HP StorageWorks Storage System Scripting Utility reference

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Legal and notice information

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About this guide

This guide describes how to configure and use the HP StorageWorks Storage System Scripting Utility (the utility) to manage and monitor HP StorageWorks Enterprise Virtual Arrays (EVAs). It provides information about:

- Starting the utility
- Utility commands and syntax

NOTE:

This reference guide describes all the features included in all versions of EVA controller software. See the *HP StorageWorks Enterprise Virtual Array compatibility reference* and the release notes for your array's controller software version for specific feature support.

Intended audience

This guide is intended for operators and administrators of storage area networks (SANs) that include supported HP arrays. The audience is assumed to be skilled in:

- SANs
- Operating systems
- HP StorageWorks Command View EVA
- HP EVAs

Prerequisites

This guide assumes you have installed and configured the following HP products:

- HP StorageWorks EVA hardware and controller software
- HP StorageWorks Command View EVA

For supported arrays, management server hardware and software, and replication environments, including restrictions, see *HP StorageWorks Enterprise Virtual Array compatibility reference*.

Related documentation

You can find these documents from the Manuals page of the HP Business Support Center website:

http://www.hp.com/support/manuals

In the Storage section, click **Storage software** and then select your product.

Document conventions and symbols

Table 1 Document conventions

Convention	Element
Blue text: Table 1	Cross-reference links and email addresses
Blue, underlined text : http://www.hp.com	Website addresses
Bold text	• Keys that are pressed • Text entered into a GUI element, such as a box • GUI elements that are clicked or selected, such as menu and list items, buttons, and check boxes
Italic text	Text emphasis
`Monospace` text	• File and directory names • System output • Code • Commands, their arguments, and argument values
`Monospace, italic` text	• Code variables • Command variables
`Monospace, bold` text	Emphasized monospace text

△ CAUTION:

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

IMPORTANT:

Provides clarifying information or specific instructions.

NOTE:

Provides additional information.

TIP:

Provides helpful hints and shortcuts.

HP technical support

For worldwide technical support information, see the HP support website:

http://www.hp.com/support

Before contacting HP, collect the following information:

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

Subscription service

HP recommends that you register your product at the Subscriber's Choice for Business website: www.hp.com/go/wwalerts .

After registering, you will receive email notification of product enhancements, new driver versions, firmware updates, and other product resources.

HP websites

For additional information, see the following HP websites:

- http://www.hp.com
- http://www.hp.com/go/storage
- http://www.hp.com/service_locator
- http://www.docs.hp.com

Documentation feedback

HP welcomes your feedback.

To make comments and suggestions about product documentation, please send a message to storagedocsFeedback@hp.com. All submissions become the property of HP.

Product feedback

To make comments and suggestions about HP Command View EVA, please send a message to CVfeedback@hp.com.

1 Getting started

The HP StorageWorks Storage System Scripting Utility (the utility) is a command line interface that allows you to configure and control EVA arrays. Use the utility to script and run repetitious and complex configuration tasks. Use HP StorageWorks Command View EVA, the graphical user interface, for simple or initial configuration tasks.

This chapter describes how to start and use the utility.

Installing the utility

The utility is installed on the management server when you install HP Command View EVA. To install the utility on a host, see *HP StorageWorks Command View EVA installation guide*.

Starting the utility

To start the utility:

1. Click the SSSU desktop shortcut  to open the utility.
2. When the utility opens, you are prompted to enter the following information:
   - `Manager:` The server name or IP address of the management server. If you are logged in to the management server, you can use `localhost`.
   - `Username:` The account user name that was created for you during HP Command View EVA installation.
   - `Password:` The account password that was created for you during HP Command View EVA installation.

   If the login fails in interactive mode, HP Storage System Scripting Utility prompts you up to three times, to reenter the host name, user name, and password.
3. To view available arrays, enter the following command:

   ```
   LS SYSTEM
   ```
4. To select an array to manage, enter the following command:

   `SELECT SYSTEM` *system_name*

Use the `SET OPTIONS` command (see "SET OPTIONS" on page 73) to control how the utility behaves for the current session. Each time you start the utility, the default options are reinstated.

Using interactive mode

New choices have been added for interactive mode:

- **Aborting a command.** You can exit any command by pressing **CTRL+C** without exiting the HP Storage System Scripting Utility session.

Syntax

SSSU *arguments*

Arguments are scripts or individual commands.

If you start the utility with arguments, the commands are executed and shown in the command prompt. After the commands are executed, the operating system command prompt is displayed.

If you start the utility without arguments, the prompt NoSystemSelected> is displayed.

Examples

To start the utility and run the snapD1.txt file from the current directory, enter:

```
SSSU "FILE snapD1.txt"
```

To start the utility and run multiple commands, enter:

```
SSSU "cmd1" "cmd2" "cmd3"
```

To include a file path name, enter:

```
SSSU "file \"c:\program files\myotherscript.txt""
```

IMPORTANT:

Enclose file names, commands, and path names that contain spaces in quotation marks.

Default folders and path names

The following default root folders organize array resources:

- Hosts
- Disk Groups
- Data Replication
- Hardware
- Virtual Disks

You can create folders within the Hosts and Virtual Disks root folders, but you cannot create or delete root folders. See "ADD FOLDER" on page 23.

IMPORTANT:

Enclose path and resource names that include spaces in quotation marks. For example:

```
ADD VDISK "\Virtual Disks\new_code" SIZE=10
```

Shortened path names (aliases)

You can use shortened path names (sometimes called aliases) for resources when entering commands. If you do not specify a full name for a resource, the utility checks to see if you are using an alias.

You must specify LUNs with a full name because LUNs are not uniquely identified by numbers. Several virtual disks may contain LUN 1. For example:

```
LS lun \Hosts\MainServer\3
```

The following examples show how to use aliases:

- **Specifying a virtual disk**
  If you have `\virtual_disks\my_virdisk`, you can enter `my_virdisk` for the resource.
- **Specifying a disk group**
  If you have "`\Disk Groups\Default Disk Group`", you can enter "`Default Disk Group`" for the resource.
- **Specifying a host**
  If you have `SET host \Hosts\h1 name=h2`, you can enter `set host h1 name=h2`.
- **Adding a snapshot**
  If you want to add a snapshot *mysnap*, instead of entering `add snapshot mysnap vdisk= "\Virtual Disks\mydisk\ACTIVE,"` you can enter `add snapshot mysnap2 vdisk= mydisk`.
- **Deleting a virtual disk**
  If you want to delete the virtual disk *mydisk*, instead of entering "`\Virtual Disks\mydisk\`," you can enter `delete vdisk mydisk`.

Managing output

Use the following choices to manage output:

Formatting output

The default command output is:

```
XML element : value
```

To specify XML output, add the XML option. For example:

```
LS vdisk vd01 XML
```

This command produces the following XML output:

```
<objectname>\Virtual Disks\vd01\ACTIVE</objectname>
```

Redirecting output

For any command the output can be redirected to a file using the > operator and specifying a file name as displayed in the following example:

```
LS VDISK FULL > OUTPUT.TXT
```

Filtering output

For any command the output can be filtered using the | operator, grep keyword and specifying the search string as displayed in the following example:

```
LS VDISK FULL | grep Vdisk00
```

If you use both output redirect and filter in a single command, you should use filter command first as shown in the following example:

```
LS VDISK FULL | grep SIZE > OUTPUT.TXT
```

NOTE:

The *grep* command in uppercase letters (GREP) is not supported.

Executing a grep command and redirecting output in a file may not work together in Unix Environments. However, output can be captured by specifying the grep command with in script file and executing it using a FILE command with redirection.

Commands requiring a license

Some utility commands require an HP Business Copy EVA license, an HP Command View EVA license, or an HP Continuous Access EVA license. Attempting to use any of the commands listed in Table 2 without having the required license returns an error message. You must enter the appropriate license in HP Command View EVA to continue. See *HP StorageWorks Command View EVA user guide* for instructions.

Table 2 Commands requiring a license

Command	HP Command View EVA license	HP Business Copy EVA license	HP Continuous Access EVA license
Add vdisk	X		
Expanding vdisk1	X		
Add Disk Group	X		
Adding disk to disk group	X		
Add Snapclone	X	X	
Detaching Mirrorclone	X		
Adding DR group2	X		X
Adding vdisk to DR group2	X		X
Add Snapshot3		X	
Add Mirrorclone		X	

Command	HP Command View EVA license	HP Business Copy EVA license	HP Continuous Access EVA license

1. Requires valid HP Command View EVA and HP Continuous Access EVA licenses at source and destination if the virtual disk is a member of a DR group.
2. Requires a valid HP Command View EVA license at destination and a valid HP Continuous Access EVA license at source and destination.
3. An HP Business Copy EVA license is not required if the source virtual disk already has snapshots.

