



# Sun StorageTek™ Common Array Manager CLI Guide

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Sun Microsystems, Inc.  
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# Preface

The *Sun StorageTek Common Array Manager CLI Guide* describes the commands in the `sscs` command line interface (CLI) for the Sun™ Storage J4200, J4400, and J4500 arrays, Sun Storage F5100 Flash Array, Sun StorEdge™ 6130 array, Sun StorageTek™ 6140 and 6540 arrays, Sun Storage 6580 and 6780 arrays, Sun StorageTek 2500 Series arrays, FlexLine™ 240, 280, and 380 Systems, and Sun Blade™ 6000 system.

Consult the hardware installation guide for your array for information about the initial physical installation of an array.

## Related Documentation

Application	Title	Part Number
Software installation information	<i>Sun StorageTek Common Array Manager Installation Guide</i>	820-7270-xx
Software operation and configuration information for Sun Storage J4000 and F5000 array families, and Sun Blade 6000 array families	<i>Sun StorageTek Common Array Manager User Guide for Open Storage</i>	820-6663-xx
Late-breaking information not included in the information set	<i>Sun StorageTek Common Array Manager Release Notes</i>	820-6664-xx
	Release Notes for your array hardware	Various

In addition, the Sun StorageTek Common Array Manager includes the following online documentation:

- Sun StorageTek Common Array Manager online help  
Contains system overview and configuration information.
  - Service Advisor  
Provides guided, FRU-replacement procedures with system feedback for all arrays. You can access Service Advisor from the Sun StorageTek Common Array Manager software.
  - `sscs` man page commands  
Provides help on man page commands available on a management host or on a remote CLI client.
  - Documentation for other supported arrays  
All other arrays supported by the software share a common documentation set.
- 

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*Sun StorageTek Common Array Manager CLI Guide*, part number 820-6662-10.



# Overview

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This chapter provides an overview of the `sscs` administration command for Sun StorageTek and Sun Storage arrays. It contains the following sections:

- [“Overview of the `sscs` Command” on page 1](#)
- [“Understanding Command Syntax” on page 2](#)
- [“Getting Help with Commands and Their Syntax” on page 4](#)
- [“Logging In to the `sscs` Environment” on page 5](#)
- [“Exit Status Codes” on page 6](#)
- [“Command Quick Reference” on page 6](#)

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## Overview of the `sscs` Command

The `sscs` command line interface (CLI) enables you to manage and monitor disk arrays. The CLI can be installed on a local data host or a remote management host.

- **Local CLI**

This is the version used in a CLI-only installation of CAM, and should be used if you are root user on the local host. This version does not pass commands through the web server and provides better performance by eliminating the need to authenticate the user. There is no guest-only version of the local `sscs` command.

Directory locations for local CLI:

- Solaris: `/opt/SUNWstcam/bin/sscs`
- Linux: `/opt/sun/cam/bin/sscs`
- Windows: Program Files > Sun > Common Array Manager > bin folder

- Remote CLI

This version is required if you are not on the CAM management station or if you must authenticate as a non-root user. This version passes all requests through the web server, and is more secure than the Local CLI since all traffic is encrypted.

Directory locations for remote CLI:

- Solaris: /opt/se6x20/cli/bin/sscs
- Linux: /opt/sun/cam/se6x20/cli/bin/sscs
- Windows: Program Files > Sun > Common Array Manager > bin folder

---

## Understanding Command Syntax

Type the `sscs` command with its options from a terminal command line. You can use only the indicated option or options for that subcommand.

---

**Note** – Command syntax can vary based upon the array type (e.g., F5100, 6140, etc.) and specific array names as related to installed firmware versions. See [TABLE 1-2](#) for proper usage of the `--help` command in order to obtain the correct syntax for an array type or specific array name.

---

[TABLE 1-1](#) describes the conventions that apply to the subcommands and variables.

**TABLE 1-1** Syntax Conventions for `sscs` Commands

Convention	Description
<b>Bold</b>	Text in bold should be typed exactly as shown.
<i>Italic</i>	Text in italics is variable and should be replaced with the name or value used at your site. Multiple variables can be separated by a comma, but not with a space. Example: <b>sscs list volume</b> TestVOL,fvm13311
[ ] (square brackets)	Text in square brackets is optional.
(vertical bar)	Text separated by a vertical bar is exclusive. Specify only one of the options.

**TABLE 1-1** Syntax Conventions for `sscs` Commands

Convention	Description
{ } (braces)	Text inside braces is a required argument. Numbers in braces, e.g. {0} and {1}, represent variables in some error messages.
Short and long names	The <code>sscs</code> command accepts short or long names for each option. Short name options require a single hyphen (-). Long name options require a double hyphen (--).
Special characters in names	Do not use spaces, commas, colons (:), or the special characters ?, *, !, @, %, or & as a character in any name you specify unless you are prepared to escape them in the shell. Any characters that you enclose within quotation marks are acceptable for names.

---

# Getting Help with Commands and Their Syntax

Use the **--help** or **-H** command to view all available commands, subcommands, and their syntax. [TABLE 1-2](#) describes how to use the **--help** command:

**TABLE 1-2** How to Use the **--help** Command

Task	Command Syntax
Display a command list non-specific to an array type.	<b>sscs --help</b>
Display a command list specific to an array type or array name.	<b>sscs -H -a &lt;array_type   array_name&gt;</b> Command example: <b>sscs --help -a 2510</b> add create delete disable enable ... revive service snapshot unmap unregister



**TABLE 1-2** How to Use the --help Command

Task	Command Syntax
Display the subcommands available for a command for a specific array type or array name.	<b>sscs</b> <subcommand> <b>-H -a</b> <array_type   array_name> Command example: <b>sscs list --help -a jbod1</b> Sample Command Output:  alarm array date ... storage-system template userrole
Display syntax for a command/subcommand pair for a specific array type or array name.	<b>sscs</b> <subcommand> <b>--help -a</b> <array_type   array_name> <resource-type> Command example: <b>sscs list --help -a j4400 alarm</b> Sample Command Output: list [-s   --severity <string>] [-f   --faultdevtype <string>] [-a   --advisor] [-S   --Summary] alarm [string[,string...]]

# Logging In to the sscs Environment

If you are using the local CLI, no login is required; however, you must have root access in Solaris and Linux or administrator privileges in Windows.

A login is required when you use the remote CLI. To log into the remote CLI, follow these steps:

1. From a terminal window, log in to the management host where sscs resides.
2. Enter the following commands:  

```
# cd CLI_directory
```

Refer to “[Overview of the sscs Command](#)” on page 1 for directory information.  

```
# ./sscs login -h localhost -u <user-name>
```
3. Enter the password for your sscs user account.

For a thorough description about logging into the sscs using the remote CLI, see the login command and all of its options, go to “[login](#)” on page 51.

# Exit Status Codes

Upon command completion, the sscs CLI reports the following exit status codes:

**TABLE 1-3** Exit Status Codes

Exit Status Code	Description
0	Successful completion
15	Object not found error
25	Command parsing failure
30	Command validation error
50	Application error
75	System error
100	Nonspecific error

# Command Quick Reference

There are three categories of CLI commands:

- **Monitoring and General Administration Commands**

These commands are supported on all arrays supported by CAM, with only a few noted exceptions.

- **Array Configuration Commands**

These commands are supported only on those arrays that have one or more RAID controllers.

- **SAS Domain Access Configuration Commands**

These commands are supported only on Sun just-a-bunch-of-disks (JBOD) arrays and are specific to Serial Attached SCSI (SAS) domain access configuration.

For a complete listing of arrays supported by CAM, refer to the release notes.

# Monitoring and General Administration Commands

The following table lists the commands used to monitor the array and perform general administration tasks. These commands are for all Sun arrays, including Sun Storage J4200, J4400, and J4500 arrays, Sun Storage F5100 Flash Array, Sun StorEdge 6130 array, Sun StorageTek 6140 and 6540 arrays, Sun Storage 6580 and 6780 arrays, Sun StorageTek 2500 Series arrays, FlexLine 240, 280, and 380 Systems, and Sun Blade 6000 system.

**TABLE 1-4** Monitoring and General Administration Commands

Command	Description
<code>add notification</code>	Set up email or SNMP trap notification.
<code>add registeredarray</code>	Discovers an array or all arrays on the same subnet as the management host and registers them.
<code>add userrole</code>	Adds a user name to the user access list and defines the user privileges.
<code>list alarm</code>	Provides detailed information on a specified alarm or summary information on all alarms
<code>list array</code>	Lists detailed information about specified arrays or all array names.
<code>list date</code>	Lists the current date and time for the array in hours, minutes, and seconds. (Not supported by j4500 and B6000 JBODs.)
<code>list device</code>	List the details of a device or the devices being monitored.
<code>list devices</code>	List an overview of a device or the devices being monitored.
<code>list disk</code>	List the disk information on an array.
<code>list event</code>	Lists the Fault Management Service (FMS) event log information.
<code>list firmware</code>	Lists the firmware versions of the field-replaceable units (FRU) in this device
<code>list fru</code>	Lists the field-replaceable units (FRUs) in this device.
<code>list jobs</code>	Lists job IDs and status associated with the specified array and optionally specified job ID
<code>list log</code>	Lists the user-initiated actions performed for all registered arrays.
<code>list mgmt-sw</code>	Lists the management software application that you are logged into.
<code>list notification</code>	Lists the remote notification provider and its status.
<code>list registeredarray</code>	Lists registered array information

**TABLE 1-4** Monitoring and General Administration Commands

Command	Description
<code>list storage-system</code>	Lists detailed information about one or more arrays.
<code>list site</code>	Lists pertinent information on the site.
<code>list userrole</code>	Lists the user name and role defining the user's array privileges.
<code>login</code>	Log in to the <code>sscs</code> command-line interface (CLI).
<code>logout</code>	Logs out of the remote <code>sscs</code> command-line interface session.
<code>modify agent</code>	Modify the fault management agent parameters.
<code>modify array</code>	Modifies the name assigned to the array.
<code>modify firmware</code>	Modifies the firmware versions of the specified field-replaceable units (FRUs) of the specified array
<code>modify mgmt-sw</code>	Stores the specified storage system name for the session. This command is useful for repeated operations with an array.
<code>modify registeredarray</code>	Change the locally stored password for a registered array.
<code>modify site</code>	Modifies the site properties for this instance of CAM.
<code>modify storage-system</code>	Modifies the array information
<code>modify userrole</code>	Change the user role or the IP address from which the user can log in.
<code>register storage-system</code>	Registers a storage system with the host
<code>register sun-connection</code>	Registers CAM software and all monitored arrays with Auto Service Request (ASR).
<code>remove alarm</code>	Removes the current alarms.
<code>remove notification</code>	Removes a local or remote notification.
<code>remove registeredarray</code>	Removes one or more arrays from the list of registered arrays.
<code>remove userrole</code>	Removes a user role assigned to a user name.
<code>service contact</code>	Tests connectivity to a specified array (inband communication test).
<code>service disable</code>	Disables a target drive in a specified array.
<code>service enable</code>	Enables a target drive in a specified array.
<code>service locate</code>	Turns on the locator LED for an array, drive, or tray.
<code>service print</code>	Prints physical information available for a specified array.
<code>service set</code>	Changes the name of a specified array.

**TABLE 1-4** Monitoring and General Administration Commands

Command	Description
<code>service syncTime</code>	Synchronizes the time of a JBOD array with that of the attached data host.
<code>unregister storage-system</code>	Unregisters an array from the list of registered storage systems.
<code>unregister sun-connection</code>	Stops notifications of system health and performance to Sun using the Auto Service Request (ASR) feature.
<code>version</code>	Shows the version of the CAM software that you are running on the management host, as well as the version of the SSCS client.

## Array Configuration Commands

This section identifies the commands used to configure an array. These commands are supported only on those arrays that have one or more RAID controllers, including the Sun StorEdge 6130 array, Sun StorageTek 6140 and 6540 arrays, Sun Storage 6580 and 6780 arrays, Sun StorageTek 2500 Series arrays, and FlexLine 240, 280, and 380 Systems.

**TABLE 1-5** Array Configuration Commands

Command	Description
<code>add hostgroup</code>	Adds hosts to a host group.
<code>add license</code>	Adds a license to the specified array.
<code>create host</code>	Creates a storage host.
<code>create hostgroup</code>	Creates a storage host group.
<code>create initiator</code>	Creates an initiator.
<code>create iscsi initiator</code>	Creates an iSCSI initiator on a host.
<code>create pool</code>	Creates an empty storage pool on the array
<code>create profile</code>	Creates a storage profile on the array.
<code>create repset</code>	Creates a storage replication set using a peer World Wide Name or remote array name (not applicable to 2500 Series).
<code>create snapshot</code>	Creates a snapshot for the specified volume.
<code>create vdisk</code>	Creates a virtual disk.
<code>create volume</code>	Creates a volume within a specified pool.
<code>create volume-copy</code>	Creates a copy of the volume (not applicable to 2500 Series).
<code>delete host</code>	Deletes one or more hosts.

**TABLE 1-5** Array Configuration Commands

Command	Description
<code>delete hostgroup</code>	Deletes one or more host groups.
<code>delete initiator</code>	Deletes one or more initiators.
<code>delete iscsi-session</code>	Deletes an iscsi-session
<code>delete pool</code>	Deletes one or more pools.
<code>delete profile</code>	Deletes one or more profiles.
<code>delete repset</code>	Deletes one or more replication sets (not applicable to 2500 Series).
<code>delete snapshot</code>	Deletes one or more snapshots.
<code>delete vdisk</code>	Deletes one or more named virtual disks.
<code>delete volume</code>	Deletes one or more named volumes.
<code>delete volume-copy</code>	Deletes a volume-copy (not applicable to 2500 Series).
<code>disable snapshot</code>	Disables one or more snapshots.
<code>export array</code>	Renders an extensible markup language (XML) representation of the array
<code>export profile</code>	Exports one or more profiles into an XML representation.
<code>fail disk</code>	Sets a disk to the failed state.
<code>import array</code>	Applies an array configuration file to the specified array.
<code>import profile</code>	Imports one or more profiles from a specified XML file.
<code>initialize disk</code>	Initializes a disk.
<code>list controller</code>	Lists configuration information for the specified controller
<code>list fcport</code>	Lists Fibre Channel port information for the controller of the specified array.
<code>list host</code>	Lists the host names and details for an individual host.
<code>list hostgroup</code>	Lists host group name and hosts for an individual host group.
<code>list initiator</code>	Lists the initiators and provides a description of each.
<code>list iperformance</code>	Displays iSCSI performance statistics for the 2510 array and enables you to define the type of iSCSI performance statistics to monitor.
<code>list iscsi-port</code>	Lists iSCSI ports.
<code>list iscsi-session</code>	Lists iSCSI sessions
<code>list iscsi-target</code>	Lists iSCSI target name configured for the specified array.

**TABLE 1-5** Array Configuration Commands

Command	Description
<code>list license</code>	Shows all licenses that are associated with the array, along with related licensing details (serial number, controller serial number, and further details)
<code>list mapping</code>	Lists mappings for the array. You can filter the output by specifying the name of a storage domain, a host, or a host group.
<code>list os-type</code>	Shows all of the operating systems that are supported by the array. The values returned can be used in subsequent requests to create or modify initiators, or to modify the default host type of the array.
<code>list performance</code>	Shows detailed performance statistics. You can use the following options only if a single array is specified.
<code>list pool</code>	Lists storage pool information.
<code>list profile</code>	Lists the named storage profiles
<code>list repset</code>	Lists replication set information (not applicable to 2500 Series).
<code>list sasport</code>	Lists SAS port information.
<code>list snapshot</code>	Lists the specified snapshot or snapshots associated with this array.
<code>list tray</code>	Lists information about one or more storage trays in the array.
<code>list vdisk</code>	Lists virtual disk (vdisk) or virtual disks information associated with this array.
<code>list volume</code>	Lists volume information.
<code>list volume-copy</code>	Lists volume copy information. If neither the source volume nor the target volume is specified, a summary of all volume copies is listed. If the source volume or the target volume is specified, a detailed listing of each is generated.
<code>map host</code>	Maps one or more volumes and snapshots to a host. Any previous mappings for the given volumes and snapshots are removed.
<code>map hostgroup</code>	Maps one or more volumes and snapshots to a host group. Any previous mappings for the given volumes or snapshots are removed.
<code>map initiator</code>	Maps one or more initiators to a volume or snapshot.
<code>map snapshot</code>	Maps one or more snapshots to a host or host group. If no host or host group is specified, the snapshot or snapshots are mapped into the Default partition.
<code>map volume</code>	Maps one or more volumes to a host or host group. Any previous mappings for the given volume or volumes are removed.
<code>modify array</code>	Modifies the configuration of the specified array
<code>modify controller</code>	Modifies the controller settings.

**TABLE 1-5** Array Configuration Commands

<b>Command</b>	<b>Description</b>
<code>modify date</code>	Modifies the date on the array, allowing you to set the time on the array, or to synchronize the time with the management host (that is, setting the array's time to the management host's time.)
<code>modify disk</code>	Specifies the disk role.
<code>modify fcport</code>	Modifies the Fibre Channel port settings on the specified array.
<code>modify host</code>	Modifies the host name.
<code>modify hostgroup</code>	Modifies the host group name.
<code>modify initiator</code>	Modifies an initiator.
<code>modify iperformance</code>	Modifies the settings for iSCSI performance data.
<code>modify iscsi-port</code>	Modifies an iSCSI port.
<code>modify iscsi-target</code>	Modifies an iSCSI target.
<code>modify jobs</code>	Cancels or prioritizes a running or outstanding job.
<code>modify license</code>	Activates replication set licenses (applicable to 2500 Series only when running firmware version 07.35. <i>nn.nn</i> or higher).
<code>modify notification</code>	Modifies notification options.
<code>modify performance</code>	Modifies settings for performance monitoring
<code>modify pool</code>	Modifies the name or description of the storage pool or the profile with which this pool is associated.
<code>modify profile</code>	Modifies a storage profile on the array.
<code>modify repset</code>	Modifies the mode, consistency group, or replication priority of the specified replication set (not applicable to 2500 Series).
<code>modify snapshot</code>	Modifies the specified snapshot
<code>modify tray</code>	Modifies information about one or more storage trays in the array.
<code>modify vdisk</code>	Specifies modifications to a virtual disk.
<code>modify volume</code>	Modifies any of a volume's attributes
<code>modify volume-copy</code>	Modifies a volume copy (not applicable to 2500 Series).
<code>offline vdisk</code>	Sets a virtual disk offline.
<code>online vdisk</code>	Sets a virtual disk online.
<code>reconstruct disk</code>	Initiates a disk reconstruction.
<code>remove hostgroup</code>	Removes one or more hosts from a host group.
<code>remove license</code>	Removes the replication set feature license from the specified array (not applicable to 2500 Series).
<code>remove notification</code>	Removes a local or remote notification provider.



**TABLE 1-5** Array Configuration Commands

Command	Description
<code>reset array</code>	Resets the specified array.
<code>reset controller</code>	Resets the specified controller.
<code>resnap snapshot</code>	Resnaps one or more existing snapshots.
<code>revive disk</code>	Attempts to bring a disk to the optimal state.
<code>revive vdisk</code>	Revives a virtual disk
<code>service fail</code>	Places a field-replaceable unit of an array into a failed state.
<code>service redistribute</code>	Redistributes volumes back to their preferred owners.
<code>service revive</code>	Attempts to place the array controller or disk drive into the optimal state. This can create complications. Do not initiate this command without first consulting Sun Customer Service personnel.
<code>snaphoot volume</code>	Creates and manages snapshots.
<code>unmap host</code>	Unmaps one or more snapshots or volumes from a host.
<code>unmap hostgroup</code>	Unmaps one or more snapshots or volumes from a host group.
<code>unmap initiator</code>	Removes the mapping from one or more initiators to a volume or snapshot.
<code>unmap snapshot</code>	Removes the mapping from one or more snapshots to a host or hostgroup.
<code>unmap volume</code>	Unmaps one or more volumes from a host or host group.

## SAS Domain Access Configuration Commands

This section identifies commands used in SAS domain access configuration. These commands are supported only on Sun JBOD arrays, including Sun Storage J4200, J4400, and J4500 arrays, Sun Storage F5100 Flash Array, and the Sun Blade 6000 system.

**TABLE 1-6** SAS Domain Access Configuration Commands

Command	Description
<code>disable sas-domain</code>	Disables access configuration for a specified SAS domain.
<code>enable sas-domain</code>	Enables access configuration for a specified SAS domain.
<code>export sas-domain</code>	Copies the configuration of the specified SAS domain to a specified template file.
<code>import sas-domain</code>	Restores configuration information for a specified SAS domain from a specified template file.

**TABLE 1-6** SAS Domain Access Configuration Commands

Command	Description
<code>list host-agent</code>	Lists the host-agents in a specified SAS domain or the details for specified host-agents in a specified SAS domain.
<code>list sas-domain</code>	Lists SAS domains or the details of specified SAS domains.
<code>list sas-zone</code>	Provides a list of all SAS access configuration (zone) groups and details of those groups.
<code>list template</code>	Lists a summary of all SAS domain templates known by the current management station, or lists the details of specified templates.
<code>modify sas-domain</code>	Modifies the specified properties of a SAS domain.
<code>reset sas-domain</code>	Returns the specified SAS domain to the default settings.

# Common Tasks

---

This chapter provides examples of how to perform a basic task using a series of CLI commands. This chapter contains the following sections:

- [“Discovering Arrays” on page 15](#)
- [“Creating a Volume” on page 17](#)
- [“Creating a Snapshot” on page 20](#)



## Discovering Arrays

[TABLE 2-1](#) identifies the sequence of CLI commands used when registering arrays with CAM.

**TABLE 2-1** CLI Commands Used When Discovering Arrays

CLI Command	Description
sscs list storage-system sscs list devices	Lists the arrays that are already registered with CAM.
sscs register -d storage-system	Directs CAM to discover all available arrays.
sscs list storage-system sscs list devices	Lists all arrays registered, including the newly discovered arrays.
sscs unregister storage-system	Unregisters select arrays.

# Command Sequence

## 1. Identify the names of the arrays currently registered with CAM:

```
sscs list storage-system
Array: Snoopy1
Array: Snoopy2
Array: Linus1
```

---

**Note** – The command **list devices** can also be used to identify the names of arrays currently registered with CAM.

---

## 2. Discover all arrays:

```
sscs register -d storage-system
```

Name	Type	Network Address	Serial Number
Snoopy1	6140	xx.xx.xx.103	SUN.xxxxx-00.xxxxxxxxxxx
unlabeled	6140	xx.xx.xx.112	SUN.xxxxx-00.xxxxxxxxxxx
Onyx	2540	xx.xx.xx.9	SUN.xxxxx-00.xxxxxxxxxxx
Hal	6140	xx.xx.xx.72	SUN.xxxxx-00.xxxxxxxxxxx
Linus1	6140	xx.xx.xx.16	SUN.xxxxx-00.xxxxxxxxxxx
Snoopy2	6140	xx.xx.xx.106	SUN.xxxxx-00.xxxxxxxxxxx
Johnny5	6140	xx.xx.xx.67	SUN.xxxxx.
Pedro1	2540	xx.xx.xx.6	SUN.xxxxx-00.xxxxxxxxxxx

## 3. Unregister the array Onyx:

```
sscs unregister storage-system Onyx
```

## 4. Verify the list of registered arrays to ensure that Onyx is no longer registered:

```
sscs list storage-system
Array: Snoopy1
Array: unlabeled
Array: Hal
Array: Linus1
Array: Snoopy2
Array: Johnny5
Array: Pedro1
```

# Creating a Volume

TABLE 2-2 identifies the sequence of CLI commands used when creating a volume.

TABLE 2-2 CLI Commands Used When Creating a Volume Snapshot

CLI Command	Description
sscs list volume	List volumes that already exist on a specified array.
sscs create volume	Create a new volume on an array.
sscs list jobs	Verify that the volume creation job is in progress.
sscs list volumes	Verify the volume characteristics.
sscs list vdisk	Verify the characteristics of the virtual disk used by the newly created volume.
sscs list host	Identify the hosts available for mapping to the volume.
sscs map volume	Map the volume to a host.

## Sample Data

In this example, the following sample data are used in the execution of the commands:

TABLE 2-3 Sample Data

Array Name:	den-toi-6130
Pool Name:	den-pool-64k-r5
Volume Name:	vol0-64k-r5
Profile Name:	den-profile-64k-r5
Disk Names:	t1d01, t1d02, t1d03, t1d04

## Command Sequence

1. Identify the names of the volumes that already exist on the array den-toi-6130:

```
sscs list -a den-toi-6130 volume
```

```
Volume: ACC Type: Standard Pool: Default Profile: Default
Volume: RCV Standard Pool: Default Profile: Default.
```

**2. Identify the names of the storage pools that already exist on the array den-toi-6130:**

```
sscs list -a den-toi-6130 pool
```

```
Pool: newNFSMirroringPool Profile: NFS_Mirroring Configured  
Capacity: 0.000 MB  
Pool: RAID1-32KB-NoReadAhead Profile: RAID1-32KB-NoReadAhead  
Configured Capacity: 0.000 MB  
Pool: RAID5-512KB-NoReadAhead Profile: RAID5-512KB-NoReadAhead  
Configured Capacity: 0.000 MB  
Pool: poolFortest6731502Raid5threeDisk Profile:  
test6731502Raid5threeDisk Configured Capacity: 0.000 MB  
Pool: den-pool-64k-r Profile: RAID0-564KB-ReadAhead Configured  
Capacity: 0.000 MB
```

**3. Verify the characteristics of the storage pool den-pool-64k-r5:**

```
sscs list -a den-toi-6130 pool den-pool-64k-r
```

```
Description: null  
Profile: RAID5-64KB-ReadAhead  
Total Capacity: 0.000 MB  
Configured Capacity: 0.000 MB  
Available Capacity: 1.197 TB
```

**4. Create a new volume on array den-toi-6130.**

The new volume is named vol0-64k-r5, uses the storage pool named den-pool-64k-r5, and has 5GB of storage capacity:

```
sscs create -a den-toi-6130 -p den-pool-64k-r5 -s 5GB volume vol0-  
64k-r5
```

**5. Verify that the volume creation job is in progress:**

```
sscs list -a den-toi-6130 jobs
```

```
Job ID: VOL:0B70418253F6 Status: In progress
```

**6. Verify the characteristics of the volume named vol0-64k-r5:**

```
sscs list -a den-toi-6130 volume vol0-64k-r5
```

```
Volume: vol0-64k-r5  
Type: Standard  
WWN: 60:0A:0B:80:00:13:B9:8B:00:00:0B  
:70:41:82:53:F6  
Pool: den-pool-64k-r5  
Profile: den-profile-64k-r5  
Virtual Disk: 1
```

```

Size: 5.000 GB
Status: Online
Action: Ready
Condition: Optimal
Read Only: No
Controller: A
Preferred Controller: A
Modification Priority: High
Write Cache: Enabled
Write Cache with Mirroring: Enabled
Write Cache without Batteries: Disabled
Flush Cache After: 10 Sec
Disk Scrubbing: Enabled
Disk Scrubbing with Redundancy: Disabled

```

**7. List the virtual disks available on den-toi-6130:**

```

sscs list -a den-toi-6130 vdisk
Virtual Disk: 1

```

**8. Verify the characteristics of the virtual disk named 1:**

```

sscs list -a den-toi-6130 vdisk 1
Virtual Disk: 1
Status: Online
Number of Disks: 4
Maximum Volume Size: 198.599 GB
RAID Level: 5
Total Capacity: 203.599 GB
Configured Capacity: 5.000 GB
Available Capacity: 198.599 GB
Disk Type: FC
Disk: t1d04
Disk: t1d03
Disk: t1d02
Disk: t1d01
Volume: vol0-64k-r5

```

**9. Identify the hosts available of the array den-toi-6130:**

```

sscs list -a den-toi-6130 host
Host: 450e

```

**10. Map the volume vol0-64k-r5 to the host 450e:**

```

sscs map -a den-toi-6130 -h 450e -l 1 volume vol0-64k-r5

```

11. Ensure that the mapping was successful by verifying the characteristics of the volume named vol0-64k-r5:

```
sscs list -a den-toi-6130 volume vol0-64k-r5
```

```
Volume: vol0-64k-r5
Type: Standard
WWN: 60:0A:0B:80:00:13:B9:8B:00:00:0B:70:41:82:53:F6
Pool: den-pool-64k-r5
Profile: den-profile-64k-r5
Virtual Disk: 1
Size: 5.000 GB
Status: Online
Action: Ready
Condition: Optimal
Read Only: No
Controller: A
Preferred Controller: A
Modification Priority: High
Write Cache: Enabled
Write Cache with Mirroring: Enabled
Write Cache without Batteries: Disabled
Flush Cache After: 10 Sec
Disk Scrubbing: Enabled
Disk Scrubbing with Redundancy: Disabled
Associations:
Host: 450e LUN: 1 Initiator: 450e-qlc5 WWN: 21:00:00:E0:8B:06:02:E9
Host: 450e LUN: 1 Initiator: 450e-qlc6 WWN: 21:00:00:E0:8B:06:FC:E8
```

---

## Creating a Snapshot

The following section will demonstrate the commands used when creating a snapshot of a volume.



# Commands Used

TABLE 2-4 identifies the sequence of CLI commands used when creating a volume snapshot.

TABLE 2-4 CLI Commands Used When Creating a Volume Snapshot

CLI Command	Description
sscs list volume	Verify the existence and characteristics of a volume.
sscs create snapshot	Create a snapshot of a volume
sscs list snapshot	Verify the existence and characteristics of the snapshot
sscs list host	Identify the hosts available for mapping to the snapshot.
sscs map snapshot	Map the snapshot to a host.
sscs unmap snapshot	Unmap the snapshot from a host.
sscs delete snapshot	Remove the snapshot.

