>true</sw-attribute>
<sw-attribute name="DefaultSystemName">>true</sw-attribute>
<managementpath-list totalmpos="2">
<managementpath mpotype="MAO" mpoversion="1.0" maotype="WBEM_CIMOM"
location="OnThisNode">
<nodeguid>nn...nn</nodeguid>
<nodename>abc</nodename>
<proxytype>WBEM_CIMOM</proxytype>
<portnumber>nnnn</portnumber>
<ipaddress>nn.nn.nnn.nn</ipaddress>
<protocol>https</protocol>
<maoluid>nnnnnnnnnn</maoluid>
<interopnamespace>interop</interopnamespace>
<profilelist>
<profilename>Array</profilename>
<profilename>Server</profilename>
</profilelist>
<functionalprofilelist>
<profilename>Basic Read</profilename>
<profilename>Basic Write</profilename>
</functionalprofilelist>
</managementpath>
<managementpath mpotype="MRO" mpoversion="1.0">
<categoryname>hpmxCimomMro</categoryname>
<mroluid>nnnnnnnnnn</mroluid>
<profilelist>
<profilename>Switch</profilename>
```

```

</profilelist>
<namespace>root</namespace>
<cimcspath>...</cimcspath>
<associatedmaoguid>nn...nn</associatedmaoguid>
<associatedmaoluid>nnnnnnnnnn</associatedmaoluid>
<managementagent mptype="MAO" maotype="WBEM_CIMOM" location="OnOtherNode">
<nodeguid>nn...nn</nodeguid>
<nodename>dpiwin5</nodename>
<proxytype>WBEM_CIMOM</proxytype>
<portnumber>nnnn</portnumber>
<ipaddress>nn.nn.nnn.nn</ipaddress>
<protocol>https</protocol>
<maoluid>nnnnnnnnnn</maoluid>
<interopnamespace>interop</interopnamespace>
<profilelist />
<functionalprofilelist />
</managementagent>
</managementpath>
</managementpath-list>
<contract-warranty-data monitoring="resume">
<customer-company-data>
<companyname>MyCompany</companyname>
<address1>MyAddress1</address1>
<address2>MyAddress2</address2>
<city>MyCity</city>
<state>MyState</state>
<country>MyCountry</country>
<postalcode>MyPCode</postalcode>
<timezone>MyTimezone</timezone>
</customer-company-data>
<customer-contact-data>
<contact>
<salutation>Mr.</salutation>
<firstname>MyFirstname</firstname>
<lastname>MyLastname</lastname>
<jobtitle>MyJobtitle</jobtitle>
<phone>MyPhone</phone>
<email>MyEmail</email>
<other>MyOther</other>
</contact>
</customer-contact-data>
</contract-warranty-data>
</node>
</node-list>

```

## Notes

- When modifying a node with the `mxnode -m -f filename` command, your XML file must include only the attributes you want to modify. You must always include the three attribute lock flags and set all three flags to *true* or *false*. In most cases, you will want to use the *false* setting so the lockable attributes will not be overwritten by the Discovery and Identification processes.
- The only way to clear a particular system/node attribute using the `mxnode -m -f filename` command is to include that attribute in the XML file and enter one space character as the value for that attribute.
- Although any system/node attribute can be modified with an XML file, only a limited set of all predefined system attributes can be locked or protected from being overwritten by the Discovery or Identification processes. See *System attributes that can be locked and Predefined system attributes/properties* for the lists of system attributes that can be modified and locked.

## Limitations

This command can only be run on the CMS.

## mxnodesecurity

### Synopsis

```
mxnodesecurity -a -p protocol -c username:password [-n nodename ]
mxnodesecurity -a -p wbem -c cert -n nodename
mxnodesecurity -a -f filename
mxnodesecurity -r -p protocol [-n nodename ]
mxnodesecurity -r -f filename
mxnodesecurity -l [-p protocol ] [-n nodename ]
```

### Description

`mxnodesecurity` allows a CMS user to add, list, or remove credentials in the CMS. Command line requests are logged in the `nodesecurity.xml` repository located at `/var/opt/mx/config`. This file allows only privileged user access.

If you want to change a credential for a system that is using the global defaults, use `mxnodesecurity` to change or add the credential, and then run `mxnode` to configure HP SIM to use the new credential instead of the global defaults. For detailed instructions, see the Troubleshooting section of the *HP Systems Insight Manager User Guide*.

- `mxnodesecurity -a -p protocol -c username:password [-n nodename ]`  
`mxnodesecurity -a -p wbem -c cert -n nodename`  
`mxnodesecurity -a -f filename`

The add option lets you add a node credential. You can specify an input XML file that describes credentials for one or more target nodes, or you can declare credentials and (optionally) a node name on the command line.

If you specify a file name on the command line, the file must be an XML file. See the *XML file support* section and the `mxnodesecurity(4)` manpage for details on the required XML file format. You can also specify the credential characteristics on the command line with the node name. If the node name is omitted, the default credentials are changed to the new credential characteristics.

If the node name is included on the command line, `mxnodesecurity` tries to get the fully-qualified name for the node. If the fully-qualified name is not available, the IP address is requested. If an IP address is not available, the name supplied on the command line is used. The `mxnodesecurity` application then searches for the node in the database. If the node exists, the credentials for that node

are updated. If the node is not found, a new line item is added for the node with the credential characteristics.

- `mxnodesecurity -r -p protocol [-n nodename ]`  
`mxnodesecurity -r -f filename`

The remove option lets you delete a node credential. Like the add option, the remove option allows you to supply a file name with the credentials and node name for deletion. The remove option allows you to remove one credential at a time based on the node name, or to remove all credentials of a specified protocol type.

If you type a protocol and a node name on the command line, the remove option attempts to resolve the node name to its fully-qualified name. If the fully-qualified name is not available, the IP address is requested. If an IP address is not available, the name supplied on the command line is used. Once the node name has been determined, the remove option scans the node security repository. If the node name is located, and the protocol exists in the repository, the credential is deleted. If the node has no additional credentials, the node is deleted from the node security repository.

If you omit the node name during a remove operation, all credentials for the supplied protocol are removed from the node security repository.

- `mxnodesecurity -l [-p protocol ] [-n nodename ]`

The list option lets you list the credentials in the node security repository. You can specify a protocol or a node name to filter the list results.

If the list option is used with the protocol option, all nodes with credentials of the specified protocol are listed. If the list option is used with the node option, the node is located, and all credentials for that node, regardless of protocol, are listed. If the node and protocol options are used together, the node will be displayed only if credentials for the specified protocol exist.

## XML file support

This command requires the following format for XML input files:

```
<?xml version="1.0" encoding="UTF-8" ?>
<nodelist>
<node name="nodeName" guid="">
<credential protocol="wbem" username="userName" password="userPassword" encoded="" certname=""/>
</node>
</nodelist>
```

If the CMS detects a formatting error while processing an input file, it will not make any changes to the node security repository. The CMS will interrupt processing and issue an error message. See `mxnodesecurity(4)` for more XML usage information.

## Options

- a  
Add or modify credentials in the node security repository. This option must be used with `-f` or `-p` and `-c`.
- r  
Remove credentials from the node security repository. This option must be used with `-f` or `-c`.
- l  
List node security credentials on the screen. This option can be used with `-p` and `-n` options.
- f *filename*  
Use an XML file to specify the credentials to add or remove.
- p *protocol*

Specify a protocol such as WBEM or SNMP. Credentials of the specified type are displayed on the screen. This option is used with `-a`, `-r`, and `-l`.

`-c username:password`

Specify a username and password for a WBEM credential. This option is used with `-a -p wbem`.



**NOTE:** Be careful when entering passwords in the CLI. This makes them available in the command history, the process list during execution, and the audit log if the command is executed as part of a task. Be sure to clear your command history or use alternate methods for specifying passwords, for example, a prompt or input file.

`-c readname:writename`

Specify a community read name and community write name for an SNMP credential. This option is used with `-a -p snmp`.

`-c CERT`

Use an internal default certificate-based credential for node access instead of a username and password. If you use this option, you must specify the `wbem` protocol and a node name on the command line. `CERT` is not case sensitive.

`-n nodename`

Specify a node name. This should be the fully-qualified name, if available. This option is used with `-a`, `-r`, and `-l`.

## Return values

Value	Meaning
0	Required configuration files were updated correctly.
1	Command line syntax error.
2	Error in a file operation or parsing a file.
21	Invalid name.
250	Remote exception.

## Examples

### Example 1

To add a WBEM credential to the node security repository for the node `mycomputer.ak.hp.com`, enter `mxnodesecurity -a -p wbem -c username:password -n mycomputer.ak.hp.com`. The username and password are defined uniquely for `mycomputer.ak.hp.com`.

### Example 2

To add a default WBEM protocol credential to the node security repository, enter `mxnodesecurity -a -p wbem -c username:password`. The username and password are required for the WBEM protocol.



**NOTE:** A node name is not needed when you add default credentials, because default credentials apply to all nodes. Default credentials for the WBEM protocol are limited to 10. Default credential names use the format `@defaultN`, where `N` is an automatically assigned numerical value in the range of 1–10. If you try to add more than ten default WBEM credentials, a warning message appears and the default credential is not added.

### Example 3

To add a WBEM certificate-based credential to the node security repository for the node `mycomputer.ak.hp.com`, enter `mxnodesecurity -a -p wbem -c CERT -n mycomputer.ak.hp.com`.

An internally defined default certificate will be used, and you cannot specify a unique certificate name. *CERT* is not case sensitive.

#### Example 4

To add a default SNMP protocol credential to the node security repository, enter `mxnodesecurity -a -p snmp -c readname:writename`. The read community string and the write community string are required for the SNMP protocol.



---

**NOTE:** A node name is not needed when you add default credentials, because default credentials apply to all nodes. Default credential names use the format `@defaultN`, where *N* is an automatically assigned numerical value.

---

#### Example 5

To add credentials to the node security repository based on the contents of `/home/user1/defs/newcredentials.xml`, enter `mxnodesecurity -a -f /home/user1/defs/newcredentials.xml`.

#### Example 6

To remove all WBEM-type credentials in the node security repository, enter `mxnodesecurity -r -p wbem`.

#### Example 7

To remove all WBEM credentials for the node `mycomputer.ak.hp.com`, enter `mxnodesecurity -r -p wbem -n mycomputer.ak.hp.com`.

#### Example 8

To remove credentials in the node security repository based on the contents of `/home/user1/defs/newcredentials.xml`, enter `mxnodesecurity -r -f /home/user1/defs/newcredentials.xml`.

#### Example 9

To list the node names and credentials in the CMS node security repository, enter `mxnodesecurity -l`.

#### Example 10

To list nodes with WBEM credentials, enter `mxnodesecurity -l -p wbem`.

#### Example 11

To list the WBEM credentials for the node `mycomputer.ak.hp.com`, enter `mxnodesecurity -l -p wbem -n mycomputer.ak.hp.com`.

## Limitations

- This command can only be run on the CMS.
- For an HP-UX or Linux CMS, this command can be run only by the root user.

## See also

### HP-UX

`mxngroup(1M)`, `mxauth(1M)`, `mxuser(1M)`, `mxinitconfig(1M)`, `mxnode(1M)`

### Linux

`mxngroup(8)`, `mxauth(8)`, `mxuser(8)`, `mxinitconfig(8)`, `mxnode(8)`

# mxoracleconfig

## Synopsis