Administrator and user commands

There are two types of users: *HP Storage Administrators* and *HP Storage Users*. HP Storage Administrators have the privilege to execute the complete set of commands. The complete set of commands is listed in Table 4 on page 93. HP Storage Users may execute only the subset of commands that are listed in Table 3.

Table 3 HP Storage User commands

CAPTURE	CONFIGURATION
	VALIDATE
EMVERSION	
EXIT	
FILE	
HELP	
LS	CABINET
	CONTAINER
	CONTROLLER
	DISK
	DISK_GROUP
	DISKSHELF
	DR_GROUP
	FOLDER
	HOST
	ISCSI_CONTROLLER
	ISCSI_HOST
	ISCSI_IPHOST
	ISCSI_LUN
	LUN

	MANAGER
	OPTIONS
	SNAPSHOT
	SYSTEM
	TIME
	VDISK
	WORLD_WIDE_NAME
PAUSE	
SELECT	MANAGER
	SYSTEM
SET	OPTIONS

Managing SSSU passwords

In the SELECT MANAGER command, the Password switch is optional, which can assist you in the removal of passwords from scripts. When the Password switch is not used with the SELECT MANAGER command, SSSU looks for the password in the password file, based on Manager and Username. If the password is not available for the corresponding Manager and Username combination, SSSU exits. When the Password switch is used with the SELECT MANAGER command, SSSU does not look for the password in the password file, even if the password is wrong. For information on the commands that govern password authentication, see "Password Authentication commands" on page 59.

2 Commands

This chapter describes the commands and options available in the utility, including syntax and examples. The commands are presented in alphabetical order.

Command tips

When you issue commands, remember:

- The syntax for each command includes required options.
- You can use aliases to specify names.
- If a path name contains a space, enclose the entire name in quotation marks.
- An equal sign in the option name indicates an entry is required with the option.
- You can use shortcuts for command names. For example, a shortcut for `EMVERSION` could be `EM`. (Note that using just the letter E would not make the command unique because `EXERCISE_DISK` also starts with the letter E.)
- Command keywords are not case sensitive. User-created object names may be case-sensitive if they are intentionally created with upper and lowercase characters.

NOTE:

The *grep* command in uppercase letters (GREP) is not supported.

- To view a list of options for a command, enter a question mark (?) after the command or option name. For example, `ADD ?` displays the options available for the `ADD` command, and `ADD SYSTEM ?` displays the options available for the `ADD SYSTEM` command (see "HELP" on page 49).
- Although this reference shows commands spanning more than one line, always enter the command on one line.
- You can perform only one property change per `SET` command.

ADD CONTAINER

The `ADD CONTAINER` command reserves disk space for creating copies of virtual disks (snapshots and snapclones). Reserving space allows you to quickly and safely create a copy because the space for the copy is already reserved and available. You must specify the size of the container when you create it (there is no default).

After you create the copy, it becomes another virtual disk. You can reverse the process and convert a virtual disk to a container using the `SET VDISK` *`vdiskname`* `CHANGE_INTO_CONTAINER` command.

If you do not specify a disk group, the copy is created in the default disk group. If the default disk group does not exist, an error message is generated.

Syntax

```
ADD CONTAINER container_name SIZE=container_size
```

Options

The following options are available with the ADD CONTAINER command.

disk_group	The name of the disk group in which you want to create the container.
redundancy	The data protection level of the virtual disk. If not specified, the default is Vraid1. • Vraid0—Provides no data protection. It distributes data among its member disks into stripes and uses all members to process I/O requests. This method has no overhead associated with duplication of information and provides the highest performance. • Vraid1—Provides the highest level of data protection but uses the most space. It copies data written to one disk to a backup disk. In a multidisk configuration, Vraid1 mirrors each pair of disks to each other. These disk pairs can then be striped to create a virtual disk. • Vraid5—Provides a moderate level of data protection. It distributes the parity information among all member disks. If one drive fails, the failed disk can be re-created after it is replaced. • Vraid6—Provides the best level of data protection. It has a dual parity and distributes the parity information among all member disks. Virtual disks of type Vraid6 can withstand up to two drive failures before data loss.
size	The size of the container in gigabytes (GB).

ADD COPY

The ADD COPY command creates a copy of the specified virtual disk. A copy is a new virtual disk. The ADD COPY command is equivalent to creating a snapclone in HP Command View EVA.

Syntax

```
ADD COPY copy_name VDISK=virtual_disk_name
```

Options

The following options are available with the ADD COPY command.

container	The name of the container to be used for the copy. The container must already exist to use this option. If not specified, the ADD COPY command dynamically allocates the storage before creating the copy.

`disk_group`

The name of the disk group in which you want to create the copy. The disk group must already exist to use this option. If not specified, the `ADD COPY` command uses the same group as the source virtual disk.

NOTE:

The source virtual disk must be set to `WRITECACHE=writethrough` before a preallocated snapclone (using a container) can be created. See "SET VDISK" on page 77 for more information.

`nowait_for_completion`

Does not wait for the command to finish before displaying the utility command prompt or running another command or script. Some operations are invalid until the initial operation finishes in the background.

`os_unit_id`

The ID presented to the host operating system. If set to zero, no ID is presented to the host. This option is used for IBM AIX (set to zero), OpenVMS (required), and Tru64 UNIX (recommended). Other host operating systems ignore this option.

`redundancy`

The data protection level of the virtual disk. If not specified, the default is the same as the source virtual disk.

- `Vraid0`—Provides no data protection. It distributes data among its member disks into stripes and uses all members to process I/O requests. This method has no overhead associated with duplication of information and provides the highest performance.
- `Vraid1`—Provides the highest level of data protection but uses the most space. It copies data written to one disk to a backup disk. In a multidisk configuration, `Vraid1` mirrors each pair of disks to each other. These disk pairs can then be striped to create a virtual disk.
- `Vraid5`—Provides a moderate level of data protection. It distributes the parity information among all member disks. If one drive fails, the failed disk can be re-created after it is replaced.

  For more information about Vraid levels, see the HP StorageWorks Replication Solutions Manager documentation.
- `Vraid6`—Provides the best level of data protection. It has a dual parity and distributes the parity information among all member disks. Virtual disks of type Vraid6 can withstand up to two drive failures before data loss.

`vdisk`

The name of the virtual disk to be copied.

`wait_for_completion`

Waits for the command to finish before displaying the utility command prompt or running another command or script. For virtual disks larger than 1 TB, using this option can result in a long waiting period before the utility command prompt appears.

NOTE:

If the `wait_for_completion` option is used with an `ADD COPY` command, the array to which the command is issued stops executing further management commands from any other session until the `ADD COPY` command is complete.

`world_wide_lun_name`

The world wide LUN name of the virtual disk.

Examples

Create a copy of `payroll` named `wednesday_nite`:

```
ADD COPY wednesday_nite vdisk="\Virtual Disks\payroll"
```

Create a copy of `daily_biz` named `save_reports` within the specified disk group:

```
ADD COPY save_reports vdisk="\Virtual Disks\daily_biz"
disk_group="\Disk Groups\small_disks"
```

NOTE:

When you use the `ADD COPY` command, you are creating a virtual disk. To delete the virtual disk, use the `DELETE VDISK` command.

ADD DISK_GROUP

The `ADD DISK_GROUP` command adds disk groups to the array.

Syntax

```
ADD DISK_GROUP group_name
```

Options

The following options are available with the `ADD DISK_GROUP` command.

`comment`
Associates a user-defined comment with the disk group. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.

`device_count`
The number of physical disks to use for this group. The limit is the number of available disks in the array. The default and minimum value is 8.

NOTE:

The default and minimum value is 6 if the `diskgroup_disktype` is `solidstatedisk`.

`diskgroup_disktype`
Determines the types of disks to be considered for creating the disk group. The default value is `online`.

- `Online`—Only online Fibre Channel disks are considered for creating the default disk group.
- `Near_online`—Only near-online Fibre Channel disks are considered for creating the default disk group.
- `Solidstatedisk`—Only solid-state disks are considered for creating the default disk group.

`diskgroup_type`
Specifies the type of disk group to create. The following types are supported.