## Sample Data

In this example, the sample data listed in TABLE 2-5 are used in the execution of the commands:

TABLE 2-5 Sample Data

Array Name:	den-toi-6130
Pool Name:	den-pool-64k-r5
Volume Name:	vol0-64k-r5
Profile Name:	den-profile-64k-r5
Snapshot Name:	snapshot-vol0
Reserve Volume Name:	reserve-vol0
Host Name:	450e

## Command Sequence

### 1. Verify the existence and characteristics of the volume vol0-64k-r5:

```
sscs list -a den-toi-6130 volume vol0-64k-r5
Volume: vol0-64k-r5
```

```

Type:                               Standard
WWN:                                60:0A:0B:80:00:13:B9:8B:00:00:0B
                                     :70:41:82:53:F6
Pool:                               den-pool-64k-r5
Profile:                            den-profile-64k-r5
Virtual Disk:                       1
Size:                               15.000 GB
Status:                             Online
Action:                             Ready
Condition:                          Optimal
Read Only:                          No
Controller:                         A
Preferred Controller:               A
Modification Priority:              Highest
Write Cache:                        Enabled
Write Cache with Mirroring:         Enabled
Write Cache without Batteries:      Disabled
Flush Cache After:                 10 Sec
Disk Scrubbing:                    Enabled
Disk Scrubbing with Redundancy:     Disabled
Associations:
Host: 450e LUN: 1 Initiator: 450e-qlc5 WWN:
21:00:00:E0:8B:06:02:E9
Host: 450e LUN: 1 Initiator: 450e-qlc6 WWN:
21:00:00:E0:8B:06:FC:E8

```

## 2. Create the snapshot volume names snapshot-vol0.

```
sscs create -a den-toi-6130 -V vol0-64k-r5 -L full -f failsnapshot
-m reserve-vol0 -w 100 snapshot snapshot-vol0
```

## 3. Verify that the specified volume, vol0-64k-r5, now has a snapshot named snapshot-vol0 associated with it.

```
sscs list -a den-toi-6130 volume vol0-64k-r5
Volume: vol0-64k-r5
Type:                               Standard
WWN:                                60:0A:0B:80:00:13:B9:8B:00:00:0B
                                     :70:41:82:53:F6
Pool:                               den-pool-64k-r5
Profile:                            den-profile-64k-r5
Virtual Disk:                       1
Size:                               15.000 GB
Status:                             Online
Action:                             Ready
Condition:                          Optimal
Read Only:                          No

```

```

Controller: A
Preferred Controller: A
Modification Priority: Highest
Write Cache: Enabled
Write Cache with Mirroring: Enabled
Write Cache without Batteries: Disabled
Flush Cache After: 10 Sec
Disk Scrubbing: Enabled
Disk Scrubbing with Redundancy: Disabled
Snapshots:
Snapshot Volume: vol0-snap1 Creation Date: Sat Oct 25 07:40:00
36797 Reserve Volume: res-vol0
Snapshot Volume: snapshot-vol0 Creation Date: Mon Apr 25 11:40:00
36805 Reserve Volume: reserve-vol0
Associations:
Host: 450e LUN: 1 Initiator: 450e-qlc5 WWN:
21:00:00:E0:8B:06:02:E9
Host: 450e LUN: 1 Initiator: 450e-qlc6 WWN:
21:00:00:E0:8B:06:FC:E8

```

#### 4. Verify the characteristics assigned to the snapshot volume, snapshot-vol0.

```
sscs list -a den-toi-6130 snapshot snapshot-vol0
```

```

Volume: snapshot-vol0
Type: Snapshot
WWN: 60:0A:0B:80:00:13:B9:8B:00:00:0B:7A:41:86:0B:02
Virtual Disk: 1
Size: 14.999 GB
Status: Active
Action: Ready
Condition: Optimal
Controller: A
Preferred Controller: A
Modification Priority: High
Write Cache: Enabled
Write Cache with Mirroring: Enabled
Write Cache without Batteries: Disabled
Flush Cache After: 10 Sec
Disk Scrubbing: Enabled
Disk Scrubbing with Redundancy: Disabled
Percent Full: 0
Failure Policy: failsnapshot
Warning Threshold: 100
Creation Date: Mon Apr 25 11:40:00 36805
Base Volume: vol0-64k-r5
Reserve Volume: reserve-vol0

```

Reserve Status:	Online
Reserve Size:	14.999 GB

**5. Identify the hosts available ob the array den-toi-6130:**

```
sscs list -a den-toi-6130 host
Host: 450e
```

**6. Map a snapshot to the host 450e:**

```
sscs map -a den-toi-6130 -h 450e snapshot snapshot-vol0
```

**7. Verify the characteristics assigned to the snapshot volume, snapshot-vol0.**

```
sscs list -a den-toi-6130 snapshot snapshot-vol0
Volume: snapshot-vol0
Type:                               Snapshot
WWN:                                60:0A:0B:80:00:13:B9:8B:00:00:0B:
                                   7A:41:86:0B:02
Virtual Disk:                       1
Size:                               14.999 GB
Status:                             Active
Action:                             Ready
Condition:                         Optimal
Controller:                        A
Preferred Controller:               A
Modification Priority:              High
Write Cache:                       Enabled
Write Cache with Mirroring:         Enabled
Write Cache without Batteries:      Disabled
Flush Cache After:                  10 Sec
Disk Scrubbing:                    Enabled
Disk Scrubbing with Redundancy:     Disabled
Percent Full:                       0
Failure Policy:                     failsnapshot
Warning Threshold:                  100
Creation Date:                      Mon Apr 25 11:40:00 36805
Base Volume:                        vol0-64k-r5
Reserve Volume:                     reserve-vol0
Reserve Status:                     Online
Reserve Size:                       14.999 GB
Associations:
Host: 450e LUN: 2 Initiator: 450e-qlc5 WWN:
21:00:00:E0:8B:06:02:E9
Host: 450e LUN: 2 Initiator: 450e-qlc6 WWN:
21:00:00:E0:8B:06:FC:E8
```

**8. Unmap the snapshot names snapshot-vol0.**

```
sscs unmap -a den-toi-6130 -h 450e snapshot snapshot-vol0
```

**9. Verify that snapshot-vol0 was successfully unmapped.**

```
sscs list -a den-toi-6130 snapshot snapshot-vol0
```

```
Volume: snapshot-vol0
Type:                               Snapshot
WWN:                                60:0A:0B:80:00:13:B9:8B:00:00:0B
                                   :7A:41:86:0B:02
Virtual Disk:                        1
Size:                               14.999 GB
Status:                             Active
Action:                             Ready
Condition:                          Optimal
Controller:                         A
Preferred Controller:               A
Modification Priority:              High
Write Cache:                        Enabled
Write Cache with Mirroring:         Enabled
Write Cache without Batteries:      Disabled
Flush Cache After:                  10 Sec
Disk Scrubbing:                     Enabled
Disk Scrubbing with Redundancy:Disabled
Percent Full:                       0
Failure Policy:                     failsnapshot
Warning Threshold:                  100
Creation Date:                      Mon Apr 25 11:40:00 36805
Base Volume:                        vol0-64k-r5
Reserve Volume:                     reserve-vol0
Reserve Status:                     Online
Reserve Size:                       14.999 GB
```

**10. Delete the snapshot names snapshot-vol0:**

```
sscs delete -a den-toi-6130 snapshot snapshot-vol0
```



# Monitoring and Administration Commands for All Arrays

This chapter describes the `sscs` commands and their options for monitoring and administrating all Sun arrays, including Sun Storage J4200, J4400, and J4500 arrays, Sun Storage F5100 Flash Array, Sun StorEdge 6130 array, Sun StorageTek 6140 and 6540 arrays, Sun Storage 6580 and 6780 arrays, Sun StorageTek 2500 Series arrays, FlexLine 240, 280, and 380 Systems, and Sun Blade 6000 system.

For configuration and other commands that apply only to arrays with RAID controllers, see [Chapter 4](#).

## add notification

Sets up email or SNMP trap notification.

### Synopsis

Add email notification:

```
add [ -e <email-address,...> ] [ -c <array_type> ] [ -r pager | email ] [ -m
down | critical | major | minor ] [ -f ] [ -s ] [ -d ] [ -g ]
notification local_email
```

Add an SNMP trap notification:

```
add -i <IP-address,...> [ -o <port_id> ] [ -t 1 | 2 | 3 | 4 | 5 ] [ -l warning
| error | down ] [ -m | <down | critical | major | minor> ] [ -c <community-
string> ] [ -g ] notification trap
```

Add an email filter:

```
add -n <event-id> -s info | none notification email-filter
```

Turn on the SNMP trap notifier:

**add notification trap**

## Description

Sets up email and SNMP trap notification. You can add one or more email addresses for notifications.

## Options

**-e, --email** *<email-address,...>*

Specifies that all notifications are sent to the given email addresses.

**-i, --ip** *<IP-address,...>*

Specifies the IP address of the host that will receive the SNMP trap data.

**-l, --traplevel** warning | error | down

Specifies the trap level associated with this notification.

**-o, --port** *<port-id>*

Specifies the port ID used to transfer notifications.

**-c, --components** *<array\_type>*

Specifies the array model number. For example, j4200 or j4400.

**-r, --format** pager | email

Specifies the format of the message: email or pager. If no value is specified, the command defaults to email.

**-m, --alarm-level** down | critical | major | minor

Specifies the minimum priority level of alerts to be sent out. By default, all alerts will be sent out.

**-f, --filter** true | false

Enables or disables email filters. The default is false.

**-s, --skip-aggregated** true | false

Skips components of aggregated events if set to true.

**-d, --advisor** true | false

Adds Service Advisor information to the email if set to true. The default is false.

**-g, --config-change** true | false

Sends configuration event emails as well as alert e-mails. The default is false.



**-n, --event-number** *<event\_id>*

Specifies the event code to filter.

**-s, --severity** *info | none*

Specifies the severity of events to report.

**-t, --trapnumber** *1 | 2 | 3 | 4 | 5*

Specifies the trap number associated with this notification.

**notification** *local\_email | email-filter | trap*

Specifies that all notifications of the specified type are sent to the given addresses.

*local-email* - Specifies that you want to receive the notification at your local email address.

*email-filter* - Specifies that you want to filter the notification.

*trap* - Specifies that you want to receive notification using the SNMP trap notification.

## Examples

```
sscs add -t 2 -i 10.10.10.1 notification trap
```

---

# add registeredarray

Discovers an array or all arrays on the same subnet as the management host and registers them.

## Synopsis

```
add -d registeredarray
```

```
add -i [ -q ] registeredarray
```

## Description

Discovers an array by specifying its IP address or all arrays on the same subnet as the management host and registers them. Also queries registered arrays for the remote proxy password.

## Options

**-i, --ipaddress**

Specifies the IP address of the device.

**-d, --discover**

Automatically discovers all arrays on the same subnet as the management host and registers them. If discover is specified, all other options are ignored and arrays are automatically discovered.

**-q, --query-for-password**

Queries for the current password for remote proxy for the registered array.

## Examples

```
sscs add -i 10.10.10.1 registeredarray
```

---

# add userrole

Adds a user name to the user access list and defines the user privileges.

## Synopsis

```
add -u <user-name> userrole storage | guest
```

## Description

Adds a user name to the user access list and defines the user role as having storage or guest privileges.

## Options

**-u, --username <user-name>**

Specifies a user name. The *<user-name>* must already be defined on the computer in the operating system.

**userrole storage | guest**

Specifies the new user's role.

*storage* - Provides full storage configuration and monitoring access.

*guest* - Allows user to view but not change storage configurations.

---

# list alarm

Provides detailed information on a specified alarm or summary information on all alarms.

## Synopsis

```
list [ -s <0..3> ] [ -f <device-type> ] [ -a <service-advisor-ID> ] [ -S ] alarm  
[ <alarm-ID, ...> ]
```

## Description

Provides detailed information on a specified alarms. When alarm IDs are not specified, it provides summary information on all alarms.

## Options

**-a, --advisor** *service-advisor-ID*

Lists the Service Advisor ID.

**-s, --severity** <0..3>

Specifies a severity level at which to filter alarms so that only the alarms of that severity or higher are listed.

Severity Levels:

0 - minor

1 - major

2 - critical

3 - down

**-f, --faultdevtype** <device-type>

Specifies the type of device to list.

**-S, --Summary**

Specifies that the system return a summary of alarm information.

**alarm** [ <alarm-ID, ...> ]

Specifies the alarm or alarms to display. If no alarm is specified, summary information on all alarms is displayed.

## Examples

```
sscs list -f j4200 alarm
```

```
sscs list -s 2 alarm
```

```
sscs list -s 1 -a alarm
```

### *Response Format*

(when no advisor option is specified)

**Alarm ID:** *ID*

**Severity:** *severity*

**Type:** *type*

**Topic:** *topic*

**Event Code:** *event-code*

**Date:** *date*

**Device:** *device-id*

**Descrip.:** *Description*

### *Response Format*

(when the advisor option is specified)

**Alarm ID:** *ID*

**Severity:** *severity*

**Type:** *type*

**Topic:** *topic*

**SERVICE ADVISOR**

**EventCode:** *event-code*

**EventType:** *event-type*

**Severity:** *severity-level*

**Sample Description:** *event-Description*

**Information:** *event-information*

**Probable Cause:** *probable-cause*

**Recommended Action:** *recommended-action*

**Date:** *date*

**Device:** *device-ID*

**Descrip.:** *Description*

---

## list array

Lists detailed information about specified arrays or all array names.

### Synopsis

```
list array [array-name [ , array-name... ] ]
```

### Description

Lists detailed information about one or more arrays. If you do not specify an array name, then all array names are listed.

### Examples

Summary of arrays when no *array-name* value is specified:

```
sscs list array
```

#### *Response Format*

**Array:** *array-name*

...

**Array:** *array-name*

Details of array when the *array-name* value is specified:

```
sscs list array array00
```

#### *Response Format*

**Array:** *array-name*

**Array Type:** *array-type*

**Serial Number:** *serial-number*

**Firmware Version:** *firmware-version*

**Array WWN:** *array-WWN*

**Health Status:** OK | Degraded

**Hot-Spare Pool Disks:** *number-of-hot-spare-drives* (FC, SATA, and SAS)

**Node WWN:** *node-WWN*

**Default Host Type:** *host-type*

**Default Cache Block Size:** 4K | 16K

**Default Cache Start %:** <0..100>

**Default Cache Stop %:** <0..100>

**Disk Scrubbing:** Disabled | Enabled

**Failover Alert Delay:** 1..300 minutes

**Health:** OK | Lost Contact | ...

**Tray ID:** *tray-ID*

**Host:** *host-name*

...

**Host:** *host-name*

**Host Group:** *host-group*

...

**Host Group:** *host-group*

**Pool:** *pool-name*

...

**Pool:** *pool-name*

---

## list date

Lists the current date and time for the array in hours, minutes, and seconds.

### Synopsis

```
list -a <array-name> date
```

### Description

Lists the current date and time for the array in hours, minutes, and seconds. The time zone of the management system is assumed to be the time zone of the array.  
NOTE: This command is not supported by the j4500, B6000, or F5100 JBODs.

### Options

```
-a, --array <array-name>
```

Specifies the array for which you want to see the date.

### Examples

```
sscs list -a array00 date
```

### *Response Format*

**Date:** *weekday month day HH:MM:SS YYYY*

*Example*

Tue Dec 20 16:09:36 2004

---

## list device

Provides detailed information on a specified device or summary information on all devices.

### Synopsis

```
list [ -n <device-name> ] [ -i <IP-address>] device [ device-ID [ ,device-ID... ] ]
```

## Description

List the details of a device or the devices being monitored.

## Options

**-n, --name** <device-name>

Specifies the device name for which you want to see the details. If no device is specified, summary information for all devices is displayed. NOTE: Other commands may use **-d, --device** in place of **-n, --name**.

**-i, --ip** <IP-address>

Specifies the IP address of the connected host when using remote proxy.

*device-ID*

Specifies one or more device IDs.

## Examples

**sscs list device**

```
Device Name      : F5100g
Type             : f5100
IP Address       : camtest17
Monitored On     : camtest17
Key              : SUN.f5100.508002000048f100
Active           : Y
WWN              : 508002000048f100
Alternate IP     : camtest17
Alt IP Number    : 10.9.178.48
Management Level : D
Said             : 508002000048f100
Time Added      : 2008-10-28 13:35:28
```

**sscs list -n fms-6780-1 device**

```
Device Name      : den-6780-1
Type             : 6780
IP Address       : 192.168.128.101
Monitored On     : camtest29
Key              : SUN.24643-01.SF74700358
Active           : Y
Unique Identifier : 200400a0b829ec26
Alternate IP     : fms-6780-1b
Alt IP Number    : 10.9.176.231
```



```

Management Level : D
Said             : 600A0B800029EC260000000048931900
Time Added      : 2009-02-20 15:15:42
Port WWNs       :
201400a0b829ec26,202400a0b829ec26,203400a0b829ec26,204400a0b
829ec26,205400a0b829ec26,206400a0b829ec26,207400a0b829ec26,208400a0
b829ec26,2015
00a0b829ec26,202500a0b829ec26,203500a0b829ec26,204500a0b829ec26,205
500a0b829ec26
,206500a0b829ec26,207500a0b829ec26,208500a0b829ec26

```

**sscs list -i 192.168.128.101 device**

```

Device Name      : den-6780-1
Type             : 6780
IP Address       : 192.168.128.101
Monitored On     : camtest29
Key              : SUN.24643-01.SF74700358
Active           : Y
Unique Identifier : 200400a0b829ec26
Alternate IP     : fms-6780-1b
Alt IP Number    : 10.9.176.231
Management Level : D
Said             : 600A0B800029EC260000000048931900
Time Added      : 2009-02-20 15:15:42
Port WWNs       :
201400a0b829ec26,202400a0b829ec26,203400a0b829ec26,204400a0b
829ec26,205400a0b829ec26,206400a0b829ec26,207400a0b829ec26,208400a0
b829ec26,2015
00a0b829ec26,202500a0b829ec26,203500a0b829ec26,204500a0b829ec26,205
500a0b829ec26
,206500a0b829ec26,207500a0b829ec26,208500a0b829ec26

```

---

## list devices

Provides summary information on all devices.

### Synopsis

**list devices**

## Description

List a summary of the devices being monitored.

## Examples

```
list devices
```

### *Response Format*

Monitored On: *Interface*

Device: *Array/system being monitored*

Type: *Array/system model*

IP Address: *IP-address*

WWN: *World Wide Name*

Active: *Is the device active? Y | N*

ASR: *Is Auto Service Request on? Y | N*

---

# list disk

List the disk information on an array.

## Synopsis

```
list -a <array-name> disk [ <disk-name,...> ]
```

```
list -a <array-name> [ -t <tray-name> ] disk [ <disk-name,...> ]
```

## Description

Lists disk information.

## Options

```
-a, --array <array-name>
```

Specifies the name of the array where the disk resides.

```
-t, --tray <tray-name>
```

Specifies to display disk information only within a specified tray in a specified array.

**disk** *<disk-name,...>*

This option provides detailed information on the specified disks. When disks are not specified, this option provides detailed information on all the disks in the tray.

## Examples

```
sscs list -a array00 -t 0 disk
```

### *Response Format*

**Tray:** *tray-ID* **Disk:** *disk-name*

**Capacity:** *disk-capacity*

**Type:** SAS | SATA | Fibre Channel

**Speed (RPM):** *speed-in-revolutions-per-minute*

**Status:** Optimal | In-use | Available | Failed

**State:** Enabled | Disabled

**Role:** Data

**Firmware:** *firmware-version-number*

**Serial number:** *serial-number*

**WWN:** *WWN-number*

---

# list event

Lists the Fault Management Service (FMS) event log information.

## Synopsis

```
list [ -s <0..3> ] [ -d <device_id> ] [ -t <type> ] [ -a ] [ -f <keyword> ]  
[ -l <limit> ] event [ <event_id,...> ]
```

## Description

Lists the FMS event log information. You can filter by device type and severity level.

## Options

**-s, --severity** <0..3>

Specifies a severity level at which to filter alarms so that only the alarms of that severity or higher are listed.

Severity Levels:

0 – minor

1 – major

2 – critical

3 – down

**-d, --device** <device\_id>

List only events for the given device. NOTE: Other commands may use **-n, --name** in place of **-d, --device**.

**-t, --type** <type>

List only events of the given event type.

**-a, --aggregated**

Specifies that all events are listed and aggregated so that related events are grouped together.

**-f, --filter** <keyword>

Filter output on the event Description by using the given keyword parameter.

**-l, --last** <limit>

Limit the number of events printed by the given number.

**event** <event\_id, ...>

Specifies the event ID.

## Examples

Get details of an event ID:

**sscs list event 12**

Severity:	Minor
Date:	Wed Jan 21 10:56:57 MST 2009
Device:	ralphie (StorageTek 6140)
Component:	-
Type:	Discovery

```
Information:      Discovered a device of type 6140 named ralphie
Event Code:      57.14.16
Aggregated:      No
Description:      Discovered a device of type 6140 named ralphie
Probable Cause:   A discovery operation has found a monitorable
device.
Recommended Action: No action required.
```

---

## list firmware

Lists the firmware versions of the field-replaceable units (FRUs) in this device.

### Synopsis

```
list [ -a <array-name[,array-name...]> ] [ -t ctrl | iom | disk | system |
sim | expander ] [ -x ctrl | iom | disk | system | sim | expander ]
firmware
```

### Description

Lists the firmware versions of the field-replaceable units in this device. You can define the FRUs to include or exclude.

### Options

**-a, --array** <array-name[,array-name...]>

Shows the firmware revision level of the field-replaceable units for the specified arrays only.

**-t, --type** **ctrl** | **iom** | **disk** | **system** | **sim** | **expander**

Shows the firmware revision level for the specified component types. Valid types are **ctrl** (array controller), **iom**, **disk** (disk drive or FMODE), **system** (NVS RAM), **sim**, or **expander**. The **-t** option can be used multiple times in the same command (see examples).

**-x, --exclude** **ctrl** | **iom** | **disk** | **system** | **sim** | **expander**

Excludes the specified component types from the list of firmware revision levels. Valid types are **ctrl** (array controller), **iom**, **disk** (disk drive or FMODE), **system** (NVS RAM), **sim**, or **expander**. The **-x** option can be used multiple times in the same command (see examples).

## Examples

List the component firmware revisions for all arrays:

```
sscs list firmware
```

List the component firmware revisions for a specified array:

```
sscs list -a jbod1 firmware
```

List the component firmware revisions for specified component types in a specified array:

```
sscs list -a jbod1 -t disk -t sim firmware
```

List the component firmware revisions for a specified array, excluding specified component types:

```
sscs list -a jbod1 -x system -x expander firmware
```

---

## list fru

Lists the field-replaceable units (FRUs) in this device.

### Synopsis

```
list -d <device-name> [ -t <type-name> ] [ -s ] fru [<fru-name>[,fru-name...]]
```

### Description

Lists the field-replaceable units in this array. You can filter by component type.

### Options

**-d, --device** <device-name>

The array name or array ID.

**-t, --type** <type-name>

Specifies the type of field-replaceable units installed in this device to list. Use the **-s** option to see which FRU types would be valid for the chosen device.

---

**Note** – The **all** option for type name is no longer valid for use.

---

**-s,--summary**

Lists a summary of this field-replaceable unit.

**fru** [*<fru-name>* [,*fru-name...*]]

If no FRU names are specified, lists the FRUs on the specified device. If FRU names are specified, lists the details of those FRUs.

## Examples

```
sscs list -d j4400_test fru
```

Name	FRU	Alarm	State	Status	Revision	Unique Id
-----	----	-----	-----	-----	-----	-----
Disk.00 LN371QV	Disk	-	Enabled	OK	0B92	0751S371QV3
Disk.01 LN3B1DC	Disk	-	Enabled	OK	0B92	0751S3B1DC3
Disk.02 LN374JE	Disk	-	Enabled	OK	0B92	0749S374JE3

```
sscs list -d j4400_test -s fru Disk.00
```

```
Availability           : Running/Full Power
Capacity               : 146GB
Caption                : disk
Enabled State          : Enabled
Firmware                : 0B92
Host Path              : camtest99:/dev/rdisk/c3t97d0p0
Id                     : disk00. 0751S371QV      3LN371QV
IdentifyingNumber      : 0751S371QV      3LN371QV
Model                  : ST314655SSUN146G
Name                   : disk00. 0751S371QV      3LN371QV
Physical ID            : disk00. 0751S371QV      3LN371QV
Product Firmware Version : 0B92
Product Name           : SEAGATE ST314655SSUN146G
Revision Level         : 0B92
SAS Address            : 50:00:C5:00:07:BB:59:65
Serial Number          : 0751S371QV      3LN371QV
Speed                  : 3G
Status                 : OK
Type                   : SAS
Valid SUN Disk         : TRUE
Vendor                 : SEAGATE
sun-mgmt-data-host     : 10.9.178.47
sun-mgmt-data-host-name : camtest99
```

---

# list jobs

Lists job IDs and status associated with the specified array and optionally specified job ID.

## Synopsis

```
list -a <array-name> jobs [job-id [job-id...]]
```

## Description

Lists job IDs and status associated with the specified array and optionally specified job ID.

## Options

**-a, --array <array-name>**

Specifies the name of the array.

*job-id*

Specifies the job ID.

## Examples

```
sscs list -a jbod1 jobs
```

```
Job ID: Install:task27   Status: Done
Job ID: Install:task36   Status: Done
Job ID: Install:task32   Status: Done
Job ID: Install:task35   Status: Done
Job ID: Install:task25   Status: Done
Job ID: Install:task24   Status: Done
Job ID: Install:task45   Status: Done
Job ID: Install:task30   Status: Done
Job ID: Install:task33   Status: Done
Job ID: Install:task34   Status: Done
```

```
sscs list -a jbod1 jobs Install:task27
```

```
Job ID:           Install:task27
Type:             Firmware Upgrade
Status:           Done
% Complete:       100
Time to Completion: 00:00:00
```



# list log

Lists the user-initiated actions performed for all registered arrays.

## Synopsis

```
list [ -s { [ mmdd ] HHMM | mmddHHMM [ cc ] yy } [ .SS ] ] [ -f { [ mmdd ] HHMM | mmddHHMM [ cc ] yy } [ .SS ] ] [ -t <number-of-messages> ] log
```

## Description

Lists the user-initiated actions performed for all registered arrays. You can filter the listings by date and time or most recent entries. If you do not specify any options, all log messages are displayed.

## Options

**-s, --start** { [ *mmdd* ] *HHMM* | *mmddHHMM* [ *cc* ] *yy* } [ *.SS* ]

Lists all log messages starting at the date specified by the date options. Use with the **-f, --finish** subcommand to specify a date range.

**-f, --finish** { [ *mmdd* ] *HHMM* | *mmddHHMM* [ *cc* ] *yy* } [ *.SS* ]

Lists all log messages ending at the date specified by the date options. Use with the **-s, --start** subcommand to specify a date range.

*mmdd*

Specifies the month and day. For example, 0331 for March 31.

*HHMM*

Specifies the hour and minute. The hour is based on a 24-hour clock. For example, 1:30 p.m. is 1330.

*cc*

Specifies the century part of the year.

*yy*

Specifies the two-digit year.

*.SS*

Specifies the seconds of the hour.

**-t, --tail** <number>

Lists the most recent log messages as specified by *number*.

## Examples

```
sscs list -t 100 log
```

*Lists the last 100 messages.*

## *Response Format*

*Timestamp: message*

---

# list mgmt-sw

## Synopsis

```
list mgmt-sw
```

## Description

Lists the management software application that you are logged into.

## Examples

```
sscs list mgmt-sw
```

## *Response Format*

**Application Name:** "Sun StorageTek(TM) Common Array Manager"

**User:** storage

**Current Logins:** 2

**Server:** 10.8.88.173

**Server OS:** SunOS

**Server OS Version:** 5.10

```
Product Version: 4.2.0.0
Build Date: 2005/12/03
Install Info: 4.2.0.0 Build 61
Critical Alarms: 13
Down Alarms: 0
Major Alarms: 24
Minor Alarms: 0
```

---

## list notification

### Synopsis

```
list notification
```

### Description

Lists the remote notification provider and its status.

### Examples

```
sscs list notification
```

#### *Response Format*

##### **Email Configuration**

```
SMTP Server for Email      : server
SMTP Server User Name     : user-name
SMTP Server Password      : password
Use Secure SMTP Connection: true | false
Email Address of Sender    : email-address
Maximum Email Size MB     : size-in-megabytes
```

##### **Email Entries**

Entry	Email/Events	Type	Device	Priority	Events
entry-no	email-address	notification-type	device-type	priority	events

**Active**

*active-flag*

#### **SNMP Trap Configuration**

**Notifier State** : Enabled | Disabled

#### **SNMP Trap Entries**

<b>ID</b>	<b>IP Name/Address</b>	<b>Port</b>	<b>Minimum Alert Level</b>
<i>trap-id</i>	<i>ip-address</i>	<i>port</i>	<i>trap-level</i>

---

## list registeredarray

Lists registered array information.

### Synopsis

```
list [ -a <array-name[, array-name...]> ] registeredarray
```

### Description

Lists registered array information or the names of all arrays.

### Options

**-a, --array** <array-name[, array-name...]

Specifies the registered array or arrays to list. If no arrays are specified, a list of all array names is provided.

### Examples

```
sscs list registeredarray
```

```
Array: array01  
Array: array02  
Array: j4400_test  
Array: j4500_test2
```

```
sscs list -a array01 registeredarray
```

```
Array: array01  
IP Address: 10.80.194.32  
IP Address: 10.80.194.33
```

---

# list site

## Synopsis

**list site**

## Description

Lists pertinent information for the installation site.

## Example

```
sscs list site

*Company Name      : Sun Microsystems
*Site Name        : Interop Lab
Address           :
Address 2         :
Mail Stop         :
*City             : Broomfield
State            :
Zip Code          :
*Country          : USA
*Contact First Name : Fred
*Contact Last Name  : Jones
Telephone Number  :
Extension         :
*Contact Email     : Fred.Jones@sun.com
```

---

# list storage-system

Lists detailed information about one or more arrays.