```
mxoracleconfig -h hostname [-n port number] -d database name -u username -p password  
[-j jar file] [-f]
```

## Description

mxoracleconfig allows you to configure HP SIM to use an Oracle database. This command does not initialize the database. Use `mxinitconfig` to initialize the database.

## Options

-h *hostname*

Specify the hostname of the server on which the Oracle database is installed.

-n *port number*

Specify the port number of the Oracle TCP/IP listener service on the Oracle database server. If -n is not specified, the default is 1521.

-d *database name*

Specify the instance name of the database to be used for HP SIM. This should be a new database created exclusively for HP SIM use. Set up this database to use the Unicode character set (AL32UTF8).

-u *username*

Enter the username authorized to log in to the Oracle database instance. This user must have the DBA privilege.

-p *password*

Enter the password.

-j *jar file*

Specify the location of the jar file containing the Oracle thin jdbc driver. The driver is typically named `ojdbc14.jar`.

-f

Force re-run. Typically, `mxoracleconfig` should be run only once. Use the force flag if you need to re-run this command.

## Return values

Value	Meaning
0	Required configuration files were updated correctly..
-1	An error occurred during operation.

## See also

HP-UX

`mxinitconfig(1M)`

Linux

`mxinitconfig(8)`

## Example

To configure HP SIM to use Oracle database *hpsim50* on server *oradbsrv11x* with user id *sim*, password *simpw*, and the Oracle thin driver jar file *ojdbc14.jar*, enter: `mxoracleconfig -h oradbsrv11x -d hpsim50 -u sim -p simpw -j ojdbc14.jar .`

## mxpassword

### Synopsis

```
mxpassword
mxpassword -a ((-x key=value)* |(-f filespec))
mxpassword -m (-x key=value)*
mxpassword -r (-x key)*
mxpassword [-l [-x key]*]
mxpassword -g
mxpassword -n
mxpassword -c
```

### Description

`mxpassword` allows you to add, remove, modify, and list the passwords stored for use with HP SIM. The passwords are displayed in clear text for readability.



**CAUTION:** To prevent clear text passwords from being exposed to unintended eyes, close the command window after executing this command.

### Options

- a  
Add a new password.
- m  
Modify an existing password.
- r  
Remove an existing password.
- l  
List the passwords stored by HP SIM.
- g  
Start the `mxpassword` GUI.



**IMPORTANT:** An error might occur if you use `-g` in a non-graphical environment (such as a telnet session).

- x *key* [ =*value* ]  
The key is the name of the password, and the value is the new value of the password in text format.
- n  
Create a new server certificate. HP SIM and the System Management Homepage must not be running when you run `mxpassword` with the `-n` option. All SMH agents that trust HP SIM must be re-configured after you run `mxpassword -n`.
- c

Check for the existence of a keystore of passwords stored by HP SIM.

`-f filespec`

Enter passwords from a file. The file must use the format `password1=password...`

## Return values

Value	Meaning
0	Successful completion.
>0	An error occurred during operation.

## Examples

### Example 1

To list all the passwords stored by HP SIM, enter `mxpassword -l`.

### Example 2

To change the current SSH password to `scoobydoo2`, enter `mxpassword -m -x MxSshKeyPassword=scoobydoo2`.

### Example 3

To change the current database password to `rocketboy2`, enter `mxpassword -m -x MxDBUserPassword=rocketboy2`.

### Example 4

To remove the current SSH password, enter `mxpassword -r -x MxSshKeyPassword`.

### Example 5

To remove the current database password, enter `mxpassword -r -x MxDBUserPassword`.

### Example 6

To add, modify or remove passwords using a graphical user interface, enter `mxpassword -g`.

### Example 7

To add the passwords `myPw1` and `myPw2` with the values `myPw1Value` and `myPw2Value`, enter `mxpassword -a -x myPw1=myPw1Value -x myPw2=myPw2Value`.

### Example 8

To check if the HP SIM keystore exists, enter `mxpassword -c`. A typical result is `Keystore exists`.

## mxquery

### Synopsis

```
mxquery -a -f filename [-x force]
mxquery -m -f filename
mxquery -r queryname...
mxquery -r -f filename
mxquery -e queryname [-x xml]
mxquery [-l n|t] [ queryname... ]
mxquery -lf [-b encoding] [-x query [ queryname... ] ]
mxquery -l cat
mxquery -l crit
```

```
mxquery -l mode criterionname
```

```
mxquery -l val criterionname
```

## Description

`mxquery` allows you to add, list, modify or remove queries in HP SIM.



**IMPORTANT:** Using `mxcollection` is preferred over using category with `mxquery`. Using `cat` will still work for `mxquery`, but you should switch to `mxcollection` for creating and manipulating collections (previously known as categories).

- `mxquery -a -f filename [-x force]`

This command allows you to add queries. Query information is provided in a query definition file (see `mxquery(4)`) and allows you to add one or more queries.

During an add operation, HP SIM adds only the queries whose names do not reference existing queries in the database. If a duplicate query is detected, it is skipped, and all non-duplicate queries are added. Skipping duplicate queries does not affect the `return value`.

Optionally, you can specify the force flag, which instructs the system to add a query's criteria even if there is not a database entry corresponding to the criteria value. This affects only criteria values that are selected from a list of values stored in the database, such as system names.

- `mxquery -l val CriteriaByEventType`

This command allows you to view a list that includes sub categories for the event types when applicable. For the `mxquery -a -f filename` CLI (create a query), you can use `mxquery -l val CriteriaByEventType` which lists all the possible event types. Each element represents a single event type containing a category, a sub category, and an event type. This is the event type value string which is used when creating an event query based on event type criteria.

**Note:** when creating a query, the event type value string must match what is listed in the output from the previous `mxquery -l` command. The value string is case sensitive. All categories, subcategories, and event type strings must be unique within HP SIM.

- `mxquery -m -f filename`

This command allows you to modify the definition of one or more queries. Query information is provided in a query definition file. When modifying a query, you must be the query owner or a full configuration rights user.

- `mxquery -r queryname`  
`mxquery -r -f filename`

These commands allow you to remove queries. Only a full configuration rights user or the query owner can remove a query. If you specify a query name that does not exist, HP SIM notifies you that it cannot remove the query and attempts to remove the next designated query. Skipping undefined queries does not affect the `return value`. You can specify queries as a list of query names, or a query definition file.

- `mxquery -e queryname [-x xml]`

This command allows you to execute the specified query and display the results. You must specify the name of an existing query, and you must be authorized to execute the query against the managed systems that the query targets. See `mxauth(1M)` for more information about authorizations.

- `mxquery [-l n|t] [queryname...]`

This command allows you to list queries or view the definitions of specified queries. With no qualifiers or `-n`, `mxquery` lists the names of all registered queries. With the `t` option, `mxquery` gives a tabular listing showing some attributes of all registered queries. You can limit the query information by specifying one or more query names.

- `mxquery -lf [-b encoding] [-x query [queryname...]]`

This command writes a complete definition (see `mxquery(4)`) for each query to `stdout`.

Optionally, you can specify the character encoding of the XML file. The value for the character encoding must match a valid character encoding. If no encoding is specified, the system attempts to write the file in the encoding currently defined on the system. See <http://www.iana.org/assignments/character-sets> for the list of valid character sets. You can specify individual queries by specifying a query name; otherwise, all queries in the system are listed.

- `mxquery -l cat`  
This command lists the names of all of the categories that you can add queries to. To add a query, the query definition must contain a category from this list.
- `mxquery -l crit`  
This command lists the names of criteria that can be specified for a query. Criteria specify the search values that HP SIM uses when executing a query. Some criteria have a list of defined values that must be used when specifying that given criteria. This command lists the criteria name and the query type in which the criteria can be specified.
- `mxquery -l mode criterionname`  
This command lists the operation modes or operators that are valid for a specified criteria.
- `mxquery -l val criterionname`  
This command lists the defined criteria values for the specified criteria. If the specified criteria does not have defined values, no data is listed.

## Option

- a  
Add one or more queries specified in a query definition file.
  - m  
Replace one or more query definitions with the definition in the specified file.
  - e  
Execute the specified query.
  - r  
Remove one or more queries.
- queryname*  
Specify the name of the query to be removed, listed, or executed. Entering an undefined query name results in `mxquery` operating on zero queries and a return value of `SUCCESS`. Specifying an invalid query name (one that violates the rules for query names (see `mxquery(4)`), results in an `invalid name` return value.
- f *filename*  
Specify the path and name of a file that contains the definition of one or more queries to be added, modified, or removed.
  - lf  
Display a file-formatted list of queries (this output can be used as input for -f).
  - l n  
List the names of HP SIM queries.
  - l t  
Display a tabular list of queries and query attributes.
  - l cat  
Display a list of query categories to which you can add queries.

- l crit  
Display a list of criteria with which you can construct queries.
- l mode  
Display a list of operation modes or operators that can be used in association with a specified criteria.
- l val  
Display a list of defined values associated with a specified criteria.
- critersname  
Enter the name of an existing criteria for which you want additional information, such as operation modes or defined values.
- x  
Specify an extended option value. This is used with the following keywords.
- force  
Force a query into the system when used in conjunction with -af.
- cat  
List only query categories when used with -lf.
- query  
List only queries when used with -lf.
- b *encoding*  
Specify the character encoding for an XML file when used with -lf.
- xml  
Display the output of query execution results in xml format when used with -e. You can also use this option with *force* to force the addition of a query.




---

**NOTE:** When duplicate options are specified, the last instance of the option is used. For example, if you enter `-f file1 -f file2`, `mxauth` uses `file2`.

---

## External influences

For HP-UX or Linux, `LANG` determines the default encoding that the system will use to output XML data if no encoding is specified on the command line. If `LANG` is not specified or null, or `LANG` does not correspond to a recognized encoding, it defaults to C (see `lang (5)`). In this case, use the `-b` option to specify the encoding of the XML data.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
3	Invalid object.
21	Invalid name.
102	HP SIM repository error.
222	The CMS is not initialized.
249	Unable to connect to the session manager.
250	Remote exception.

## Examples

### Example 1

To add the queries defined in the query definition file `/home/user1/defs/myquerydef`, enter `mxquery -a -f /home/user1/defs/myquerydef`.

### Example 2

To modify queries based on the query definition file `/home/user1/defs/myquerymods`, enter `mxquery -m -f /home/user1/defs/myquerymods`.

### Example 3

To remove the query `badquery`, enter `mxquery -r badquery`.

### Example 4

To remove queries based on the query definition file `/home/user1/defs/myquerymods`, enter `mxquery -r -f /home/user1/defs/myquerymods`.

### Example 5

To view a list of HP SIM query names, enter `mxquery -ln`.

### Example 6

To view a tabular listing of queries with column headings, enter `mxquery -lt`.

### Example 7

To view a list of queries in XML file format, enter `mxquery -lf`.

### Example 8

To view a list of categories to which you can save queries, enter `mxquery -lcat`.

### Example 9

To display the criteria names and their associated query type, enter `mxquery -lcrit`.

### Example 10

To display the operation modes associated with the criteria *CriteriaByIPAddress*, enter `mxquery -lmode CriteriaByIPAddress`.

### Example 11

To display the defined criteria values for the criteria *CriteriaByProductType*, enter `mxquery -lval CriteriaByProductType`.

## Limitations

This command can only be run on the CMS.

## See also

### HP-UX

`mxauth(1M)`, `mxquery(4)`

### Linux

`mxauth(8)`, `mxquery(4)`

## mxreport

### Synopsis