- `Enhanced`—Creates a `Vraid6` enabled disk group. This disk group can be used to create virtual disks of type Vraid6, in addition to the other supported Vraid levels.
- `Basic`—Creates a legacy disk group which does not support Vraid6.

`occupancy_alarm` — The point when a defined percentage of space is used. When this point is reached, an event is generated and sent to the management server (or the host) informing the administrator that the group is reaching full capacity. Do not use the percent sign (%) after the number. The default is 95%.

`spare_policy` — Determines the amount of storage space, if any, set aside for use in the event that disks fail. The default is `single`. The space set aside is not in numbers of physical disks. It is the equivalent amount of storage space spread across all disks.

- `None`—Reserves no space within a disk group to allow for data reconstruction in case of a disk drive failure

NOTE:

Using a spare policy of none can cause data loss and is not recommended.

- `Single`—Reserves space within a disk group to allow for data reconstruction in case of a failure of one disk drive
- `Double`—Reserves space within a disk group to allow for data reconstruction in case of a failure of two disk drives

Example

The following example creates a new disk group, `human_resources`. It has 12 physical disks with the equivalent of one disk set aside as a spare, and sends an event to the array when 75% of capacity is reached.

```
ADD DISK_GROUP "\Disk Groups\human_resources" device_count=12
spare_policy=SINGLE occupancy_alarm=75
```

ADD DR_GROUP

The `ADD DR_GROUP` command creates a data replication (DR) group containing the specified source virtual disk. This source virtual disk is replicated on the specified destination array. For information about DR groups, see *HP StorageWorks Continuous Access EVA administrator guide*.

Syntax

`ADD DR_GROUP` *`dr_group_name`* `VDISK=`*`virtual_disk_name`* `DESTINATION_SYSTEM=` *`destination_array_name`*

Options

The following options are available with the `ADD DR_GROUP` command.

`accessmode`	The access rights for a connected host. Possible values are `presentonly`, `readonly`, and `disable`. The default is `disable`, which is the recommended setting. In the user interface, the `disable` setting displays as `none`. NOTE: Setting `ACCESSMODE` to `readonly` or `presentonly` can seriously impede the host operating system.
`comment`	Associates a user-defined comment with the DR group. The maximum number of characters is 64 (including spaces) and the string must be enclosed in quotes.
`destination_disk_group`	The disk group in which the virtual disk on the destination array is created.
`destination_system`	The destination array on which the virtual disk is created.
`destination_vdisk_name`	The name of the virtual disk created on the destination array. By default, the virtual disk name on the destination array is the same as on the source array.
`fullcopy_autosuspend`	Suspends DR link when a full copy is triggered, enabling you to choose a convenient time to start the full copy. Possible values are enable and disable (default).
`link_down_autosuspend`	When enabled, DR group replication is automatically suspended if the link between the arrays goes down. Replication remains suspended even if the link becomes active again. Possible values are `enable` and `disable`.
`log_destina-tion_disk_group`	The disk group for the DR log disk on the destination array.
`log_source_disk_group`	The disk group for the DR log disk on the source array.
`max_log_size`	The maximum size of the DR log disk. The log size range depends on EVA model and write mode. • 136-MB (278528blocks) - 2-TB (4294967296blocks)—Log size range if DR is in synchronous/asynchronous mode for EVA 3000 and EVA 5000, and in synchronous mode for EVA 4000/4100, EVA 6000/6100 and EVA8000/8100. • 5-GB (10485760 blocks) - 2-TB (4294967296blocks) –Log size range for DRs in the rest of the combination of hardware model and write mode. If the log size is left blank or set to 0 (zero), the controller software calculates the optimum log size for the available space.
`targetredundancy`	The redundancy level of the virtual disk being created on the destination array.
`vdisk`	The name of the source virtual disk being added to the DR group. A destination virtual disk is automatically created on the destination array.
`writemode`	The I/O interaction between the destination and the source. Possible values are `synchronous` (default) and `asynchronous`.

Example

The following example creates a DR group named `Transactions` that contains the source virtual disk `\Virtual Disks\Hawaii`. This DR group will connect to the destination array `remote_scell`,

on which the destination virtual disk `\Virtual Disks\Hawaii` (same as the source by default) is created and added to the destination DR group.

```
ADD DR_GROUP Transactions destination_system=remote_scell
vdisk=”\Virtual Disks\Hawaii”
```

ADD FOLDER

The `ADD FOLDER` command creates a new folder within the specified folder to aid in organizing your array. You can only create folders under the `Virtual Disks` and `Hosts` root folders. You cannot create root folders.

For example, if you have a controller that is serving Human Resources (HR) and Engineering, you could create four folders—two for the virtual disks and two for the hosts:

- `\Virtual Disks\Engineering` and `\Virtual Disks\HR`
- `\Hosts\Engineering` and `\Hosts\HR`

Creating these folders allows you to put Engineering virtual disks and hosts in the Engineering folders and HR virtual disks and hosts in the HR folders. This makes it easier to keep track of the components in the array. To nest folders inside folders, you must add one folder at a time.

Syntax

`ADD FOLDER` *`folder_name`*

Options

The following option is available with the `ADD FOLDER` command.

`comment`	Associates a user-defined comment with the folder. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.

Examples

Create a new folder `human_resources` within the root folder `Hosts`:

```
ADD FOLDER \Hosts\human_resources
```

Create the `engineering` folder within the existing folder structure:

```
ADD FOLDER"\Virtual Disks\colorado\colorado springs\engineering"
```

ADD HOST

The `ADD HOST` command adds a host and its world wide name (WWN) to the list of hosts that can connect to virtual disks in the current array.

The `ADD HOST` command adds one Fibre Channel adapter (FCA) only. Use the SET HOST command to add each subsequent FCA.

Syntax

`ADD HOST` *`host_name`* `WORLD_WIDE_NAME=`*`FCA-WWN`*

Options

The following options are available with the ADD HOST command. The WORLD_WIDE_NAME option is required to ensure that HP Command View EVA recognizes the host you are adding.

comment	Associates a user-defined comment with the host. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.
ip	The network IP address. If the IP address is not specified, the name of the host is used as a DNS name.
operating_system	The operating system of the specified host. To set a default operating system, select **User interface options** from Management Server Options window in the user interface. Select one of the following operating systems (they are listed as they appear in the utility): • CUSTOM= (You must include the equal sign after CUSTOM and the value must be 16-digit hexadecimal characters.) • HPUX • IBMAIX • LINUX • MACOSX • OPEN_VMS • SOLARIS • TRU64 • UNKNOWN • VMWARE • WINDOWS • WINDOWS2008
world_wide_name	The WWN of the FCA.

Example

Add the host development with the WWN of 5000-1fe1-ff00-0000:

```
ADD HOST \Hosts\development WORLD_WIDE_NAME=5000-1fe1-ff00-0000
```

ADD ISCSI_CONTROLLER

The ADD ISCSI_CONTROLLER command performs an automatic discovery of iSCSI controllers or adds an iSCSI controller.

Syntax

```
ADD ISCSI_CONTROLLER
```

Options

The following option is available with the ADD ISCSI_CONTROLLER command.

ip	Enter the IP address of an iSCSI controller or enter auto to perform an automatic discovery.

Example

Add an iSCSI controller with the management port IP address of `16.112.98.124`:

```
ADD ISCSI_CONTROLLER ip=16.112.98.124
```

ADD ISCSI_HOST

The `ADD ISCSI_HOST` command adds an iSCSI host and its iSCSI IP host to the list of iSCSI hosts that can connect to virtual disks in the current array. It adds one iSCSI IP host only.

Syntax

```
ADD ISCSI_HOST iSCSI_host_name ISCSI_IPHOST=iSCSI_IP_host_name
```

Options

The following options are available with the `ADD ISCSI_HOST` command. The `ISCSI_IPHOST` option is required to ensure that HP Command View EVA recognizes the iSCSI host you are adding.

`comment`	Associates a user-defined comment with the iSCSI host. The maximum number of characters is 128, including spaces; the string must be enclosed in quotes.
`operating system`	The operating system of the specified iSCSI host. Select one of the following: • LINUX • MACOSX • OPEN_VMS • OTHER • SOLARIS • VMWARE • WINDOWS • WINDOWS2008

Example

Add the iSCSI host named development with the iSCSI IP host named iqn.1991–05.com.microsoft:aittest5.americas.mycompany.net:

```
ADD ISCSI_HOST \Hosts\development ISCSI_IPHOST=
iqn.1991–05.com.microsoft:aittest5.americas.mycompany.net
```

NOTE:

In the graphical user interface, LINUX displays as Linux/OS X.