## Synopsis

**list storage-system** [*<storage-system-name>* [ , *storage-system-name...* ] ]

## Description

Lists detailed information about one or more arrays. If you do not specify an array name, then all array names are listed.

## Examples

```
sscs list storage-system
```

### *Response Format*

Summary of arrays when no <array-name> value is specified

**Array:** *array-name*

...

**Array:** *array-name*

Detail of array when the <array-name> value is specified

```
./sscs list storage-system j4400_test  
Name:                j4400_test  
ID:                  j4400_test  
Type:                J4400  
Version:             3R21  
Vendor:              SUN Microsystems  
Model:               Sun Storage J4400  
Capacity:            3.074 TB
```

---

## list userrole

Lists the user name and role defining the user's array privileges.

## Synopsis

```
list userrole [ storage | guest ]
```

## Description

Lists the user name and role defining the array privileges.

## Options

**userrole** storage | guest

List the users with the specified role. The storage role allows write access so that the user can configure the array. The guest role can only monitor the array.

## Example

```
sscs list userrole storage
```

### *Response Format*

**User Name:** *user-name* **User Role:** *user-role*

...

**User Name:** *user-name* **User Role:** *user-role*

---

# login

Log in to the **sscs** command-line interface (CLI).

## Synopsis

```
login -h <host-name> [ -s CAM | Legacy ] [ -t ] [ -f ] [ -u <user-name> ]
```

## Description

Log in to the **sscs** command-line interface (CLI) on the management system specified by the **-h** <host-name>. This command starts a CLI session on the management host.

There are two versions of the CLI:

- Local
- Remote

The local CLI requires a user to run the command as administrator from a shell on the management host. Because of this limitation, the **login** and **logout** commands are not supported.

Both CLI versions can manage any array that has been registered and added to the Common Array Manager inventory. The array type and array management path (in-band, out-of-band, proxy agents) has no limitations with local or remote CLI usage. Both CLIs manage the same arrays with the same command set.

## *Logging In and Out Using the CLI*

The following explains how to log in to and out of the management host using the CLI. The options for accessing the CLI are presented in the next section.

There are different CLI directories for the remote and local CLIs.

### **1. Telnet or ssh to the CAM workstation.**

```
ssh root@cam_workstation1
```

### **2. Change to the CLI directory (varies by operating system).**

#### **a. Access the remote CLI directory:**

- Solaris - /opt/se6x20/cli/bin/sscs
- Linux - /opt/sun/cam/se6x20/cli/bin/sscs
- Windows - Program Files > Sun > Common Array Manager > bin folder

### **3. Log into the remote CLI by typing the following command:**

```
% sscs login -h <host-name> -u <user-name>
```

---

**Note** – The Local CLI on a data host does not require the login command. You will need the terminal window login to the host.

---

#### **b. Access the local CLI directory:**

- Solaris - /opt/SUNWstkcam/bin/sscs
- Linux - /opt/sun/cam/bin/sscs
- Windows - Program Files > Sun > Common Array Manager > bin folder

**NOTE:** **sscs** has an inactivity timer. The session terminates if you do not enter any **sscs** commands for 30 minutes. You must log in again before you can enter a command after the timeout.

## Options

**-h, --hostname** <host-name>

Required. Specifies the management host name.



**-s, --system-type** CAM | Legacy

This option specifies whether you are logging into any of the current arrays supported by the Common Array Manager or the now legacy 6920 array. In some cases, using the **-s CAM** option may log you in faster as it skips a step of listening for a response from the legacy array.

You no longer have to specify the system type to login.

**-t, --http**

Enables you to use the HTTP protocol to connect to the CAM server, instead of HTTPS. An HTTP connector is configured in Tomcat, the servlet container in Java, for the Java Web Console at port 6789. If SSL is not functioning between the client and the server, this might be required.

**-f, --force**

Exists for backward compatibility with legacy management applications that only allow one login per user. This option forces a login to the management host. If another user with the same user name is already logged on, the duplicate user is then logged off.

**-u, --username** *<user-name>*

Specifies the user name to log in.

## Example

```
./sscs login -h localhost -u root
```

---

# logout

## Synopsis

**logout**

## Description

Logs out of the remote sscs command-line interface session. This command is not supported with the local version of the CLI.

## Examples

```
./sscs logout
```

---

# modify agent

Modify the fault management agent parameters.

## Synopsis

```
modify [ -a ] [ -d ] [ -r ] [ -i <integer> ] agent [<agent-id>[,agent-id...]]
```

## Description

Modify the fault management agent parameters. Fault Management Service (FMS) periodically scans devices for new messages and updated health status. This command allows changing the scan interval as well as enabling or disabling the scan. If no options are given the current agent settings are printed out.

Internal agent properties can be set by using name=value for the strings on the agent.

The most common property to be set is debug=0,1,2,3 to turn on agent debugging.

```
sscs modify agent debug=3
```

All other properties are for service only.

## Options

**-a,--activate**

Specifies that the system activate the monitoring agent.

**-d,--deactivate**

Specifies that the system deactivate or turn off the monitoring agent.

**-r,--run**

Specifies that the system schedule the agent to run either immediately or as soon as the currently scheduled run has finished.

**-i,--interval** <integer>

Specifies the interval, in minutes, before the agent scan runs.

**agent** [<agent-id>[,agent-id...]]

Specifies the agent that you want to modify. The name of the agent monitoring the device can be retrieved using the `list device` command

## Examples

```
sscs modify -i 5 agent
```

---

# modify array

## Synopsis

```
modify -N <new-array-name> array <array-ID>
```

## Description

Modifies the name assigned to the array.

---

**Note** – Refer to the `modify array` command in Chapter 4 for the extensive configuration options that apply to arrays with RAID controllers.

---

## Options

```
-N, --new-array-name <array-name>
```

Specifies the new name of the array.

```
array <array-ID>
```

Specifies the name of the array to be modified.

## Examples

```
sscs modify -n array2 array jbod1
```

---

# modify firmware

Modifies the firmware versions of the specified field-replaceable units (FRUs) of the specified array, and installs the CAM baseline firmware or user-provided firmware image to the FRUs in the device.

## Synopsis

```

modify -a <array-name> [ -f ] [ -o ] [ -t ctrl | iom | disk | system |  

sim | expander ] [ -x ctrl | iom | disk | system | sim | expander ]  

[ -p <path> ] [ -c <field-name> ] [ -w ] firmware

```

## Description

Modifies the firmware versions of the specified field-replaceable units (FRUs) of the specified array, and installs the CAM baseline firmware or user-provided firmware image to the FRUs in the device.

## Options

**-a, --array <array-name>**

Modifies the firmware revision level of the specified field-replaceable units for the specified array only.

**-c, --component <field-name>**

Modifies the firmware for the selected components. To get the valid values, execute the **sscs list -a <array-name> firmware** command. Values for either the Name or Model fields can be used in place of *<field-name>*. If a Name value is used, only the given component will be modified. If a Model value is used, all components with the given model name will be modified.

---

**Note** – NVSRAM does not have a component name or model name. Use **-c system** to install or modify NVSRAM firmware.

---

**-f, --force**

Modifies the firmware revision level of the all field-replaceable units even if the firmware revision level is already at the baseline level.

**-o, --offline**

Specifies to allow installation of firmware to FRU components excluded from installation by default. Certain FRU component types (such as disk drives, SIMs, and expanders) require I/O operations to stop before a firmware installation. As a precaution, these components are excluded from the firmware installation by default. To install firmware on these component types, stop all I/O operations on these components and use this option.

**-p, --path <path>**

Specifies the path of the firmware image file. Loads firmware from a file directly onto the array. Caution should be exercised when using this command because unsupported firmware can be loaded onto a field-replaceable unit. If **-p** option is provided, the **-c** option is required. The file path of the firmware image file must be specified when using the **-p** option.

---

**Note** – If the **-p** option is not specified, this command will default to the CAM baseline firmware image.

---

**-t,--type** ctrl | iom | disk | system | sim | expander

Modifies the firmware revision level of the field-replaceable units of the specified type only. The **-t** option can be used multiple times in the same command.

**-w,--no-warn**

Modifies the firmware without displaying the standard warning.

**-x,--exclude** ctrl | iom | disk | system | sim | expander

Excludes the specified component type from the firmware install. The **-x** option can be used multiple times in the same command.

## Examples

```
modify -a MyArray -f firmware
```

---

# modify mgmt-sw

## Synopsis

```
modify -X <storage-system-name> mgmt-sw
```

## Description

Stores the specified storage system name for the session. This command is useful for repeated operations with an array. After this command is executed, the **-a** option for subsequent **sscs** commands is not necessary.

## Options

**-X,--storage-system** <storage-system-name>

Specifies the name of the storage system.

## Example

```
modify -X MyArray mgmt-sw
```

---

# modify registeredarray

Change the locally stored password for a registered array.

## Synopsis

```
modify -a <array-name> -q registeredarray
```

## Description

Modifies the locally stored password for a registered array or queries for the current password.

## Options

**-a, --array <array-name>**

Specifies the name of the array to be modified.

**-q, --query-for-password**

Queries for the current password for the registered array.

## Examples

```
sscs modify -a array00 -q registeredarray
```

New Password: *myregisteredarray*

Re-enter New Password: *myregisteredarray*

---

# modify site

Modifies the site properties for this instance of CAM.

## Synopsis

```
modify [ -r <site-info> [ , site-info... ] ] site [<site-info=value> [ , site-info=value... ] ]
```

## Description

Modifies the site properties for this instance of CAM. The site properties contain information needed for notification providers. Upon command execution, updated site information is displayed.

## Options

```
-r, --remove <site-info> [ , site-info... ]
```

Removes the specified site information. Possible values for *site-info* are: **customer, contract, name, address, address2, mailStop, city, state, zip, country, contact, phone, extension, and email.**

```
site [<site-info=value> [ , site-info=value... ] ]
```

Modifies existing site settings or adds new site information. Possible values for *site-info* are: **customer, contract, name, address, address2, mailStop, city, state, zip, country, contact, phone, extension, and email.** Possible values for *value* consist of an alphanumeric string. If the string includes spaces, enclose the values in quotes.

## Examples

```
sscs modify site name="Development Lab"
```

```
*Company Name      : Sun
*Site Name         : Development Lab
Address            :
Address 2          :
Mail Stop          :
*City              : Broomfield
State              :
Zip Code           :
*Country           : USA
*Contact First Name : Bob
*Contact Last Name  : Tester
```

```

Telephone Number      :
Extension             :
*Contact Email        : bob.testersun.com

sscs modify -r name site

*Company Name         : Sun
*Site Name            :
Address               :
Address 2             :
Mail Stop             :
*City                 : Broomfield
State                :
Zip Code              :
*Country              : USA
*Contact First Name   : Bob
*Contact Last Name    : Tester
Telephone Number      :
Extension             :
*Contact Email        : bob.testersun.com

```

---

## modify storage-system

Modifies the array information.

### Synopsis

```

modify [ -N <storage-system-name> ] [ -d <description-text> ]
[ -u <user-name> ] [ -q ] [ -U <user-name> ] [ -Q ] storage-system <storage-
system-name>

```

### Description

Modifies array information such as array name, description, and user name.

### Options

**-d, --Description**

Provides a textual description of the array.

**-N, --new-name**

Changes the array name.



**-Q, --query-for-device-specific-password**

Queries for device-specific password.

**-q, --query-for-password**

Changes the array password.

**-U, --device-specific-user** *<user-name>*

Specifies to use a device-specific user-name.

**-u, --user-name**

Changes a username on the array.

**storage-system** *<storage-system-name>*

Specifies the array where the changes will take effect.

## Example

```
sscs modify -q storage-system MyArray
```

Enter the array password:

Confirm password:

---

# modify userrole

Change the user role or the IP address from which the user can log in.

## Synopsis

```
sscs modify -u <user-name> -p <true | false> -i ANY | <ip-address [ , ip-address... ]> userrole <storage | guest>
```

## Description

Modifies a user role or the IP address from which the user can log in. The storage role can perform configuration changes while the guest role can just monitor an array.

## Options

**-u, --username** *<user-name>*

Specifies the user name that has an assigned role (storage or guest).

**-p, --password-required** true | false

Specifies whether to require user login with a password.

**-i, --ip-address** ANY | <ip-address[, ip-address...]>

Specifies the IP addresses from which the user can log in. You can let the user log in from anywhere or restrict access to specified IP addresses.

**userrole** storage | guest

Specifies the role assigned to the user.

## Examples

```
sscs modify -u bsmith -p true -i ANY userrole guest
```

---

# register storage-system

## Synopsis

```
register -i <ip-address> [ -s <array-name> ] [ -p <port-id> ]  
[ -u <user-name> ] [ -q ] [ -U <user-name> ] [ -Q ] storage-system  
register -d storage-system
```

## Description

Registers a storage system with the host.

## Options

**-d, --discover**

Specifies that the host will discover a registered array.

**-i, --ipaddress** <ip-address>

Specifies the IP address of the storage system that you want to register.

**-p, --port** <port-id>

Specifies the port ID of the storage system that you want to register.

**-s, --set-name** <array-name>

Specifies an array name.

**-u, --user** storage | root | guest

Specifies the user name that has an assigned role.

**-q, --query-for-password**

Specifies whether to query for a password for this registered storage system.

**-U, --device-specific-user** <user-name>

Specifies a specific name for this device.

**-Q, --query-for-device-specific-password**

Specifies whether to query for a specific password for this registered device.

---

## register sun-connection

Registers CAM software and all monitored arrays with Auto Service Request.

### Synopsis

```
register [ -u <sun-online-account-username> ] [ -H <proxy-host-name> ] [ -P <proxy-port-number> ] [ -U <proxy-username> ] [ -t ] sun-connection
```

### Description

Registers CAM software and all monitored arrays with Auto Service Request. Auto Service Request monitors the array system health and performance and automatically notifies the Sun Technical Support Center when critical events occur. Critical alarms generate an Auto Service Request case. The notifications enable Sun Service to respond faster and more accurately to critical on-site issues. All newly discovered arrays will also be registered with the saved registration options.

### Options

**-H, --proxyHost** <proxy-host-name>

Specifies the proxy host name.

**-P, --proxyPort** <proxy-port-number>

Specifies the proxy port number.

**-t, --testMessage**

Specifies to send a test message using the current settings.

**-U, --proxyUser** <proxy-username>

A proxy host authenticated user name.

**-u, --user** <sun-online-account-username>

Specifies a valid Sun online account user name. To get one, go to:

<https://portal.sun.com/portal/dt/>

**sun-connection**

Specifies that you are registering the CAM software and all monitored arrays with Auto Service Request.

## Examples

```
sscs register -H Proxy1 -P 8080 -u MySunAcctId sun-connection
```

---

# remove alarm

## Synopsis

```
remove [ -s 0 | 1 | 2 | 3 ] [ -f <device-type> ] [ -A ]  
alarm [Alarm ID [ , Alarm ID... ] ]
```

## Description

Removes the current alarms.

## Options

**-f, --faultdevtype** <device-type>

Removes alarms by the device type using a device key filter.

**-s, --severity** 0 | 1 | 2 | 3

Specifies the severity level for which you want to remove alarms.

Severity Levels:

0 – minor

1 – major

2 – critical

3 – down

**-A, --All** *<alarm>*

Removes all of the alarms.

**alarm** [*Alarm ID* [ , *Alarm ID*... ]]

Specifies the alarm ID or alarm IDs you want to remove.

## Examples

```
sscs remove -f 6140 alarm
```

```
sscs remove -s 2 alarm
```

```
sscs remove -A alarm
```

---

## remove notification

Removes a local or remote notification.

## Synopsis

```
remove [-e <email-address [ , email-address... ]>] notification local_email |  
email-filter | trap
```

```
remove [-i <IP-address>] [-o <port-id>] [-t 1 | 2 | 3 | 4 | 5 ]  
notification local_email | email-filter | trap
```

```
remove -d <device-ID [ , device-ID... ]> notification local_email | email-  
filter | trap
```

## Description

Removes a local or remote notification.

## Options

**-d, --id** *<device-ID* [ , *device-ID*... ]>

Removes the specified device ID notification.

**-e, --email** *<email-address* [ , *email-address*... ]>

Stops notifications to the specified recipient.

**-i, --ip** <IP-address>

Stops sending SNMP trap data to the IP address of the specified host.

**-t, --trapnumber** 1 | 2 | 3 | 4 | 5

Stop notifications for the specified trap number.

**-o, --port** <port-id>

Specifies the port ID used to transfer notifications.

**local-email**

Removes the notification from your local email address.

**email-filter**

Removes the email filter from the notification.

**trap**

Removes the SNMP trap notification.

## Examples

```
sscs remove -e john.doe@address.com notification local_email
```

```
sscs remove notification nscc_email
```

```
sscs remove -t 2 notification trap
```

---

## remove registeredarray

Removes one or more arrays from the list of registered arrays.

## Synopsis

```
remove -a <array-name [ , array-name... ]> registeredarray
```

## Description

Removes one or more arrays from the list of registered arrays.

## Options

**-a, --array** <array-name [ , array-name... ]>

Specifies the registered arrays to remove.

### Example

```
sscs remove -a array00 registeredarray
```

---

## remove userrole

Removes a user role assigned to a user name.

### Synopsis

```
remove -u <user-name [ , user-name... ]> userrole <storage | guest>
```

### Description

Removes the privileges (storage or guest role) assigned to a user name.

### Options

**-u, --username** <user-name [ , user-name... ]>

Specifies the user name.

**userrole** storage | guest

Specifies the user's role to remove.

### Examples

```
sscs remove -u jf39992 userrole guest
```

---

## service contact

Tests connectivity to a specified array (inband communication test).

### Synopsis

```
service -a <array-name> contact
```

## Description

Tests connectivity to a specified array (inband communication test).

## Options

```
-a,--array <array-name>
```

Specifies the array to which connectivity is tested.

## Examples

```
sscs service -a j4400_test contact
```

Executing the contact command on j4400\_test  
Completion Status: Success

---

# service disable

Disables a target drive in a specified array.

## Synopsis

```
service -a <array-name> -t <target-fru-name> disable
```

## Description

Disables a target drive in a specified array.

## Options

```
-a,--array <array-name>
```

Specifies the array containing the target drive to disable.

```
-t,--target <target-fru-name>
```

Specifies the name of the field-replaceable unit to disable. This parameter needs to be set to either the FRU name or the FRU ID, both of which can be obtained using variations of the `list fru` command. See [“list fru” on page 42](#) for further details.

## Examples



```
sscs service -a j4400_test -t Disk.00 disable
```

---

## service enable

Enables a target drive in a specified array.

### Synopsis

```
service -a <array-name> -t <target-fru-name> enable
```

### Description

Enables a target drive in a specified array.

### Options

**-a, --array** <array-name>

Specifies the array containing the target drive to enable.

**-t, --target** <target-fru-name>

Specifies the name of the field-replaceable unit to enable. This parameter needs to be set to either the FRU name or the FRU ID, both of which can be obtained using variations of the `list fru` command. See [“list fru” on page 42](#) for further details.

### Examples

```
service -a j4400_test -t Disk.00 enable
```

---

## service locate

Turns on the locator LED for an array, drive, or tray.

### Synopsis

```
service -a <array-name> [ -t <target-fru-name> ] [ -o ] locate
```

### Description

Identifies the array, drive, or tray whose locator LED will be turned on.

## Options

**-a, --array** <array-name>

Specifies the array whose locator LED will be turned on, or the array containing a specified target FRU.

**-t, --target** <target-fru-name>

Specifies the name of the field-replaceable unit whose locator LED will be turned on. This parameter needs to be set to either the FRU name or the FRU ID, both of which can be obtained using variations of the `list fru` command. See [“list fru” on page 42](#) for further details.

**-o, --off**

Specifies to turn off the locate LED.

## Examples

Turn on the locate LED for a specified array:

```
service -a j4500_rocky locate
```

Turn on the locate LED for a target disk in a specified array:

```
service -a j4500_rocky -t Disk.00 locate
```

Turn off the locate LED for a target disk in a specified array:

```
service -a j4500_rocky -t Disk.00 -o locate
```

---

# service print

Prints physical information available for a specified array.

## Synopsis

```
service -a <array-name> [ -t <arrayprofile | log> ] print
```

## Description

Prints the contents of the array profile or log file, or all information available for a specified array.

## Options

**-a, --array** *<array-name>*

Specifies the array for which information is printed.

**-t, --target** *arrayprofile | log*

Specifies a target file to print.

## Examples

Print the contents of a specified array's log file:

```
service -a j4500_rocky -t log print
```

---

# service set

Changes the name of a specified array.

## Synopsis

```
service -a <array-name> set <name=newname>
```

## Description

Changes the name of a specified array.

## Options

**-a, --array** *<array-name>*

Specifies the array for which you want to change the name.

## Examples

Change array name from `array_bob` to `array_steve`:

```
sscs service -a array_bob set name=array_steve
```

---

## service syncTime

Synchronizes the time of a JBOD array with that of the attached data host.

### Synopsis

```
service -a <array-name> syncTime
```

### Description

Synchronizes the time of a JBOD array with that of the attached data host.

### Options

```
-a, --array <array-name>
```

Specifies the JBOD array which will have its time synchronized.

### Examples

```
service -a jbod_bob syncTime
```

---

## unregister storage-system

Unregisters an array from the list of registered storage systems.

### Synopsis

```
unregister storage-system <storage-system-name [ , storage-system-name... ]>
```

### Description

Unregisters an array from the list of registered storage systems.

### Options

```
storage-system <storage-system-name [ , storage-system-name... ]>
```

Specifies the storage system or systems that you want to unregister from the list of registered storage systems.

## Example

```
sscs unregister storage-system array19
```

---

# unregister sun-connection

Stops notifications of system health and performance to Sun using the Auto Service Request (ASR) feature.

## Synopsis

```
unregister sun-connection
```

## Description

Unregisters CAM software and all monitored arrays from Auto Service Request (ASR) which monitors the array system health and performance and automatically notifies the Sun Technical Support Center when critical events occur. Newly discovered arrays will not be registered with the saved registration options.

## Examples

```
sscs unregister sun-connection
```

---

# version

Shows the version of the CAM software that you are running on the management host, the version of the SSCS client, or the version of the pclient.

## Synopsis

```
-V, --version
```

If running the remote CLI, shows the version of the CAM software that you are running on the management host and the version of the SSCS client. If running the local CLI, only the version of the current CAM installation will be shown.

```
-v
```

If running the remote CLI, shows the version of the pclient. Not valid with the local CLI.

## Description

Shows the version of the CAM software that you are running on the management host, the version of the SSCS client, or the version of the pclient.

## Examples

**sscs -v**

```
Sun StorageTek(TM) Common Array Manager v6.3.0.12  
sscs client v2.1.4
```

**sscs -v**

```
$Id: pclient.c,v 1.1 2007/03/24 18:55:51 wf142404 Exp $
```

## Configuration Commands for Arrays with RAID Controllers

---

This chapter describes the `sscs` commands and their options for arrays with RAID controllers, including the Sun StorEdge™ 6130 array, Sun StorageTek™ 6140 and 6540 arrays, Sun Storage 6580 and 6780 arrays, Sun StorageTek 2500 Series arrays, and FlexLine™ 240, 280, and 380 Systems.

For monitoring and administration commands for all Sun arrays, see [Chapter 3](#).

---

### add hostgroup

#### Synopsis

Adds hosts to a host group.

```
add -a <array-name> -h <host-name,...> hostgroup <host-group-name>
```

#### Description

Adds hosts to a host group.

#### Options

```
-a, --array <array-name>
```

Specifies the array associated with this host.

```
-h, --host <host-name,...>
```

Specifies the host or hosts that you want to add to the host group.

**hostgroup** *<host-group-name>*

Specifies a host group name of up to 16 alphanumeric characters, underscores, dashes, and spaces.

## Examples

```
sscs add -a array00 -h host01,host02 hostgroup hg01
```

---

# add license

Adds a license to the specified array.

## Synopsis

```
add -a <array-name> [ -l <license-location> | -v <version-number> -c <capability-number> -d <digest-key> ] license
```

## Description

Adds a license to the specified array. Specify either the **-l** option alone, or the **-v**, **-c**, and **-d** options together.

## Options

**-a, --array** *<array-name>*

Specifies the array to associate with this license.

**-c, --capability** *<license-type>*

Specifies the type of license to be added: Snapshots, Storage Domains, Replication Sets (not applicable to 2500 Series running firmware version 07.35.04.10), and Volume Copy Pairs (not applicable to 2500 Series).

**-d, --digest** *<digest-key>*

Specifies the security digest key for access to this license.

**-l, --license** *<license-location>*

Specifies the license to associate with this array. The license location should specify the location of the 6140 array license file. This can be in the form of a URL (<http://...>) or file:///... or a file name.

**-v, --version** *<version-number>*



Specifies the number of the license version.

## Examples

```
sscs add -a corporate -l http://server/6140/snapshot-license license
```

Adds a license to the corporate array from the specified URL.

```
sscs add -a corporate -v 1 -c ReplicationSet -d  
7A906509CBB33911C06F83BD2BCA1B3375789AB7 license
```

Adds replication set feature licenses to the sample corporate array for version 1 using the license digest string provided by Sun Microsystems.

---

## create host

Creates a storage host.

## Synopsis

```
create -a <array-name> [ -g <host-group-name> ] host <host-name>  
  
create -a <array-name> [-g <hostgroup-name>] [-w <string[,string...]>] [-d  
<description-text>] host <host-name>
```

## Description

Creates a storage host where data is initiated. You can create up to 256 hosts per array on the 6130/6140 arrays and 32 hosts on the 6540 array.

## Options

**-a,--array <array-name>**

Specifies the name of the array on which you want to create a host. For cross-platform compatibility, you can substitute -X, --storage-device in place of the -a, --array option.

**-w,--wwn <string>**

Specifies the initiator World Wide Name (WWN).

**-d,--description <description-text>**

Specifies the host description.

**-g,--hostgroup** *<host-group-name>*

Specifies a host group with which you associate this new host.

**host**

Specifies the name of the host that you want to create, using up to 16 alphanumeric characters, underscores, dashes, and spaces.

## Examples

```
sscs create -a array00 host host1
```

---

# create hostgroup

Creates a storage host group.

## Synopsis

```
create -a <array-name> hostgroup <host-group-name>
```

## Description

Creates a group of hosts to share storage. You can create up to 256 host groups per array. You can create up to 256 host groups per array on the 6130/6140 arrays and 32 host groups on the 6540 array.

## Options

**-a, --array** *<array-name>*

Specifies the array on which you want to create a host group.

**hostgroup** *<host-group-name>*

Specifies the name of the host group that you want to create, using up to 16 alphanumeric characters, underscores, dashes, and spaces.

## Examples

```
sscs create -a array00 hostgroup hg1
```

---

# create initiator

Creates an initiator.

## Synopsis

```
create -a <array-name> -w <initiator-WWN> [-h <host-name>] [-o <OS-type-name>  
solaris_dmp | solaris | sun_storedge | sun_storedge_nas_gateway |  
aix | hpux | linux | lnxavt | irix | ptx | netware_failover |  
netware_non_failover | win2k_clustered | win2k_non_clustered | winnt  
| winnt_non_clustered | win2k_non_clustered_dmp |  
win2k_clustered_dmp | dsp | aixavt | winnt_clustered] initiator  
<initiator-name>
```

## Description

Creates a FC initiator on a host.

## Options

**-a, --array** <array-name>

Specifies the array. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-w, --wwn** <initiator-WWN>

Specifies the initiator World Wide Name (WWN). For example: 210000e08b047212.

**-h, --host** <host-name>

Specifies the data storage host name.

**-o, --os-type** <OS-type-name>

Use the command **sscs list -a array-name os-type** to view all of the operating systems that are supported by the array.

**initiator** <initiator-name>

Specifies an initiator name of up to 16 alphanumeric characters, underscores, dashes, and spaces.

## Examples

```
sscs create -a array00 -w 210000e08b047212 -h host01 -o aix initiator  
myInitiator-01
```

---

# create iscsi initiator

Creates an iSCSI initiator on a host.

## Synopsis

```
create -a <array-name> [-h <host-name>] [-o <solaris_dmp | solaris |  
sun_storedge | sun_storedge_nas_gateway | aix | hpux | linux | irix  
| ptx | netware_failover | netware_non_failover | win2k_clustered |  
win2k_non_clustered | winnt | winnt_non_clustered |  
win2k_non_clustered_dmp | win2k_clustered_dmp | aixavt |  
winnt_clustered>] [-i <iqn-string>] [-u <none | CHAP>] [-c <string> ]  
initiator <initiator-name>
```

## Description

Creates an iSCSI initiator on a host.

## Options

**-a,--array** <array-name>

Specifies the array. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-h, --host** <host-name>

Specifies the data storage host name.

**-o, --os-type** <OS-type-name>

Use the command **sscs list -a array-name os-type** to view all of the operating systems that are supported by the array.

**-i, --IQN** <iqn-string>

Specifies the iSCSI qualified name (IQN) for the initiator.

**-u, --authentication** <none|CHAP>

Specifies to use the Challenge Handshake Authentication Protocol (CHAP) authentication method for accessing the target. Values are CHAP or none.

**-c, --chap-secret** <string>

Specifies the CHAP secret ID (up to 256 alphanumeric characters) used to authenticate the target.

**initiator** *<initiator-name>*

Specifies an initiator name of up to 16 alphanumeric characters, underscores, dashes, and spaces.

## Examples

```
sscs create -a IEC_iSCSI_LCA -h Myhost_19852 -o solaris -i ign.2001-06.com.sun:fvt3init21.sys1 -u CHAP -c 123123123123123123 initiator  
initiator
```

---

# create pool

Creates an empty storage pool on the array.

## Synopsis

```
create -a <array-name> -p <profile-name> [ -d <description> ] pool <pool-name>
```

## Description

Creates an empty storage pool on the array and assigns a profile to it.