```
mxreport -a -f fully-qualified-file-name
```

```

mxreport -d existing-report-name
mxreport -r existing-report-category-name
mxreport -c -f fully-qualified-file-name
mxreport -e existing-report-name [-n] [-S existing-system-collection-name-or-comma-separated-nodes-list-when-used-with-option- (n) ] [-E existing-event-collection-name ] [-x HTML|XML|CSV] [-o fully-qualified-file-name ]
mxreport -eCat existing-category-name -S existing-system-collectionname-or-comma-separated-nodes-list-when-used-with-option (n) [-n] [-E existing-event-collection-name ] [-x HTML|XML|CSV] [-o fully-qualified-file-name ]
mxreport [-b encoding ] [-n valid-report-or-category-name ] -l -x [report|category]

```

## Description

mxreport allows users with sufficient privileges to run reports, and to add, delete, and list reports and report categories.

- `mxreport -a -f fully-qualified-file-name`

This command allows you to add reports if you have sufficient privileges. Report information is provided in a report definition file (see `mxreport (4)`).

During an add operation, only reports with names that do not exist in the database are added. If a duplicate report is detected, it is skipped, and HP SIM adds all non-duplicate reports. Skipping duplicate reports does not affect the return value.
- `mxreport -d existing-report-name`

This command allows you to delete a report. You must specify an existing report, and you must be the report owner or a full configuration rights user.
- `mxreport -r existing-report-category-name`

This command allows you to remove a report category. Only a full configuration rights user or the report owner can remove a report category. HP SIM notifies you if you specify a nonexistent report category name.
- `mxreport -c -f fully-qualified-file-name`

This command allows you to create a new report category. The category is defined in an XML file. You must have the `REPORT_MODIFICATION_PRIVILEGE` to create a new report category.
- `mxreport -e existing-report-name [-n] [-S existing-system-collection-name-or-comma-separated-nodes-list-when-used-with-option- (n) ] [-E existing-event-collection-name ] [-x HTML|XML|CSV] [-o fully-qualified-file-name ]`

This command runs an existing report.

  - The report name is mandatory.
  - The `-S` and `-E` flags allow you to overwrite the system and event collections in the specified report by entering an existing collection name and event query.
  - If you want to enter a comma-separated list of system names instead of a collection for `-S`, enter `-n` before `-S` and type the names on the command line. For example, `mxreport -e report_name -n -S "systemname1,systemname2" -E "All Events" -x XML`.
  - `-x` specifies the generated report file format. The default is XML.
  - `-o` specifies the output file path. Without this option, the output is displayed in the console.
  - You must have the `REPORT_VIEW_SECURED_DATA_PRIVILEGE` to generate a report that contains license information.
- `mxreport -eCat existing-category-name [-n] -S existing-system-collectionname-or-comma-separated-nodes-list-when-used-with-option- (n)`

```
[-E existing-event-collection-name] [-x HTML|XML|CSV] [-o fully-qualified-file-name]
```

This command runs a report from an existing category.

- The category name is mandatory.
  - *-S* is mandatory. If you want to enter a comma-separated list of system names instead of a collection for *-S*, enter *-n* before *-S* and type the names on the command line.
  - Selecting an event query is optional.
  - *-x* specifies the generated report file format. The default is XML.
  - *-o* specifies the output file path. Without this option, the output is displayed in the console.
  - You must have the `REPORT_VIEW_SECURED_DATA_PRIVILEGE` to generate a report that contains license information.
- `mxreport [-b encoding] [-n valid-report-or-category-name] -l -x [report|category]`

This command lists the attributes of a predefined report or report category by passing a report name or category name.

- *-b* specifies the language encoding for the XML file.
- *-x* specifies whether to list a report or a category. The default is `report`.
- *-n* specifies the report name or category name to list.
- If *-n* is not specified with `-l -x report`, a list of all predefined reports is displayed.
- If *-n* is not specified with `-l -x category`, a list of all existing categories is displayed.

## Options

*-a -f*

Add one or more reports specified in a report definition file.

*-d*

Remove the specified report.

*-r*

Remove the specified report category.

*-c -f*

Add the category specified in the listed file.

*-e*

Run the specified report.

*-S*

Replace the system collection in the specified report with the listed system collection.

*-n*

Indicate that a comma-separated list of system names is used with *-S* instead of a collection name.

*-E*

Filter the specified report by the listed query.

*-x*

Select the output type (HTML, XML, or CSV) for the *-e* option.

*-o*

Specify an output file for the *-e* option.

-l -x

List all predefined report names.

report

List all predefined report names with -l -x.

category

List all predefined report category names with -l -x.

-b

Specify the character encoding for reports and report categories listed with -l -x.

-n *valid report or category name*

Specify the name of an existing report or report category to list with -l -x.

-eCat

Generate a report from the specified report category.

reportname

Specify the name of a report. Specifying an invalid report name results in an `invalid name` return value. If the report name contains spaces, enclose it in quotation marks.

categoryname

Specify the name of a report category. Specifying an invalid report category name results in an `invalid name` return value. If the category name contains spaces, enclose it in quotation marks.

## External influences

For HP-UX or Linux, `LANG` determines the default encoding that the system will use to output XML data if no encoding is specified on the command line. If `LANG` is not specified or null, or `LANG` does not correspond to a recognized encoding, it defaults to C (see `lang (5)`). In this case, use the `-b` option to specify the encoding of the XML data.

## Return values

Value	Meaning
0	Successful completion.
1	Command completed with an error.
2	Specified command arguments constituted bad usage.
3	Specified command is not found or has been disabled for remote execution.
4	User/client does not have sufficient privileges to execute the command.
6	No valid licenses exist for the command.
7	Command has not completed execution.
8	Security token was not valid.
9	SessionID was invalid. Can only be returned from <code>status()</code> calls.

## Examples

### Example 1

To add the reports defined in the `/home/user1/defs/myreportdef` file, enter `mxreport -a -f "/home/user1/defs/myreportdef"`.

### Example 2

To delete the report *Inventory - Third Floor Servers*, enter `mxreport -d "Inventory - Third Floor Servers"`.

### Example 3

To delete the report category *Old Array Controllers*, enter `mxreport -r "Old Array Controllers"`.

### Example 4

To create the report category specified in the file `/home/user1/defs/myreportcatdef`, enter `mxreport -c -f "/home/user1/defs/myreportcatdef"`.

### Example 5

To run the report *Catapult Launchers* and format the output as CSV, enter `mxreport -e "Catapult Launchers" -x CSV`.

### Example 6

To list all reports, enter `mxreport -l -x report`.

### Example 7

To list the contents of the report *Islands of Phoenix*, enter `mxreport -l -x report -n "Islands of Phoenix"`.

### Example 8

To list all report categories, enter `mxreport -l -x category`.

### Example 9

To list the contents of the report category *White Noise*, enter `mxreport -l -x category -n "White Noise"`.

### Example 10

To run a report from the *Inventory* category with the system collection *All Servers* and the event filter *All Events*, enter `mxreport -eCat Inventory -S "All Servers" -E "All Events" -x XML`.

### Example 11

To run a report from the *Inventory* category with the node name list *cmssystem,mycomputer* and an event filter *All Events*, enter `mxreport -eCat Inventory -S "cmssystem,mycomputer" -n -E "All Events" -x XML`.

## Limitations

This command can only be run on the CMS.

## See also

### HP-UX

`mxauth(1M)`, `mxreport(4)`, `mxcategoryitem(4)`

### Linux

`mxauth(8)`, `mxreport(4)`, `mxcategoryitem(4)`

## mxstart

### Synopsis

`mxstart`

## Description

`mxstart` starts the HP SIM daemons.

## Return values

Value	Meaning
0	Successful completion.
>0	An error occurred during operation.

## Example

To start the HP SIM daemons, enter `mxstart`.

## mxstm

### Synopsis