ADD ISCSI_LUN

The `ADD ISCSI_LUN` command makes virtual disks available to iSCSI IP hosts.

NOTE:

A virtual disk is eligible for iSCSI initiator presentation only after it is presented to the iSCSI Fibre Channel host.

Syntax

```
ADD ISCSI_LUN VDISK=virtual_disk_name ISCSI_HOST=iSCSI_host_name
```

Options

The VDISK= and ISCSI_HOST= options are required.

vdisk	The name of the virtual disk that is presented to the host.
iscsi_host	The name of the iSCSI host to which the LUN is presented.

Example

Present the payroll virtual disk to the iSCSI host development:

```
ADD ISCSI_LUN VDISK="\Virtual Disks\payroll" ISCSI_HOST=development
```

ADD LICENSES

The ADD LICENSES command adds licenses of an array to HP Command View EVA license data. The file containing the license information should be located on the same system on which SSSU is running.

The following details apply to the license file:

- Each license key string in the file should start on a new line.
- The file can contain a maximum of 20 licenses.
- The acceptable file extensions are .dat and .txt.

Syntax

```
ADD LICENSES license_filepath
```

Example

Add the license information included in file C:\licenses\test_array_licenses.txt:

```
ADD LICENSES C:\licenses\test_array_licenses.txt
```

ADD LUN

The ADD LUN command makes virtual disks available to a host.

Syntax

`ADD LUN` *`LUN_number`* `HOST=`*`host_name`* `VDISK=`*`virtual_disk_name`*

Options

The `HOST=` and `VDISK=` options are required with the `ADD LUN` command.

`host`	The name of the host to which the LUN is presented.
`vdisk`	The name of the virtual disk that is presented to the host. A mirrorclone can only be presented to a host if it is fractured.

NOTE:

If the LUN_number is passed as a zero (0), then HP Command View EVA assigns the next available LUN number.

Examples

Add LUN 12, which presents the `payroll` virtual disk to the host `sanfran`:

```
ADD LUN 12 VDISK="\Virtual Disks\payroll" HOST=\Hosts\sanfran
```

Using aliases, add `LUN 175`, which presents the `user_disk` virtual disk to the host `corporate`:

```
ADD LUN 175 VDISK=user_disk HOST=corporate
```

ADD MIRRORCLONE

The `ADD MIRRORCLONE` command creates a copy of a source virtual disk. The mirrorclone can remain synchronized with the virtual disk or you can fracture the link to create a point-in-time copy.

Syntax

`ADD MIRRORCLONE` *`mirrorclone_name`* `VDISK=`*`virtual_disk_name`* `CONTAINER=` *`container_name`*

Options

The following options are required with the `ADD MIRRORCLONE` command.

`container`	The name of the container to be used for the virtual disk mirrorclone. The container must already exist.
`vdisk`	The source virtual disk of the mirrorclone.

Example

Create the mirrorclone `test2` from the virtual disk `payroll`:

```
ADD MIRRORCLONE test2 VDISK="\Virtual Disks\payroll" CONTAINER=container1
```

ADD MULTISNAP

The ADD MULTISNAP command creates multiple snapshots and snapclones, up to 28 at a time. You can combine snapshots and snapclones.

Syntax

```
ADD MULTISNAP snapname VDISK=source_virtual_disk_name CONTAINER=container_name
SNAPSHOT|SNAPCLONE snapname VDISK=source_virtual_disk_name CONTAINER=container_name
SNAPSHOT|SNAPCLONE snapname VDISK=source_virtual_disk_name CONTAINER=container_name
SNAPSHOT|SNAPCLONE snapname....
```

Options

The following options are available with the ADD MULTISNAP command.

container	The name of the container to be used for the virtual disk copy. The container must already exist.
vdisk	The name of the virtual disk to be copied.
snapshot	Creates a snapshot of the virtual disk.
snapclone	Creates a snapclone (copy) of the virtual disk.

Example

Create a snapshot of the virtual disk payroll and snapclones of the virtual disks hrd and finance:

```
ADD MULTISNAP tonightsnap VDISK="\Virtual Disks\payroll" CONTAINER=
container1 SNAPSHOT hrdkp VDISK="\Virtual Disks\hrd" CONTAINER=container2
SNAPCLONE financebkp VDISK="\Virtual Disks\finance" CONTAINER=container3
SNAPCLONE
```

ADD SNAPSHOT

The ADD SNAPSHOT command creates a dependent, point-in-time copy of a virtual disk. It is dependent because data is not actually copied to the snapshot until it is overwritten on the source.

Syntax

```
ADD SNAPSHOT snapshot_name VDISK=source_virtual_disk_name
```

Options

The following options are available with the ADD SNAPSHOT command.

`allocation_policy`	Indicates how the space for the snapshot is to be allocated: • `Demand`—The array allocates only enough space to store metadata and pointers to the source data. As the source is overwritten, the array allocates more space and copies the original data to the snapshot. • `Fully`—The array allocates space equal to the capacity of the source virtual disk, plus space for metadata and pointers to the source data. As the source is overwritten, the array copies the original data to the snapshot.
`container`	The name of the container to be used for the virtual disk snapshot. The container must already exist.
`os_unit_id`	The ID presented to the host operating system. If set to zero, no ID is presented to the host. This option is used for IBM AIX (set to zero), OpenVMS (required), and Tru64 UNIX (recommended). Other host operating systems ignore this option.
`redundancy`	The data protection level of the virtual disk. If not specified, the default is the same as the source virtual disk. • `Vraid0`—Provides no data protection. It distributes data among its member disks into stripes and uses all members to process I/O requests. This method has no overhead associated with duplication of information and provides the highest performance. • `Vraid1`—Provides the highest level of data protection but uses the most space. It copies data written to one disk to a backup disk. In a multidisk configuration, `Vraid1` mirrors each pair of disks to each other. These disk pairs can then be striped to create a virtual disk. • `Vraid5`—Provides a moderate level of data protection. It distributes the parity information among all member disks. If one drive fails, the failed disk can be re-created after it is replaced. • `Vraid6`—Provides the best level of data protection. It has a dual parity and distributes the parity information among all member disks. Virtual disks of type Vraid6 can withstand up to two drive failures before data loss.
`vdisk`	The source virtual disk for the snapshot. A fractured mirrorclone can be the source of a snapshot.
`world_wide_lun_name`	The world wide LUN name of the snapshot

Examples

Create the snapshot `payroll_backup` from the virtual disk `payroll` that uses capacity only as needed:

```
ADD SNAPSHOT payroll_backup VDISK="\Virtual Disks\payroll"
ALLOCATION_POLICY=demand
```

Create the snapshot `wed_nite_biz` from the virtual disk `daily_biz` while reserving all capacity required to create the snapshot:

```
ADD SNAPSHOT wed_nite_biz VDISK=daily_biz ALLOCATION_POLICY=fully
```

NOTE:

To delete snapshots created with `ADD SNAPSHOT`, use the `DELETE VDISK` command.

ADD SYSTEM

The ADD SYSTEM command initializes an array and creates a default disk group. You must select an uninitialized array before issuing the ADD SYSTEM command. If the array is already initialized, the command is rejected.

HP recommends that you use unique names for each array. For example, if you are adding an array to a SAN and the name for that array is the same as another array that exists in the SAN, you should change the name of the new array before adding it to the SAN. A SAN that contains arrays with duplicate names may result in unpredictable behavior.

Use the LS SYSTEM command (see "LS SYSTEM" on page 57) to display a list of uninitialized arrays.

After initialization is complete, the utility changes the default prompt back to NoSystemSelected.

When you initialize an array, the name of the array changes. Therefore, you must reselect the array. Issue the SELECT SYSTEM command using the new name of the array.

NOTE:

"Configuring an array using the utility" on page 83 shows the sequence of commands to enter to initialize an array.

Syntax

```
ADD SYSTEM system_name
```

Options

The following options are available with the ADD SYSTEM command.

comment	Associates a user-defined comment with the array. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.
console_lun_id	The LUN used for console communication after array creation. If set to zero, no console LUN is presented to the host.
device_count	The number of physical disks to use for this group. The limit is the number of available disks in the array. The default and minimum value is 8. NOTE: The default and minimum value is 6 if the diskgroup_disktype is solidstatedisk.
diskgroup_disktype	Determines the types of disks to be considered for creating the disk group. The default value is online. • Online—Only online Fibre Channel disks are considered for creating the default disk group. • Near_online—Only near-online Fibre Channel disks are considered for creating the default disk group. • Solidstatedisk—Only solid-state disks are considered for creating the default disk group.