## Options

**-a, --array** *<array-name>*

Specifies the array. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-d, --description** *<description>*

Specifies a description of the pool. The description can be up to 256 alphanumeric characters, which can include underscores, dashes, colons, commas, parentheses, curly brackets, square brackets, ticks, tildes, bars, periods, or spaces.

**-p, --profile** *<profile-name>*

Specifies a profile to associate with the pool.

**pool** *<pool-name>*

Specifies a pool name of up to 16 alphanumeric characters, underscores, dashes, and spaces.

## Examples

```
sscs create -a array00 -p Database pool SP048763
```

---

# create profile

Creates a storage profile on the array.

## Synopsis

```
create -a <array-name> -r <0|1> -s <16K|32K|64K|128K|256K|512K> -h  
<on|off> -n <variable|1..224> [-k <ANY|FC|SAS|SATA>] [-H <yes|no>]  
[-d <profile-description>] profile <profile-name>
```

```
create -a <array-name> -r <3|5|6> -s <16K|32K|64K|128K|256K|512K> -h  
h <on|off> -n <variable|1..30> [-k <ANY|FC|SAS|SATA>] [-H <yes|no>]  
[-d <profile-description>] profile <profile-name>
```

## Description

Profiles for the most common configurations come with the software. This command creates a custom storage profile and assigns it to an array.

## Options

**-a, --array** <array-name>

Specifies the array name.

**--d, --description** <profile-description>

Specifies a profile description of up to 256 alphanumeric characters, which can include underscores, dashes, colons, commas, parentheses, curly brackets, square brackets, ticks, tildes, bars, periods, or spaces.

**-k, --disk-type** ANY | FC | SAS | SATA

Specifies the disk type:

ANY - Any type of disk, including FC, SATA, or SAS

FC - Fibre Channel

SATA - Serial Advanced Technology Attachment

SAS - Serial Attached SCSI

**-h, --readahead** on | off

Specifies whether the read ahead option is on or off.

**-H, --hot-spare** yes | no

Specifies whether you want this disk to be a designated hot-spare.

**-n, --number-of-disks** variable | <1..224>

Specifies the number of disks from 1 to 224, in combination with RAID levels 0 or 1. Variable indicates that the number of disks is not fixed and can change.

**-n, --number-of-disks** variable | <1..30>

Specifies the number of disks from 1 to 30, in combination with RAID levels 3, 5, and 6. Variable indicates that the number of disks is not fixed and can change.

**-r, --raid-level** 0 | 1

Specifies RAID level 0 or 1, in combination with number-of-disks 1 to 224.

**-r, --raid-level** 3 | 5 | 6

Specifies RAID level 3, 5, or 6, in combination with number-of-disks 1 to 30.

**-s, --segment-size** 16K | 32K | 64K | 128K | 256K | 512K

Specifies the segment size.

**profile** <profile-name>

Specifies a profile name of up to 32 alphanumeric characters, underscores, dashes, and spaces.

## Examples

```
sscs create -a array00 -r 1 -s 64K -h on -n variable -D FC -d Custom-Database-Profile profile DatabaseProfile
```

---

## create repset

Creates a storage replication set using a peer World Wide Name or remote array name (not applicable to 2500 Series).

## Synopsis

```

create -a <array-name> -l <volume-name> -w <peer-WWN> -o <volume-name> -m
sync | async [ -G yes | no ] [ -R lowest | low | medium | high | highest
] [ -s enable | disable ] repset

create -a <array-name> -l <volume-name> -A <remote-array-name> -o <volume-name>
-m sync | async [ -G yes | no ] [ -R lowest | low | medium | high |
highest ] [ -s enable | disable ] repset

```

## Description

Creates a storage replication set linking the local volume with the remote volume via a peer World Wide Name or remote array name (not applicable to 2500 Series).

## Options

**-a, --array** <array-name>

Specifies the array. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-A, --remote-array** <remote-array-name>

Specifies the remote array. Options **-A** and **-w** are mutually exclusive.

**-G, --consistency-group** **yes** | **no**

Specifies whether or not you want to add this replication set to the array consistency group. Note that the default value (**no**) is only allowed with the asynchronous mode option.

**-l, --local-volume** <volume-name>

Specifies the local volume name.

**-m, --mode** **sync** | **async**

Specifies whether the mode is synchronous or asynchronous.

**-o, --remote-volume** <remote-volume-name>

Specifies the remote volume name.

**-R, --replication-priority** **lowest** | **low** | **medium** | **high** | **highest**

Specifies the priority of this replication set. If no priority is specified, the default is **medium**.

**-s, --auto-sync** **enable** | **disable**

Specifies whether the auto synchronization policy is enabled. If it is not specified, the default is **disabled**.



**-w, --peer-wwn** <peer-*WWN*>

Specifies the peer World Wide Name.

## Examples

```
sscs create -a europe -l euro_sales -w  
17:76:18:12:18:49:18:62:19:14:19:39:19:47:19:61 -o euro_sales -m async -G  
no -R medium -s enable repset
```

Creates a replication set of the euro\_sales volume that exists on the array named europe. In the process, it uses the euro\_sales volume on the array whose WWN is 17:76:18:12:18:49:18:62:19:14:19:39:19:47:19:61 and sets it to synchronize asynchronously with a medium priority with the write order not preserved and resynchronization performed automatically. This repset is called euro\_sales/1.

```
sscs create -a corp_west -l crm-sales -w  
17:76:18:12:18:49:18:62:19:14:19:39:19:47:19:61 -o crm-sales -m async -G  
no -R medium -s enable repset
```

Creates a replication set of the crm-sales volume that exists on the array named corp\_west. In so doing, it uses the crm-sales volume on the array whose WWN is 17:76:18:12:18:49:18:62:19:14:19:39:19:47:19:61 and sets it to synchronize asynchronously with the highest priority with the write order preserved and resynchronization performed automatically. This repset is called crm-sales/1.

```
sscs create -a europe -l euro_sales -A corporate -o euro_sales -m async -  
G no -R medium -s enable repset
```

Creates a replication set of the euro\_sales volume that exists on the array named europe. In the process, it uses the euro\_sales volume on the corporate array and sets it to synchronize asynchronously with a medium priority with the write order not preserved and resynchronization performed automatically. This repset is called euro\_sales/1.

```
sscs create -a corp_west -l crm-sales -A corporate -o crm-sales -m  
async -G yes -R highest -s enable repset
```

Creates a replication set of the crm-sales volume that exists on the array named corp\_west. In so doing, it uses the crm-sales volume on the corporate array and sets it to synchronize asynchronously with the highest priority with the write order preserved and resynchronization performed automatically. This repset is called crm-sales/1.

---

# create snapshot

Creates a snapshot for the specified volume.

## Synopsis

```
create -a <array-name> -V <volume-name> [-f  
<failbasewrite|failsnapshot>] [-v <virtual-disk-name>] [-m <volume-name>]  
[-w <0..100>] [-n <1..224>] [-d <disk-name[,disk-name...]>] [-r <0|1>] [-k  
<ANY|FC|SAS|SATA>] [-Z <number<TB|GB|MB|KB|Bytes|BLK|BV>>] [-C  
<integer>] [-L <low|verylittle|little|average|high|full>] [-l <0..100>]  
[-P <pool-name>] [-D <description-text>] snapshot <snapshot-name>
```

```
create -a <array-name> -V <volume-name> [-f  
<failbasewrite|failsnapshot>] [-v <virtual-disk-name>] [-m <volume-name>]  
[-w <0..100>] [-n <1..30>] [-d <disk-name[,disk-name...]>] [-r <3|5|6>] [-k  
<ANY|FC|SAS|SATA>] [-Z <number<TB|GB|MB|KB|Bytes|BLK|BV>>] [-C  
<integer>] [-L <low|verylittle|little|average|high|full>] [-l <0..100>]  
[-P <pool-name>] [-D <description-text>] snapshot <snapshot-name>
```

## Description

Creates a snapshot for the specified volume. Once the snapshot volume is created, it can be treated as any other volume, with the exception that it cannot be used to create another snapshot.

## Options

**-a, --array** <array-name>

Specifies the array associated with this snapshot. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-C, --snapshot-count** <integer>

Specifies the number of intended snapshots for the volume.

**-D, --description** <description-text>

Specifies a description of the snapshot.

**-d, --disk** <disk-name,...>

Specifies the name of the disk or disks that will be used to create the snapshot volume.

The arguments `-d` and `-n` cannot be used at the same time, and specification of either one results in a new virtual disk being created.

**-f, --full-policy** *failbasewrite* | *failsnapshot*

The full policy specifies what to do if and when the snapshot fills up:

*failbasewrite* - Stop allowing writes to the base volume.

*failsnapshot* - Stop allowing writes to the snapshot. This is the default.

**-k, --disk-type**

Specifies the disk type:

*ANY* - Any type of disk, including FC, SATA, or SAS

*FC* - Fibre Channel

*SATA* - Serial Advanced Technology Attachment

*SAS* - Serial Attached SCSI

**-L, --snapshot-level** *low* | *verylittle* | *little* | *average* | *high* | *full*

The snapshot level should be set to the percentage of the base volume that is expected to be overwritten during the snapshot's lifetime. This determines the amount of storage allocated to the snapshot (that is, the size of its reserve volume). To maintain the snapshot of the base volume's state, data in the base volume that is about to be overwritten is copied into the snapshot reserve space.

The snapshot levels equate to the following percentages:

10% - *low*

25% - *verylittle*

40% - *little*

50% - *average*

75% - *high*

100% - *full*

**-l, --snapshot-percentage** *<0..100>*

Specifies what percentage of the volume is to be used for snapshot creation.

**-m, --reserve-name** *<volume-name>*

Specifies the name of the reserve volume. If no name is specified, a name is created and assigned automatically.

**-n, --number-of-disks** <1..224>

Specifies the number of disks in the snapshot volume, 1 to 224, in combination with RAID levels 0 and 1.

**-n, --number-of-disks** <1..30>

Specifies the number of disks in the snapshot volume, 1 to 30, in combination with RAID levels 3, 5, and 6.

**-P, --snapshot-pool** <pool-name>

Specifies the name of the snapshot.

**-r, --raid-level** 0 | 1

Specifies RAID level 0 or 1, in combination with number-of-disks 1 to 224.

**-r, --raid-level** 3 | 5 | 6

Specifies RAID level 3, 5, or 6, in combination with number-of-disks 1 to 30.

**-v, --reserve-vdisk** <virtual-disk-name>

This option is mutually exclusive from the **-d**, **-k**, **-n**, and **-r** options.

If a reserve virtual disk is not specified:

- An existing virtual disk is used if possible.
- If no existing virtual disk is found, a new virtual disk is created, if that possibility exists; otherwise, an error message is reported.

If a reserve virtual disk is specified:

- If it is incompatible with the reserve volume, it results in a failure.
- If there is not enough free space, it results in an error.

**-V, --volume** <source-volume-name>

Specifies the source volume from which to take a snapshot.

**-w, --warning-threshold** <0..100>

Specifies when to inform you that the snapshot reserve volume is near capacity. If a warning threshold is not specified, 50% is used.

**-Z, --snapshot-reserve-size** <size>

Specifies the amount of space you want to reserve for capacity of the snapshot reserve volume. Specify this snapshot reserve volume capacity as a percentage of the base volume. You can increase or decrease the percentage until the Snapshot Reserve Volume Capacity value matches the estimated capacity that you calculated. Some rounding up may be required.

---

**Note** – The `-Z` option is only supported on a Sun StorEdge 6920.

---

**snapshot** *<snapshot-name>*

Specifies the snapshot name of up to 16 alphanumeric using characters, underscores, dashes, and spaces.

## Examples

```
sscs create -a array00 -v vol0 snapshot vol01_snap
```

---

# create vdisk

Creates a virtual disk.

## Synopsis

```
create -a <array-name> -p <pool-name> [ -d <disk-name[, disk-name...]> ] vdisk  
<virtual-disk-name>
```

```
create -a <array-name> -p <pool-name> -n <integer> ] vdisk <virtual-disk-name>
```

## Description

Creates a virtual disk.

## Options

**-a, --array** *<array-name>*

Specifies the array associated with this virtual disk.

**-d, --disk** *<disk-name[, disk-name...]>*

Specifies particular disks to be added to the virtual disk.

**-n, --number-of-disks** *<1...X>*

Specifies the number of disks to be added to the virtual disk.

**-p, --pool** *<pool-name>*

Specifies the storage pool associated with this virtual disk.

**vdisk** *<virtual-disk-name>*

Specifies the virtual disk that you want to modify.

## Examples

```
sscs create -a array00 vdisk vdisk1
```

---

# create volume

Creates a volume within a specified pool.

## Synopsis

```
create -a <array-name> -p <pool-name> -s  
<number><TB|GB|MB|KB|Bytes|BLK|BV>> [-v <virtual-disk-name>] [-n <1..30>] [-d <disk-name[,disk-name...]>] [-c <A|B>] volume <volume-name>
```

```
create -a <array-name> -p <pool-name> -s  
<number><TB|GB|MB|KB|Bytes|BLK|BV>> -C <integer> -L  
<low|verylittle|little|average|high|full> [-v <virtual-disk-name>] [-n  
<1..30>] [-d <disk-name[,disk-name...]>] [-f <volume|snapshot>] [-w <0..100>]  
[-P <pool-name>] [-V <virtual-disk-name>] [-c <A|B>] volume <volume-name>
```

```
create -a <array-name> -p <pool-name> -s  
<number><TB|GB|MB|KB|Bytes|BLK|BV>> -Z  
<number><TB|GB|MB|KB|Bytes|BLK|BV>> [-v <virtual-disk-name>] [-n <1..224>]  
[-d <disk-name[,disk-name...]>] [-f <volume|snapshot>] [-w <0..100>] [-P <pool-  
name>] [-V <virtual-disk-name>] [-c <A|B>] volume <volume-name>
```

```
create -a <array-name> -p <pool-name> -s  
<number><TB|GB|MB|KB|Bytes|BLK|BV>> -C <integer> -l <0..100> [-v <virtual-  
disk-name>] [-n <1..30>] [-d <disk-name[,disk-name...]>] [-f <volume|snapshot>]  
[-w <0..100>] [-P <pool-name>] [-V <virtual-disk-name>] [-c <A|B>] volume  
<volume-name>
```

## Description

Creates a volume within a specified pool. You can have up to 2048 volumes per array.

## Options

**-a,--array** <array-name>

Specifies the array. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-C,--snapshot-count** <integer>

Specifies the number of intended snapshots for the volume.

**-c,--controller** A | B

Specifies the controller.

**-d,--disk** <disk-name,...>

Specifies the name of the disk. You can use this option with either the -n option or the -v option, but not with both -n and -v at the same time.

**-f,--favor** volume | snapshot

Favors the volume or snapshot.

**-L,--snapshot-level** <low | verylittle | little | average | high | full>

Specifies the level of snapshot activity as either low, verylittle, little, average, high, or full. The snapshot levels equate to the following percentages:

low - 10%

verylittle - 25%

little - 40%

average - 50%

high - 75%

full - 100%

**-l,--snapshot-percentage** <0..100>

Specifies what percentage of the volume is to be used for snapshot creation.

**-n,--number-of-disks** <1..30> or <1..224>

Specifies the number of disks in the volume. You can use this option with either the -d option or the -v option, but not with both -d and -v at the same time. Number-of-disks <1..30> is used in combination with a RAID level set at 3, 5, and 6. Number-of-disks <1..224> is used in combination with a RAID level set at 0 or 1.

**-P,--snapshot-pool** <pool-name>

Specifies the name of the snapshot.

**-p,--pool** <pool-name>

Specifies the name of the snapshot pool.

**-s,--size** tb | gb | mb | kb | bytes | blk | bv

Specifies the volume size. Sizes can be in terabytes, gigabytes, megabytes, kilobytes, bytes, blocks, or base volume

**-V,--reserve-vdisk** <virtual-disk-name>

Specifies a reserve virtual disk.

**-v,--vdisk** <virtual-disk-name>

Specifies the name of the virtual disk. You can use this option with either the -d option or the -n option, but not with both -d and -n at the same time.

**-w,--warning-threshold** <0..100>

Specifies when to inform you that the snapshot reserve volume is near capacity. If a warning-threshold is not specified, 50% is the default.

**Z,--snapshot-reserve-size** <number<TB | GB | MB | KB | Bytes | BLK | BV

Specifies the amount of space you want to reserve for capacity of the snapshot reserve volume.

**volume** <volume-name>

Specifies the volume name of up to 16 alphanumeric characters.

## Examples

```
sscs create -a array01 -p pool1 -s 20GB volume ORACLE-1
```

---

# create volume-copy

Creates a copy of the volume (not applicable to 2500 Series).

## Synopsis

```
create -a <array-name> -s <source-volume-name> -t <target-volume-name> [ -p lowest | low | medium | high | highest ] volume-copy
```

## Description

Creates a copy of the volume.

**-a, --array** <array-name>

Specifies the array associated with this volume.



**-p, --priority** lowest | low | medium | high | highest

Specifies the priority of this volume copy. If no priority is specified, the default is medium.

**-s, --source-volume** *<volume-name>*

Specifies the source volume name associated with this volume copy.

**-t, --target-volume** *<volume-name>*

Specifies the target volume name associated with this volume copy.

## Examples

```
sscs create -a array00 -s vol01 -t vol02 volume-copy
```

---

# delete host

Deletes one or more hosts.

## Synopsis

```
delete -a <array-name> host <host-name,...>
```

Description

Deletes one or more hosts.

## Options

**-a, --array** *<array-name>*

Specifies the array associated with this host. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**host** *<host-name,...>*

Specifies the host or hosts to delete.

## Examples

```
sscs delete -a array00 host host01
```

---

# delete hostgroup

Deletes one or more host groups.

## Synopsis

```
delete -a <array-name> hostgroup <host-group-name,...>
```

## Description

Deletes one or more host groups.

## Options

```
-a, --array <array-name>
```

Specifies the array associated with this host group.

```
hostgroup <host-group-name,...>
```

Specifies the host group or host groups to delete.

## Examples

```
sscs delete -a array00 hostgroup hg01
```

---

# delete initiator

Deletes one or more initiators.

## Synopsis

```
delete -a <array-name> [ -T <wwn | initiator_name> ] initiator <initiator-ID,...>
```

## Description

Deletes one or more initiators. The initiator or initiators must be unmapped or the command will fail.

## Options

**-a, --array** <array-name>

Specifies the array associated with this initiator or initiators. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-T, --name-type** <wwn | iqn | initiator\_name>

Specifies the initiator type, either an iSCSI initiator or FC initiator. For iSCSI, specify the iSCSI qualified name (IQN) or name of the initiator. For FC, specify the World Wide Name or name of the initiator.

**initiator** <initiator-ID,...>

Specifies the initiator identifier.

## Examples

```
sscs delete -a array00 initiator myInitiator-01,myInitiator-02
```

---

# delete iscsi-session

Deletes an iscsi-session.

## Synopsis

```
delete -a <array-name> iscsi-session <session-identifier[,session-identifier...]>
```

## Description

Deletes iSCSI sessions associated with a specified array.

## Options

**-a, --array** <array-name>

Specifies the name of the array.

**iscsi-session** <session-identifier>

Specifies one or more iSCSI sessions to delete.

## Examples

```
sscs delete --array iSCSILCA2 iscsi-session 40:00:01:37:00:05:8
```

Deletes iSCSI session 40:00:01:37:00:05:8 for array iSCSILCA2.

---

## delete pool

Deletes one or more pools.

### Synopsis

```
delete -a <array-name> pool <pool-name,...>
```

### Description

Deletes one or more storage pools. This operation removes all associated virtual disks and volumes during the deletion of the storage pool. You can perform this action only when all volumes in the pool are unmapped.

### Options

```
-a, --array <array-name>
```

Specifies the array associated with this pool. For cross-platform compatibility, you can substitute `-X, --storage-device` in place of the `-a, --array` option.

```
pool <pool-name,...>
```

Specifies the storage pool or list of pools to delete.

### Examples

```
sscs delete -a array00 pool SP048763
```

---

## delete profile

Deletes one or more profiles.

### Synopsis

```
delete -a <array-name> profile <profile-name,...>
```

## Description

Deletes one or more storage profiles. You can only perform this function on a storage profile that has no storage pools associated with it.

## Options

**-a, --array** *<array-name>*

Specifies the array associated with this profile.

**profile** *<profile-name,...>*

Specifies the profile or profiles to delete.

## Examples

```
sscs delete -a array00 profile MyProfile
```

---

# delete repset

Deletes one or more replication sets (not applicable to 2500 Series).

## Synopsis

```
delete -a <array-name> repset <repset-name,...>
```

## Description

Deletes one or more replication sets.

## Options

**-a, --array** *<array-name>*

Specifies the array from which you want to delete the replication set. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**repset** *<repset-name,...>*

Specifies the replication set or sets to delete.

## Examples

```
sscs delete -a corporate repset finance/1
```

Deletes the replication of the finance volume on the array named corporate.

```
sscs delete -a corp_west repset crm-sales/1
```

Deletes the replication of the crm-sales volume on the array named corp\_west.

---

## delete snapshot

Deletes one or more snapshots.

### Synopsis

```
delete -a <array-name> snapshot <snapshot-name,...>
```

### Description

Deletes the specified snapshot.

### Options

```
-a, --array <array-name>
```

Specifies the array associated with this snapshot. For cross-platform compatibility, you can substitute `-X, --storage-device` in place of the `-a, --array` option.

```
snapshot <snapshot-name,...>
```

Specifies the snapshot or snapshots to delete.

### Examples

```
sscs delete -a array00 snapshot snap1
```

---

## delete vdisk

Deletes one or more named virtual disks.

### Synopsis

```
delete -a <array-name> vdisk <vdisk-name,...>
```

## Description

Deletes one or more specified virtual disks.

## Options

```
-a, --array <array-name>
```

Specifies the array associated with this virtual disk. For cross-platform compatibility, you can substitute `-X, --storage-device` in place of the `-a, --array` option.

```
vdisk <vdisk-name,...>
```

Specifies the vdisk or vdisks to delete.

## Examples

```
sscs delete -a array00 vdisk vdisk1
```

---

# delete volume

Deletes one or more named volumes.

## Synopsis

```
delete -a <array-name> volume <volume-name,...>
```

## Description

Deletes one or more named volumes. The volume must be unmapped or the deletion fails.

## Options

```
-a, --array <array-name>
```

Specifies the array associated with this volumes. For cross-platform compatibility, you can substitute `-X, --storage-device` in place of the `-a, --array` option.

```
volumes <vdisk-name,...>
```

Specifies the volumes or volumes to delete.

## Examples

```
sscs delete -a array00 volume ORACLE-1
```

---

# delete volume-copy

Deletes a volume-copy (not applicable to 2500 Series).

## Synopsis

```
delete -a [ <array-name> ] -s [ <source-volume-name> ] -t [ <target-volume-name> ] volume-copy
```

## Description

Deletes a volume copy. This operation breaks the copy relationship between the two volumes, but it does not delete the volumes themselves. It also removes the read-only permission on the target volume.

## Options

**-a, --array** <array-name>

Specifies the array associated with this volume copy.

**-s, --source-volume** <volume-name>

Specifies the source volume associated with this volume copy.

**-t, --target-volume** <volume-name>

Specifies the target volume associated with this volume copy.

## Examples

```
sscs delete -a array00 -s vol01 -t vol02 volume-copy
```



---

# disable snapshot

Disables one or more snapshots.

## Synopsis

```
disable -a <array-name> snapshot <snapshot-name[, snapshot-name...]>
```

## Description

Disables one or more snapshots. Disabling a volume snapshot does not remove either the volume snapshot or its associated reserve volume.

When you disable a volume snapshot, only the specified snapshots are disabled. All other snapshots remain functional.

## Options

**-a, --array** <array-name>

Specifies the array associated with this snapshot.

**snapshot** <snapshot-name,...>

Specifies the names of the snapshots that you want to resnap.

## Examples

```
sscs disable -a array00 snapshot snapshot1, snapshot2
```

Disables snapshot1 and snapshot2 on array00.

---

# export array

Renders an extensible markup language (XML) representation of the array.

## Synopsis

```
export array <array-name>
```

## Description

The export array command renders an extensible markup language (XML) representation. This outputs to standard output, and then you redirect it to a file or another mechanism.

**array** *<array-name>*

Specifies the array that you want to export.

## Examples

```
sscs export array array00 > /tmp/array00_backup.xml
```

---

# export profile

Exports one or more profiles into an XML representation.

## Synopsis

```
export -a <array-name> profile > [ <profile-name,...> ]
```

## Description

Exports one or more profiles into an XML representation. This outputs to standard output, and then you redirect it to a file or another mechanism.

## Options

**-a, --array** *<array-name>*

Specifies the array from which you want to export the profile.

**profile** *<profile-name,...>*

Specifies the profile or profiles to export. If no profiles are specified, all profiles are exported.

## Examples

```
sscs export - a array00 profile > /tmp/all_profiles.xml
```

---

# fail disk

Sets a disk to the failed state.

## Synopsis

```
fail -a <array-name> [ -t <tray-name> ] disk <disk-name>
```

## Description

Sets a disk to the failed state. This can create complications. Do not initiate this command without first consulting Sun Customer Service personnel.

## Options

**-a, --array** <array-name>

Specifies the array on which you want to fail the disk.

**-t, --tray** <tray-name>

Identifies the tray where the disk resides.

**disk**

Specifies the name of the disk.

## Examples

```
sscs fail -a Array01 -t Tray20 disk t20d16
```

```
sscs fail -a Array01 disk t20d16
```

---

# import array

Applies an array configuration file to the specified array.

## Synopsis

```
import -x <XML-location> [ -L <list> ] [ -n ] array <array-name>
```

## Description

Applies an array configuration file to the specified array. This enables you to import the configuration file from one array to overwrite the configuration for this array.

Use the **-n** option to preserve the current array configuration, including the mapping between the access LUN (LUN 31) and the management host. This mapping is required for in-band management of the array.

## Options

**-x, --xml** <XML-location>

Specifies the location of the XML file to be imported. The XML location can be in the form of a url (http://... or file:///...) or a file name.

**-L, --list**

Specifies that no import take place. Instead, the array is checked against the XML file to ensure that it is compatible.

**-n, --noclear**

Specifies that the current array configuration will not be cleared.

**array** <array-name>

Specifies the array to which the configuration file is applied.

## Examples

```
sscs import -x file:///tmp/array00_configuration.xml array array00
```

### *Response Format*

(when the list option is used)

Array *array-name* is [not] compatible with XML file *XML-location*.

---

# import profile

Imports one or more profiles from a specified XML file.

## Synopsis

```
import -a <array-name> -x <XML-location> [ -f ] profile [ <profile-name,...> ]  
import -a <array-name> -x <XML-location> -L profile [ <profile-name,...> ]
```

## Description

Imports one or more profiles from a specified XML file. This allows you to import the configuration profile from one array to overwrite the configuration profile for this array.

## Options

**array** <array-name>

Specifies the array to which you want to import the profile.

**-x, --xml** <XML-location>

Specifies the location of an XML file containing the profiles to be imported. The XML location can be in the form of a URL (<http://...> or <file:///...>) or a file name.

**-f, --force**

Specifies the following actions when conflicts occur with the profiles:

**Exists** – Profiles are not imported.

**Duplicate Settings** – Profiles are imported, creating a new profile.

**Conflicting** – Profiles are imported, replacing the current profile of the same name.

**In Use** – Profiles are not imported.

**New** – Profiles are imported.

If the force option is not specified, the following occurs:

**Exists** – Profiles are not imported.

**Duplicate Settings** – Profiles are not imported.

**Conflicting** – Profiles are not imported.

**In Use** – Profiles are not imported.

**New** – Profiles are imported.

In all cases, both successful and failed imports are reported.

**-L, --list**

Lists all profiles. If the list option is specified, no import takes place. All profiles in the XML file (or all those specified by way of the <profile-name>) are listed, and each is identified as follows:

**Exists** – The profile already exists with all of the same parameter values.

**Duplicate Settings** – A profile with exactly the same parameters (the description and version can be different), but a different name exists, and no profile with the given name is in use by the system.

**Conflicting** – A profile with the same name exists, has different parameters, and is not currently in use by the system.

**In Use** – A profile with the same name exists, has different parameters, and is currently in use by the system.

**New** – None of the above labels apply.

**profile** <profile-name,...>

Specifies the profile or profiles to import. If no profile names are specified, all profiles in the given XML location are used.

## Examples

```
sscs import -a array00 -f -x file:///tmp/all_profiles.xml profile
```

### *Response Format*

(when --list option is used)

**profile\_name:** Exists

**profile\_name:** Duplicate Settings

**profile\_name:** New

**profile\_name:** Conflicting

---

## initialize disk

Initializes a disk.

## Synopsis

```
initialize -a <array-name> [ -t <tray-name> ] disk [ <disk-name> ]
```

## Description

Initializes a disk. If a disk from another array is inserted, and you want to use it in a different array, you might need to initialize it to remove any latent virtual disk information. All data on the disk will be lost. This can create complications. Do not initiate this command without first consulting Sun Customer Service personnel.

## Options

**-a, --array** <array-name>

Specifies the array on which you want to initialize the disk.

**-t, --tray** <tray-name>

Identifies the tray where the disk resides.

**disk**

Specifies the name of the disk.

## Examples

```
sscs initialize -a Array01 -t Tray2 disk Disk6
```

---

# list controller

Lists configuration information for the specified controller.

## Synopsis

```
list -a <array-name> controller [ A | B ]
```

## Description

Lists configuration information for the specified controller.

## Options

**-a, --array** *<array-name>*

Specifies the array for which you want to view controller information.

**controller** **A** | **B**

Specifies the controller for which you want to view information. If no controller is specified, summary information for both controllers is displayed.