```
mxstm -a -n product name -p snmp|dmi (-x attribute=value)+
mxstm -r -n product name
mxstm -a -f filespec
mxstm -r -f filespec
mxstm -l [-n product name ]
mxstm -l [-p snmp|dmi] [-f filespec ]
```

## Description

`mxstm` allows you to add, remove, and list system type manager rules for use with HP SIM.

## Options

`-a`

Add a new rule. Optionally, use `-f` to import one or more rules from an XML file. The XML file must be encoded in UTF-8 and must be declared with `encoding="UTF-8"`.

`-r`

Remove an existing rule. Optionally, use `-f` to delete one or more rules from an XML file. The XML file must be encoded in UTF-8 and must be declared with `encoding="UTF-8"`.

`-l`

List system type manager rules.

- Use `-n` to provide a product name and list rule details.
- Use the `-f` option to output rules to an XML file. The XML file is encoded in UTF-8. Optionally, specify a protocol to selectively output rules matching that protocol. The XML file output by this command is valid input for `-a` and `-r`.

`-x attribute=value`

Enter the name of a protocol-specific attribute and the value to assign to the attribute.

`-n`

Enter a product name.

`-p`

Enter a protocol. This value should be SNMP (SNMP or DMI if the CMS is a Microsoft Windows system).

The SNMP required attributes are: `sysoid`.

The SNMP optional attributes are: url, urldesc, type, subtype, osname, osvendor, osverson, sysoidrule, oid, oidval, oidrule, and priority.

The DMI required attributes are: comp1, group1, sgroup1, attrib1, val1, and rule1.

The DMI optional attributes are: url, type, subtype, comp2, group2, sgroup2, attrib2, val2, rule2, comp3, group3, sgroup3, attrib3, val3, rule3, and priority.

The *type* attribute can use the values: Application, Cluster, Complex, Desktop, Enclosure, Env, Handheld, Hub, KVM, MgmtProc, Other, PDU, Partition, Portable, PowerSupply, Printer, RAS, Rack, RESPAR, Router, Server, SRC, Storage, Switch, Tapelibrary, UPS, Unknown, Workstation, or other values as defined in the nodeTypesEnum table.

The *subtype* attribute can use the values: Blade, BladeSystem, BS-BMP, BS-SMC, c-Class, Dell, e-Class, gWLMResPar, HighAvailabilityArray, HighAvailabilityCluster, HP Serviceguard, HP9000, HP9000Superdome, HPAlphaServer, HPAlphaStation, HPDeskpro, HPEvo, HPIntegrity, HPIntegrityServer, HPIntegrityWorkStation, HPKayak, HPNetServer, HPNonStop, HPOmnibook, HPProLiant, HPServer, HPSGCMember, HPSuperdome, HPUNCFG, HPVectra, HPVisualize, HPVMGuest, HPVMHost, HPWorkstation, ILO, ILO2, LO100, MP-MPS, MP-PBE-IA, MP-SPS, MSCS, None, nPar, NSCUW7, OA, OVMS, p-Class, PowerEnc, PRMResPar, RAC, RILOE, RILOE2, ServerEnc, SMI, Storage, StorageEssentials, TCR\_PS, TruCluster, TT-RCC, VMGuest, VMHost, vPar, vParMonitor, WLMResPar, or other values as defined in the nodeSubTypesEnum table.

The attribute values for the *type* and *subtype* attributes are case sensitive.

Compare rules: StartsWith | Contains | Match | EndsWith | AnyValue

Insufficient or invalid optional attributes are replaced with sensible defaults where possible.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
>0	An error occurred during operation.

## Examples

### Example 1

To add a rule for a Digital LN07 printer using an XML file named printer-rule.xml, create printer-rule.xml with the following contents:

```
<?xml version="1.0" encoding="UTF-8"?>
<stm-rules>
  <snmp-rule>
    <type>Printer</type>
    <subtype>None</subtype>
    <productmodel>Digital LN07</productmodel>
    <url></url>
    <urldesc></urldesc>
    <priority>1</priority>
    <osname></osname>
    <osversion></osversion>
    <osvender></osvender>
    <sysoid>1.3.6.1.4.1.108.1.1.9</sysoid>
    <sysoidrule>3</sysoidrule>
    <oid></oid>
    <oidval></oidval>
    <oidrule>5</oidrule>
  </snmp-rule>
</stm-rules>
```

Enter `mxstm -a -f printer-rule.xml`

## Example 2

To list the rule that was added in the previous example, enter `mxstm -l -n "Digital LN07"`.

## Example 3

To delete the rule that was added in the first example, enter `mxstm -r -n "Digital LN07"`.

## See also

`/opt/mx/dtd/stmrules.dtd`

## mxstop

### Synopsis

```
mxstop
```

### Description

`mxstop` stops the HP SIM daemons.

### Return values

Value	Meaning
0	Successful completion.
>0	An error occurred during operation while attempting to stop HP Systems Insight Manager.

### Example

To stop the HP SIM daemons, enter `mxstop`.

## See also

HP-UX

`mxstart (1M)`

Linux

`mxstart (8)`

## mxtask

### Synopsis

```
mxtask
```

```
mxtask -lt
```

```
mxtask -ld taskname
```

```
mxtask -lf taskname [-b encoding]
```

```
mxtask -lf all [-b encoding]
```

```
mxtask -r taskname
```

```
mxtask -e taskname
```

```
mxtask -o taskname taskowner
```

```
mxtask -c taskname -q queryname -t toolname -w schedule [-A toolparms | -f toolparmsfile]  
[-o taskowner] [-i timefiltername]
```