`diskgroup_type` — Specifies the type of disk group to create. The following types are supported.

- `Enhanced`—Creates a `Vraid6` enabled disk group. This disk group can be used to create virtual disks of type Vraid6, in addition to the other supported Vraid levels.
- `Basic`—Creates a legacy disk group which does not support Vraid6.

`spare_policy` — Determines the amount of storage space, if any, set aside for use in the event that disks fail. The default is `single`. The space set aside is not in numbers of physical disks. It is the equivalent amount of storage space spread across all disks.

- `None`—Reserves no space within a disk group to allow for data reconstruction in case of a disk drive failure

NOTE:

Using a spare policy of `none` can cause data loss and is not recommended.

- `Single`—Reserves space within a disk group to allow for data reconstruction in case of a failure of one disk drive
- `Double`—Reserves space within a disk group to allow for data reconstruction in case of a failure of two disk drives

Example

Create the initialized array `payroll` with 12 physical disks and a spare policy of `single`:

```
ADD SYSTEM payroll DEVICE_COUNT=12 SPARE_POLICY=single
```

ADD VDISK

The `ADD VDISK` command creates a virtual disk with the specified name and parameters.

Syntax

```
ADD VDISK virtual_disk_name SIZE=virtual_disk_size
```

Options

`comment` — Associates a user-defined comment with the virtual disk. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.

`disk_group` — The disk group in which you want to create the virtual disk. The disk group must already exist to use this option. If not specified, the default disk group is used.

`mirrorcache` — Sets the controller's mirror cache. Possible values are `mirrored` (cache is mirrored between both controllers) and `notmirrored` (cache is not mirrored).

`nopreferred_path` — Allows either controller to handle I/O.

`noread_cache`	Reads are always performed by the physical disks, not the controller's cache.
`no_wait_for_completion`	Does not wait for the command to finish before displaying the utility command prompt or running another command or script. Some operations are invalid until the initial operation finishes in the background.
`nowrite_protect`	Allows writing to the virtual disk from all presented LUNs and hosts.
`os_unit_id=`	The ID presented to the host operating system. If set to zero, no ID is presented to the host. This option is used for IBM AIX (set to zero), OpenVMS (required), and Tru64 UNIX (recommended). Other host operating systems ignore this option.
`preferred_path=`	The preferred controller that will handle all I/O for the virtual disks. If the preferred controller fails, the working controller becomes the preferred controller. • `Path_A_Both`—Controller A fails over to controller B. When controller A restarts, the virtual disks fail back to controller A. This is failover/failback mode. • `Path_A_Failover`—Controller A fails over to controller B. When controller A restarts, the virtual disks do not fail back to controller A. This is failover-only mode. • `Path_B_Both`—Controller path B fails over to controller A. When controller B restarts, the virtual disks fail back to controller B. This is failover/failback mode. • `Path_B_Failover`—Controller B fails over to controller A. When controller B restarts, the virtual disks do not fail back over to controller B. This is failover-only mode.
`read_cache`	Reads are performed by the controller's cache.
`redundancy`	The data protection level of the virtual disk. If not specified, the default is `Vraid1`. • `Vraid0`—Provides no data protection. It distributes data among its member disks into stripes and uses all members to process I/O requests. This method has no overhead associated with duplication of information and provides the highest performance. • `Vraid1`—Provides the highest level of data protection but uses the most space. It copies data written to one disk to a backup disk. In a multidisk configuration, `Vraid1` mirrors each pair of disks to each other. These disk pairs can then be striped to create a virtual disk. • `Vraid5`—Provides a moderate level of data protection. It distributes the parity information among all member disks. If one drive fails, the failed disk can be re-created after it is replaced. • `Vraid6`—Provides the best level of data protection. It has a dual parity and distributes the parity information among all member disks. Virtual disks of type Vraid6 can withstand up to two drive failures before data loss.
`size=`	The size of the virtual disk in gigabytes (GB).

`wait_for_completion`

Waits for the command to finish before displaying the utility command prompt or running another command or script. For virtual disks larger than 1 TB, using this option can result in a long waiting period before the utility command prompt appears.

NOTE:

If the `wait_for_completion` option is used with an `ADD VDISK` command, the array to which the command is issued stops executing further management commands from any other session until the `ADD VDISK` command is complete.

`world_wide_lun_name=`

The world wide LUN name of the virtual disk.

NOTE:

This option is commonly used to allow a host to point to a new version of the virtual disk by giving the new virtual disk the same WWN as the old virtual disk.

`writecache`

Sets the controller's write cache. Possible values are `writethrough` and `writeback`. With `writethrough` the operation completes when the data is written to the disk. With `writeback`, the operation completes when the data is written to cache.

NOTE:

If you are creating a preallocated snapclone (using a container), you must set write cache on the source virtual disk to `writethrough` to flush cache memory to the virtual disk before it is copied. After the snapclone is created, the write cache of the source virtual disk reverts to the original setting.

`write_protect`

Does not allow writing to the virtual disk from all presented LUNs and hosts.

The following defaults are used for the `ADD VDISK` command when nothing is specified:

- `MIRRORCACHE=mirrored`
- `WRITECACHE=writeback`
- `OS_UNIT_ID=0 (zero)`
- `NOPREFERRED_PATH`
- `DISK_GROUP=\Disk Groups\Default Disk Group`
- `READ_CACHE`
- `NOWRITE_PROTECT`

NOTE:

An error occurs during virtual disk creation if you rename the default disk group without specifying a disk group.

Examples

Create a 10 GB virtual disk called `scratch` in the default disk group using read cache and Vraid5 redundancy level:

```
ADD VDISK "\Virtual Disk\scratch" SIZE=10 REDUNDANCY=VRAID5
READ_CACHE
```

Create a 2 GB virtual disk called `gene_research` in the `small_disks` disk group:

```
ADD VDISK "\Virtual Disks\engineering\gene_research" SIZE=2
DISK_GROUP="\Disk Groups\small_disks"
```

CAPTURE CONFIGURATION

The `CAPTURE CONFIGURATION` command enables you to capture, save, and re-create an array configuration by querying the selected array and generating up to five scripts. Not all arrays require all five scripts. For example, the script step1A is always generated and may be the only script that is required. You can use these scripts to re-create the original configuration and, in some cases, to assist in a site recovery. HP recommends that you run the `CAPTURE CONFIGURATION` command after you initialize an array to save a copy of the configuration.

NOTE:

On an OpenVMS IA64 host, the `CAPTURE CONFIGURATION` command fails if you have one of the following characters in the name or comment field of an object (such as a disk group or a virtual disk):

- /
- \
- (
-)

NOTE:

For iSCSI controllers, the `CAPTURE CONFIGURATION` command adds the default controller name to HP Command View EVA only. You must set the other iSCSI controller properties manually.

The scripts output to the console unless you specify a file name. The file name is appended with `_StepXX`. XX is the restore step name, which is 1A, 1B, 1C, 2, or 3. For example, if you specify `CAPTURE CONFIGURATION newyear.txt`, the utility creates the files `newyear_Step1A.txt`, `newyear_Step1B.txt`, `newyear_Step1C.txt`, `newyear_Step2.txt`, and `newyear_Step3.txt`.

The utility verifies that other files with the same names do not exist. If the file names exist, and you are entering the command manually, the utility prompts you to replace existing files with the new files. If you are using a script, existing files are replaced with the new files.

When creating files that contain the scripts, activity dots are displayed on the console. This command may take a long time to complete, depending on the size of the configuration.

NOTE:

Do not reconfigure the selected array while this command is executing.

Syntax

```
CAPTURE CONFIGURATION file_name
```

Options

The following options are available with the CAPTURE CONFIGURATION command.

save_all_world_wide_lun_name	Saves the world wide LUN names for all virtual disks, except containers and DR group members on the destination array.
save_different_world_wide_lun_name	Saves the world wide LUN names for the virtual disks for which the world wide LUN name has changed. This option applies to all virtual disks except containers and DR group members on the destination array. NOTE: By default, CAPTURE CONFIGURATION does not save world wide LUN names of virtual disks. You must explicitly specify one of these options.
start_at	Specifies the step (1A, 1B, 1C, 2, 3) at which CAPTURE CONFIGURATION must start. You need not recapture everything when the first step works and a later step fails.