## Examples

```
sscs list -a array01 controller
```

### *Response Format*

**Controller:** A | B

**Mode:** Active | Inactive

**Quiesced:** True | False

**Status:** Removed | Optimal | RPA Par Error | Failed | Service Mode

**Drive Interface:** Fibre Channel | SATA | SAS

**Cache Memory Size:** *n* MB

**Manufacturer:** *manufacturer*

**Serial Number:** *serial-number*

**Ethernet Port:** 1

**Use DHCP/BOOTP:** On | Off

**IP Address:** *IP-address*

**Gateway:** *IP-address*

**Net Mask:** *net-mask*

---

## list fcport

Lists Fibre Channel port information for the controller of the specified array.



## Synopsis

```
list -a <array-name> [ -c A | B ] fcport [ <FC-port-ID,...> ]
```

## Description

Lists Fibre Channel (FC) port information for the controller of the specified array.

## Options

**-a, --array** <array-name>

Specifies the name of the array where the controller resides.

**-c, --controller** **A | B**

Specifies the controller for which you want Fibre Channel port information.

**fcport** <fcport-ID,...>

Specifies the Fibre Channel port or ports for which you want information. Ports are specified as A/1 to A/4 and B/1 to B/4. If no FC port is specified, details for all ports are displayed.

## Examples

```
sscs list -a array00 fcport A/1
```

## Response Format

**Array:** *array-name* **Controller:** **A | B** **FCPort:** *fcport-ID*

**Port WWN:** *port-wwn*

**Node WWN:** *node-wwn*

**Topology:** **ARB Loop | Fabric | PTP | FAB Loop | Unknown**

**Speed:** *current-speed* Gb/s (Giga bits per second)

**Maximum Speed:** *maximum-speed* Gb/s

**Loop ID:** *0..127 | N/A | Any*

**Preferred Loop ID:** *0..127 | N/A | Any*

**Channel Number:** *channel-number*

**Channel Joined With Another:** **True | False**

**Link Status:** **Up | Down**

---

# list host

Lists the host names and details for an individual host.

## Synopsis

```
list -a <array-name> host [ <host-name,...> ]
```

## Description

Lists the host names and details for an individual host.

## Options

**-a, --array** <array-name>

Specifies the array associated with this host. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**host** <host-name,...>

Specifies the host or hosts that you want to view in detail. When no host is specified, the names of all the hosts in the array are listed.

## Examples

```
sscs list -a array00 host
```

### *Response Format*

(when no <host-name> value is specified)

**Host:** *host-name*

...

**Host:** *host-name*

### *Response Format*

(host detail when <host-name> value is specified)

**Host:** *host-name*

```
Host Group: hostgroup-name  
Initiator: initiator-name  
...  
Initiator: initiator-name  
Volume: volume-name LUN:LUN-ID  
...  
Volume: volume-name LUN:LUN-ID
```

---

## list hostgroup

Lists host group name and hosts for an individual host group.

### Synopsis

```
list -a <array-name> hostgroup [ <host-group-name,...> ]
```

### Description

Lists host group name and hosts for an individual host group.

### Options

```
-a, --array <array-name>
```

Specifies the array associated with this host group.

```
hostgroup <host-group-name,...>
```

Specifies the host group that you want to view. When no host group is specified, the names of all the host groups in the array are listed.

### Examples

```
sscs list -a array00 hostgroup
```

### *Response Format*

(when no *<host-group-name>* value is specified)

**Host Group:** *host-group-name*

...

**Host Group:** *host-group-name*

## *Response Format*

(host detail when the *<host-group-name>* value is specified)

**Host Group:** *host-group-name*

**Host:** *host-name*

...

**Host:** *host-name*

**Volume:** *volume-name* **LUN:***LUN-ID*

...

**Volume:** *volume-name* **LUN:***LUN-ID*

---

# list initiator

Lists the initiators and provides a description of each.

## Synopsis

```
list -a <array-name> [ -T <wwn | initiator_name> ] initiator [ <initiator-ID,...> ]
```

## Description

Lists the initiators and provides a description of each.

## Options

**-a, --array** <array-name>

Specifies the array associated with this initiator. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-T, --name-type** <wwn | iqn | initiator\_name>

Specifies the initiator identifier; a World Wide Name, iSCSI qualified name (IQN), or a named initiator.

**initiator** *<initiator-ID,...>*

Specifies the initiator identifier.

## Examples

```
sscs list -a array01 -T initiator_name initiator myInitiator-01
```

```
sscs list -a array01 initiator myInitiator-01
```

```
sscs list -a iSCSILCA_2 -T iqn initiator
```

### *Response Format*

(list of initiators when no *<initiator-ID>* value is specified)

**Initiator:** *initiator-ID*

...

**Initiator:** *initiator-ID*

### *Response Format*

(detail about the initiator when an *<initiator-ID>* value is specified)

**Initiator:** *initiator-ID*

**WWN:** *initiator-wwn*

**Host:** *host-name*

**OS Type:** *host-type*

---

## list iperformance

Displays iSCSI performance statistics for the 2510 array and enables you to define the type of iSCSI performance statistics to monitor.

## Synopsis

To display the performance statistics:

```
list -a <array-name[, array-name...]> -T [-b <true | false>] ipperformance
```

To define the type of iSCSI performance statistics to monitor and the sort order of the output:

```
list -a <array-name[, array-name...]> -t <array_stats | controller_stats |  
volume_stats> [-c <A|B>] [-h <host-name[, host-name...]>] [-g <hostgroup-  
name[, hostgroup-name...]>] [-v <volume-name[, volume-name...]>] [-s <name |  
total_iops | read_percent |  
write_percent | total_data | avg_read_size | avg_read_rate |  
peak_read_rate | avg_write_size | avg_write_rate | peak_write_rate  
| cache_hit_percent>] [-b <true|false>] ipperformance
```

## Description

Displays iSCSI performance statistics for the 2510 array and enables you to define the type of iSCSI performance statistics to monitor and the sort order of the output.

Only valid for 2510 arrays running firmware version 07.35.nn.nn or higher.

## Options

**-a, --array** <array-name>

Specifies the name of the array associated with this iSCSI performance request.

**-b, --baseline** <true | false>

Sets the baseline time for the iSCSI array. If true, the current array time is used as the baseline time.

**-t, --type** <array\_stats | controller\_stats | volume\_stats>

Specifies the type of statistics to list: array, controller, or volume.

**-c, --controller** <A | B>

Specifies controller A or controller B.

**-h, --host** <host-name[, host-name...]>]

Specifies the host name of one or more hosts.

**-g, --hostgroup** <hostgroup-name[, hostgroup-name...]>

Specifies the name of one or more host groups.

**-v, --volume** <volume-name[, volume-name...]>

Specifies one or more volumes.

```
-s,--sort <name | total_iops|read_percent|write_percent | total_data  
| avg_read_size |avg_read_rate| peak_read_rate | avg_write_size |  
avg_write_rate | peak_write_rate | cache_hit_percent>]
```

Specifies the value for sorting the performance output.

## Examples

Display Statistics:

```
sscs list -a iSCSILCA_2 -T iperformance
```

### ▼ Response Format

**Array:** iSCSILCA\_2

**State:** Off

**Polling Interval:** 1 minute

**Data Retention Period:** 1 hour

**BASELINE STATISTICS**

**Controller A Baseline Time:** *date at time*

**Controller B Baseline Time:** *date at time*

**MAC Transmit Statistics**

**MAC Receive Statistics**

**TCP Statistics**

**IPv4 Statistics**

**IPv6 Statistics**

**Target (Protocol) Statistics**

Define statistics to display:

```
sscs list --array iSCSILCA_2 --type array_stats --sort total_iops  
iperformance
```

List array statistics for iSCSILCA\_2 and sort by total I/O operations per second.

---

# list iscsi-port

Lists iSCSI ports.

## Synopsis

```
list -a <array-name> [-c <A|B>] iscsi-port [iscsiport-id[,iscsiport-id...]]
```

## Description

Lists information for one or more iSCSI ports configured for a specified array.

## Options

**-a, --array** <array-name>

Specifies the name of the array.

**-c, --controller** <A | B>

Specifies controller A or B for which you want information.

[iscsiport-id[,iscsiport-id...]]

Specifies one or more iSCSI port IDs. For a detailed listing, specify controller/port.

## Examples

```
sscs list --array iSCSILCA_2 iscsi-port B/1
```

Lists detail for iSCSI port 1 on controller B for array iSCSILCA\_2.

## *Response Format*

**Array:** iSCSILCA\_2

**Controller:** A

**iSCSI Port:** B/1

**Port MAC:** 00:A0:B8:20:34:69

**Speed:** 100 Mbps

**Maximum Speed:** 1 Gbps

**Link Status:** Up



**Listening Port:** 3260  
**MTU:** 1500  
**ICMP Ping Responses:** Enabled  
**IPv4:** Enabled  
**DHCP:** Off  
**IP Address:** 10.8.88.167  
**Gateway:** 10.8.88.1  
**Netmask:** 255.255.255.0  
**VLAN:** Disabled  
**VLAN ID:** 0  
**Ethernet Priority:** Disabled  
**Priority:** 3

---

## list iscsi-session

Lists iSCSI sessions.

### Synopsis

```
list -a <array-name> iscsi-session [session-identifier [, session-identifier . . . ]]
```

### Description

Lists iSCSI sessions associated with a specified array. To list details of a specific iSCSI session, include the iSCSI session ID.

### Options

**-a, --array <array-name>**

Specifies the name of the array.

**iscsi-session** [*session-identifier* [, *session-identifier* . . . ]]

Specifies the iSCSI session ID.

## Examples

```
sscs list -a iSCSILCA_2 iscsi-session 40:00:01:37:00:00:8003
```

### *Response Format*

#### **iSCSI Session**

**iSCSI Target:** iqn.1992-01.com.lsi:1535.600a0b80003487c10000000046cc4a1d

**iSCSI Session Identifier (SSID):** 40:00:01:37:00:00:8003

**Initiator Session Identifier (ISID):** 40:00:01:37:00:00

**Target Portal Group Tag:** 2

**Initiator iSCSI Name:** iqn.1991-05.com.microsoft:funk.sun.com

**Initiator iSCSI Label:** i1193868006

**Initiator iSCSI Alias:** fi1193868006

**Host:** fh1193262432

#### **iSCSI Session Connection ID(s)**

**Connection ID (CID):** 0x1

**Ethernet Port:** Controller B, Port 2

**Initiator IP Address:** 10.8.88.103

#### **Negotiated Login Parameters**

**Authentication Method:** None

**Header Digest Method:** None

**Data Digest Method:** None

**Maximum Connections:** 4

**Target Alias:** iSCSI\_LCA2

**Initiator Alias:** fi1193868006

**Target IP Address:** 10.8.88.175

**Target Portal Group Tag:** 2

**Initial R2T:** Yes

**Maximum Burst Length:** 262144 Bytes

**First Burst Length:** 8192 Bytes  
**Default Time to Wait:** 0 Seconds  
**Default Time to Retain:** 60 Seconds  
**Maximum Outstanding R2T:** 16  
**Error Recovery Level:** 0  
**Maximum Receive Data Segment Length:** 65536 Bytes

---

## list iscsi-target

Lists iSCSI targets.

### Synopsis

```
list  -a <array-name>  iscsi-target target-name
```

### Description

Lists iSCSI target name configured for the specified array. To list details, specify the iSCSI target name. Target name is the iSCSI qualified name (IQN), for example: iqn.199201.com.sun:1535.600a0b80002f9da000000000461255f9.

### Options

**-a, --array** <array-name>

Specifies the name of the array.

**iscsi-target** target-name

Specifies the iSCSI qualified name of the iSCSI target.

### Examples

```
sscs list --array iSCSILCA_2 iscsi-target
```

### *Response Format*

```
iSCSI Target Name:  iqn.1992-01.com.sun:1535.  
600a0b80003487c10000000046cc4a1d
```

```
sscs list --array iSCSILCA_2 iscsi-target iqn.1992-01.com.sun:1535.600a0b80003487c10000000046cc4a1d
```

## *Response Format*

**iSCSI Target Name:** iqn.1992-01.com.lsi:1535.600a0b80003487c10000000046cc4a1d

**Alias:** iSCSI\_LCA2

**Authentication:** NONE

**CHAP Secret:** \*\*\*\*\*

**Unnamed Discovery:** Enabled

**Sessions:** 1

**iSNS:** Enabled

**IPv4:** 10.8.88.56

**DHCP:** Off

**Port:** 3205

### **Initiators**

**server1:** iqn.1991-05.com.microsoft:sun-pojdhrbx7tt

**server2:** iqn.1991-05.com.sun.microsoft.jcz

**server3:** iqn.1991-05.com.microsoft:sun-pojdhrbx7rr

**server4:** iqn.1986-03.com.sun:01:0003ba3145ed.47032ecf

**server5:** iqn.1986-03.com.sun:01:00144f010116.46fa5d9a

**server6:** iqn.1986-03.com.sun:01:0003ba0442dd.47062a0f

**server7:** iqn.1991-05.com.microsoft:sun-pojdhrbx7qq

**server8:** iqn.2001-04.com.example.storage.tape:sys1.xyz

**server9:** iqn.1991-05.com.microsoft:funk.sun.com

**server10:** iqn.1991-05.com.microsoft:jim.bur.sun.com

**server11:** iqn.1991-05.com.microsoft:parash.india.sun.com

**server12:** iqn.1991-05.com.microsoft:pookawinxp

**server13:** iqn.1991-05.com.microsoft:nms-lab8

---

# list license

Shows all licenses that are associated with the array, and related licensing details.

## Synopsis

```
list -a <array-name> license [ <license-name,...> ]
```

## Description

Shows all licenses that are associated with the array, along with related licensing details (serial number, controller serial number, and further details).

**-a, --array** <array-name>

Specifies the array associated with this license.

**license** <license-name,...>

Specifies the name of a license or licenses. If you list specific licenses, then only the details of those licenses are shown.

## Examples

```
sscs list -a corporate license <license-name,...>
```

Lists all of the licenses on the corporate array.

```
sscs list -a corp_west license ReplicationSet
```

Lists the details of the replication set license on the corp\_west array.

## ▼ Response Format

(when no <license-name> values are specified)

**Array:** *array-name*

**WWN:** *World-Wide-name*

**Serial Number:** *serial-number*

**Featured Enable Identifier:** *identifier*

**License:** *license-name*

**Description:** *description*

**Status:** Enabled | Disabled

**Quantity Licensed:** *quantity*

**Quantity Used:** *quantity*

## ***Response Format***

(when <license-name> values are specified)

**Array:** *array-name*

**WWN:** *World-Wide-name*

**Serial Number:** *serial-number*

**Featured Enable Identifier:** *identifier*

**License:** *license-name*

**Description:** *description*

**Status:** enabled | disabled

**Quantity Licensed:** *quantity*

**Quantity Used:** *quantity*

**Replication License Status:** Activated | Deactivated

**Repository Volume:** *replication-repository-name* **Size:** *number-of-megabytes* **Vdisk:** *virtual-disk-identifier*

**Licensed Items Sample Formats:**

**Snapshot:**

**Licensed Items:**

**Base Volume:**vol\_b13 **Snapshot Volume:**new-snap

**Base Volume:**dk\_rep3 **Snapshot Volume:**dk\_snap1

**StorageDomain:**

**Licensed Items:**

**Host Group:** t\_hostgroup\_2

**Host:** MIG-1

**VolumeCopy**

**Licensed Items:**

```
Source Volume:dk_rep1 Target Volume:dk_rep2
```

```
Source Volume:dk_vol3 Target Volume:dk_rep4
```

---

## list mapping

Lists the mapping for each host, host group, and storage domain.

### Synopsis

```
list -a <array-name> mapping  
[DefaultStorageDomain|Host|HostGroup[,DefaultStorageDomain|Host|HostGroup...]]
```

### Description

Lists mappings for the array. You can filter the output by specifying the name of a storage domain, a host, or a host group.

### Options

**-a, --array <array-name>**

Lists all mappings for the specified array. Filters the output based on the name of a storage domain, host, or host group supplied.

**mapping**  
[DefaultStorageDomain|Host|HostGroup[,DefaultStorageDomain|Host|HostGroup...]]

Lists mapping for the specified storage domain.

### Examples

```
sscs list -s array1 mapping host host1
```

Lists all of the mappings on array1 for host1.

### *Response Format*

```
Volume:JKTest LUN: 0 Mapped To: diag-e4500a Target Type: Host  
Permission: Read/Write
```

---

# list os-type

Shows the operating system types on this array.

## Synopsis

**list -a <array-name> os-type**

## Description

Shows all of the operating systems that are supported by the array. The values returned can be used in subsequent requests to create or modify initiators, or to modify the default host type of the array.

## Options

**-a, --array <array-name>**

Shows the array name.

**os-type**

Shows all of the operating systems that are supported by the array.

## *Response Format*

**WNTNCLSP5** - Windows NT nonclustered (SP 5 or higher)

**W2KNETNCL** - Windows 2000/Server 2003 nonclustered

**SOL** - Solaris (with Traffic Manager)

**HPX** - HP-UX

**AIX** - AIX

**IRX** - Irix

**LNK** - Linux

**WNTCLSP5** - Windows NT clustered (SP 5 or higher)

**W2KNETCL** - Windows 2000/Server 2003 clustered

**AIXAVT** - AIX (with Veritas DMP)

**W2KNETCLDMP** - Windows 2000 clustered DMP

**NWRFO** - Netware failover

**IRX\_FO**

**AIX\_FO**

**SOLAVT** - Solaris (with Veritas DMP or other)

**W2KNETNCLDMP** - Windows 2000 nonclustered DMP



---

# list performance

Shows detailed performance statistics.

## Synopsis

```
list -a <array-name,...> -T performance  
  
list -a <array-name,...> -t array_stats | controller_stats | volume_stats  
[ -c A | B ] [ -h <host-name,...> ] [ -g <host-group-name,...> ] [ -v <volume-  
name,...> ] [ -s name | total_iops | read_percent | write_percent |  
total_data | avg_read_size | avg_read_rate | peak_read_rate |  
avg_write_size | avg_write_rate | peak_write_rate ] performance
```

## Description

Shows detailed performance statistics. You can use the following options only if a single array is specified:

**--controller, --volume, --host, and --hostgroup**

---

**Note** – When using the local CLI **sscs** command, performance monitoring must be enabled before executing the **list performance** subcommand. Performance monitoring is turned on via the **modify performance** subcommand. See [“modify performance” on page 166](#) for further information.

---

## Options

**-a, --array <array-name>**

Specifies the array or arrays associated with this performance request.

**-T, --settings**

Shows the current settings for the array, including state, polling interval, and data retention period. If this option is specified, all other options (except array) are ignored.

**-t, --type array\_stats | controller\_stats | volume\_stats**

Specifies the type of statistics to list: array, controller, or volume.

**-c, --controller A | B**

Specifies the controller name.

**-v, --volume** <volume-name,...>

Specifies the volume name or volume names associated with this performance request.

**-h, --host** <host-name,...>

Specifies the host name or host names associated with this volume.

**-g, --hostgroup** <host-group-name,...>

Specifies the host group or host groups associated with this volume.

**-s, --sort** name | total\_iops | read\_percent | write\_percent |  
total\_data | avg\_read\_size | avg\_read\_rate | peak\_read\_rate |  
avg\_write\_size | avg\_write\_rate | peak\_write\_rate | cache\_hit\_percent

Specifies the sorting mechanism.

**performance**

Specifies the performance subcommand.

## Response Format

(if settings are specified)

**Array:** array-name

**State:** on | off

**Polling Interval:** 1 minute | 5 minutes | 15 minutes

**Data Retention Period:** forever | 1 hour | 2 hours | 4 hours | 1 day

## Response Format

**NAME TOT IOPS READ % WRITE% TOT DATA AVG R SIZE AVG R /s PEAK R /s ....**

==== =====

vol1	0.0	0.00	0.00	0.0	0.0	0.0	0.0
------	-----	------	------	-----	-----	-----	-----

...

vol2	3.6	7.32	34.77	1030.3	32.7	4.5	10.4
------	-----	------	-------	--------	------	-----	------

---

# list pool

Lists storage pool information.

## Synopsis

```
list -a <array-name> pool [ <pool-name,...> ]
```

## Description

Lists storage pool information.

## Options

**-a, --array** <array-name>

Specifies the array associated with this pool. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**pool** <pool-name,...>

Specifies the pool or pools for which you want detailed information. If no pools are specified, this subcommand lists summary information for all pools.

## Examples

```
sscs list -a array01 pool SP048763
```

### *Response Format*

(summary of all pools when no <pool-name> value is specified)

**Pool:** *pool-name* **Profile:** *profile-name* **Configured Capacity:** *capacity*

....

**Pool:** *pool-name* **Profile:** *profile-name* **Configured Capacity:** *capacity*

### *Response Format*

(detail of a pool when a <pool-name> value is specified)

**Pool:** *pool-name*

**Description:** *description*

**Profile:** *profile-name*

**Total Capacity:** *capacity* MB | GB | TB

**Configured Capacity:** *capacity* MB | GB | TB

**Available Capacity:** *capacity* MB | GB | TB

**Volume:** *volume-name1*

**Volume:** *volume-name2*

---

## list profile

Lists the named storage profiles.

### Synopsis

```
list -a <array-name> profile [ <profile-name,...> ]
```

### Description

Lists the named storage profiles.

### Options

**-a, --array** <array-name>

Specifies the array associated with this profile.

**profile** <profile-name,...>

Specifies the profile or profiles for which you want detailed information. If no profiles are specified, this subcommand lists summary information for all profiles.

### Examples

```
sscs list -a array00 profile MyProfile
```

### *Response Format*

(summary of all profiles when no <profile-name> value is specified)

**Profile:** *profile-name*

...

**Profile:** *profile-name*

## ***Response Format***

(detail of a profile when a <*profile-name*> value is specified)

**Profile:** *profile-name*

**Profile in Use:** yes | no

**Factory Profile:** yes | no

**Description:** *profile-description*

**RAID Level:** 0 | 1 | 3 | 5 | 6

**Segment Size:** 8 KB | 16 KB | 32 KB | 64KB | 256KB

**Read Ahead:** on | off

**Optimal Number of Drives:** variable | 2..30

**Disk Type:** ANY | FC | SATA | SAS

**Pool:** *pool-name*

....

**Pool:** *pool-name*

---

## list repset

Lists replication set information (not applicable to 2500 Series).

### Synopsis

```
list -a <array-name> repset [ <repset-name,...> ]
```

### Description

Lists replication set information.

## Options

**-a, --array** <array-name>

Specifies the array from which you want to obtain replication set information. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**repset** <repset-name,...>

Specifies the replication set or sets. If you do not specify a replication set, then a summary of all the replication sets on the array is listed.

## Examples

```
sscs list -a corporate repset
```

Lists all of the repsets on the array named corporate.

```
sscs list -a corporate repset mail/1
```

Lists the details of the replication set mail/1 on the array named corporate.

### *Response Format*

(summary of all replication sets when no replication set name is specified)

```
Replication set: local-volume-name/1 Consistency Group: yes | no Remote  
volume: remote-vol Replication Peer: replication-peer-name
```

...

```
Replication set: local-volume-name/1 Consistency Group: yes | no Remote  
volume: remote-vol Replication Peer: replication-peer-name
```

### *Response Format*

(details when a replication set name is specified)

```
Replication set: repset-name
```

```
Local volume: volume-name
```

```
Synchronization progress: Replicating | Unsynchronized |  
Synchronization in progress | Suspended | Failed | Not Ready | Failed  
Suspended
```

```
Role: Primary | Secondary
```

```
Size: size-in-megabytes
```

**Replication peer:** *remote-array-name*  
**Replication peer WWN:** *remote-array-WWN*  
**Remote volume:** *remote-volume-name*  
**Remote volume WWN:** *remote-volume-WWN*  
**Mode:** Synchronous | Asynchronous  
**Consistency group:** yes | no  
**Replication priority:** lowest | low | medium | high | highest  
**Auto synchronize:** Enabled | Disabled

---

## list sasport

Lists SAS port information.

### Synopsis

```
list -a <array-name> [ -c A | B ] sasport [ sasport-id,.. ]
```

### Description

Lists pertinent SAS port information.

### Options

**-a, --array** <array-name>

Specifies the array for which you want to obtain SAS port information.

**-c, --controller** **A | B**

Specifies the controller for which you want to view SAS port information. If no controller is specified, summary information for both controllers is displayed.

**sasport** <*sasport-ID,...*>

Specifies the SAS port or ports for which you want information. Ports are specified as A/1 to A/4 and B/1 to B/4. If no SAS port is specified, details for all ports are displayed.

## Examples

```
sscs list -a Quartz sasport
```

```
Array: Quartz
```

```
Controller:      B
SAS Port:        B/1
Port WWN:        50:0A:0B:81:D2:BA:60:04
Speed:           1 Gb/s
Maximum Speed:   7 Gb/s
Channel Number:  1
Link Status:     Up
```

```
Array: Quartz
```

```
Controller:      B
SAS Port:        B/2
Port WWN:        50:0A:0B:81:D2:BA:60:0C
Speed:           1 Gb/s
Maximum Speed:   7 Gb/s
Channel Number:  2
Link Status:     Up
```

```
Array: Quartz
```

```
Controller:      B
SAS Port:        B/3
Port WWN:        50:0A:0B:81:D2:BA:60:08
Speed:           1 Gb/s
Maximum Speed:   7 Gb/s
Channel Number:  3
Link Status:     Up
```



Array: Quartz

Controller: A  
SAS Port: A/1  
Port WWN: 50:0A:0B:81:D2:BB:10:04  
Speed: 1 Gb/s  
Maximum Speed: 7 Gb/s  
Channel Number: 1  
Link Status: Up

Array: Quartz

Controller: A  
SAS Port: A/2  
Port WWN: 50:0A:0B:81:D2:BB:10:0C  
Speed: 1 Gb/s  
Maximum Speed: 7 Gb/s  
Channel Number: 2  
Link Status: Up

Array: Quartz

Controller: A  
SAS Port: A/3  
Port WWN: 50:0A:0B:81:D2:BB:10:08  
Speed: 1 Gb/s  
Maximum Speed: 7 Gb/s  
Channel Number: 3  
Link Status: Up

---

# list snapshot

Lists the specified snapshot or snapshots associated with this array.

## Synopsis

```
list -a <array-name> snapshot [ <snapshot-name,...> ]
```

## Description

Lists the specified snapshot or snapshots associated with this array.

## Options

**-a, --array** <array-name>

Specifies the array associated with this snapshot.

**snapshot** <snapshot-name,...>

Specifies the snapshot or snapshots you want to view. If you do not specify a snapshot, the names of all the snapshots in the array are listed.

## Examples

```
sscs list -a array00 snapshot snap1
```

### *Response Format*

(when no <snapshot-name> value is specified)

**Snapshot:** *snapshot-name*

...

**Snapshot:** *snapshot-name*

### *Response Format*

(detailed output if one or more <snapshot-name> values are specified)

**Volume:** *snapshot-volume-name*

**Type:** *snapshot*

**WWN:** *WWN*

**Virtual Disk:** *virtual-disk-name-of-parent-volume*

**Size:** *size-of-parent* MB

**State:** *state*

**Status:** *status*

**Action:** *action*

**Condition:** Optimal | Degraded | Failed | Impaired

**Controller:** A | B

**Preferred Controller:** A | B

**Modification Priority:** lowest | low | medium | high | highest

**Write Cache:** Enabled | Disabled

**Write Cache With Replication:** Enabled | Disabled

**Write Cache Without Batteries:** Enabled | Disabled

**Flush Cache After:** *time*

**Disk Scrubbing:** Enabled | Disabled

**Disk Scrubbing With Redundancy:** Enabled | Disabled

**Percent Full:** 0..100%

**Failure Policy:** failbasewrite | failsnapshot

**Warning Threshold:** 0..100

**Creation Date:** *date*

**Base Volume:** *base-volume-name*

**Reserve Volume:** *reserve-volume-name*

**Reserve Status:** online | offline

**Reserve Size:** *n*

#### Response Format Notes:

Pools and profiles may be empty, and represented by the symbol '-' (dash).

For a standard volume, this indicates that the current configuration for the volume does not fall into any pool's defined parameters. For snapshot volumes these values will always be empty.

---

# list tray

Lists information about one or more storage trays in the array.

## Synopsis

```
list -a <array-name> tray [ <tray-name,...> ]
```

## Description

Lists information about one or more storage trays in the array.

## Options

**-a, --array** <array-name>

Specifies the array associated with this tray.

**tray** <tray-name,...>

Specifies the tray ID or tray IDs you want to display. If no tray ID is specified, then the names of all the trays in the array are listed.

## Examples

```
sscs list -a array01 tray 1
```

### *Response Format*

(summary of all trays when no <tray-ID> value is specified)

**Tray:** *tray-ID*

....

**Tray:** *tray-ID*

### *Response Format*

(detail of a tray when a <tray-ID> value is specified)

**Tray:** *tray-ID*

**Array Type:** 6140

**Role:** Drive Module | Controller Module | Unknown  
**State:** Enabled | Disabled  
**Status:** OK | ID mismatch | ID conflict | ESM firmware mismatch ESM  
miswire | minihub speed mismatch | unsupported  
**Disk Type:** Fibre Channel | SATA | SAS  
**Number of Disks:** *n*

---

## list vdisk

Lists virtual disk (vdisk) or virtual disks information associated with this array.

### Synopsis

```
list -a <array-name> vdisk [ <virtual-disk-name,...>]
```

### Description

Lists virtual disk (vdisk) or virtual disks information associated with this array.

### Options

**-a, --array** <array-name>

Specifies the array or arrays associated with this virtual disk.

**vdisk** <virtual-disk-name,...>

Specifies the virtual disk or disks you want to show. If no virtual disk names are specified, all virtual disk names are listed.

### Examples

```
sscs list -a array01 vdisk disk 1,2,3,4
```

### *Response Format*

(summary of all vdisks when no <virtual-disk-name> value is specified)

**VDisk:** *virtual-disk-name*

....