```
mxtask -cf taskxmlfile
```

```
mxtask -h
```

## Description

`mxtask` allows you to list all tasks, list details for a particular task, list task parameters in XML format, execute a task, remove a task, change ownership for a task, and create a task from the command line or an XML file.

- `mxtask`

`mxtask -lt`

These commands provide a tabular listing showing the major attributes of all tasks currently registered in the database. The displayed information includes the task name, associated query name, associated tool name, and task type with associated schedule data.

- `mxtask -ld taskname`

This command lists the details for a specified task. The displayed information includes the task name, tool name, query name, task owner, last time the task was run, the next time task will run, the last time task information was modified, the task type, and any tool user parameters (in XML format) that might be associated with the specified tool.

- `mxtask -lf taskname [-b encoding ]`

`mxtask -lf all [-b encoding ]`

This command lists the specified task in task-specific XML format. Output from this command is written to `stdout`, and can be redirected (with `>`) to an external file. The output file can be modified and used as the XML input file when creating a new task with `-cf`. Using the `all` keyword forces `mxtask` to list all tasks in XML format. See the `mxtask(4)` manpage for a detailed description of the task-specific XML format.

Optionally, you can specify the character encoding of the XML file. The value for the character encoding must match a valid character encoding. If no encoding is specified, the system attempts to write the file in the encoding currently defined on the system. See <http://www.iana.org/assignments/character-sets> for the list of valid character sets.

- `mxtask -r taskname`

This command allows you to remove the specified task. The task is removed immediately. You must specify the name of an existing task, and you must be authorized to remove the task.

- `mxtask -e taskname`

This command allows you to run the specified task. The task will execute immediately. You must specify the name of an existing task, and you must be authorized to execute the task against the managed systems that the associated query is targeted for (see `mxauth(1M)`).

- `mxtask -o taskname taskowner`

This command allows you to change ownership for the specified task. You must specify the name of an existing task and the desired new owner, and you must be authorized to change task ownership (see `mxauth(1M)`).

- `mxtask -c taskname -q queryname -t toolname -w schedule [-A toolparms | -f toolparmsfile [-o taskowner] [-i timefiltername] ] [-o taskowner] [-i timefiltername ]`

This command allows you to create a new task from information provided on the command line.

- `mxtask -cf taskxmlfile`

`mxtask -rf taskxmlfile`

This command allows you to create a new task from information provided in an external task-specific XML definition file. You must be a full configuration rights user to run this command. See the `mxtask(4)` manpage for a description of the task-specific XML format.

- `mxtask -h`

This command displays extended help for `mxtask`.

## Options

- `-lt`  
Display a tabular listing of all registered tasks with their associated attributes.
- `-ld taskname`  
Display a detailed attribute listing for a single specified task.
- `-lf taskname`  
Display an XML file listing for a specified task. This output can be redirected (>) to a file and used as input to the `-f` option when creating a new task. For example, `-lf taskname >filename`.
- `-lf all`  
Display an xml format list of all HP SIM tasks. This output can be redirected to a file and used as input to `-f` when creating a new task.
- `-r taskname`  
Remove a specified task immediately.
- `-rf taskxmlfile`  
Indicates that the specified Systems Insight Manager task(s) is to be removed. All required task configuration information must be specified via an external file containing task specific data in predefined xml format. See the `mxtask(4)` man page for a detailed description of the task specific xml format.
- `-e taskname`  
Run a specified task immediately.
- `-o taskname taskowner`  
Assign a specified task to a new owner.
- `-c taskname`  
Create a new task. All required task configuration information must be specified on the command line following this option. Additional required options are: `-q`, `-t`, `-w`, (`-A` | `-f`).
- `-cf taskxmlfile`  
Create a new task. All required task configuration information must be specified in an external file containing task-specific data in the predefined XML format. See the `mxtask(4)` manpage for a detailed description of the required XML format.
- `-h`  
Display extended help for `mxtask`.
- `-q queryname`  
Specify the name of an existing query.
- `-w scheduleinfo`  
Specify task schedule data. `scheduleinfo` is a parameterized string that defines the schedule data. See the `schedule parameterized string format` section for details about the format for this string.
- `-t toolname`  
Specify the name of an existing tool. `-A toolparms` or `-f toolparmsfile` is required if the specified tool requires additional user parameters.
- `-A toolparms`

Specify the parameter data for a tool that requires user parameters. The tool parameter string provided on the command line must be enclosed in double quotation marks. If the tool parameter data includes XML data with embedded double quote characters, each double quote character must be preceded by the backslash character. This option is used with `-c`.

`-f toolparmsfile`

Specify the parameter data for a tool that requires user parameters. The tool parameters for `-f` are provided in a specified XML file that contains the tool parameters. This option is used with `-c`. (Create task) or `-r` (remove task).

`-o taskowner`

Specify a task owner for the new task that will be created. This optional value can be used with the create task (`-c`) command. If no owner is specified, the currently logged in user is assigned as the task owner.

`-i timefiltername`

Specify an existing time filter to associate with the task that will be created. This optional value can be used with the create task (`-c`) command. If no time filter name is specified, the new task will be created with no associated time filter.

`-b encoding`

Specify the character encoding of an XML file when used with `-lf`.

## The *schedule* parameterized string format

When creating a new task on the command line with `-c`, the task type/schedule information is required as a parameterized data string, and is preceded by the `-w` option character.

The schedule parameterized string has the general format shown below, and must begin with the `T` (type) character. The parameterized string must not contain spaces, and the period character is used as a parameter separator.

`-w T<tasktype>.I<intervaltype>.P<periodic>.D<day|date>.M<time>`

The `T` parameter signifies the task type and is required in all type/schedule parameterized strings. Valid *[tasktype]* values are *add*, *remove*, *manual* or *schedule*. These task type values determine what type source triggers the task to run.

- `Tadd`. Task runs when systems or events meet the list criteria.
- `Tremove`. Task runs when systems or events no longer meet the list criteria.
- `Tmanual`. Task runs when manually invoked.
- `Tschedule`. Task runs according to a periodic/day/time schedule.

The `I` parameter signifies the interval type and is required when the `T` task type value is *schedule*. Valid *intervaltype* values are *minutes*, *hours*, *days*, *weeks*, *months*, *daily*, or *runonce*.

- `Tschedule.Iminutes`. Task runs every *x* minutes.
- `Tschedule.Ihours`. Task runs every *x* hours.
- `Tschedule.Iweeks`. Task runs every *x* weeks at specified day/time.
- `Tschedule.Imonths`. Task runs every *x* months at specified day/time.
- `Tschedule.Idaily`. Task runs once a day at specified time.
- `Tschedule.Irunonce`. Task runs once at specified date/time.

The `P` parameter signifies the periodic interval (how often the task will run) and is required when the `T` task type value is *schedule*. Valid *periodic* values (*n*) are any numeric values greater than zero. For example: `Tschedule.Iminutes.Pn`.

The `D` parameter can signify a day or date value and is required when the `T` task type value is *schedule* and the `I` interval type is *weeks*, *months* or *runonce*. Valid *day/date* values depend on the specified interval type. If the interval type is *weeks*, the valid day values are *Sunday*, *Monday*, etc. If the interval type is *months*,

the valid day value is a numeric value in the range of 1-31. If the Interval type is *runonce*, the valid date value is mm/dd/yy.

- `Tschedule.Iweeks.Pn.Dfriday`
- `Tschedule.Imonths.Pn.D1`
- `Tschedule.Irunonce.Dmm/dd/yy`

The `M` parameter signifies a time value and is required for all valid interval types except *minutes* and *hours*. This parameter defines the time at which the task will run and is specified in 24 hour format as follows.

`Tschedule.Iweeks.P2.Dfriday.M1:00`

## External influences

The language setting of the command shell in which you execute this command is used as the preferred language that you want the command line tool to execute with on the target nodes. If creating a scheduled task, this language is saved in the scheduled task and used each time it is executed. The same is true when modifying an existing task. If manually running a scheduled task, this language is used to override the language stored in the task for this single execution.

For Windows, the current Code Page setting of the Command Prompt window is used to determine the preferred language. For example, if the `chcp` command returns 932, the language is Japanese. The `chcp` command can be used to change the Code Page setting if the OS has the language installed and is configured to allow its use.

For Linux and HP-UX, the `LANG` environment variable describes the locale that is used to determine the preferred language. Valid settings for the `LANG` variable can be listed with the `locale -a` command. However, in order to view the output, the terminal window running the command shell where you list the output of this command must support the language and encoding defined by the `LANG` variable.

If the OS on the target system does not support the language setting or encoding selected by the CMS, the command shell on the target system will use the default language and encoding for that target's OS.

See `lang (5)`, `environ (5)`, and `local (1)` for additional information.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
21	Invalid name.
102	HP Systems Insight Manager repository error.
222	The CMS is not initialized.
249	Unable to connect to the session manager.
250	Remote exception.

## Examples

### Example 1

To list all scheduled tasks in tabular format, including the task name, associated tool name, last run time and schedule information, enter `mxtask`.

### Example 2

To list all scheduled tasks in tabular format, including the task name, associated tool name, last run time and schedule information, enter `mxtask -lt`.

### Example 3

To list the details for the task `test_task`, enter `mxtask -ld test_task`.

#### Example 4

To list descriptive data for the task *test\_task* in XML format, enter `mxtask -lf test_task`.

Output from this command can be used to create a new task requiring the same tool, with similar tool (user) parameters. The output can be redirected to an external file, which could be edited and used as an input file to create a new task with the `-cf` command. See the `mxtask(4)` manpage for a detailed description of the task-specific XML format.

#### Example 5

To remove the existing task *test\_task*, enter `mxtask -r test_task`.

#### Example 6

To run the existing task *test\_task*, enter `mxtask -e test_task`.

#### Example 7

To change ownership for the existing task *test\_task* to *comp/test\_user*, enter `mxtask -o test_task comp/test_user`. The specified task owner must have the format `MachineName/User`.

#### Example 8

To create a task named *task1* with the associated query *query1* and tool *tolexample* that already exists in the database, with the task type *add*, enter `mxtask -c task1 -q query1 -t tolexample -w Tadd`.

In this example, there are no tool (user) parameters required for the tool being specified, so `-A` and `-f` are not required.

#### Example 9

To create a task named *task1* with the associated query *query1* and tool *tolexample* that already exists in the database, with the task type *remove*, enter `mxtask -c task1 -q query1 -t tolexample -w Tremove`.

In this example, there are no tool (user) parameters required for the tool being specified, so `-A` and `-f` are not required.

#### Example 10

To create a task named *task1* with the associated query *query1* and tool *tolexample* that already exists in the database, with the task type *manual*, enter `mxtask -c task1 -q query1 -t tolexample -w Tmanual`.

In this example, there are no tool (user) parameters required for the tool being specified, so `-A` and `-f` are not required.

#### Example 11

To create *task1*, which runs every 30 minutes, with the associated query *query1* and tool *tolexample* that already exists in the database, with the task type *schedule*, enter `mxtask -c task1 -q query1 -t tolexample -w Tschedule.Iminutes.P30`.

In this example, there are no tool (user) parameters required for the tool being specified, so `-A` and `-f` are not required.

#### Example 12

To create *task1*, which runs every 12 hours, with the associated query *query1* and tool *tolexample* that already exists in the database, with the task type *schedule*, enter `mxtask -c task1 -q query1 -t tolexample -w Tschedule.Ihours.P12`.

In this example, there are no tool (user) parameters required for the tool being specified, so `-A` and `-f` are not required.

### Example 13

To create *task1*, which runs every 2 weeks on Sunday at 2:00 AM, with the associated query *query1* and tool *toolexample* that already exists in the database, with the task type *schedule*, enter `mxtask -c task1 -q query1 -t toolexample -w Tschedule.Iweeks.P2.Dsunday.M2:00`.

In this example, there are no tool (user) parameters required for the tool being specified, so `-A` and `-f` are not required.

### Example 14

To create *task1*, which runs every month on the 15th at 5:00 AM, with the associated query *query1* and tool *toolexample* that already exists in the database, with the task type *schedule*, enter `mxtask -c task1 -q query1 -t toolexample -w Tschedule.Imonths.P1.D15.M5:00`.

In this example, there are no tool (user) parameters required for the tool being specified, so `-A` and `-f` are not required.

### Example 15

To create *task1*, which runs every 7 days on Tuesday at 6:00 PM, with the associated query *query1* and tool *toolexample* that already exists in the database, with the task type *schedule*, enter `mxtask -c task1 -q query1 -t toolexample -w Tschedule.Idays.P7.Dtuesday.M18:00`.

In this example, there are no tool (user) parameters required for the tool being specified, so `-A` and `-f` are not required.

### Example 16

To create *task1*, which runs every Saturday at 1:00 AM, with the associated query *query1* and tool *toolexample* that already exists in the database, with the task type *schedule*, enter `mxtask -c task1 -q query1 -t toolexample -w Tschedule.Idaily.Dsaturday.M1:00`.

In this example, there are no tool (user) parameters required for the tool being specified, so `-A` and `-f` are not required.

### Example 17

To create *task1*, which runs once at the specified date (mm/dd/yy) and time (hh:mm), with the associated query *query1* and tool *toolexample* that already exists in the database, with the task type *schedule*, enter `mxtask -c task1 -q query1 -t toolexample -w Tschedule.Irunonce.D01/02/03.M1:00`.

In this example, there are no tool (user) parameters required for the tool being specified, so `-A` and `-f` are not required.

### Example 18

To create *task1*, with the associated query *query1* and tool *toolexample* that already exists in the database, with the task type *add*, and the tool parameter data specified in `c:\params.xml`, enter `mxtask -c task1 -q query1 -t toolexample -w Tadd -f c:\params.xml`.

Tool parameters are specified with `-f`. The filename specifies the path and name of a file that contains the tool (user) parameter data for the specified tool. The tool parameter data contained in this file must be of the exact same XML format as stored in the HP SIM database.

### Example 19

To create *task1*, with the associated query *query1* and tool *toolexample* that already exists in the database, with the task type *manual*, and the task owner *owner1*, enter `mxtask -c task1 -q query1 -t toolexample -w Tmanual -o owner1`.

In this example, there are no tool (user) parameters required for the tool being specified, so `-A` and `-f` are not required.

### Example 20

To create *task1*, with the associated query *query1* and tool *toolexample* that already exists in the database, with the task type *add*, the tool parameter data specified in `c:\params.xml`, the task owner *owner1*, a

standard time filter called Business Hours, enter, `mxtask -c task1 -q query1 -t toolexample -w Tadd -f c:\params.xml -o owner 1 -i Business Hours`.

Tool parameters are specified with `-f`. The filename specifies the path and name of a file that contains the tool (user) parameter data for the specified tool. The tool parameter data contained in this file must be of the exact same XML format as stored in the HP SIM database.

The Task Owner is specified on the command line with `-o` along with the associated task.

Command line option arguments that contain spaces must be enclosed in double quotation marks.

## Example 21

To create a new task based on the XML contents of the file `test_file.xml`, enter `mxtask -cf test_file.xml`.

All required task configuration information must be specified in a predefined task-specific XML format. See the `mxtask(4)` manpage for a detailed description of the required XML format. The general format is shown below.

```
<?xml version="1.0" encoding="UTF-8"?>
<task-list>
  <task name="task name" type="add|remove|manual|schedule"
    owner="taskowner" runmode="runnow|runatstartup">
    <toolname>tool name</toolname>
    <queryname>query name</queryname>
    <scheduleinfo interval="x" periodic="x" time="x" day="x" date="x"/>
    <timefilter />
    <toolparams />
  </task>
</task-list>
```

## Limitations

This command can only be run on the CMS.

## See also

### HP-UX

`mxauth(1M)` `mxtask(4)`

### Linux

`mxauth(8)` `mxtask(4)`

## mxtool

### Synopsis