Example

Start the capture configuration operation from step 2:

```
CAPTURE CONFIGURATION c:\sales.txt START_AT=2
```

Step 1 scripts

Step 1 is divided into three smaller steps to facilitate DR group recovery.

Step 1A script

Creates the array, disk groups, hosts, and virtual disks (excluding snapshots and mirrorclones) that are not used for data replication and LUNs for the created disks. Step1A creates a basic array that does not include virtual disks or DR groups. The CAPTURE CONFIGURATION command always creates this script.

Step 1B script

Creates all source virtual disks used in DR groups on this controller.

Step 1C script

Presents all source virtual disks (for DR groups) to the hosts. This step is used to recover from a DR group failure in which the source site is lost. LUNs can be presented in their original configuration by running the step 1C script.

Step 2 script

Re-creates all DR-specific configuration information for which this array is the source. This involves the configuration's source DR groups and their members only. Presentations of remote virtual disks are not restored by this command (see step 3).

This step provides flexibility when a site is completely lost. The source and destination arrays have separate CAPTURE CONFIGURATION scripts, so you must run step 1A, step 1B, and step 1C on the

source array and then run step 1A, step 1B, and step 1C on the destination arrays before step 2 can be run.

Step 3 script

Presents destination virtual disks to the hosts.

You must run step 2 on both the source and destination arrays before running step 3.

NOTE:

If no destination virtual disk is presented to a host, a blank script is generated.

Restoring a DR group configuration

To restore a DR group configuration from captured scripts, you must run the scripts in the following order on each array that is part of the DR group configuration.

You may not be able to re-create a specific captured configuration on certain arrays. For example, if a captured configuration requires 120 disks and the target array contains only 80, the capture configuration operation will fail.

1. Use the `SELECT MANAGER` command to specify which HP Command View EVA instance will execute the script commands.
2. Select the array `Uninitialized Storage System (WWN)` to specify the uninitialized array on which you want to re-create the captured configuration.
3. Run scripts 1A, 1B, and 1C successfully (and separately) on the source and destination arrays.
4. Run the step 2 script successfully (and separately) on the source and destination arrays.
5. Run the step 3 script successfully (and separately) on the source and destination arrays.

Once the scripts have been run on all arrays, the DR group configuration is restored to its original state.

Example

The following example creates the files `sales_Step1A.txt`, `sales_Step1B.txt`, `sales_Step1C.txt`, `sales_Step2.txt`, and `sales_Step3.txt`:

```
CAPTURE CONFIGURATION c:\sales.txt
```

NOTE:

See "FILE" on page 48 for more information about restoring configurations.

Restoring an array configuration with different disk sizes and types

If you need to restore an array configuration that contains disks of different sizes and types, you must manually re-create these disk groups. The controller software and the utility's `CAPTURE CONFIGURATION` command are not designed to automatically restore this type of configuration.

To restore the array configuration, complete the following steps:

NOTE:

This procedure assumes that you have run the CAPTURE CONFIGURATION command when the array was in a functional state to save configuration.

1. Using the HP Command View EVA user interface or the appropriate utility commands, initialize the array and re-create the disk groups of the original configuration.
2. Locate the script file generated from the CAPTURE CONFIGURATION command. It should be in the same directory where the utility is running.
3. In the step 1A script file, comment out the ADD SYSTEM, SELECT SYSTEM, ADD DISK_GROUP, and SET DISK GROUP lines with an exclamation point as shown in the following example:

```
!
! SSSU CAPTURE script checksum start
!
! CAPTURE CONFIGURATION Step1A on Thu Feb 16 13:59:16 2006
!
! Manager: 15.70.188.130:12301
! System: lemy5k3
!
! SSSU Build 26 for EVA Version 6.0
!
SET OPTIONS ON_ERROR=HALT_ON_ERROR
!ADD SYSTEM "lemy5k3" DEVICE_COUNT=8 SPARE_POLICY=SINGLE COMMENT="sds"
!SELECT SYSTEM "lemy5k3"
!ADD DISK_GROUP "\Disk Groups\diskgroup1" DEVICE_COUNT=11
   SPARE_POLICY=DOUBLE DISKGROUP_DISKTYPE=ONLINE OCCUPANCY_ALARM=100
!SET DISK_GROUP "\Disk Groups\Default Disk Group" OCCUPANCY_ALARM=90
ADD FOLDER "\Virtual Disks\vdf1" COMMENT="sssssssssss"
ADD FOLDER "\Virtual Disks\vdf2" COMMENT="sdvsd"
ADD FOLDER "\Hosts\hf1" COMMENT="ascfascdssa"
ADD FOLDER "\Hosts\hf2" COMMENT="dfe"
ADD FOLDER "\Hosts\testfolder"
```

   Commenting out these lines ensures that the system and disk group actions are not executed when you run the step 1A script.
4. Continue the restore process using the modified step 1A script file.

CAPTURE VALIDATE

The CAPTURE VALIDATE command checks the specified script file for modification by calculating its checksum and comparing the result against the checksum saved in the file. A script can be modified (failing the CAPTURE VALIDATE command) and still work. The utility runs a script even if its checksum shows file modification.

The CAPTURE VALIDATE determines if a captured script file has been modified after it was captured. You can determine if the script is a perfect capture of the existing array or if someone has modified the script after it was created.

NOTE:

The CAPTURE VALIDATE command does not execute the specified script but checks to see if it is the original script.

Syntax

```
CAPTURE VALIDATE file_name
```

User functionality for CAPTURE commands

When a script is created using the CAPTURE CONFIGURATION command, a header is added to the beginning of the text file and a checksum is added to the end. If CAPTURE VALIDATE does not find a correct header, it reports that the script is not a CAPTURE-generated script. If the checksum does not match, this command reports that the file has been modified.

If CAPTURE VALIDATE finds a correct header and the checksum matches, this command reports that the specified script has not been modified.

CHECK REDUNDANCY

The CHECK REDUNDANCY command provides information to determine if you can safely remove disk drives from the array.

Syntax

```
CHECK REDUNDANCY
```

CLEAR LICENSES

The CLEAR LICENSES command deletes the licenses of all the arrays.

NOTE:

The CLEAR LICENSES command does not remove a wrong license installed. From the HP Command View GUI, it is not possible to remove the Instant On license.

Syntax

```
CLEAR LICENSES array_name
```

Options

The following options are available for the CLEAR LICENSES command:

bc	Deletes all of the Business Copy licenses in the array.
ca	Deletes all of the Continuous Access licenses in the array.
cv	This is the default; it deletes all of the Business Copy, Continuous Access, and Command View EVA licenses in the array.
dm	Deletes all of the data migration licenses in the array.
all	This is the default; it deletes all of the Business Copy, Continuous Access, and Command View EVA licenses in the array.

Example

Clear the Business Copy license in the array `Test1`.

```
CLEAR LICENSES TEST1 BC
```

CODELOAD

The `CODELOAD` command instructs HP Command View EVA to load a software image file.

Syntax

`CODELOAD`*`software_image file_path`*

The following options are available for the `CODELOAD` command:

`local_path`	The file is assumed to be present locally where HP Storage System Scripting Utility is running. If this option is specified , the local file is transferred to the HP Command View EVA server and then `CODELOAD` is performed
`server_path`	The file is assumed to be present in the HP Command View EVA server and no transfer is done. NOTE: The default is `server_path`. The server_path option is not available when HP Storage System Scripting Utility is used with array-based management.

Example

`CODELOAD`*`C:\codeload.sss`* `local_path`

CODELOAD DISK

The `CODELOAD DISK` command instructs HP Command View EVA to load a disk firmware image file. The `DISK=` parameter is the name of the disk on which the code firmware image is installed. If DISK is not specified, the firmware image is installed on all disks. For `filename`, do one of the following:

- To install firmware for a single disk, specify the full path for the image file name.
- To install firmware on multiple disks, specify the full path to the folder where the bundled image file was extracted.

Syntax

`CODELOAD DISK` *`filepath`*

Options

The following options are available for the `CODELOAD DISK` command:

`disk`	The name of the disk on which the code firmware image will be installed. If DISK is not specified, the firmware image will be installed on all disks.

`server_path`

NOTE:

NOTE: The server_path option is not available when HP Storage System Scripting Utility is used with array-based management.

The file is assumed to be present in the HP Command View EVA server. For file names, select from the one of the following:

- To install firmware for a single disk, specify the full path of the image file name.
- To install firmware on multiple disks, specify the full path to the folder where the bundled image file is extracted.