**VDisk:** *virtual-disk-name*

## *Response Format*

(detail of a vdisk when a *<virtual-disk-name>* value is specified)

**Virtual Disk:** *virtual-disk-name*

**Status:** Optimal | Degraded | Failed | Impaired

**State:** *State (Ready, Degraded, etc.)*

**Number of Disks:** *number-of-disks*

**RAID Level:** 0 | 1 | 3 | 5 | 6

**Total Capacity:** *capacity*

**Configured Capacity:** *capacity*

**Available Capacity:** *capacity*

**Array Name:** *array-name*

**Array Type:** *array-type*

**Disk Type:** FC | SATA | SAS

**Maximum Volume Size:** *size*

**Associated Disks:**

**Disk:** *disk-name*

....

**Disk:** *disk-name*

**Associated Volumes:**

**Volume:** *volume-name*

....

**Volume:** *volume-name*

---

# list volume

Lists volume information.

## Synopsis

```
list -a <array-name> [ -p <pool-name> ] [ -v <virtual-disk-name> ] volume  
[ <volume-name,...> ]
```

## Description

Lists volume information.

## Options

**-a, --array** <array-name>

Specifies the array associated with this volume. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-p, --pool** <pool-name>

Specifies the pool name associated with this volume. If a pool is specified, all volumes in that pool are listed.

**-v, --vdisk** <virtual-disk-name>

Specifies the *virtual-disk* associated with this volume.

**volume** <volume-name,...>

Specifies the volume name or names associated with this array. If no volumes are specified, a summary of all volumes is listed. Use pool and virtual-disk to display listed volumes.

## Examples

```
sscs list -a array01 -p pool1 volume ORACLE-1
```

### *Response Format*

(summary of all volumes when no <volume-name> value is specified)

**Volume:** volume-name **Type:** type **Pool:** pool-name **Profile** profile-name

....

**Volume:** volume-name **Type:** type **Pool:** pool-name **Profile** profile-name

### *Response Format*

(detailed output if specified volume is a standard, source, or target volume)

**Volume:** *volume-name*  
**Type:** Standard | Source | Target | Replicated  
**WWN:** WWN  
**Pool:** *pool-name*  
**Profile:** *profile-name*  
**Virtual Disk:** *virtual-disk-name*  
**Size:** *size*  
**State:** Free | Mapped  
**Status:** Online | Offline  
**Action:** *current-action*  
**Condition:** Optimal | Degraded | Failed | Impaired  
**Read Only:** Yes | No  
**Controller:** A | B  
**Preferred Controller:** A | B  
**Modification Priority:** Lowest | Low | Medium | High | Highest  
**Write Cache:** Enabled | Disabled  
**Write Cache With Replication:** Enabled | Disabled  
**Write Cache Without Batteries:** Enabled | Disabled  
**Flush Cache After:** *time*  
**Disk Scrubbing:** Enabled | Disabled  
**Disk Scrubbing With Redundancy:** Enabled | Disabled  
**Volume Copy Targets:**  
     Target Volume: *volume-name*  
     ...  
     Target Volume: *volume-name*  
**Snapshot:** *snapshot-name* **Creation Time:** *time* **Reserve:** *reserve*  
     ...  
**Snapshot:** *snapshot-name* **Creation Time:** *time* **Reserve:** *reserve*



Associations:

**Host:** *host-name*      **LUN:** *LUN-ID*   **Initiator:** *initiator*   **WWN:** *WWN*

*or*

**Host Group:** *hostgroup-name*      **LUN:** *LUN-ID*   **Initiator:** *initiator*   **WWN:** *WWN*

### Response Format Notes:

Pools and profiles can be empty, in which case they are represented by the symbol '-' (dash).

For a standard volume, this indicates that the current configuration for the volume does not fall into any pool's defined parameters.

---

## list volume-copy

Lists volume-copy information (not applicable to 2500 Series).

### Synopsis

```
list -a <array-name> [ -s <source-volume-name,...> ] [ -t <target-volume-name,...> ] volume-copy
```

### Description

Lists volume copy information. If neither the source volume nor the target volume is specified, a summary of all volume copies is listed. If the source volume or the target volume is specified, a detailed listing of each is generated.

### Options

**-a, --array** <array-name>

Specifies the array associated with the volumes that you want to list.

**-s, --source-volume** <source-volume-name,...>

Specifies the source volume or volumes that you want to list.

**-t, --target-volume** <target-volume-name,...>

Specifies the target volume or volumes that you want to list.

## Examples

```
sscs list -a array00 -s vol1,vol3 volume-copy
```

### *Response Format*

(summary of all volume copies when no volume copy name is specified)

```
Source Volume: source-volume-name Target Volume: target-volume-name
```

...

```
Source Volume: source-volume-name Target Volume: target-volume-name
```

### *Response Format*

(detailed output if a *<volume-copy> value is specified*)

**Volume Copy:**

```
Source Volume: source-volume-name
```

```
Target Volume: target-volume-name
```

```
Target Read Only: Enabled | Disabled
```

```
Status: In Progress | Completed | Stopped
```

```
Percent Complete: 0...100
```

```
Priority: lowest | low | medium | high | highest
```

```
Copy Start Timestamp: timestamp
```

```
Copy Completion Timestamp: timestamp
```

---

## map host

Maps one or more volumes to a host.

## Synopsis

```
map -a <array-name> [ -P readwrite | readonly ] [ -v <volume-name,...> ] [ -s <snapshot-volume-name,...> ] [ -l <0..255> ] host <host-name>
```

## Description

Maps one or more volumes and snapshots to a host. Any previous mappings for the given volumes and snapshots are removed.

## Options

**-a, --array** *<array-name>*

Specifies the array associated with this host. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-l, --lun-id** *<0..255>*

Specifies a logical unit number (LUN). A LUN can be specified only when mapping a single volume.

If no LUN is specified, as many successive unused LUNs as needed are used, starting with the first available LUN.

You can have up to 256 or 32 LUNs per host or hostgroup. The 6540 and FLX380 arrays allow 32 LUN IDs only.

**-P, --permission** *readwrite | readonly*

Specifies that the permission for accessing this snapshot is read-write or read-only.

**-s, --snapshot** *<snapshot-volume-name,...>*

Specifies the snapshot volume name or names associated with this host.

**-v, --volume** *<volume-name,...>*

Specifies the volume associated with this host.

**host** *<host-name>*

Specifies the host that you want to map to the volume.

## Examples

```
sscs map -a array00 -v vol01,vol02 host host01
```

---

# map hostgroup

Maps one or more volumes to a host group.

## Synopsis

```
map -a <array-name> [-s <snapshot-name[,snapshot-name...]>] [-v <volume-name[,volume-name...]>] [-l <0..255>] hostgroup <hostgroup-name>
```

## Description

Maps one or more volumes and snapshots to a host group. Any previous mappings for the given volumes or snapshots are removed.

## Options

**-a, --array** <array-name>

Specifies the array associated with this host group.

**-v, --volume** <volume-name[,volume-name...]>

Specifies the volumes to be mapped to this host group.

**-s, --snapshot** <snapshot-name[,snapshot-name...]>

Specifies the snapshot volumes to be mapped to this host group.

**-l, --lun-id** <0..255>

Specifies the LUN ID of the initiator that you want to map to this host group.

A LUN can be specified only when mapping a single volume. If no LUN is specified, as many successive unused LUNs as necessary are used, starting with the first available unused LUN.

You can have up to 256 or 32 LUNs per host or hostgroup. The 6540 allows 32 LUN IDs only.

**hostgroup** <host-group-name>

Specifies the host group name.

## Examples

```
sscs map -a array00 -v vol01,vol02 hostgroup hg01
```

---

# map initiator

Maps one or more initiators to a volume or snapshot.

## Synopsis

```
map -a <array-name> [ -P readwrite | readonly ] [ -v <volume-name,...>  
[ -s <snapshot-volume-name,...> ] [ -l <0..255> ] initiator <initiator-name,...>
```

## Description

Maps an initiator to a volume or snapshot. Any previous mappings for the given volumes or snapshots are removed.

## Options

**-a, --array** <array-name>

Specifies the array associated with the initiator. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-l, --lun-id** <0..255>

Specifies the logical unit number of this initiator.

A LUN can be specified only when mapping a single initiator. If no LUN is specified, the first available LUN is used.

You can have up to 256 or 32 LUNs per host or hostgroup. The 6540 allows 32 LUN IDs only.

**-P, --permission** **readwrite** | **readonly**

Specifies that the permission for accessing this volume is read-write or read-only.

**-s, --snapshot** <snapshot-volume-name,...>

Specifies the snapshot volumes to be mapped to this initiator.

**-v, --volume** <volume-name,...>

Specifies the volumes to be mapped to this initiator.

**initiator** <initiator-name,...>

Specifies the initiator name to which the array is being mapped. If no volume or snapshot is specified, the initiator is mapped into the default partition.

## Examples

```
sscs map -a array00 -v v01 initiator init01
```

---

# map snapshot

Maps one or more snapshots to a host or host group.

## Synopsis

```
map -a <array-name> [ -P readwrite | readonly ] [ -i <initiator-name> ] [ -h <host-name> | -g <host-group-name> ] [ -l <0..255> ] snapshot <snapshot-name,...>
```

## Description

Maps one or more snapshots to a host or host group. If no host or host group is specified, the snapshot or snapshots are mapped into the Default partition.

## Options

**-a, --array** <array-name>

Specifies the array associated with this snapshot. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-g, --hostgroup** <host-group-name>

Specifies the host group that you want to map to the snapshots.

**-h, --hostname** <host-name>

Specifies the host that you want to map to the snapshot.

**-i, --initiator** <initiator-name>

Specifies the initiator that you want to map to the snapshot.

**-l, --lun-id** <0..255>

Specifies the logical unit number of this initiator.

A LUN can be specified only when mapping a single volume. If no LUN is specified, the first available LUN is used.

You can have up to 256 or 32 LUNs per host or hostgroup. The 6540 allows 32 LUN IDs only.

**-P, --permission** **readwrite** | **readonly**

Specifies that the permission for accessing this snapshot is read-write or read-only.

**snapshot** <snapshot-name,...>

Specifies the name or names of the snapshot you want to map. Any previous mappings for the snapshots will be removed.

## Examples

```
sscs map -a array00 -g hg01 snapshot snap1, snap2
```

---

# map volume

Maps one or more volumes to a host or host group.

## Synopsis

```
map -a <array-name> [ -P readwrite | readonly ] [ -i <initiator-name> ] [ -h <host-name> ] [ -g <host-group> ] [ -l <0..255> ] volume <volume-name,...>
```

## Description

Maps one or more volumes to a host or host group. Any previous mappings for the given volume or volumes are removed.

## Options

**-a, --array** <array-name>

Specifies the array associated with this volume. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-g, --hostgroup** <host-group-name>

Specifies the host group name associated with this volume.

**-h, --hostname** <host-name>

Specifies the host that you want to map to the volume.

**-i, --initiator** <initiator-name>

Specifies the initiator that you want to map to the volume.

**-l, --lun-id** <0..255>

Specifies the logical unit number of this initiator.

A LUN can be specified only when mapping a single volume. If no LUN is specified, the first available LUN is used.

You can have up to 256 or 32 LUNs per host or hostgroup. The 6540 allows 32 LUN IDs only.

**-P, --permission** *readwrite | readonly*

Specifies that the permission for accessing this volume is read-write or read-only.

**volume** *<volume-name,...>*

Specifies the volume name to which the array is being mapped.

If no host or host group is specified, the volume or volumes are mapped into the default partition.

## Examples

```
sscs map -a array00 -g hg01 volume vol01,vol02
```

---

# modify array

Modifies the configuration of the specified array.

## Synopsis

```
modify [ -o solaris_dmp | solaris | sun_storedge |  
sun_storedge_nas_gateway | aix | hpux | linux | irix | ptx |  
netware_failover | netware_non_failover | win2k_clustered |  
win2k_non_clustered | winnt | winnt_non_clustered |  
win2k_non_clustered_dmp | win2k_clustered_dmp | dsp | aixavt |  
winnt_clustered ] [ -s <0..100> ] [ -S <0..100> ] [ -k disable | <1..30> ]  
[ -f <0..60> ] [ -h <0..8> ] [ -b <4K|8K|16K> ] [ -T <wwn | array_name>  
] [ -N <new-array-name> ] [ -p <password> ] array <array-ID>
```

## Description

Modifies the configuration of the specified array.

## Options

**-o, --os-type** *<OS-type-name>*



Specifies the operating system type. Use the command **sscs list -a array-name os-type** to view all of the operating systems that are supported by the array.

**-b, --cache-block-size** <4K|8K|16K>

Specifies the cache block size.

**-f, --failover-alert** <0..60>

Specifies the LUN failover alert time frame, in seconds. The system alerts you to an array failover at the allotted time.

**-h, --hot-spare** <hot-spare-drive-count>

Specifies the hot-spare count for the array. When a hot-spare drive count is specified, an algorithm distributes hot-spare drives across the trays of the array. To specify a drive, use the subcommand **modify disk**. The hot-spare count limit is dependent on the array:

15 for 6130 running firmware version 07.10.nn.nn or lower

15 for 6140 and 6540 running firmware version 07.10.nn.nn or lower, OR firmware version 07.15.nn.nn or higher.

15 for 2500 series arrays running firmware version 07.10.nn.nn or lower, OR firmware version 07.35.nn.nn or higher.

Unlimited for 6580 and 6780 arrays.

**-k, --disk-scrubbing** disable | <1..30>

Specifies the interim after which the system scrubs the disk.

**-N, --new-name** <array-name>

Specifies the new name of the array.

**-p, --password** <password>

Specifies the array password.

**-s, --cache-start** <0..100>

Specifies the array cache start.

**-S, --cache-stop** <0..100>

Specifies the array cache stop.

**-T, --name-type** <wwn | array\_name>

Specifies the array naming type.

**array** <array-ID>

Specifies the name of the array to be modified.

## Examples

```
sscs modify -f 30 -T array-name array ARRAY1
```

---

# modify controller

Modifies the controller settings.

## Synopsis

```
modify -a <array-name> [-e <1|2>] [-d <on|off>] [-i <ip-address>] [-g <ip-address>] [-m <netMask>] controller <A|B>
```

Modifies the Ethernet port of a controller using the specified IP parameters.

```
modify -a <array-name> [ -e 1 | 2 ] -d <on|off> controller <A|B>
```

Modifies the IP parameters of a controller's Ethernet port using the Dynamic Host Control Protocol (DHCP).

```
modify -a <array-name> -E controller <A|B>
```

Verifies the network connectivity between the array controller and the management software.

```
modify -a <array-name> -e <1|2> [-v <enable|disable>] [-d <on|off>] [-i <ip-address>] [-g <ip-address>] [-m <netMask>] controller <A|B>
```

Modifies controller IP parameters, including option to enable or disable IPv4. NOTE: Only supported on 6580 and 6780.

```
modify -a <array-name> -e <1|2> [-V <enable|disable>] [-d <on|off>] [-I <v6-ip-address>] [-r <v6-ip-address>] [-m <enable|disable>] [-d <full|half>] [-s <PORT_SPEED_NONE|PORT_AUTO_NEGOTIATED|PORT_10MBPS_HALF_DUPLEX|PORT_10MBPS_FULL_DUPLEX|PORT_100MBPS_HALF_DUPLEX|PORT_100MBPS_FULL_DUPLEX|PORT_1000MBPS_HALF_DUPLEX|PORT_1000MBPS_FULL_DUPLEX>] controller <A|B>
```

Modifies controller Ethernet port and IP parameters, including IPv6 options and port speed. NOTE: IPv6 only supported on 6140 and 6540 arrays with firmware version 07.15.nn.nn or higher, 2500 series arrays with firmware version 07.35.nn.nn or higher, and 6580 and 6780 arrays. Port speed option only supported on 6580 and 6780 arrays.

## Options

**-a, --array** *<array-name>*

Specifies the array associated with this controller.

**-d, --dhc**p on | off

Specifies whether the dynamic host control protocol (DHCP) is active.

**-d, --duplex** *<full|half>*

Specifies port capability, full or half duplex.

**-e, --ethernet-port** 1 | 2

Specifies the Ethernet port number.

**-E, --test-communication**

Verifies the network connectivity between the array controller and the management software.

**-g, --gateway** *<gateway-address>*

Specifies the gateway IP address. IP addresses can be either Domain Name System (DNS) names or dotted decimal addresses.

**-i, --ipaddress** *<IP-address>*

Specifies the controller's IP address. IP addresses can be either Domain Name System (DNS) names or dotted decimal addresses.

**-I, --v6-address** *<v6-ip-address>*

Specifies IPv6 IP address.

**-m, --netmask** *<netmask>*

Specifies the controller's network mask.

**-m, --mode** *<enable|disable>*

Enables or disables port mode.

**-r, --router** *<v6-ip-address>*

Specifies router IP address.

**-s, --speed**

*<PORT\_SPEED\_NONE|PORT\_AUTO\_NEGOTIATED|PORT\_10MBPS\_HALF\_DUPLEX|PORT\_10MBPS\_FULL\_DUPLEX|PORT\_100MBPS\_HALF\_DUPLEX|PORT\_100MBPS\_FULL\_DUPLEX|PORT\_1000MBPS\_HALF\_DUPLEX|PORT\_1000MBPS\_FULL\_DUPLEX>*

Specifies the port speed. Port speed option only supported on 6580 and 6780 arrays.

**-V,--ip-v6 <enable|disable>**

Enables or disables IPv6. IPv6 only supported on 6140 and 6540 arrays with firmware version 07.15.*nn.nn* or higher, 2500 series arrays with firmware version 07.35.*nn.nn* or higher, and 6580 and 6780 arrays.

**-v,--ip-v4 <enable|disable>**

Enables or disables IPv4.

**controller A | B**

Specifies the controller to modify.

## Examples

```
sscs modify -a array00 -g 10.0.5.2 controller A
```

```
sscs modify -a array00 -e 2 -d on controller A
```

```
sscs modify -a array00 -E controller B
```

---

# modify date

Modifies the date on the array.

## Synopsis

```
modify -a <array-name> [-G <true | false>] [-s] date  
<HHMM | mmddHHMM | mmddHHMM.SS | mmddHHMMyy | mmddHHMMccyy | mmddHHMMccyy.SS  
>
```

## Description

Modifies the date on the array, allowing you to set the time on the array, or to synchronize the time with the management host (that is, setting the array's time to the management host's time.)

## Options

**-a,--array <array-name>**

Specifies the array for which you want to specify date information.

**-G,--GMT true | false**

Specifies whether to set Greenwich Mean Time (GMT) to true or false. If GMT is set to true, the date is GMT time. If GMT is set to false, the local time zone on the host system is assumed.

**-s, --synchronize**

Specifies whether to synchronize the date with the date on the element manager host. If this option is already set, you will not be able to specify a date.

**date**

Specifies the date.

*mmd*

Specifies the month and day. For example, 0331 is March 31.

*HHMM*

Specifies the hour and minute. The hour is based on a 24-hour clock. For example, 1:30 p.m. is 1330.

*cc*

Specifies the century part of the year.

*yy*

Specifies the two-digit year.

*.SS*

Specifies the seconds of the hour.

## Examples

```
sscs modify -G false date 010112002003.00
```

---

# modify disk

Specifies the disk role.

## Synopsis

```
modify -a <array-name> -h true | false disk <disk-name>
```

## Description

Specifies the disk role.

## Options

**-a, --array** *<array-name>*

Specifies the array associated with this disk.

**-h, --hot-spare** true | false

Specifies whether you want this disk to be a designated hot-spare.

**disk** *<disk-name>*

Specifies the disk that you want to modify.

## Examples

```
sscs modify -a array00 -h true disk t0d01
```

---

# modify fcport

Modifies the Fibre Channel port settings on the specified array.

## Synopsis

```
modify -a <array-name> -c A | B -l <0..127> | N/A | Any fcport <FC-port-ID>
```

## Description

Modifies the Fibre Channel port settings on the specified array.

## Options

**-a, --array** *<array-name>*

Specifies the array associated with this controller.

**-c, --controller** **A** | **B**

Specifies the controller.

**-l, --loop-id** *<0..127>* | N/A | Any

Specifies the preferred loop ID.

**fcport** *<FC-port-ID>*

Specifies the Fibre Channel port number that you want to modify. Ports are specified as A/1 to A/4 and B/1 to B/4. If no FC port is specified, details for all ports are displayed.

## Examples

```
sscs modify -a array00 -c B -l 125 fcport 1
```

---

# modify host

Modifies the host name.

## Synopsis

```
modify -a <array-name> [ -N <host-name> ] [ -g <host-group-name> ] host <host-name>
```

## Description

Modifies the host name. You can have up to 256 hosts per array on the 6130/6140 arrays. The 6540 allows 32 hosts only.

## Options

**-a, --array** <array-name>

Specifies the array associated with this host. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-N, --new-name** <host-name>

Specifies the new name for the host.

**-g, --hostgroup** <host-group-name>

Specifies the host group into which to include this host.

**host** <host-name>

Specifies the current host name.

## Examples

```
sscs modify -a array00 -N host02 host host01
```

---

# modify hostgroup

Modifies the host group name.

## Synopsis

```
modify -a <array-name> -N <host-group-name> hostgroup <host-group-name>
```

Modifies the host group name. You can have up to 256 host groups per array on the 6130/6140 arrays. The 6540 allows 32 host groups only.

## Options

```
-a, --array <array-name>
```

Specifies the array associated with this host group.

```
-N, --new-name <host-group-name>
```

Specifies the new name for the host group.

```
hostgroup <host-group-name>
```

Specifies the current name of the host group that you want to rename.

## Examples

```
sscs modify -a array00 -N hg02 hostgroup hg01
```

---

# modify initiator

Modifies an initiator.

## Synopsis

```
modify -a <array-name> [-h <host-name>] [-N <initiator-name>] [-T wwn  
| initiator_name] [-o solaris_dmp | solaris | sun_storedge |  
sun_storedge_nas_gateway | aix | hpux | linux | lnxavt | irix | ptx  
| netware_failover | netware_non_failover | win2k_clustered |  
win2k_non_clustered | winnt | winnt_non_clustered |  
win2k_non_clustered_dmp | win2k_clustered_dmp | dsp | aixavt |  
winnt_clustered] initiator <initiator-ID>
```



## Description

Modifies the initiator.

## Options

**-a, --array-name** <array-name>

Specifies the array for which you want to modify the initiator. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-h, --hostname** <host-name>

Specifies the new host to be associated with this initiator.

**-N, --new-name** <initiator-name>

Specifies the new initiator name.

**-T, --name-type** wwn | initiator\_name

Specifies the World Wide Name or the initiator name. If *name-type* is not specified, the *initiator-ID* is assumed to be an initiator name. You can modify the WWN if the initiator is offline only.

**-o, --os-type** <OS-type-name>

Specifies the operating system type. Use the command **sscs list -a array-name os-type** to view all of the operating systems that are supported by the array.

**initiator** <initiator-ID>

Specifies the initiator identifier.

## Examples

```
sscs modify -a array00 -N Lexington_01 initiator myInitiator_01
```

---

# modify iperformance

Modifies the settings for iSCSI performance data.

## Synopsis

```
modify -a <array-name> [-S <on|off>] [-p <1|5|15>] [-r  
<forever|1HR|2HR|4HR|1DAY>] [-b <true | false>] iperformance
```

## Description

Modifies the settings for iSCSI performance data.

## Options

**-a, --array** <array-name>

Specifies the name of the array for which you want to modify.

**-S, --status** <on|off>

Enables or disables iSCSI performance monitoring.

**-p, --poll** <1|5|15>

Specifies the poll interval frequency as 1, 5, or 15 minutes.

**-r, --retention** <forever|1HR|2HR|4HR|1DAY>

Specifies the period of time you want to retain the performance data in cache.

**-b, --baseline** <true | false>

Sets the baseline time for the iSCSI array. If true, the current array time is used as the baseline time.

## Examples

```
sscs modify -a iSCSILCA_2 -S on -p 5 iperformance
```

---

# modify iscsi-port

Modifies an iSCSI port.

## Synopsis

```
modify -a <array-name> [-c <A|B>] [-p <3260|49152..65535>] [-m  
<1500..9000>] [-P <enable|disable>] [-d <on|off>] [-i <ip-address>] [-g  
<ip-address>] [-n <netMask>] [-v <enable|disable>] [-V <0..4096>] [-e  
<enable|disable>] [-E <0..7>] iscsi-port <iscsi-port-id>
```

## Description

Modifies an iSCSI port configured for a specified array.

## Options

**a,--array** <array-name>

Specifies the array for which you want to modify the iSCSI port.

**-c,--controller** <A | B>

Specifies the controller.

**-d,--dhcp** <on | off>

Turns DHCP on or off.

**-E,--ethernet-priority-value** <0..7>

Specifies the ethernet priority value.

**-e,--ethernet-priority** <enable | disable>

Enables or disables the ethernet priority.

**-g,--gateway** <ip-address>

Specifies the IP address gateway.

**-i,--ipaddress** <ip-address>

Specifies the IP address.

**-m,--max-trans-unit** <1500..9000>

Specifies the max-trans-unit.

**-n|,-netmask** <netMask>

Specifies the netMask.

**-P,--icmp-ping** <enable | disable>

Enables or disables the ICMP ping feature.

**-p,--port** <3260 | 49152..65535>

Specifies the default port number, 3260, or a port number from 49152 to 65535.

**-v,--VLAN** <enable|disable>

Enables or disables the VLAN feature.

**-V,--VLAN-id** <0..4096>

Specifies the VLAN ID.

**iscsi-port** <iscsi-port-id>

Specifies the iSCSI port ID.

---

## modify iscsi-target

Modifies an iSCSI target.

### Synopsis

```
modify -a <array-name> [-A <alias-name>] iscsi-target <target-name>

modify -a <array-name> -p <3205|49152...65535> iscsi-target <target-name>

modify -a <array-name> -u <none|CHAP|BOTH> iscsi-target <target-name>

modify -a <array-name> -n <enable|disable> iscsi-target <target-name>

modify -a <array-name> -p <3205|49152...65535> -i <enable|disable> -d <on|off> -q <string> iscsi-target <target-name>

modify -a <array-name> -i <enable|disable> -s <enable|disable> [-h <string>] [-p <3205|49152...65535>] iscsi-target <target-name>

modify -a <array-name> -i <enable|disable> -d <on|off> [-q <string>] [-p <3205|49152...65535>] iscsi-target <target-name>
```

### Description

Modifies an iSCSI target configured for a specified array.

### Options

**-a, --array** <array-name>

Specifies the array for which you want to modify the iSCSI target.

**-A, --alias** <alias-name>

An alias defined for the array.

**-p, --port** <3205|49152...65535>

Specifies the default port number, 3205, or a port number from 49152 to 65535.

**-u, --authentication** <none|CHAP|BOTH>

Specifies authentication as none, CHAP, or both.

**-n,--unnamed-discovery** <enable|disable>

Specifies to enable or disable unnamed discovery.

**-s,--stateless** <enable|disable>

Specifies to enable or disable stateless.

**-h,--ip-v6-address** <string>

Specifies the IPv6 address.

**-i,--isns** <enable|disable>

Specifies to enable or disable iSNS.

**-d,--dhcp** <on|off>

Specifies to set DHCP to on or off.

**-q,--ip-address** <string>

Specifies to set the IP address to IPv4.

**iscsi-target** <target-name>

Specifies the iSCSI qualified target name. For example: iqn.1992-01.com.sun:1535.600a0b80002f9da000000000461255f9

## Examples

```
sscs modify --alias fred iscsi-target  
iqn.199201.com.sun:1535.600a0b80002f9da000000000461255f9
```

---

# modify jobs

Cancels or prioritizes a running or outstanding job.

## Synopsis

```
modify -a <array-name> [ -k ] [ -p lowest | low | medium | high | highest  
] jobs [ <job-ID> ]
```

## Description

Cancels or prioritizes a running or outstanding job using the job identification number.

## Options

**-a, --array** <array-name>

Specifies the array for which you want to modify the job or jobs.

**-k, --kill**

Cancels a running or outstanding job or jobs.

**-p, --priority** lowest | low | medium | high | highest]

Specifies an order of priority from which to determine the action of the modification.

**jobs** <job-id>

Specifies the job to be cancelled or prioritized.

## Examples

```
sscs modify -p low jobs VOL:00C1408F84C2
```

---

# modify license

Activates replication set licenses (applicable to 2500 Series only when running firmware version 07.35.nn.nn or higher).

## Synopsis

```
modify -a <array-name> -A [ -v <virtual-disk-name> ] license ReplicationSet
```

Activates replication set licenses on the specified array using the designated virtual disk for replication set repository volumes. If the virtual disk is omitted, the manager chooses an appropriate virtual disk to create the repository volumes.

```
modify -a <array-name> -A -r 1 -n <1..224> [ -k ANY | FC | SAS | SATA ]  
license ReplicationSet
```

Activates replication set licenses on the specified array, creating a new virtual disk with the designated RAID level and disk type for the replication set repository volumes. RAID level 1 is used in combination with number-of-disks 1 to 224.

```
modify -a <array-name> -A -r 3 | 5 | 6 -n <1..30> [ -k ANY | FC | SAS  
| SATA ] license ReplicationSet
```

Activates replication set licenses on the specified array, creating a new virtual disk with the designated RAID level and disk type for the replication set repository volumes. RAID levels 3, 5, or 6 are used in combination with number-of-disks 1 to 30.

```
modify -a <array-name> -A -r 1 | 3 | 5 | 6 -d <disk-name,...> license  
ReplicationSet
```

Activates replication set licenses on the specified array, creating a new virtual disk with the designated RAID level and names of disks to be used for the replication set repository volumes.

```
modify -a <array-name> -I license ReplicationSet
```

Deactivates replication set licenses on the specified array and deletes the replication set repository volumes.