```
mxtool -a -f filename
mxtool -m [-i] -f filename [-x force]
mxtool -s -f filename
mxtool -r [-f filename|-c category|-t toolname ] [-x force]
mxtool -l d|f|n|t [-c category...|-t toolname... ]
mxtool -lf [-b encoding ] [-c category...|-t toolname... ]
mxtool
```

## Description

`mxtool` allows you to add, list, modify or remove tools.

- `mxtool -a -f filename`

This command enables you to add tools. Tool information is provided in a tool definition file (see `mxtool(4)`) that allows you to add one or more tools.

If you are a full configuration rights user (see `mxuser(1)`), HP SIM will accept the owner value specified for a tool in the tool definition file. If an owner is not specified, the tool is enabled in all toolboxes that contain it.

If you are not a full configuration rights user, HP SIM ignores the owner specification, sets the tool's owner field to your user ID, ignores the value of the toolbox enabled flag, and enables only the *All Tools* toolbox.

When the owner field is specified, HP SIM ignores the toolbox enabled flag and disables the tool in all of the specified toolboxes with the exception of *All Tools*. To enable the tool in all of the specified toolboxes, a full configuration rights user must modify the tool's definition by removing the owner field from the tool. By default, when a full configuration rights user removes the owner field, the toolbox enabled flag is set to *true*. A full configuration rights user can set the toolbox enabled flag to *false* to explicitly disable the tool in all toolboxes except *All Tools*.

During an add operation, HP SIM adds only tools whose names do not reference existing tools. If a duplicate tool is detected, HP SIM will notify you and continue to add all non-duplicate tools. Skipping duplicate tools does not affect the return value. During the add operation, HP SIM assigns the *All Tools* toolbox to every tool by default.

- `mxtool -m [-i] -f filename [-x force]`

This command allows you to modify the definition of one or more tools. Tool information is provided in a tool definition file (see `mxtool(4)`). When modifying a tool, you must be the tool owner or a full configuration rights user. Full configuration rights users can modify the entire tool definition. Tool owners without full configuration rights can modify most tool attributes, but they cannot modify the owner attribute or the tool's toolboxes. HP SIM ignores the value of the toolbox enabled flag in the input file and sets the toolbox enabled flag in the tool to *false*. By specifying the `-i` option, a full configuration rights user can direct HP SIM to ignore changes to toolboxes in the modified tool definitions.

If the owner field of the tool is not set, and a user without full configuration rights wants to modify the tool, a full configuration rights user must modify the tool definition to set the tool owner field to the user name of the user without full configuration rights. Additionally, `mxtool` ignores any changes made to a tool's toolboxes by a user without full configuration rights.

You cannot add tools with the modify option. If there is a tool in the tool definition file that does not exist, HP SIM will notify you and then modify the existing tools specified in the tool definition file. Skipping undefined tools does not affect the return value.

During the modify operation, you cannot remove the **All Tools** toolbox from any tool.

Only a full configuration rights user can add or modify a tool that is multiple-system aware, such as *Ignite*.

Only a full configuration rights user can delete a tool.

All tools must contain the revision attribute. The revision attribute is used to confirm that the tool defined in the tool definition file is of a greater revision than the existing tool. The tool revision attribute is used when modifying a tool. If a revision is not provided, a revision of 1.0 is assigned to the tool when it is added. To ignore the tool revision attribute in the modified tool definitions, specify the `-x force` option.

- `mxtool -s -f filename`

This command lets you scan a tool definition file for syntax errors without actually adding or modifying the tool.

- `mxtool -r [-f filename|-c category|-t toolname ] [-x force]`

This command allows you to remove tools. Only a full configuration rights user can remove a tool. If you enter a tool name that does not exist, HP SIM notifies you that it cannot find the tool, and will attempt to remove the next tool in the list. Skipping undefined tools does not affect the return value. If

a task has been created using the tool, attempts to remove it are not successful. If you specify the `-x force` option, HP SIM ignores the task dependencies of the tool and removes it. You can specify tools as a list of tool names, a list of categories, or a tool definition file.

- `mxtool -l d|f|n|t [-c category...|-t toolname... ]`

This command allows you to list tools or view specific tool definitions.

- With no options or the `n` qualifier, the names of all registered tools are listed.
- With the `d` qualifier, a detailed screen-viewable list of tools is displayed.
- With the `f` qualifier, `mxtool` writes a complete tool definition (see `mxtool(4)`) for each tool to `stdout`.
- With the `t` qualifier, a tabular listing showing some attributes of all registered tools is displayed.
- The `-c` option constrains the output to one or more tool categories.
- The `-t` option constrains the output to specific tools.

- `mxtool -lf [-b encoding ] [-c category...|-t toolname... ]`

This command lists the tools in an XML file.

Optionally, you can specify the character encoding of the XML file. The value for the character encoding must match a valid character encoding. If no encoding is specified, the system attempts to write the file in the encoding currently defined on the system. See <http://www.iana.org/assignments/character-sets> for the list of valid character sets.

- `mxtool`

This command lists the names of all tools currently configured in the HP SIM domain.

## Options

`-a`

Add one or more tools specified in a tool definition file.

`-r`

Remove one or more tools.

`-m`

Replace one or more tool definitions with the definitions in the specified tool definition file.

`-i`

Ignore changes to toolboxes in the tool definitions. This option is only valid with `-m`.

`-s`

Scan the specified tool definition file for syntax errors without performing any other operations.

`-c category`

Specify a tool category. Specifying an undefined category name causes `mxtool` to return an empty tool list and a return value of `SUCCESS`. Specifying a category name that violates the rules for category names (see `mxtool(4)`), results in an `invalid name` return value.

`-t toolname`

Specify the name of the tool to be removed or listed. Specifying an undefined tool name results in `mxtool` operating on zero tools and a return value of `SUCCESS`. Specifying a tool name that violates the rules for tool names (see `mxtool(4)`), results in an `invalid name` return value.

`-f filename`

Specify the path and name of a file that contains the definition of one or more tools to be added or modified. This option must be specified with the scan option, `-s`. See `mxtool(4)` for additional information.

`-ld`

Display a detailed screen-viewable list of tools.

`-lf`

Display a file-formatted list of tools (this output can be used as input for `-f`).

`-ln`

Display the names of HP SIM tools.

`-lt`

Display a tabular list of tools and tool attributes.

`-b encoding`

Specify the character encoding of an XML file when used with `-lf`.

`-x`

Specify an extended option value. This is used with the `force` keyword.

`force`

This option forces a tool into the system when used with `-m -f`, and specifies the forced removal of a tool when used with `-r -f`.



**NOTE:** When duplicate options are specified, the last instance of the option is used. For example, if you enter `-f file1 -f file2`, `mxauth` uses `file2`.

---

## External influences

For HP-UX or Linux, `LANG` determines the default encoding that the system will use to output XML data if no encoding is specified on the command line. If `LANG` is not specified or null, or `LANG` does not correspond to a recognized encoding, it defaults to C (see `lang(5)`). In this case, use the `-b` option to specify the encoding of the XML data.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
21	Invalid name.
102	HP Systems Insight Manager repository error.
222	The CMS is not initialized.
249	Unable to connect to the session manager.
250	Remote exception.

## Examples

### Example 1

To add the tools defined in the file `/home/user1/defs/mytooldef`, enter `mxtool -a -f /home/user1/defs/mytooldef`.

## Example 2

To modify tools based on the file `/home/user1/defs/mytoolmods`, enter `mxtool -m -f /home/user1/defs/mytoolmods`.

## Example 3

To forcefully modify tools based on the file `/home/user1/defs/mytoolmods`, enter `mxtool -m -f /home/user1/defs/mytoolmods -x force`.

## Example 4

To remove the tool *badtool*, enter `mxtool -r -t badtool`.

## Limitations

This command can only be run on the CMS.

## See also

### HP-UX

`mxexec (1M)`, `mxtool (4)`.

### Linux

`mxexec (8)`, `mxtool (4)`.

## mxtoolbox

### Synopsis

```
mxtoolbox -a toolboxname [-d description] [-e t|f]
mxtoolbox -a [-f filename]
mxtoolbox -m toolboxname [-N new_toolboxname] [-d description] [-e t|f]
mxtoolbox -m [-f filename]
mxtoolbox -r toolboxname
mxtoolbox -r [-f filename]
mxtoolbox [-l n|t]
mxtoolbox -lf [-b encoding]
```

### Description

`mxtoolbox` allows you to add, rename, describe, disable, enable, remove, and list toolboxes.



---

**NOTE:** The All Tools toolbox is a special toolbox added by the system, and cannot be modified.

---

Only full configuration rights users can add, modify, or remove toolboxes. Any user can list toolbox information.

- `mxtoolbox -a toolboxname [-d description] [-e t|f]`

This command allows you to add a single toolbox. Optionally, you can provide a toolbox description and enable or disable the toolbox.

To add a toolbox, you must provide a toolbox name that is less than or equal to 16 characters in length, and starts with an alphabetic character followed by alphanumeric characters. Embedded blank characters, underscores (`_`), or dashes (`-`) are allowed. If you have full configuration rights, you can add up to 32 toolboxes.

Toolboxes are enabled by default. To explicitly enable a toolbox, you must have full rights and enter `t` after `-e`. To disable a toolbox enter `f` after `-e`. When a toolbox is enabled, tools associated with it

can be authorized using the toolbox. When the toolbox is disabled, tools associated with it cannot be authorized using the toolbox.

- `mxttoolbox -a [-f filename ]`  
This command allows a full rights user to add multiple toolboxes based on the information provided in a file. The file must be formatted in the XML format defined for toolboxes. See `mxttoolbox(4)` for additional information.
- `mxttoolbox -m toolboxname [-N new_toolboxname ] [-d description ] [-e t|f]`  
This command allows a full rights user to modify a single toolbox. You can modify the name, description, and enablement of the toolbox.
- `mxttoolbox -m [-f filename ]`  
This command allows a full rights user to modify multiple toolboxes based on the information provided in a file. The file must be formatted in the XML format defined for toolboxes. See `mxttoolbox(4)` for additional information.
- `mxttoolbox -r toolboxname`  
This command allows a full rights user to remove a single toolbox from the database.
- `mxttoolbox -r -f filename`  
This command allows a full rights user to remove multiple toolboxes based on information provided in a file. The file must be formatted in the XML format defined for toolboxes. See `mxttoolbox(4)` for additional information.
- `mxttoolbox [-l n|t]`  
This command allows a full rights user to list HP SIM toolbox names or to view the details of all toolboxes. When invoked with no options, `mxttoolbox` gives a columnar listing of the names of all toolboxes. This is the same as invoking the command with the `n` argument. When invoked with the `t` argument, the system lists the toolboxes in tabular format, displaying the toolbox name, its enablement value, and the toolbox description.
- `mxttoolbox -lf [-b encoding ]`  
This command lists HP SIM's toolboxes in an XML file.  
Optionally, a full rights user can specify the character encoding of the XML file. The value for the character encoding must match a valid character encoding. If no encoding is specified, the system attempts to write the file in the encoding currently defined on the system. See <http://www.iana.org/assignments/character-sets> for the list of valid character sets.

## Toolbox attributes

The following attributes define an HP SIM toolbox:

- `toolboxname`. The name of the toolbox must start with an alphabetic character, may have embedded spaces, and its maximum length is 16 characters. Toolbox names are not case sensitive.
- `description`. The toolbox description. The maximum length is 128 characters.
- `enablement`. The state of enablement of the toolbox. A disabled toolbox prevents execution of any tool on behalf of the disabled toolbox.

## XML file support

The `mxttoolbox` command allows a full configuration rights user to add, modify, or remove toolboxes by specifying an XML file containing a list of toolboxes and toolbox attributes.

XML input files are processed in two passes.

The first pass attempts to parse the XML file and generate a list of toolboxes to process. This pass ensures that the XML file is formatted correctly, that the toolbox names are valid, and the toolbox objects contain valid information. During the first pass, if an error is detected, HP SIM interrupts the process, issues an error message, and leaves the database unchanged.

If the XML file is successfully processed in the first pass, HP SIM attempts to process the toolbox list collected during the first pass. During the second pass, HP SIM processes the toolbox list until it processes the entire list or encounters a logic error, such as specifying a duplicate toolbox during an add, specifying a nonexistent toolbox during a modify, or attempting to remove the All Tools toolbox.

If an error occurs during the second pass, HP SIM interrupts processing and issues an error message. If the input file contains valid toolbox data prior to the invalid data, that data is processed completely and the database is modified. All data subsequent to the invalid data is ignored.

## Options

- a  
Add a toolbox.
- d *description*  
Specify a toolbox description.
- e *t|f*  
Specify the toolbox enablement (*t* is enabled and *f* is disabled).
- f *filename*  
Specify the filename that contains information about users to be added, modified or removed (see `mxuser(4)`).
- l *n*  
Display a columnar list of the names of all enabled and disabled toolboxes. This produces the same result as not specifying any options.
- l *t*  
Display a tabular list of toolbox attributes for all toolboxes.
- lf  
Specify that the system should generate the toolbox information in XML format.
- b *encoding*  
Specify the character encoding of an XML file when used with `-lf`.
- m *toolboxname*  
Modify a specified toolbox.
- N *new\_toolboxname*  
Define a new toolbox name for the specified toolbox.
- r  
Remove the specified toolbox.

## External influences

For HP-UX or Linux, `LANG` determines the default encoding that the system will use to output XML data if no encoding is specified on the command line. If `LANG` is not specified or null, or `LANG` does not correspond to a recognized encoding, it defaults to C (see `lang(5)`). In this case, use the `-b` option to specify the encoding of the XML data.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.

Value	Meaning
3	Nonexistent toolbox error.
5	Duplicate toolbox error.
21	Invalid name.
22	Invalid description.
26	Unsupported operation.
50	Unauthorized user.
102	HP Systems Insight Manager repository error.
222	The CMS is not initialized.
249	Unable to connect to the session manager.
250	Remote exception.
253	Duplicate name.

## Examples

### Example 1

To add toolboxes from the file `toolboxlist.xml`, enter `mxttoolbox -a -f toolboxlist.xml`.

### Example 2

To disable the *HP ASE* toolbox, enter `mxttoolbox -m "HP ASE" -e f`.

### Example 3

To modify the toolboxes in the file `toolboxlist.xml`, enter `mxttoolbox -m -f toolboxlist.xml`.

### Example 4

To remove the *HP ASE* toolbox, enter `mxttoolbox -r "HP ASE"`.

### Example 5

To remove the toolboxes in the file `toolboxlist.xml`, enter `mxttoolbox -r -f toolboxlist.xml`.

### Example 6

To list the names of all toolboxes, enter `mxttoolbox -ln`.

The output might look like:

```
lvadmin
operator
webadmin
dbadmin
All Tools
```

### Example 7

To list the attributes for all toolboxes (including toolboxes that have never been modified), enter `mxttoolbox -lt`.

The output might look like:

```
NAME           ENABLED?  DESCRIPTION
lvadmin        true      A toolbox for LVM Administrators
operator       true      A read-only toolbox for operators
webadmin       true      A toolbox for WEB Server
Administrators
dbadmin        true      A toolbox for Database Administrators
All Tools      true      The HP Systems Insight Manager toolbox
```

## Example 8

To list all toolboxes in an XML file, enter `mxttoolbox -lf`

The output might look like the following:

```
<?xml version="1.0" encoding="UTF-8"?>
<toolbox-list>
  <toolbox name="webadmin"
guid="00000000864162de0eea403317500000">
    <enabled value="true" />
    <description>WEB Server Administrator</description>
  </toolbox>
  <toolbox name="All Tools"
guid="00000000864162de0eea4032a2a00000">
    <enabled value="true" />
    <description>Master ToolBox added by Systems Insight
    Manager.</description>
  </toolbox>
  <toolbox name="operator"
guid="00000000864162de0eea40331bf00000">
    <enabled value="true" />
    <description>A read-only toolbox for operators</description>
  </toolbox>
  <toolbox name="dbadmin"
guid="00000000864162de0eea403301600000">
    <enabled value="true" />
    <description>Database Administrator</description>
  </toolbox>
  <toolbox name="lvmadmin"
guid="00000000864162de0eea403323000000">
    <enabled value="true" />
    <description>LVM Administrator</description>
  </toolbox>
</toolbox-list>
```

## Limitations

- Valid toolbox names cannot exceed 16 characters, but can be as short as a single character. The initial character of a toolbox name must be an uppercase or lowercase letter.
- Digits, underscores, dashes and white space are legal toolbox name elements. Trailing white space is trimmed.
- This command can only be run on the CMS.
- There is a limit of 32 toolboxes. All toolboxes except the All Tools toolbox can be modified or removed from the database. The All Tools toolbox is a special toolbox that cannot be modified in any way, or be removed from a tool's toolbox authorizations.

## See also

### HP-UX

`mxttoolbox(4)`, `mxauth(1M)`, `mxttool(1M)`

### Linux

`mxttoolbox(4)`, `mxauth(8)`, `mxttool(8)`

## mxuser

### Synopsis

```
mxuser -a username [-d description ] [-p CMSSecurity | |none|+T|-T] [-C
authorization_source_user ]
mxuser -a -g usergroupname [-d description ] [-p CMSSecurity | |none|+T| -T] [-C
authorization_source_user ]
mxuser -a -f filename
mxuser -a -gf -f filename
mxuser -m username [-d description ] [-p CMSSecurity | |none|+T|-T]
mxuser -m -g usergroupname [-d description ] [-p CMSSecurity | |none|+T|-T]
mxuser -m -f filename
mxuser -m -gf -f filename
mxuser -r username
mxuser -r -g usergroupname
mxuser -r -f filename
mxuser -r -gf -f filename
mxuser [-l d|f|n|t] [ username... ]
mxuser [-l dg|fg|ng|tg] [ usergroupname... ]
mxuser -lf [-b encoding ] [ username... ]
```

---



**NOTE:** The following commands are retained for backward compatibility.

```
mxuser -a username -d description -p full|limited|none|+T|-T -C
authorization_source_user
usergroupname -d description -p full|limited|none|+T| -T-C
authorization_source_user
mxuser -m username -d description -p full|limited|none|+T|-T
mxuser -m -g usergroupname -d description -p full|limited|none|+T|-T
```

**NOTE:** This command does not list the authorizations assigned to a user. See `mxauth(1M)` for more information.

---

### Description

`mxuser` allows you to manage user IDs and user groups. You must be a full configuration rights user to add or remove users, or to modify existing information. Any user can list user information.

- `mxuser -a username [-d description ] [-p full|CMSSecurity|limited|none|+T|-T] [-C authorization_source_user ]`  
`mxuser -a -g usergroupname [-d description ] [-p full|limited|none|+T|-T] [-C authorization_source_user ]`  
`mxuser -a -f filename`  
`mxuser -a -gf -f filename`

These commands allow a user or user group with full configuration rights or CMSSecurity rights to add a new user or group. A full rights user may optionally grant or deny full, CMSSecurity or limited configuration rights to the new user or group. Full rights enables a user or user group full access to HP SIM. With limited configuration rights and no configuration rights, users are only allowed access to the listing options of HP SIM commands. In addition to listing, limited configuration rights users can create tools with `mxtool (1M)`.

If you do not specify full rights or CMSSecurity rights for a new user or user group, the default setting is limited configuration rights. Additionally, this command enables a full rights user or CMSSecurity

rights user to assign the authorizations of an existing user or group to the new user or group. For more information about authorizations, see `mxauth(1M)`.

`mxuser -a -f filename` and `mxuser -a -gf -f filename` allow you to add multiple users and user groups by specifying a file containing the required information. The file must be formatted in the XML format defined for HP SIM users. See `mxuser(4)` for more information.

- `mxuser -m username [-d description] [-p full|CMSecurity|limited|none|+T|-T]`  
`mxuser -m -g usergroupname [-d description] [-p full|limited|none|+T|-T]`  
`mxuser -m -f filename`  
`mxuser -m -gf -f filename`

These commands enable a full rights or CMSecurity rights user to modify an existing user or group description, and to reassign rights to an existing user or group. The description replaces the existing description for the user or group. Any modification of the user or group authorizations must be made with `mxauth(1M)`. Users or groups to be modified can be specified on the command line or in an XML file. Use an XML file to modify multiple users or groups at the same time. See `mxuser(4)` for more information.

- `mxuser -r username`  
`mxuser -r -g usergroupname`  
`mxuser -r -f filename`  
`mxuser -r -gf -f filename`

These commands enable full rights or CMSecurity rights users to remove specified users or user groups. This form of the command can only remove one user or group at a time. All authorizations for the specified user or group are removed. HP SIM must have at least one full configuration rights user, so the last full configuration rights user cannot be removed. To remove more than one user or group at a time, use `-f filename` to specify an input file. See `mxuser(4)` for more information.

- `mxuser [-l d|f|n|t] [username...]`  
This command lists HP SIM user information. Specifying no options provides a list of user names with no other information. This listing is the same as the `-l n` option. The `-l d` option provides a detailed screen-viewable list of the users. The `-l f` option provides the list in an XML file. The output of the XML file is valid input for `-f`. The `-l t` option provides a tabular list of users with detailed information.
- `mxuser [-l dg|fg|ng|tg] [usergroupname...]`  
This command lists user group information. Specifying no options provides a list of user group names with no other information. This listing is the same as the `-l` option with the `ng` qualifier. The `-l` option with the `dg` qualifier provides a detailed screen-viewable list. The `-l` option with the `fg` qualifier provides the list in an XML file. The output of the XML file is valid input for `-fg`. The `-l` option with the `tg` qualifier provides a tabular listing of users with detailed information.

- `mxuser -lf [-b encoding] [username...]`  
This command saves user information to an XML file.  
Optionally, you can specify the character encoding of the XML file. The value for the character encoding must match a valid character encoding. If no encoding is specified, the system attempts to write the file in the encoding currently defined on the system. See <http://www.iana.org/assignments/character-sets> for the list of valid character sets.



**NOTE:** For backward compatibility with Service Control Manager 3.0, the `-p` option also supports the Trusted and Untrusted User `+T` and `-T` options. The `+T` option creates a user with, or modifies a user to full configuration rights. The `-T` option creates a user with, or modifies a user to limited configuration rights.

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## XML file support

The `mxuser` command enables full configuration or CMSecurity rights users to add, modify, or remove HP SIM users by specifying an XML file containing a list of users and user attributes.

Using an XML input file enables you specify additional information that is not included in the command line options. This information includes a user's full name, e-mail address, and phone number. HP SIM processes the input file in two passes.

The first pass attempts to parse the XML file and generate a list of users to process. This pass ensures that the XML file is formatted correctly, that the user names are valid, and the user objects contain valid information. During the first pass, if an error is detected, the process is interrupted, an error message is issued, and the database is left unchanged.

If the XML file is successfully processed in the first pass, HP SIM attempts to process the user list collected during the first pass. HP SIM processes the user list until it processes the entire list, or until the a logic error is encountered, such as specifying a duplicate user during an add, specifying a nonexistent user during a modify, or attempting to remove the last full configuration rights user.

If an error occurs during the second pass, HP SIM interrupts processing and issues an error message. If the input file contains valid user data prior to the invalid data, that data is processed completely and the database is modified. All data subsequent to the invalid data is ignored.

## Options

-a

Add a user or user group.

-r

Remove a user or user group.

-m

Modify a user or user group by granting or denying privileges. Modifying a comment replaces any existing comment.

-f *filename*

Specify the XML file that contains information about users or user groups to be added, modified, or removed (see `mxuser(4)`).

-l d

Display a detailed screen-viewable list of users and user attributes.

-l f

Display an XML list of users and user attributes (see `mxuser(4)`).

-l n

Display a list of user names (with no details).

-l t

Display a tabular list of users and user attributes.

-l d

Display a detailed screen-viewable list of users and user attributes.

-l fg

Display an XML list of user groups and attributes (see `mxuser(4)`).

-l ng

Display a list of user group names (with no details).

-l tg

Display a tabular list of users groups and attributes.

-l dg

Display a detailed screen-viewable list of user groups and attributes.

*username...*

Specify the user names to list with `-l`.

*usergroupname...*

Specify the user group names to list with `-l`.

`-b encoding`

Specify the character encoding of an XML file when used with `-lf`.

`-C authorization_source_user`

Specify an existing user or user group. This option copies the authorizations of the existing user or group to a new user or group during the add operation.

`-d description`

Specify the description to associate with a user or user group.

`-p full|CMSSecurity|limited|none|+T|-T`

Specify the rights granted to a user or user group. Full configuration or CMSSecurity rights allows all CMS configuration operations. Limited configuration rights allows tool creation and all listing operations. No configuration rights allows only listing operations. `+T` grants full configuration rights, and `-T` grants limited configuration rights.



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**NOTE:** The `+T` and `-T` options are provided for compatibility with Service Control Manager 3.0.

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`-g`

Specify the name of a user group to add, modify, or remove.

`-gf`

Add, modify, or remove a user group by specifying the details in an external file.



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**NOTE:** When duplicate options are specified, the last instance of the option is used. For example, if you enter `-f file1 -f file2`, `mxauth` uses `file2`.

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## External influences

For HP-UX or Linux, `LANG` determines the default encoding that the system will use to output XML data if no encoding is specified on the command line. If `LANG` is not specified or null, or `LANG` does not correspond to a recognized encoding, it defaults to C (see `lang (5)`). In this case, use the `-b` option to specify the encoding of the XML data.

## Return values

Value	Meaning
0	Successful completion.
2	Command line syntax error.
3	Nonexistent user error.
5	Duplicate user error.
21	Invalid name.
26	Invalid operation.
50	Unauthorized user.
102	HP Systems Insight Manager repository error.
222	The CMS is not initialized.

Value	Meaning
249	Unable to connect to the session manager.
250	Remote exception.
252	File input parsing error.
253	Duplicate name.
254	HP SIM properties file error.

## Examples

### Example 1

To add *jane*, a new database administrator, and grant her full configuration rights, enter `mxuser -a jane -d "Database Administrator" -p full`.

### Example 2

To add *fred*, a Backup Supervisor, grant him full configuration rights, and assign him the same authorizations as *jane*, enter `mxuser -a fred -d "Backup Supervisor" -p full -C jane`.

### Example 3

To add the user group *mygroup*, enter `mxuser -a -g mygroup`.

### Example 4

To assign limited configuration rights to *fred*, enter `mxuser -m fred -p limited`.

### Example 5

To remove *fred* from the list of users, enter `mxuser -r fred`.

### Example 6

To add the list of users in the local file `updates.xml`, enter `mxuser -a -f updates.xml`.

### Example 7

To display the list of user names, enter `mxuser -l`.

### Example 8

To display a detailed screen-viewable list of the users, enter `mxuser -l d`.

### Example 9

To display a tabular list of users, enter `mxuser -l t`. The output might look like:

```

USER      RIGHTS      COMMENT
root      CMSSecurity Default Full Rights user
jane      limited     Database Administrator
joe       none        Backup Operator

```

## Limitations

- Only full configuration or CMSSecurity rights users can add, remove, or modify users. Any user can list information.
- Only a unique instance of any user name can be added. Attempting to add a user name that already exists results in an error.
- Only existing users can be successfully removed.
- This command can only be run on the CMS.
- When you add a full configuration rights user, the user will not be able to run `mxagentconfig` until you assign system authorizations with `mxauth`.

## See also

HP-UX

`mxuser(4)`, `mxauth(1M)`.

Linux

`mxuser(4)`, `mxauth(8)`.

## mxwbemsub

### Synopsis

```
mxwbemsub -a [ destination ] (-n nodenames|-f filename) [+t indication type ]
mxwbemsub -r [ destination ] (-n nodenames|-f filename) [+t indication type ]
mxwbemsub -l [ destination ] (-n nodenames|-f filename) [+t indication type ]
mxwbemsub -m [ current destination ] new destination (-n nodenames|-f filename) [+t
indication type ]
```

### Description

`mxwbemsub` allows you to:

- Add, delete, list, or move WBEM event subscriptions from nodes managed by the CMS.
- Add or remove health lifecycle event subscriptions for HP NonStop Kernel servers. If you subscribe to health lifecycle events for a NonStop Kernel server, when the server's status changes, notification is sent to HP SIM and the server status is updated immediately in the GUI instead of waiting for the next status collection.



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**NOTE:** This command accesses a file that allows only privileged user access.

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- `mxwbemsub -a [ destination ] (-n node names|-f filename) [-t indication type ]`  
This option enables you to create WBEM subscriptions on a set of nodes. This option can specify the destination of the subscriptions. If the destination is not included, then the CMS on which the command is being run is used as the destination.
- `mxwbemsub -r [ destination ] (-n nodenames|-f filename) [-t indication type ]`  
This option enables you to delete WBEM subscriptions from a set of nodes. This option can delete subscriptions to another CMS. If a CMS is not specified, then subscriptions to the CMS on which the command is being run are deleted.
- `mxwbemsub -l [ destination ] (-n nodenames|-f filename) [-t indication type ]`  
This option enables you to list WBEM subscriptions from a set of nodes. This option can list subscriptions to another CMS. If a CMS is not specified, then subscriptions to the CMS on which the command is being run are listed.
- `mxwbemsub -m [ current destination ] new destination (-n nodenames|-f filename) [-t indication type ]`  
This option enables you to move WBEM subscriptions for a set of nodes from one CMS to another CMS. If only one CMS is entered, that CMS is used as the new destination. You can run this option with one CMS in the argument list, which will move the subscriptions from the CMS on which the command is run to a new CMS.

Each `mxwbemsub` option for WBEM subscriptions requires a list of node names on which the option will be executed. The node names can be entered through the command line or an input file. Each node name entered on the command line or in a file can use the IP address, hostname, or fully-qualified node name.

## XML file support

If the CMS detects an error while processing an input file, it will interrupt processing and issue an error message.

## Options

- a  
Add WBEM subscriptions for the specified CMS. If the destination CMS is not specified, the default is the CMS on which the command is run.
- r  
Delete WBEM subscriptions for the specified CMS. If a destination is not specified, the default is to remove subscriptions to the CMS on which the command is run.
- l  
List the WBEM subscriptions for the specified CMS. If a destination is not specified, the default is to list subscriptions to the CMS on which the command is run.
- m  
Move WBEM subscriptions from one CMS to another. If the current CMS is not specified the default is the CMS on which the command is run. The new destination CMS is required.
- n *nodenames*  
Specify a list of node names. This option is used with -a, -r, -l and -m.
- f *filename*  
Specify a list of node names with a file. Each node name is entered on a separate line. This option is used with -a, -r, -l and -m.
- t *indicationtype*  
Specify which type of indications to subscribe to. The only valid value is *health*. This option is used with the -a and -r options to add or remove health lifecycle event subscriptions for HP NonStop Kernel servers.

## Return value

mxwbemsub returns one of the following error codes:

2	Command line syntax error.
>0	An error occurred during operation.

## Examples

### Example 1

To create WBEM event subscriptions from the node *mycomputer.ak.hp.com*, enter `mxwbemsub -a -n mycomputer.ak.hp.com`. The destination for this command is the CMS on which the command is running.

### Example 2

To create WBEM subscriptions for the node *mycomputer.ak.hp.com*, enter `mxwbemsub -a destinationcms.ak.hp.com -n mycomputer.ak.hp.com`. The destination for this command is *destinationcms.ak.hp.com*.

### Example 3

To remove WBEM event subscriptions from the node *mycomputer.ak.hp.com*, enter `mxwbemsub -r -n mycomputer.ak.hp.com`. This command removes subscriptions whose destination is the CMS on which the command is running.

#### Example 4

To remove subscriptions from the node *mycomputer.ak.hp.com*, enter `mxwbemsub -r destinationcms.ak.hp.com -n mycomputer.ak.hp.com`. This command removes subscriptions whose destination is *destinationcms.ak.hp.com*.

#### Example 5

To list WBEM event subscriptions from the nodes *mycomputer*, and *yourcomputer*, enter `mxwbemsub -l -n mycomputer yourcomputer`. This command lists subscriptions whose destination is the CMS on which the command is running.

#### Example 6

To list subscriptions with the destination *destinationcms* from the nodes *mycomputer*, and *yourcomputer*, enter `mxwbemsub -l destinationcms -n mycomputer.ak.hp.com yourcomputer.ak.hp.com`.

#### Example 7

To move WBEM event subscriptions from the nodes *mycomputer.ak.hp.com*, and *yourcomputer.ak.hp.com* from the default CMS to *newcms.ak.hp.com*, enter `mxwbemsub -m newcms.ak.hp.com -n mycomputer.ak.hp.com yourcomputer.ak.hp.com`. This command moves subscriptions whose destination is the CMS on which the command is running.

#### Example 8

To move subscriptions from the nodes *mycomputer.ak.hp.com*, and *yourcomputer.ak.hp.com*, from *currentcms.ak.hp.com* to *newcms.ak.hp.com*, enter `mxwbemsub -m currentcms.ak.hp.com newcms.ak.hp.com -n mycomputer.ak.hp.com yourcomputer.ak.hp.com`. This command moves subscriptions whose destination is *currentcms.ak.hp.com*.

#### Example 9

To list the subscriptions from the nodes in the file `/home/user1/defs/filename.txt`, enter `mxwbemsub -l -f /home/user1/defs/filename.txt`. This command lists subscriptions whose destination is the CMS on which the command is running.

#### Example 10

To list subscriptions from the nodes in the file `/home/user1/defs/filename.txt`, enter `mxwbemsub -l destinationcms -f /home/user1/defs/filename.txt`. This command lists subscriptions whose destination is *destinationcms*.

#### Example 11

To add health lifecycle event subscriptions for the node *mycomputer.ab.cd.com*, enter `mxwbemsub -a -n mycomputer.ab.cd.com -t health`.

#### Example 12

To remove health lifecycle event subscriptions for the node *mycomputer.ab.cd.com*, enter `mxwbemsub -r -n mycomputer.ab.cd.com -t health`.

### Limitations

- ▲ This command must be run on a CMS.