`local_path`

The file is assumed to be present locally where HP Storage System Scripting Utility is running. If this option is specified then the local file is transferred to the HP Command View EVA server and then `CODELOAD` is performed. For file names, select from the one of the following:

- To install firmware for a single disk, specify the full path of the image file name.
- To install firmware on multiple disks, specify the full path to the bundled image (zip file).

NOTE:

The default is `server_path.`

Examples:

The following command loads file `FW34.lod` on Disk 001:

```
CODELOAD DISK “c:\ FW34.lod” DISK= “Disk 001”
```

The following command loads the firmware image on all disks. All the required `.lod` files are located in the `c:\firmware\codeload` folder on the Command View EVA server.

`CODELOAD DISK`*`“c:\firmware\codeload”`* `server_path`

The following command loads file `FW34.lod` present on the local machine where HP Storage System Scripting Utility is running.

`CODELOAD DISK`*`c:\FW34.lod`* `Disk` *`001`* `local_path`

The following command loads the firmware image on all disks. The bundled image is present on the local machine where HP Storage System Scripting Utility is running.

`CODELOAD DISK`*`c:\firmware\codeload.zip`* `local_path`

NOTE:

A disk drive firmware upgrade is not supported when HP Storage Scripting Utility is used with array-based management.

DELETE DISK_GROUP

The `delete disk_group` command deletes a disk group from the configuration. The command is rejected if any virtual disks are present in the disk group.

Syntax

```
delete disk_group group_name
```

Example

Delete the disk group human_resources:

```
delete disk_group " \Disk Groups\human_resources"
```

DELETE DR_GROUP

The delete dr_group command deletes the DR group on the source and destination arrays. The SET OPTION NOSAFE_DELETE command does not override this command. You can delete a DR group on the source array at any time.

Syntax

```
delete dr_group group_name
```

Example

Delete the DR group payroll:

```
delete dr_group  "\Data Replication\payroll"
```

DELETE FOLDER

The delete folder command deletes the specified empty folder. The command fails if the specified folder is not empty. To delete multiple layers of folders, you must do so sequentially. (You cannot delete a root folder.)

Syntax

```
delete folder folder_name
```

Examples

Delete the folder human_resources in the Hosts folder:

```
delete folder \Hosts\human_resources
```

Delete the folder engineering in the colorado_springs folder:

```
delete folder \Hosts\colorado\colorado_springs\engineering
```

DELETE HOST

The delete host command deletes a host from the array.

Syntax

```
delete host host_name
```

Example

Delete the host `development`:

```
delete host \Hosts\development
```

DELETE ISCSI_CONTROLLER

The `delete iscsi_controller` command removes an iSCSI controller from HP Command View EVA.

Syntax

```
delete iscsi_controller iSCSI_controller_name
```

Example

Delete iSCSI controller `1` from HP Command View EVA:

```
delete iscsi_controller "\Hardware\iSCSI Devices\iSCSI controller 1"
```

DELETE ISCSI_HOST

The `delete iscsi_host` command deletes an iSCSI host from the array.

Syntax

```
delete iscsi_host iSCSI_host_name
```

Example

Delete the iSCSI host `development`:

```
delete iscsi_host \Hosts\development
```

DELETE ISCSI_LUN

The `DELETE ISCSI_LUN` command removes access to a virtual disk from an iSCSI IP host.

Syntax

```
DELETE ISCSI_LUN VDISK=virtual_disk_name ISCSI_HOST=iscsihost_name
```

Options

The following options are available with the `DELETE ISCSI_LUN` command:

`vdisk`	The name of the virtual disk presented to the host.
`iscsi_host`	The name of the iSCSI host to which the virtual disk is presented.

Example

Remove access to virtual disk `payroll` from the iSCSI host `development`:

```
DELETE ISCSI_LUN VDISK="\Virtual Disks\payroll" ISCSI_HOST= “development”
```

DELETE LUN

The `DELETE LUN` command removes access to a virtual disk from a host.

Syntax

DELETE LUN *`LUN_name`*

Example

Remove access to LUN `12` from the host `accounting_department`:

```
DELETE LUN \Hosts\accounting_department\12
```

NOTE:

When you specify a LUN, you must use the full name, not an alias.

DELETE SYSTEM

The `DELETE SYSTEM` command permanently removes an array. The array is no longer accessible and all data is lost.

CAUTION:

The `DELETE SYSTEM` command removes the entire array configuration. All customer data on the array is lost. In addition, all information about LUNs and hosts on this array is lost.

The `DELETE SYSTEM` command is rejected if virtual disks exist. See “SET OPTIONS” on page 73 for information about the `NOSAFE_DELETE` option.

Syntax

`DELETE SYSTEM` *`array_name`*

Example

Delete the array `payroll`:

```
DELETE SYSTEM payroll
```

DELETE VDISK

The DELETE VDISK command permanently removes the specified virtual disk. The virtual disk is no longer accessible and all data is lost.

△ CAUTION:

The DELETE VDISK command removes the entire virtual disk from the array. All customer data on the virtual disk is lost. In addition, all information about LUNs presented from this virtual disk is lost.

The DELETE VDISK command is rejected if the virtual disk is presented. See "SET OPTIONS" on page 73 for information about the NOSAFE_DELETE option.

Syntax

```
DELETE VDISK virtual_disk_name
```

Options

The following options are available with the DELETE VDISK command.

nowait_for_completion	Does not wait for the command to finish before displaying the utility command prompt or running another command or script. Some operations are invalid until the initial operation finishes in the background.
wait_for_completion	NOTE: If the wait_for_completion option is used with a DELETE VDISK command, the array to which the command is issued stops executing further management commands from any other session until the DELETE VDISK command is complete. Waits for the command to finish before displaying the utility command prompt or running another command or script. For virtual disks larger than 1 TB, using this option can result in a long waiting period before the utility command prompt appears. NOTE: When you delete a container, wait_for_completion is ignored. After deletion, the container may still appear when using an LS command. This is because the container is deleted in the background and will continue to appear until it is fully deleted.

Examples

Delete the virtual disk d12 and wait for the deletion to complete:

```
DELETE VDISK "\Virtual Disks\d12" wait_for_completion
```

Delete the snapshot wed_nite_biz without waiting for completion:

```
DELETE VDISK "\Virtual Disks\daily_biz\wed_nite_biz"
```

NOTE:

You cannot delete a virtual disk if a snapshot or mirrorclone of the virtual disk exists. You must delete the snapshot or mirrorclone and then delete the virtual disk.

EMVERSION

The EMVERSION command displays the HP Command View EVA (formerly called Element Manager) version and build number.

Syntax

```
EMVERSION
```

NOTE:

You must select an HP Command View EVA instance with the SELECT MANAGER command before using the EMVERSION command. This only applies if you are using EMVERSION in a batch script. You are not required to select an array.

Example

```
EMVERSION
Element Manager information
Version: 6.00
Build: 30
```

EXERCISE_DISK

The EXERCISE_DISK command tests the physical disks in the array for defects. You must use the full disk name, not an alias, with this command.

Syntax

```
EXERCISE_DISK
```

Options

The following options are available with the EXERCISE_DISK command.

start	Begins testing (exercising) the disks. You can test either: • All disks in a selected array (all) • Specific disks, with the name of each disk separated by a comma and enclosed in quotes
stop	Stops testing the disks.

summary	Provides a summary of the testing. This option can show status while testing is in progress and when testing is complete.

Examples

Test Disk 002 and Disk 004:

```
EXERCISE_DISK start "\Disk Groups\Default Disk Group\Disk 002,
\Disk Groups\Default Disk Group\Disk 004"
```

Test all disks:

```
EXERCISE_DISK start all
```

The following is sample output from the summary option:

```
ss1> exer start "\Disk Groups\Ungrouped Disks\Disk 002"
ss1> exer sum
DILX Summary Report for Storage Cell ss1
------------------------------------------------------------
DILX process status: DILX Testing In Progress
Number of devices tested: 1
Disk 002

__________

Device handle:
noid: 0x808
id_type: 0x7
id_len: 0x10
id_value[0]: 0x20000004
id_value[1]: 0xcf792125
id_value[2]: 0
id_value[3]: 0
Device status: Testing in progress.
Total blocks transferred: 12098
Total reads issued: 329
Total writes issued: 77
1st bad sense key: 0
2nd bad sense key: 0
1st error flag: 0
2nd error flag: 0
Soft error count: 0
Hard error count: 0
```

```
1st bad ASC: 0
2nd bad ASC: 0
1st bad ASQ: 0
2nd bad ASQ: 0
ss1> exer stop
```

EXIT

The EXIT command terminates the utility session.