## Options

```
-a, --array <array-name>
```

Specifies the array for which you want to activate or deactivate a replication set license. For cross-platform compatibility, you can substitute `-X, --storage-device` in place of the `-a, --array` option.

```
-A, --activate
```

Activates a replication set license.

```
-I (that is, uppercase letter “i”), --deactivate
```

Deactivates a replication set license.

```
-v, --virtual-disk <virtual-disk-name>
```

Specifies the virtual disk that you want to select.

```
-r, --raid-level 1
```

Specifies the RAID level 1, in combination with number-of-disks 1 to 224.

```
-r, --raid-level 3 | 5 | 6
```

Specifies RAID level 3, 5, or 6, in combination with number-of-disks 1 to 30.

```
-n, --number-of-disks <1..224>
```

Specifies the number of disks, 1 to 224, in combination with RAID level 1.

```
-n, --number-of-disks <1..30>
```

Specifies the number of disks, 1 to 30, in combination with RAID levels 3, 5, or 6.

**-k, --disk-type** ANY | FC | SATA | SAS

Specifies the disk type:

ANY - Any type of disk, including FC, SATA, or SAS.

FC - Fibre Channel

SATA - Serial Advanced Technology Attachment

SAS - Serial Attached SCSI

**-d, --disk** <disk-name>

Specifies the named disk.

**license**

Specifies that you want to modify a license.

**ReplicationSet**

Specifies the license that you want to modify.

## Examples

**sscs modify -a europe -A -v 3 license ReplicationSet**

Activates replication set licenses on the array named europe using existing virtual disk 3 for the replication set repository volumes.

**sscs modify -a corporate -A -r 3 -n 3 -D FC license ReplicationSet**

Activates replication set licenses on the array named corporate, creating a new virtual disk of RAID level 3 with 3 Fibre Channel disks for the replication set repository volumes.

**sscs modify -a corporate -A -r 1 -d t1d01,t2d02 license ReplicationSet**

Activates replication set licenses on the corporate array, creating a new virtual disk of RAID level 1 with 2 specific disks for the replication set repository volumes.

**sscs modify -a europe -I license ReplicationSet**

Deactivates replication set licenses on the europe array. The replication set repository volumes will be deleted.



---

# modify notification

Modifies notification options.

## Synopsis

```
modify -d notification <local_email|trap>
```

```
modify -e notification <local_email|trap>
```

```
modify -p <string>] [-i <string>] [-k <true|false>] [-f <string>] [-f  
<string>] [-u <string>] [-q] [-z <2|4|6|8|10|15|20|30|40|50>] [-o  
<integer>] notification <local_email|trap>
```

```
modify -m <string> -r <string> notification <local_email|trap>
```

## Description

Modifies notification options.

## Options

**-d,--disable**

Disables notification.

**-e,--enable**

Enables notification.

**-f,--from** <string>

Specifies the origin of the notification message.

**-i,--ip** <string>

Specifies the IP address of the device.

**-k,--secure** <true | false>

Specifies whether security is used.

**-m,--test-message** <string>

Specifies to send test message.

**-o,--port** <integer>

Specifies the port.

**-p,--path** <string>

Specifies the path.

**-q,--query-for-password**

Queries for the current password for the registered array.

**-r,--test-address** <string>

Specifies address where test message will be sent.

**-u,--user** <string>

Specifies the user for which notification will be modified.

**-z,--max-size** <2 | 4 | 6 | 8 | 10 | 15 | 20 | 30 | 40 | 50>

Specifies the maximum size of the notification message.

**notification** <local\_email | trap>

*local-email*

Specifies your local email address at which you want to modify the notification.

*trap*

Specifies the SNMP trap notification method to use to receive the notification.

---

## modify performance

Modifies settings for performance monitoring.

### Synopsis

```
modify -a <array-name> [ -S on | off ] [ -p 1 | 5 | 15 ] [ -r forever | 1HR | 2HR | 4HR | 1DAY ] performance
```

### Description

Modifies settings for performance monitoring. To reset performance settings, toggle the status to off and back on again.

### Options

**-a,--array** <array-name>

Specifies the array for which you want to modify the performance.

**-S,--status** on | off

Enables or disables performance monitoring.

**-p,--poll** 1 | 5 | 15

Specifies the poll interval frequency in minutes. The default is 15.

**-r,--retention** forever | 1HR | 2HR | 4HR | 1DAY

Specifies the amount of time to retain data in cache. The default data retention period is 1 hour.

## Examples

```
sscs modify -a array00 -S on -p 5 performance
```

---

# modify pool

Modifies the name or description of the storage pool or the profile with which this pool is associated.

## Synopsis

```
modify -a <array-name> [ -N <new-pool-name> ] [ -d <description> ] [ -p <new-profile-name> ] pool <pool-name>
```

## Description

Modifies the name or description of the storage pool or the profile with which this pool is associated.

You can change the segment size of a volume by a factor of 2 only. For example, a volume with segment size of 32K can only be changed to a segment size of 64K or 16K. To change the segment size to 256K, the volume would first need to be changed to 64K, then 128K, then 256K. Any changes made to the profile of a pool must maintain this segment size restriction for all affected volumes.

## Options

**-a, --array** <array-name>

Specifies the name of the array to associate with this pool. For cross-platform compatibility, you can substitute `-X, --storage-device` in place of the `-a, --array` option.

**-N, --new-name** <new-pool-name>

Specifies a new name for this pool.

**-d, --description** <description>

Specifies a description of the pool. The description can be up to 256 alphanumeric characters, which can include underscores, dashes, colons, commas, parentheses, curly brackets, square brackets, ticks, tildes, bars, periods, or spaces.

**-p, --profile** <profile-name>

Specifies the name of the profile to associate with this pool.

**pool** <pool-name>

Specifies the pool that you want to modify.

## Examples

```
sscs modify -a array00 -d Lexington_01 pool SP048763
```

---

# modify profile

Modifies a storage profile on the array.

## Synopsis

```
modify -a <array-name> [ -r 0 | 1 ] [ -s 8K | 16K | 32K | 64K | 128K |  
256K | 512K ] [ -N <new-profile-name> ] [ -d <profile-description> ] [ -h on |  
off ] [ -n variable | <1..224> ] [ -H <hot-spare> yes | no ] [ -k ANY |  
FC | SAS | SATA ] profile <profile-name>
```

```
modify -a <array-name> [ -r 3 | 5 | 6 ] [ -s 8K | 16K | 32K | 64K | 128K  
| 256K | 512K ] [ -N <new-profile-name> ] [ -d <profile-description> ] [ -h on  
| off ] [ -n variable | <1..30> ] [ -H <hot-spare> yes | no ] [ -k ANY |  
FC | SAS | SATA ] profile <profile-name>
```

## Description

Modifies a storage profile on the array. You cannot modify a profile that is in use and is associated with a storage pool.

## Options

**-a, --array** *<array-name>*

Specifies the name of the array to associate with this profile.

**-r, --raid-level** 0 | 1

Specifies the RAID level: 0 or 1, in combination with number-of-disks 1 to 224.

**-r, --raid-level** 3 | 5 | 6

Specifies the RAID level: 3, 5, or 6, in combination with number-of-disks 1 to 30.

**-s, --segsize** 8K | 16K | 32K | 64K | 128K | 256K | 512K

Specifies the segment size.

**-N, --new-name** *<new-profile-name>*

Specifies a new name for the profile.

**-d, --description** *<profile-description>*

Specifies a profile description. The description can be up to 256 alphanumeric characters, which can include underscores, dashes, colons, commas, parentheses, curly brackets, square brackets, ticks, tildes, bars, periods, or spaces. Enclosing the description in quotation marks retains it exactly as you want it.

**-h, --readahead** on | off

Specifies if the readahead setting is on or off.

**-n, --number-of-disks** variable | *<1..30>*

Specifies the number of disks, 1 to 30, in combination with RAID level 3, 5, or 6.

**-n, --number-of-disks** variable | *<1..224>*

Specifies the number of disks, 1 to 224, in combination with RAID levels 0 or 1.

**-H, --hot-spare** yes | no

Specifies whether you want this disk to be a designated hot-spare.

**-k, --disk-type** ANY | FC | SATA | SAS

Specifies the disk type:

ANY - Any type of disk, including FC or SATA.

FC - Fibre Channel

SATA - Serial Advanced Technology Attachment

SAS - Serial Attached SCSI

**profile** <profile-name>

Specifies the name of the profile to be modified. The profile-name can be up to 12 alphanumeric characters.

## Examples

```
sscs modify -d "my profile description" profile random_5
```

---

# modify repset

Modifies the mode, consistency group, or replication priority of the specified replication set (not applicable to 2500 Series).

## Synopsis

```
modify -a <array-name> [ -m sync | async ] [ -G yes | no ] [ -R lowest  
| low | medium | high | highest ] [ -s enable | disable ] repset  
<repset-name>
```

Modifies the role, mode, consistency group, or replication priority of the specified replication set.

```
modify -a <array-name> [ -r primary | secondary ] [ -f ] repset <repset-  
name>
```

Changes the role of the local volume on the specified array.

```
modify -a <array-name> -c repset <repset-name>
```

Suspends replication on the specified array.

```
modify -a <array-name> -z repset <repset-name>
```

Resumes replication on the specified array.

```
modify -a <array-name> -E repset <repset-name>
```

Tests to determine if the primary volume on the specified array is communicating correctly with its replica (primary or secondary).

## Options

```
-a, --array <array-name>
```

Specifies the array for which you want to activate or deactivate a replication set license. For cross-platform compatibility, you can substitute `-X, --storage-device` in place of the `-a, --array` option.

**-m, --mode** sync | async

Specifies whether the mode is synchronous or asynchronous.

**-G, --consistency-group** yes | no

Specifies whether or not the replication set is part of a consistency group.

**-R, --replication-priority** lowest | low | medium | high | highest

Specifies the priority level for this replication set.

**-s, --auto-sync** enable | disable

Specifies whether or not the auto synchronization policy is enabled. If it is not specified, the default is disable.

**-r, --role** primary | secondary

Specifies whether the role is primary or secondary.

**-f, --force**

If specified, it works with the `-r` option to reverse roles. If communication with the replication peer is not functioning, the role change is still forced on the local volume.

**-c, --suspend**

Suspends temporarily the replication activity. If the replication set is part of a replication consistency group, then all of the replication sets in that group are suspended.

**-z, --resume**

Resumes replicating a replication set that has been suspended, or starts replicating a replication set. If the replication set is part of a replication consistency group, then it sets all of the replication sets in that group to synchronize.

**-E, --test-communication**

Tests communications to a replication set.

## Examples

```
sscs modify -a corporate -r secondary repset oracle/1
```

Changes the role of the local volume on the oracle/1 repset to secondary on the array named corporate.

```
sscs modify -a corp_west -r primary -f repset mail/1
```

Forces the role of the local volume on the mail/1 repset to primary on the sample corp\_west array, even if communications cannot be established with the current primary.

```
sscs modify -a corporate -c repset sap_central/1
```

Suspends replication on the sap\_central/1 repset on the corporate array.

```
sscs modify -a corporate -z repset sap_central/1
```

Resumes replication on the sap\_central/1 repset on the corporate array.

```
sscs modify -a corporate -E repset finance/1
```

Tests to determine if the primary volume finance on the corporate array is communicating correctly with its replica (primary or secondary).

---

## modify snapshot

Modifies the specified snapshot.

### Synopsis

```
modify -a <array-name> [-N <snapshot-name>] [-f <failbasewrite | failsnapshot>]  
[-w <0..100>] [ -D <profile-description> ] snapshot <snapshot-name>
```

Modifies properties of the snapshot.

```
modify -a <array-name> -e <extend-size> snapshot <snapshot-name>
```

Extends the snapshot reserve volume size by a specified amount. This option is mutually exclusive and cannot be used with any other option.

```
modify -a <array-name> -S snapshot <snapshot-name>
```

Disables the snapshot. This option is mutually exclusive and cannot be used with any other option.

```
modify -a <array-name> -R snapshot <snapshot-name>
```

Resnaps the snapshot. This option is mutually exclusive and cannot be used with any other option.

```
modify -a <array-name> [-m <volume-name>] [-c A | B] [-W enable | disable] [-M  
enable | disable] [-b enable | disable] [-k enable | disable] [-r enable |  
disable] snapshot <snapshot-name>
```



Modifies the volume properties of the snapshot reserve volume.

```
modify -a <array-name> [-m <volume-name>] [-c <A|B>] [-W  
<enable|disable>] [-M <enable|disable>] [-b <enable|disable>] [-k  
<enable|disable>] [-r <enable|disable>] [-d <description-text>] snapshot  
<snapshot-name>
```

Modifies the volume properties of the snapshot reserve volume, with snapshot description.

## Description

Modifies the specified snapshot. The arguments resnap and extend are mutually exclusive.

## Options

**-a, --array** <array-name>

Specifies the array associated with this snapshot. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-b, --write-cache-without-batteries** enable | disable

Specifies whether write-cache-without-batteries is enabled.

**-c, --controller** A | B

Specifies the controller.

**-D, --description** <snapshot-description>

Specifies a snapshot description. The description can be up to 256 alphanumeric characters, which can include underscores, dashes, colons, commas, parentheses, curly brackets, square brackets, ticks, tildes, bars, periods, or spaces. Enclosing the description in quotation marks retains it exactly as you want it.

**-d, --description** <description-text>

Specifies snapshot description.

**-e, --extend** <extend-size>

Extends the snapshot reserve volume size by a specified amount.

**-f, --full-policy** failbasewrite | failsnapshot

The full-policy specifies what to do if and when the snapshot fills up:

*Failbasewrite* - Stop allowing writes to the base volume.

*Failsnapshot* - Stop allowing writes to the snapshot. This is the default.

**-k, --disk-scrubbing** enable | disable

Specifies whether disk scrubbing is enabled.

**-m, --reserve-name** <reserve-volume-name>

Specifies the name of the reserve volume.

**-M, --write-cache-with-mirroring** enable | disable

Specifies whether write-cache-with-mirroring is enabled.

**-N, --new-name** <new-snapshot-name>

Specifies a new name for the snapshot.

**-r, --disk-scrubbing-with-redundancy** enable | disable

Specifies whether disk scrubbing-with-redundancy is enabled.

**-R, --resnap**

Resnaps the snapshot.

**-S, --disable**

Disables the snapshot.

**-w, --warning-threshold** <0..100>

Specifies when to inform you that the snapshot reserve volume is near capacity. If a warning-threshold is not specified, 50% is the default.

**-W, --write-cache** enable | disable

Specifies whether the write cache is enabled.

**snapshot** *snapshot-name*

Specifies the name of the snapshot to modify.

## Examples

```
sscs modify -a array00 -V vol0 snapshot vol01_snap
```

---

# modify tray

Modifies information about one or more storage trays in the array.

## Synopsis

```
modify -a <array-name> [ -N <0..99> ] tray [ <tray-name> ]
```

## Description

Modifies information about one or more storage trays in the array.

## Options

```
-a, --array <array-name>
```

Specifies the array associated with this tray.

```
-N, --new-name <0..99>
```

Specifies the new tray name.

```
tray <tray-name>
```

Specifies the tray ID or tray IDs you want to modify. If no tray ID is specified, then the names of all the trays in the array are listed.

## Examples

```
sscs modify -a array00 -n 99 tray 0
```

---

# modify vdisk

Specifies modifications to a virtual disk.

## Synopsis

```
modify -a <array-name> [-N <virtual-disk-name>] [-d <disk-name[,disk-name...]>] [-f] vdisk <virtual-disk-name>
```

```
modify -a <array-name> [-d <disk-name[,disk-name...]>] [-f] vdisk <virtual-disk-name>
```

## Description

Specifies modifications to a virtual disk.

## Options

**a, --array** <array-name>

Specifies the array that is associated with the virtual disk changes.

**-d, --disk** <disk-name,...>

Specifies particular disks to be added to the virtual disk.

**-f, --defragment**

Specifies whether to defragment the virtual disk or virtual disks.

**-N, --new-name** <virtual-disk-name>

Specifies new virtual disk name.

**vdisk** <virtual-disk-name>

Specifies the virtual disk that you want to modify.

## Examples

```
sscs modify -a array00 -d t0d01,t0d02 vdisk vdisk01
```

---

# modify volume

Modifies any of a volume's attributes.

## Synopsis

```
modify -a <array-name> [-p <pool-name>] [-e <string>] [-N <volume-name>] [-c <A|B>] [-m <lowest|low|medium|high|highest>] [-W <enable|disable>] [-M <enable|disable>] [-b <enable|disable>] [-k <enable|disable>] [-r <enable|disable>] [-Z <number<TB|GB|MB|KB|Bytes|BLK|BV>>] [-C <integer>] [-L <low|verylittle|little|average|high|full>] [-l <0..100>] [-f <volume|snapshot>] [-w <0..100>] [-P <pool-name>] [-V <virtual-disk-name>] [-D <description-text>] volume <volume-name>
```

## Description

Modifies a volume's attributes with one or more of the following arguments.

You can change the segment size of a volume by a factor of two only. For example, a volume with segment size of 32K can only be changed to a segment size of 64K or 16K. To change the segment size to 256K, the volume would first need to be changed to 64K, then 128K, then 256K. Any changes made to the profile of a pool must maintain this segment size restriction for all affected volumes.

## Options

**a, --array** *<array-name>*

Specifies the array whose volume you want to modify. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-b, --write-cache-without-batteries** *enable | disable*

Specifies whether write-cache-without-batteries is enabled.

**-C, --snapshot-count** *<integer>*

Specifies the number of intended snapshots for the volume.

**-c, --controller** **A | B**

Changes a volume's preferred and current controller.

**-D, --description** *<description-text>*

Specifies a description of the snapshot.

**-e, --extend** *<extend-size>*

Extends the volume size by a specified amount.

**-f, --favor** *volume | snapshot*

Favors the volume or snapshot.

**-k, --disk-scrubbing** *enable | disable*

Specifies whether disk scrubbing is enabled.

**-L, --snapshot-level** *low | verylittle | little | average | high | full*

Specifies the level of snapshot activity as either low, verylittle, little, average, high, or full. The snapshot levels equate to the following percentages:

**low** - 10%

**verylittle** - 25%

**little** - 40%

**average** - 50%

**high** - 75%

**full** - 100%

**-l,--snapshot-percentage** <0..100>

Specifies what percentage of the volume is to be used for snapshot creation.

**-m** <modification-priority> **lowest** | **low** | **medium** | **high** | **highest**

Specifies the priority of this modification.

**-M,--write-cache-with-mirroring** **enable** | **disable**

Specifies whether write-cache-with-mirroring is enabled.

**-N,--new-name** <new-volume-name>

Specifies a new name for the volume that is being modified.

**-P,--snapshot-pool** <pool-name>

Specifies the name of the snapshot.

**-p,--pool** <pool-name>

Specifies the pool in which the volume resides.

**-r,--disk-scrubbing-with-redundancy** **enable** | **disable**

Specifies whether disk scrubbing-with-redundancy is enabled.

**-V,--reserve-vdisk** <virtual-disk-name>

Specifies a reserve virtual disk.

**volume** <volume-name>

Specifies the volume name.

**-w,--warning-threshold** <0..100>

Specifies when to inform you that the snapshot reserve volume is near capacity. If a warning-threshold is not specified, 50% is the default.

**-W,--write-cache** **enable** | **disable**

Specifies whether the write cache is enabled.

**-Z,--snapshot-reserve-size** <number>TB | GB | MB | KB | Bytes | BLK | BV

Specifies the amount of space you want to reserve for capacity of the snapshot reserve volume.

## Examples

```
sscs modify -a array01 -p pool1 -e 10GB volume V1
```

---

# modify volume-copy

Modifies a volume copy (not applicable to 2500 Series).

## Synopsis

```
modify -a <array-name> -s [ <source-volume-name> ] -t [ <target-volume-name> ]  
[ -p lowest|low|medium|high|highest ] [ -r enable | disable ] [ -R ]  
[ -S ] volume-copy
```

```
modify -a <array-name> -s <volume-name> -t <volume-name> [-p  
<lowest|low|medium|high|highest>] [-r <enable|disable>] volume-  
copy
```

```
modify -a <array-name> -s <volume-name> -t <volume-name> -R volume-copy
```

```
modify -a <array-name> -s <volume-name> -t <volume-name> -S volume-copy
```

## Description

Modifies a volume copy.

## Options

**-a, --array** <array-name>

Specifies the array associated with this volume copy.

**-s, --source-volume** <source-volume-name>

Specifies the source volume name associated with this volume copy.

**-t, --target-volume** <target-volume-name>

Specifies the target volume name associated with this volume copy.

**-p, --priority** **lowest | low | medium | high | highest**

Specifies the priority level for this volume copy.

**-r, --readonly** **enable | disable**

Specifies whether this volume copy is read only or modifiable.

**-R, --recopy**

Specifies that you want to recopy this volume copy.

**-S, --stop**

Specifies that you want to stop this volume copy while in progress.

**volume-copy** *<volume-copy-name>*

Specifies the name of the volume copy that you want to modify.

## Examples

```
sscs modify -a array00 -s vol1 -t vol2 -S volume-copy
```

---

# offline vdisk

Sets a virtual disk offline.

## Synopsis

```
offline -a <array-name> vdisk [ <virtual-disk-name> ]
```

## Description

Sets a virtual disk offline. This can create complications. Do not initiate this command without first consulting Sun Customer Service personnel.

---

**Note** – This command does not apply to all arrays or firmware versions. Use the **--help** command to check proper syntax for your array. For further information on how to use the **--help** command, see [“Getting Help with Commands and Their Syntax” on page 4](#).

---

## Options

**-a, --array** *<array-name>*

Specifies the array on which you want to set the virtual disk offline.

**vdisk**

Specifies the name of the virtual disk.



## Examples

```
sscs offline -a Array01 vdisk VirtualDisk33
```

---

# online vdisk

Sets a virtual disk online.

## Synopsis

```
online -a <array-name> vdisk [ <virtual-disk-name> ]
```

## Description

Sets a virtual disk online. This can create complications. Do not initiate this command without first consulting Sun Customer Service personnel.

## Options

```
-a, --array <array-name>
```

Specifies the array on which you want to set the vdisk online.

```
vdisk
```

Specifies the name of the virtual disk.

## Examples

```
sscs online -a Array01 vdisk
```

---

# reconstruct disk

Initiates a disk reconstruction.

## Synopsis

```
reconstruct -a <array-name> [ -t <tray-name>] disk [ <disk-name> ]
```

## Description

Reconstructs a disk. This can create complications. Do not initiate this command without first consulting Sun Customer Service personnel.

## Options

**-a, --array** *<array-name>*

Specifies the array on which you want to reconstruct the disk.

**-t, --tray** *<tray-name>*

Identifies the tray where the physical disk resides.

**disk**

Specifies the name of the disk.

## Examples

```
sscs reconstruct -a Array01 -t Tray2
```

---

# remove hostgroup

Removes one or more hosts from a host group.

## Synopsis

```
remove -a <array-name> -h <host-name,...> hostgroup <host-group-name>
```

## Description

Removes one or more hosts from a host group.

## Options

**-a, --array** *<array-name>*

Specifies the array associated with this host group.

**-h, --host** *<host-name,...>*

Specifies the host or hosts that you want to remove from this host group.

**hostgroup** *<host-group-name>*

Specifies the host group from which you want to remove hosts.

## Examples

```
sscs remove -a array00 -h host01,host02 hostgroup hg01
```

---

# remove license

Removes the replication set feature license from the specified array (not applicable to 2500 Series).

## Synopsis

```
remove -a <array-name> license <license-name>
```

## Description

Removes the specified feature license from the array.

## Options

```
-a, --array <array-name>
```

Specifies the array associated with this license.

```
license <license-name>
```

Specifies the license that you want to remove from the array. The license name is one of the well-known license names. Use the command `sscs list license` to see these names.

## Examples

```
sscs remove -a corp_west license ReplicationSet
```

Removes a replication set feature license from the array named `corp_west`.

---

# remove notification

Removes a local or remote notification provider.

## Synopsis

```
remove [-e <string[,string...]>] notification <local_email|email-  
filter|trap>  
  
remove [-i <string>] [-o <string>] [-t <string[,string...]>] notification  
<local_email|email-filter|trap>  
  
remove -d <string[,string...]> notification <local_email|email-  
filter|trap>
```

## Description

Removes a local or remote notification provider.

## Options

**-d, --id** <string[,string...]>

Specifies the notification ID being removed.

**-e, --email** <string[,string...]>

Specifies the email address for notification removal.

**-i, --ip** <string>

Specifies the IP address for notification removal.

**-o, --port** <string>

Specifies the port for notification removal.

**-t, --trapnumber** <string[,string...]>

Specifies the trap number associated with notification removal.

**notification local\_email | email-filter | trap**

Specifies that all notifications of the specified type are removed from the given addresses.

**local-email**

Specifies your local email address at which you want to remove the notification.

**email-filter**

Specifies that you want the email filter used.

**trap**

Specifies the SNMP trap notification method to use to remove the notification.

## Examples

```
sscs remove -e john.doe@address.com notification local_email
```

```
sscs remove -t 2 notification trap
```

---

# reset array

Resets the specified array.

## Synopsis

```
reset -a <array-name> -l <array|volume> array
```

## Description

Resets the specified array.

CAUTION: Resetting the array destroys all user data, including volumes, hosts, initiators, and so forth.

## Options

```
-a, --array <array-name>
```

Specifies the array you want to reset.

```
-l, --level <array | volume>
```

Specifies either array or volume to reset. If **volume** option is used, only volume information is erased, while array configuration is retained.

---

# reset controller

Resets the specified controller.

## Synopsis

```
reset -a <array-name> controller A | B
```

```
reset -a <array-name> controller <controller-name>
```

## Description

Resets the specified controller.

## Options

**-a, --array** *<array-name>*

Specifies the array whose controller you want to reset.

**controller A | B**

Specifies the name of the controller to reset, A or B.

**controller**

Specifies the name of the controller to reset.

## Examples

```
sscs reset -a array00 controller A
```

---

# resnap snapshot

Resnaps one or more existing snapshots.

## Synopsis

```
resnap -a <array-name> snapshot <snapshot-name[, snapshot-name...]>
```

## Description

Resnaps one or more existing snapshots. When you resnap a group of snapshots, an array job is created.

When resnapping a group of snapshots, if the resnap operation fails for one snapshot, then the entire resnap operation is cancelled.

## Options

**-a, --array** *<array-name>*

Specifies the array associated with this snapshot.

**snapshot** *<snapshot-name,...>*

Specifies the names of the snapshots that you want to resnap.

## Examples

```
sscs resnap -a array00 snapshot snapshot1, snapshot2
```

Resnaps snapshot1 and snapshot2 on array00.

---

# revive disk

Attempts to bring a disk to the optimal state.

## Synopsis

```
revive -a <array-name> [ -t <tray-id> ] disk [ <disk-name> ]
```

## Description

Attempts to bring a disk to the optimal state. This can create complications. Do not initiate this command without first consulting Sun Customer Service personnel.

## Options

**-a, --array** <array-name>

Specifies the array on which you want to revive the disk.

**-t, --tray** <tray-ID>

Identifies the tray where the disk resides.

**disk**

Specifies the name of the disk.

## Examples

```
sscs revive -a Array01 -t Tray1 disk Disk7
```

---

# revive vdisk

Revives a virtual disk.

## Synopsis

```
revive -a <array-name> vdisk [ <virtual-disk-name> ]
```

## Description

Revives a virtual disk. This can create complications. Do not initiate this command without first consulting Sun Customer Service personnel. A virtual disk must be put offline before attempting revival.

---

**Note** – This command does not apply to all arrays or firmware versions. Use the **--help** command to check proper syntax for your array. For further information on how to use the **--help** command, see [“Getting Help with Commands and Their Syntax” on page 4](#).

---

## Options

**-a, --array** <array-name>

Specifies the array on which you want to revive the virtual disk.

**vdisk**

Specifies the name of the virtual disk.

## Examples

```
sscs revive -a Array01 vdisk VirtualDisk33
```

---

# service fail

Places a field-replaceable unit of an array into a failed state.



## Synopsis

```
service -a <array-name> -t <target-fru-name> fail
```

## Description

Places the specified field-replaceable unit of the array into a failed state.

---

**Caution** – Do not initiate this command without first consulting Sun Customer Service personnel.

---

## Options

**-a, --array <array-name>**

Specifies the array to be placed into a failed state.

**-t, --target <target-fru-name>**

Specifies the name of the field-replaceable unit to be placed into a failed state. This parameter needs to be set to either the FRU name or the FRU ID, both of which can be obtained using variations of the `list fru` command. See [“list fru” on page 42](#) for further details.

## Examples

```
service -a myarray -t t0drive12 fail
```

---

# service redistribute

Redistributes volumes back to their preferred owners.

## Synopsis

```
service -a <array-name> redistribute
```

## Description

Redistributes volumes back to their preferred owners.

## Options

**-a, --array** <array-name>

Specifies the array on which volumes will be redistributed.

## Examples

```
service -a Myarray redistribute
```

---

# service revive

Attempts to place the array controller or disk drive into the optimal state. This can create complications. Do not initiate this command without first consulting Sun Customer Service personnel.

## Synopsis

```
service -a <array-name> -t <target-fru-name> [ -w ] revive
```

## Description

Attempts to place the controller or disk drive of the specified array into the optimal state.

## Options

**-a, --array** <array-name>

Specifies the array to be placed into the optimal state.

**-t, --target** <target-fru-name>

Specifies the name of the field-replaceable unit to be placed into the optimal state. This parameter needs to be set to either the FRU name or the FRU ID, both of which can be obtained using variations of the `list fru` command. See [“list fru” on page 42](#) for further details.

**-w, --no warn**

Skips the warning prompt.

## Examples

```
sscs service -a myarray -t t0drive12 -w revive
```

---

# snapshot volume

Creates and manages snapshots.

**Note:** This command provides cross-compatibility with scripts that are written for the Sun StorageTek 6920 System. The preferred snapshot commands are Create Snapshot and Modify Snapshot.

## Synopsis

```
snapshot  -a <array-name> -v <volume-name> [-C <integer>] [-L
<low|verylittle|little|average|high|full>] [-l <0..100>] [-Z
<number<TB|GB|MB|KB|Bytes|BLK|BV>>] [-f <volume|snapshot>] [-w
<0..100>] [-P <reserve-volume-name>] [-V <virtual-disk-name>] volume <string>
```

Creates a snapshot for a volume <source-volume-name>.

```
snapshot  -a <array-name> -R volume <string>
```

Resnaps a volume.

```
snapshot  -a <array-name> -r volume <string>
```

Removes a snapshot pool.

## Options

```
-a, --array <array-name>
```

Specifies the array to be placed into a failed state.

```
-v, --volume <source-volume-name>
```

Specifies the volume for which to take a snapshot.

```
-C, --snapshot-count
```

Specifies the number of intended snapshots for the volume.

```
-l, --snapshot-percentage <0..100>
```

Specifies what percentage of the volume is to be used for snapshot creation.

```
-L, --snapshot-level low | verylittle | little | average | high | full
```

Specifies the level of snapshot activity as either low, verylittle, little, average, high, or full. The snapshot levels equate to the following percentages:

```
low - 10%
```

verylittle - 25%

little - 40%

average - 50%

high - 75%

full - 100%

**-Z,--snapshot\_reserve\_size** <integer> **TB** | **GB** | **MB** | **KB** | **Bytes** | **BLK**  
| **BV**

**-f,--favor volume** | **snapshot**

Favors the volume or snapshot.

**-w,--warning\_threshold**

Specifies the threshold, as a percentage, at which the management software will generate messages to indicate the level of space left in the reserve volume. By default, the software generates a warning notification when data in the reserve volume reaches 50 percent of the available capacity. Possible values for the warning threshold are 1 to 100 percent.

**-P,--snapshot\_pool** <reserve-volume-name>

Specifies the name to give to the reserve volume.

**-V,--reserve\_name** <snapshot-volume-name>

Specifies the name to give to the reserve virtual disk.

**-R,--resnap** <reserve-disk-name>

Resnaps a volume.

**-r,--remove\_pool**

Removes a snapshot from a storage pool.

**volume** <snapshot-volume-name> | <new-snapshot-name>

Specifies the volume or volumes for the snapshot argument. Once the snapshot volume is created, you can treat it the same as any other volume, except that it cannot be used to create another snapshot.

## Examples

To create a snapshot named volume vol01 from the source volume vol0, type:

```
sscs snapshot -v vol0 volume vol01
```

To resnap the snapshot volume MySnapshot in the storage device MyDevice, type:

```
sscs snapshot -S MyDevice -R volume MySnapshot
```

---

## unmap host

Unmaps one or more snapshots or volumes from a host.

### Synopsis

```
unmap -a <array-name> [-s <snapshot-name,...> ] [ -v <volume-name,...>] host <host-name>
```

### Description

Unmaps one or more snapshots or volumes from a host.

### Options

**-a, --array** <array-name>

Specifies the array on which this volume resides. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-s, --snapshot** <snapshot-name,...>

Specifies the snapshot or snapshots to unmap from the host.

**-v, --volume** <volume-name,...>

Specifies the volume or volumes to unmap from the host.

**host** <host-name>

Specifies the host that you want to unmap from the snapshot or volume.

### Examples

```
sscs unmap -a array00 -v vol01,vol02 host host01
```

---

## unmap hostgroup

Unmaps one or more snapshots or volumes from a host group.

## Synopsis

```
unmap -a <array-name> [ -s <snapshot-name,...> ] -v <volume-name,...> hostgroup <host-group-name>
```

## Description

Unmaps one or more snapshots or volumes from a host group.

## Options

**-a, --array** <array-name>

Specifies the array containing the volume that you want to unmap from the host group.

**-s, --snapshot** <snapshot-name,...>

Specifies the snapshot or snapshots to unmap from the host group.

**-v, --volume** <volume-name,...>

Specifies the volume or volumes that you want to unmap from the host group.

**hostgroup** <host-group-name>

Specifies the host group that you want to unmap from the snapshot or volume.

## Examples

```
sscs unmap -a array00 -v vol01,vol02 hostgroup hg01
```

---

# unmap initiator

Removes the mapping from one or more initiators to a volume or snapshot.

## Synopsis

```
unmap -a <array-name> [ -s <snapshot-volume-name,...> ] [ -v <volume-name,...> ] initiator <initiator-name,...>
```

## Description

Removes the mapping from an initiator to a snapshot or volume.

## Options

**-a, --array** *<array-name>*

Specifies the array associated with the volume or snapshot to be unmapped. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-s, --snapshot** *<snapshot-volume-name,...>*

Specifies the snapshot volumes to be unmapped from this initiator.

**-v, --volume** *<volume-name,...>*

Specifies the volumes to be unmapped from this initiator.

**initiator** *<initiator-name,...>*

Specifies the initiator name to be unmapped.

## Examples

```
sscs unmap -a array00 -v vol01 initiator init1
```

---

# unmap snapshot

Removes the mapping from one or more snapshots to a host or hostgroup.

## Synopsis

```
unmap -a <array-name> [-i <initiator-name>] [-h <host-name>] [-g <hostgroup-name>] snapshot <snapshot-name[,snapshot-name...]>
```

## Description

Removes the mapping from one or more snapshots to a host or hostgroup.

## Options

**-a, --array** *<array-name>*

Specifies the array.

**-i, --initiator** *<initiator-name>*

Specifies the initiator that you want to unmap from the snapshot.

**-h, --host** *<host-name>*

Specifies the host that you want to unmap from the snapshot.

**-g, --hostgroup** *<hostgroup-name>*

Specifies the hostgroup that you want to unmap from the snapshot.

**snapshot** *<snapshot-name[,snapshot-name...]>*

Specifies the snapshot or snapshots to be unmapped.

---

## unmap volume

Unmaps one or more volumes from a host or host group.

### Synopsis

```
unmap -a <array-name> [ -h <host-name> | -g <host-group-name> ] volume <volume-name,...>
```

```
unmap -a <array-name> [-i <initiator-name>] [-h <host-name>] [-g <hostgroup-name>] volume <volume-name[,volume-name...]>
```

### Description

Unmaps one or more volumes from a host or host group.

### Options

**-a, --array** *<array-name>*

Specifies the array containing the volume that you want to unmap from the host or host group. For cross-platform compatibility, you can substitute **-X, --storage-device** in place of the **-a, --array** option.

**-i, --initiator** *<initiator-name>*

Specifies the initiator that you want to unmap from the volume.

**-h, --host** *<host-name>*

Specifies the host that you want to unmap from the volume.

**-g, --hostgroup** *<host-group-name>*

Specifies the host group that you want to unmap from the volume.



**volume** <*volume-name,...*>

Specifies the volume or volumes to unmap from the host.

## Examples

```
sscs unmap -a array00 -g hg01 volume vol01,vol02
```



## SAS Domain Access Configuration Commands for JBOD Arrays

---

This chapter describes the `sscs` commands and their options for SAS domain access configuration on Sun JBOD arrays, including Sun Storage J4200, J4400, and J4500 arrays, Sun Storage F5100 Flash Array, and the Sun Blade 6000 system.

For monitoring and administration commands for all Sun arrays, see [Chapter 3](#). For configuration and other commands that apply only to arrays with RAID controllers, see [Chapter 4](#).

This chapter begins with an overview of using the CLI to perform access configuration tasks, followed by the individual commands and their details:

- [“Overview of Access Configuration with the CLI” on page 200](#)
- [“disable sas-domain” on page 204](#)
- [“enable sas-domain” on page 204](#)
- [“export sas-domain” on page 205](#)
- [“import sas-domain” on page 205](#)
- [“list host-agent” on page 206](#)
- [“list sas-domain” on page 207](#)
- [“list sas-zone” on page 210](#)
- [“list template” on page 212](#)
- [“modify sas-domain” on page 213](#)
- [“reset sas-domain” on page 217](#)

---

# Overview of Access Configuration with the CLI

This section provides a brief overview of using the CLI to perform SAS domain access configuration tasks. For detailed information concerning access configuration, see the *Sun StorageTek Common Array Manager User Guide for Open Storage*, part number 820-6663-xx.

The following topics are discussed:

- [“Viewing Discovered SAS Domains” on page 200](#)
- [“Changing the Domain Name” on page 200](#)
- [“Configuring Access” on page 201](#)
- [“Administering Access Configuration Passwords” on page 203](#)

## Viewing Discovered SAS Domains

To view a list SAS domains, issue the following command:

```
sscs list sas-domain
```

This will provide a brief summary of all SAS domains known to the management station. To obtain detailed information for a specific SAS domain or multiple domains, issue the following command:

```
sscs list sas-domain <sas-domain-name> [ , sas-domain-name... ]
```

For detailed information on these commands, including examples, see [“list sas-domain” on page 207](#).

## Changing the Domain Name

When a SAS domain has been discovered by the management station, its name defaults to the domain’s SAS ID. After viewing the list of discovered SAS domains, if you would like to rename a domain to something more identifiable or meaningful, issue the following command:

```
sscs modify -n <sas-domain-name> sas-domain <sas-domain-name>
```

Note that the first instance of *sas-domain-name* is the new name you choose for the domain, while the second instance is the current domain name.

For detailed information on this command, including alternate variations which change other SAS domain properties, see [“modify sas-domain” on page 213](#).

## Configuring Access

Access between initiators and disks within a SAS domain can be configured manually, with a factory pre-configured template, or with a user-configured template. These options are described below.

### Manual Configuration

To configure initiator to disk access manually, stop all I/O operations on any affected disks, then issue the following command:

```
modify -A -i <initiator-address [ ,initiator-address...]> -d <disk-address [ ,disk-address...]> sas-domain <sas-domain-name>
```

This will associate specified initiators with specified disks to create an access configuration. You can associate one or multiple initiators with one or multiple disks.

For detailed information on this command, including alternate variations which change other SAS domain properties, see [“modify sas-domain” on page 213](#).

### Factory Template Configuration

The Common Array Manager software includes factory default templates which represent common SAS domain access configuration options. [TABLE 5-1](#) lists the available factory templates.

**TABLE 5-1** List of Factory Default Templates

Template Name	Description
F5100-dual-host	Allocate equal numbers of disks to each of two hosts. For use with a single enclosure.
F5100-quad-host	Allocate equal numbers of disks to each of four hosts. For use with a single enclosure.
J4200-dual-host	Allocate equal numbers of disks to each of two hosts. Supports cascade depth of four devices.
J4400-dual-host	Allocate equal numbers of disks to each of two hosts. Supports cascade depth of three devices.

**TABLE 5-1** List of Factory Default Templates

Template Name	Description
J4400DualHost	Partition a single J4400 between two initiator ports.
J4500-dual-host	Allocate equal numbers of disks to each of two hosts. Supports cascade depth of three devices.
J4500-quad-host	Allocate equal numbers of disks to each of four hosts. Does not support any cascading.
Simple Zone Split	Split all current disks evenly across all current initiators.
Unassigned Zone Split	Split all unassigned disks evenly across all current initiators.

Once you have chosen the best template for your configuration, stop all I/O operations on any affected disks and issue the following command:

```
import -t <template-name> sas-domain <sas-domain-name>
```

The factory template configuration will then be applied to the specified SAS domain. For detailed information on this command, including examples, see [“import sas-domain” on page 205](#).

## User Template Configuration

In addition to the factory default templates, you can create your own templates to save access configurations for future use.

### *Saving a User Configuration*

To save a configuration, issue the following command:

```
export -t <filename> sas-domain <sas-domain-name>
```

Replace <filename> with a template name of your choice. Replace <sas-domain-name> with the name of the SAS domain whose configuration you want to save. The new template will then be included in the list of available templates. For detailed information on this command, including examples, see [“export sas-domain” on page 205](#).

### *Restoring a User Configuration*

To restore a user template access configuration, stop all I/O operations on any affected disks and issue the following command:

```
import -t <template-name> sas-domain <sas-domain-name>
```

The user template configuration will then be applied to the specified SAS domain. For detailed information on this command, including examples, see [“import sas-domain” on page 205](#).

## Administering Access Configuration Passwords

Access configuration passwords are stored in both the CAM Array Registration Database and JBOD Array SAS Expander, and must match in order to allow modification operations on a SAS domain. Passwords can be administered in three ways, each using a variation of the **modify sas-domain** command. See [“modify sas-domain” on page 213](#) for complete details.

### Clearing the Password

To clear the access configuration password in the Array Registration Database, issue the following command:

```
modify -c sas-domain <sas-domain-name>
```

This will erase the password on the specified SAS domain and reset it to the factory default of no password.

### Changing the Password

To change (or set) the access configuration password in the Array Registration Database only, issue the following command:

```
modify -C -P <old-password> -N <new-password> sas-domain <sas-domain-name>
```

Use this command to update the password in the Array Registration Database if the password in the database does not match the password in the Array SAS Expander. If setting a new password after it has been previously cleared, substitute `\ "\ "` for `<old-password>`.

### Synchronizing the Password

To change (or set) the access configuration password in both the Array Registration Database and Array SAS Expander, issue the following command:

```
modify -s -N <new-password> sas-domain <sas-domain-name>
```

The passwords for both locations will then match.

---

## disable sas-domain

Disables SAS zoning for a specified SAS domain.

### Synopsis

```
disable sas-domain <sas-domain-name>
```

### Description

Disables SAS zoning for a specified SAS domain.

### Examples

```
disable sas-domain HowiesPlace
```

---

## enable sas-domain

Enables SAS zoning for a specified SAS domain.

### Synopsis

```
enable sas-domain <sas-domain-name>
```

### Description

Enables SAS zoning for a specified SAS domain.

### Examples

```
enable sas-domain HowiesPlace
```



---

## export sas-domain

Copies the configuration of a specified SAS domain to a specified template file.

### Synopsis

```
export -t <filename> sas-domain <sas-domain-name>
```

### Description

Copies the configuration of a specified SAS domain to a specified template file.

### Options

```
-t, --template <filename>
```

Specifies the name of the XML file to which the SAS domain configuration information is saved.

### Examples

Export current configuration for SAS domain PikesPlace to a new template file named test\_template:

```
export -t test_template sas-domain PikesPlace
```

---

## import sas-domain

Restores specified SAS domain configuration information from a specified template.

### Synopsis

```
import -t <template-name> sas-domain <sas-domain-name>
```

### Description

Restores specified SAS domain configuration from a specified template file.

CAUTION: Before executing this command, stop all I/O operations on any affected disks.

## Options

**-t, --template** *<template-name>*

Specifies the name of the template file from which SAS domain configuration information is imported.

## Examples

Import template `test_template` to SAS domain `PikesPlace`:

```
import -t test_template sas-domain PikesPlace
```

---

# list host-agent

List host-agents in a specified SAS domain or the details for specified host-agents in a specified SAS domain.

## Synopsis

```
list [ -d <sas-domain> ] host-agent
```

```
list [ -d <sas-domain> ] host-agent <host-agent name1> [ , host-agent-name2, ... ]
```

## Description

Lists the host-agents in a specified SAS domain or the details for specified host-agents in a specified SAS domain.

## Options

**-d, --sas-domain** *<sas-domain>*

Specifies the SAS domain for which host-agents will be listed.

## Examples

List host-agents in a specified SAS domain:

```
list host-agent
```

```
Name: cam-buffalo
```

```
Name: rocky
```

List details for specified host-agents in a specified SAS domain:

```
list host-agent cam-buffalo
```

```
Name:                                cam-buffalo
Host IP:                             10.30.12.118
Host ID:                              0bba236c
OS Type:                             SunOS x86
OS Version:                          5.10
CAM Version:                         6.3.0.6
```

#### Registered Arrays

```
Name:                                5080020000592B80
Health:                             Degraded
Type:                                F5100
Total Capacity:                     68.663 GB
Available Capacity:0.000 MB
Firmware Version:                   5.3.62.0
```

#### SAS Domains

```
Name:                                508002000046743f.508002000046747f
Entry SAS Address:                  508002000046743f.508002000046747f
No. of Expanders:                   2
No. of End Devices:                 7

Name:                                5080020000592bbf
Entry SAS Address:                  5080020000592bbf
No. of Expanders:                   1
No. of End Devices:                 5
```

#### HBAs

```
SAS Address:                       500605b000809e40
SAS Address:                       500605b000809e44
```

---

## list sas-domain

Lists SAS domains or the details of specified SAS domains.

### Synopsis

```
list sas-domain
```

```
list sas-domain <sas-domain-name> [ , sas-domain-name...]
```

## Description

Lists SAS domains or the details of specified SAS domains.

## Examples

List SAS domains:

```
list sas-domain
```

Name	Devices	Expanders
-----	-----	-----
5080020000467a3f	5	2
5001636000050abf	17	1

List details of a specified SAS domain:

```
list sas-domain 50016360000418bf
```

Name : 50016360000418bf

Id : 50016360000418bf

ArrayId : 50016360000418bf

Zoning state : Disabled

End Device Count : 4

Expander Count : 1

Expanders : 50016360000418bf

Endpoint Count : 40

Initiator Count : 1

Initiator : 500605b00080ac80:0,1,2,3 cam-shaggy:hba:camshaggy:\?\

pci#ven\_1000&dev\_0058&subsys\_31501000&rev\_08#4&31a80f53&0&005

0#{2accfe60-c130-11d2-b082-00a0c91efb8b}

ZPSDS : 50016360000418bf

Group : 0

Groups : 1

Member : Expander 50016360000418bf:3 AlamoSata:sasexpander

Member : Expander 50016360000418bf:4 AlamoSata:sasexpander

```

Member : Expander 50016360000418bf:5 AlamoSata:sasexpander
Member : Expander 50016360000418bf:6 AlamoSata:sasexpander
Member : Expander 50016360000418bf:7 AlamoSata:sasexpander
Member : Expander 50016360000418bf:8 AlamoSata:sasexpander
Member : Expander 50016360000418bf:9 AlamoSata:sasexpander
Member : Expander Sun Feb 22 16:27:04 2009 -:-
50016360000418bf:10 AlamoSata:sasexpander
Member : Expander 50016360000418bf:11 AlamoSata:sasexpander
Member : Expander 50016360000418bf:12 AlamoSata:sasexpander
Member : Expander 50016360000418bf:13 AlamoSata:sasexpander
Member : Expander 50016360000418bf:14 AlamoSata:sasexpander
Member : Expander 50016360000418bf:15 AlamoSata:sasexpander
Member : Expander 50016360000418bf:16 AlamoSata:sasexpander
Member : Expander 50016360000418bf:17 AlamoSata:sasexpander
Member : Expander 50016360000418bf:18 AlamoSata:sasexpander
Member : Expander 50016360000418bf:19 AlamoSata:sasexpander
Member : Expander 50016360000418bf:24 AlamoSata:sasexpander
Member : Expander 50016360000418bf:25 AlamoSata:sasexpander
Member : Expander 50016360000418bf:26 AlamoSata:sasexpander
Member : Expander 50016360000418bf:27 AlamoSata:sasexpander
Member : Expander 50016360000418bf:28 AlamoSata:sasexpander
Sun Feb 22 16:27:04 2009 -:-
Member : Expander 50016360000418bf:29 AlamoSata:sasexpander
Member : Expander 50016360000418bf:30 AlamoSata:sasexpander
Member : Expander 50016360000418bf:31 AlamoSata:sasexpander
Member : Expander 50016360000418bf:32 AlamoSata:sasexpander
Member : Expander 50016360000418bf:33 AlamoSata:sasexpander
Member : Expander 50016360000418bf:34 AlamoSata:sasexpander

```

```

Member : Expander 50016360000418bf:35 AlamoSata:sasexpander
Group : 1
Groups : 1
Member : Expander 50016360000418bf:20,21,22,23 AlamoSata:sasexpander
->
Initiator 500605b00080ac80:0,1,2,3 cam-shaggy:hba:camshaggy:\?\
pci#ven_1000&dev_0058&subsys_31501000&rev_08#4&31a80f53&0&005
0#{2accfe60-c130-11d2-b082-00a0c91efb8b}
Member : Expander 50016360000418bf:0 AlamoSata:sasexpander -> Target
5001636000041888:0 AlamoSata:disk:Disk.00 250.55GB
Member : Expander 50016360000418bf:1 AlamoSata:sasexpander -> Target
5001636000041889:0 AlamoSata:disk:Dis Sun Feb 22 16:27:04 2009 :-
k.01 250.55GB
Member : Expander 50016360000418bf:2 AlamoSata:sasexpander -> Target
500163600004188a:0 AlamoSata:disk:Disk.02 250.55GB
Member : Expander 50016360000418bf:36 AlamoSata:sasexpander ->
sas.endpoint.type.VIRTUAL 50016360000418bd:0
Member : Expander 50016360000418bf:37 AlamoSata:sasexpander

```

---

## list sas-zone

Provides a list of all SAS access configuration (zone) groups and details of those groups.

### Synopsis

```
list sas-zone
```

### Description

Provides a list of all SAS access configuration (zone) groups and their details.

## Examples

NOTE: The following example output is truncated. Actual output is often much longer than what is represented here.

### **list sas-zone**

SAS Zone Groups:

Group: 1

Group With Permission To Id: 1

Key: 50800200004696bf.50800200004696ff.0x1

ZpsdsKey: 50800200004696bf.50800200004696ff

Members:

SAS Address: 50800200004696ff

Type: EXPANDER

Key: 50800200004696ff:28,29,30,31,32,33,34,35

SES Reference: j4500:J4500-2-bottom-test2:sasexpander

Attach Point: 50800200004696bf:28,29,30,31,32,33,34,35

Capacity: null

Model: j4500

Device Name: J4500-2-bottom-test2

Component Name:

Class: sasexpander

SAS Address: 50800200004696bf

Type: EXPANDER

Key: 50800200004696bf:28,29,30,31,32,33,34,35

SES Reference: j4500:J4500-2-bottom-test2:sasexpander

Attach Point: 50800200004696ff:28,29,30,31,32,33,34,35

Capacity: null

Model: j4500

Device Name: J4500-2-bottom-test2

Component Name:

Class: sasexpander

SAS Address: 50800200004696bf

Type: EXPANDER

Key: 50800200004696bf:36

SES Reference: j4500:J4500-2-bottom-test2:sasexpander

Attach Point: 50800200004696bd:0

Capacity: null

Model: j4500

Device Name: J4500-2-bottom-test2

Component Name:

Class: sasexpander

---

# list template

Lists a summary of SAS domain templates or details of specified templates.

## Synopsis

```
list template
```

Lists a summary of all templates known by the management station.

```
list -d <sas-domain-name> template
```

Lists a summary of templates in a specified SAS domain.

```
list template <template-name> [ , template-name...]
```

Lists the details of a specified template or templates.

## Description

Lists a summary of all SAS domain templates known by the current management station, a summary of templates in a specified SAS domain, or details of specified templates.

## Options

```
-d, --sas-domain <sas-domain-name>
```

Specifies the SAS domain for which a template summary is requested.

## Examples

List all templates:

```
sscs list template  
Name: Unassigned Zone Split  
Name: F5100-quad-host  
Name: F5100-dual-host  
Name: J4400DualHost  
Name: test_template  
Name: J4500-dual-host  
Name: Simple Zone Split
```



Name: J4400-dual-host  
Name: J4500-quad-host  
Name: J4200-dual-host

List templates within a specified SAS domain:

```
sscs list -d SAS_Breckenridge template
```

Name: Unassigned Zone Split  
Name: F5100-quad-host  
Name: F5100-dual-host  
Name: J4400DualHost  
Name: J4500-dual-host  
Name: Simple Zone Split  
Name: J4400-dual-host  
Name: J4500-quad-host  
Name: J4200-dual-host

List details of a specified template:

```
sscs list template "Simple Zone Split"
```

Name: Simple Zone Split  
Description: A template that splits all current disks evenly across all current initiators.  
Anchor Points  
Name:JBOD  
Description:SAS JBOD Array  
Candidates:J4500-2-bottom-test2,J4500-2-bottom-test2

---

## modify sas-domain

Modifies specified properties of a SAS domain. There are six variations of this command:

- Rename specified SAS domain
- Clear access configuration password in Array Registration Database
- Modify (or set) access configuration password in Array Registration Database
- Synchronize access configuration password between Array Registration Database and Array SAS Expander
- Associate specified initiators and disks in a SAS domain
- Dissociate specified initiators and disks in a SAS domain.

## Synopsis

```
modify -n <sas-domain-name> sas-domain <sas-domain-name>
```

Renames the specified SAS domain.

See [“Example 1: Rename a SAS Domain” on page 216](#).

```
modify -c sas-domain <sas-domain-name>
```

Clears the access configuration password in the Array Registration Database and resets it to the factory default of no password. NOTE: If the password in the Array SAS Expander is also not set to the default, modification operations on the SAS domain will be prevented.

See [“Example 2: Clear Password” on page 216](#).

```
modify -C -P <old-password> -N <new-password> sas-domain <sas-domain-name>
```

Modifies the access configuration password stored in the Array Registration Database only. The password can be a maximum of 32 alphanumeric characters. If setting a new password after it has been previously cleared, substitute `\ " \` for `<old-password>`. NOTE: If the password in the Array SAS Expander does not match, modification operations on the SAS domain will be prevented.

See [“Example 3: Change Password” on page 216](#).

```
modify -s -N <new-password> sas-domain <sas-domain-name>
```

Modifies the access configuration password in the Array Registration Database and the Array SAS Expander so both passwords match. The password can be a maximum of 32 alphanumeric characters.

See [“Example 4: Synchronize Passwords” on page 216](#).

```
modify -A -i <initiator-address [ , initiator-address... ]> -d <disk-address [ , disk-address... ]> sas-domain <sas-domain-name>
```

Associates specified initiators and disks in a SAS domain. CAUTION: Before executing this command, stop all I/O operations on any affected disks.

See [“Example 5: Associate Initiators and Disks” on page 216](#).

```
modify -D -i <initiator-address [ , initiator-address... ]> -d <disk-address [ , disk-address... ]> sas-domain <sas-domain-name>
```

Dissociates specified initiators and disks in a SAS domain. CAUTION: Before executing this command, stop all I/O operations on any affected disks.

See “[Example 6: Dissociate Initiators and Disks](#)” on page 217.

## Description

This command modifies the specified properties of a SAS domain.

## Options

**-A, --associate**

Associates specified initiators and disks.

**-C, --change-password**

Specifies to change the access configuration password in the Array Registration Database.

**-c, --clear-password**

Specifies to clear the current SAS domain password and reset it to the factory default of no password.

**-D, --dissociate**

Dissociates specified initiators and disks.

**-d, --disk** <disk-address [ , disk-address... ]>

Specifies the SAS addresses of the disks. If using this option, a value must be supplied or else an error message will be returned.

**-i, --initiator** <initiator-address [ , initiator-address... ]>

Specifies the SAS addresses of the initiators. If using this option, a value must be supplied or else an error message will be returned.

**-N, --new-password** <new-password>

Specifies a new access configuration password.

**-n, --new-name** <sas-domain-name>

Specifies a new name for the specified SAS domain.

**-P, --old-password** <old-password>

Specifies the existing access configuration password in the Array Registration Database. If setting a new password after it has been previously cleared, substitute `\ "\ "` for `<old-password>`.

**-s, --synch-password**

Specifies to synchronize the Array Registration Database and Array SAS Expander passwords.

## Examples

These examples use the following sample data:

Current SAS domain name (SAS Address):	50016360000514ff
New SAS domain name:	SAS_Breckenridge
Current access configuration password:	key!stone
New access configuration password:	colo!rado
Initiator-1 SAS address:	500605b0008085d4
Initiator-2 SAS address:	500605b0008088d3
Disk-1 SAS address:	5000c50001b9c8f5
Disk-2 SAS address:	5000c50001b9c4dd
Disk-3 SAS address:	5000c50001b9c83d

---

**Note** – When using special characters, such as “!” used in these example passwords, you must escape them or else the shell will misinterpret the command. The password `key!stone` would thus be entered `key\!stone`.

---

### Example 1: Rename a SAS Domain

```
modify -n SAS_Breckenridge sas-domain 50016360000514ff
```

### Example 2: Clear Password

```
modify -c sas-domain SAS_Breckenridge
```

### Example 3: Change Password

```
modify -C -P key!stone -N colo!rado sas-domain SAS_Breckenridge
```

### Example 4: Synchronize Passwords

```
modify -s -N colo!rado sas-domain SAS_Breckenridge
```

### Example 5: Associate Initiators and Disks

Single initiator to multiple disks:

```
modify -A -i 500605b0008085d4 -d  
5000c50001b9c8f5,5000c50001b9c4dd,5000c50001b9c83d sas-domain  
SAS_Breckenridge
```

Multiple initiators to a single disk:

```
modify -A -i 500605b0008085d4,500605b0008088d3 -d  
5000c50001b9c8f5 sas-domain SAS_Breckenridge
```

Multiple initiators to multiple disks:

```
modify -A -i 500605b0008085d4,500605b0008088d3 -d  
5000c50001b9c4dd,5000c50001b9c83d sas-domain SAS_Breckenridge
```

### Example 6: Dissociate Initiators and Disks

Multiple initiators from a single disk:

```
modify -D -i 500605b0008085d4,500605b0008088d3 -d  
5000c50001b9c4dd sas-domain SAS_Breckenridge
```

Dissociate multiple initiators from multiple disks:

```
modify -D -i 500605b0008085d4,500605b0008088d3 -d  
5000c50001b9c8f5,5000c50001b9c4dd,5000c50001b9c83d sas-domain  
SAS_Breckenridge
```

---

## reset sas-domain

Returns the specified SAS domains to their default settings.

### Synopsis

```
reset sas-domain <sas-domain-name>
```

### Description

Returns the specified SAS domain to the default settings. CAUTION: Resetting the SAS domain changes the zoning state to Disabled, clears the existing access configuration and resets the SAS domain to the default access configuration. The default access configuration is such that there is open access between all initiators and all disks within the SAS domain.

### Examples

```
reset sas-domain SAS_Breckenridge
```



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