If the utility is accepting input from the terminal or the command line, EXIT causes the session to terminate.

If the utility is processing a script from a file and encounters a FILE command, the behavior of the EXIT command depends on how the FILE command was issued:

- If the FILE command was issued from the command line, an EXIT command in the file causes the utility session to terminate.
- If the FILE command was issued from the terminal, an EXIT command in the file causes the utility to resume accepting input from the terminal.
- If a file is currently executing as a result of another FILE command, an EXIT command in that file returns control to the previous file. The utility does not run any commands in a script except for the EXIT command. EXIT causes an immediate return to the previous file.

Syntax

```
EXIT
```

EXPORT LICENSES

The EXPORT LICENSES command exports licenses from arrays to a file. You must specify the absolute path to the file. Use this command to backup license information in case it should be necessary to recover it. You can also use this command with the IMPORT LICENSES command to copy license information from one HP Command View EVA management server to another.

Consider the following:

- If you export to an existing file, the contents of the file are overwritten.
- Each license key string in the exported file starts on a new line.
- The accepted file extensions are .dat and .txt.

Syntax

```
EXPORT LICENSES filepath
```

The following options are available for the EXPORT LICENSES command:

server_path	The file is assumed to be present in the HP Command View EVA server and no transfer is done.

`local_path`	The file is assumed to be present locally where HP Storage System Scripting Utility is running. NOTE: The default is `server_path`.

NOTE:

The `server_path` option is not applicable when the HP Storage System Scripting Utility is used with array-based management.

Example

Export license information to file `C:\licenses\test_array_licenses.txt`:

```
EXPORT LICENSES C:\licenses\test_array_licenses.txt
```

FILE

The `FILE` command suspends the current mode of input and redirects the scripting utility to accept input from the specified file. Either the end of the file or an `EXIT` command in the specified file causes the utility to again accept input from the previous input source.

`FILE` commands can be nested, which means that a file being executed through a `FILE` command can have `FILE @` commands in its command set. The only limitation on how deep `FILE` commands can be nested is based on the host array's resources.

Syntax

```
FILE file_name
```

A file name extension is not required by the utility, but you can choose one appropriate for your environment.

Examples

Execute the file `snapd1.txt` from the current directory:

```
FILE snapd1.txt
```

Execute the file `d27.txt` from the specified directory:

```
FILE d:\scripts\snapshots\d27.txt
```

FIND HOST

The `FIND HOST` command displays host information based on the host's adapter world wide name. The `FIND HOST` command output is the same as the `LS HOST` command output. If there is more than one host with the specified adapter world wide name, the utility displays each one in succession.

Syntax

```
FIND HOST ADAPTER_WWN=adapter_wwn
```

Example

Display information about the host with the world wide name `1000-0000-c92d-e4e7`:

```
FIND HOST ADAPTER_WWN=1000-0000-c92d-e4e7
```

FIND SYSTEM

The `FIND SYSTEM` command displays array information based on the array's world wide name. The `FIND SYSTEM` command output is less detailed than the `LS SYSTEM` command output.

Syntax

```
FIND SYSTEM SYSTEM_WWN=array_wwn
```

Example

Display information about the array with the world wide name `5000-1FE1-5001-B3D0`:

```
FIND SYSTEM SYSTEM_WWN=5000-1FE1-5001-B3D0
```

FIND VDISK

The `FIND VDISK` command displays virtual disk information based on the virtual disk's world wide name. The `FIND VDISK` command output is the same as the `LS VDISK` command output.

Syntax

```
FIND VDISK LUNWWID=virtual_disk_wwn
```

Example

Display information about the virtual disk with the world wide name `6005-08b4-0010-4949-0000-5000-57fd-0000`:

```
FIND VDISK LUNWWID=6005-08b4-0010-4949-0000-5000-57fd-0000
```

HELP

The `HELP` command displays help information about the utility commands.

To get help on specific command syntax, enter a space and a question mark (?) where you would normally specify an option or an option value, at any level of a command line. The help system lists the values available for that option.

Syntax

```
HELP
```

Example

Access help and request the display of the available values for the `REDUNDANCY` option:

```
ADD VDISK my_Vdisk REDUNDANCY= ?
```

IMPORT LICENSES

The `IMPORT LICENSES` command imports array licenses. The licenses in the specified file are appended to existing licenses. You must specify the absolute path to the file. Use this command with the EXPORT LICENSES command to restore license information or to copy license information from one HP Command View EVA management server to another.

Check the following:

- Each license key string in the file should start on a new line.
- The accepted file extensions are `.dat` and `.txt`.

Syntax

`IMPORT LICENSES` *`filepath`*

The following options are available for the `IMPORT LICENSES` command:

`server_path`	The file is assumed to be present in the HP Command View EVA server and no transfer is done.
`local_path`	The file is assumed to be present locally where HP Storage System Scripting Utility is running. NOTE: The default is `server_path`.

Example

Import license information from file `C:\licenses\test_array_licenses.txt`:

```
IMPORT LICENSES C:\licenses\test_array_licenses.txt
```

LOCATE DISK

The `LOCATE DISK` command finds a disk by turning the locate LEDs on or off.

Syntax

`LOCATE DISK` *`disk_name`*

Options

The following options are available with the `LOCATE DISK` command.

ON

Turns the locate LED on.

OFF

Turns the locate LED off.

Examples

Turn on the locate LED for `Disk 001`:

```
LOCATE DISK"Disk 001" ON
```

Turn off the locate LED for `Disk 001`:

```
LOCATE DISK"Disk 001" OFF
```

LOCATE ISCSI_CONTROLLER

The `LOCATE ISCSI_CONTROLLER` command finds an iSCSI controller by turning the locate LEDs on or off.

Syntax

```
LOCATE ISCSI_CONTROLLER iSCSI_controller_name
```

Options

The following options are available with the LOCATE ISCSI_CONTROLLER command.

on	Turns on the locate LED.
`OFF`	Turns off the locate LED.

Examples

Turn on the locate LED for iSCSI Controller 1:

```
LOCATE ISCSI_CONTROLLER "iSCSI Controller 1" ON
```

Turn off the locate LED for iSCSI Controller 1:

```
LOCATE ISCSI_CONTROLLER "iSCSI Controller 1" OFF
```

LS

The `LS` commands display information about the various objects in the currently selected array. You can view information about all objects (for example, all virtual disks) or a specific object (for example, virtual disk `vd001`).

Options

The following options are available with the `LS` commands.

`full`	Lists all objects of the specified type (for example, all virtual disks) and displays the properties of each object.

`full xml`	Lists all objects of the specified type (for example, all virtual disks) and displays the properties of each object. The output is displayed in XML.
`nofull`	Lists all objects of the specified type.
`nofull xml`	List all objects of the specified type. The output is displayed in XML.

Examples

Display information about all virtual disks:

```
LS VDISK FULL
```

Display information about a virtual disk `mydisk001`:

```
LS VDISK mydisk001
```

LS CABINET

The `LS CABINET` command displays information about the cabinets in the currently selected array.

Syntax

```
LS CABINET cabinet_name
```

LS CONTAINER

The `LS CONTAINER` command displays information about the available containers in the currently selected array.

Syntax

```
LS CONTAINER container_name
```

LS CONTROLLER

The `LS CONTROLLER` command displays disk configuration information about the controllers in the currently selected array.

Syntax

```
LS CONTROLLER controller_name
```

Reduction of hazardous substances

The `LS CONTROLLER` output indicates compliance with the Reduction of Hazardous Substances (RoHS) mandate. Compliance is indicated by `yes` or `no`.

LS CONTROLLER_ENCLOSURE

The `LS CONTROLLER_ENCLOSURE` command displays configuration information about the HSV300 controller enclosure for the currently selected array.

Syntax

```
LS CONTROLLER_ENCLOSURE controller_enclosure_name
```

NOTE:

The `LS CONTROLLER_ENCLOSURE` command was added to support HSV300 controllers by providing information on enclosure properties such as power, the cache battery, and the cooling fan. The same information can be obtained for HSV1xx and HSV2xx controllers using the `LS CONTROLLER` command.

LS DISK

The `LS DISK` command displays disk configuration information about the physical disks connected to the currently selected array.

Syntax

```
LS DISK disk_name
```

LS DISK_GROUP

The `LS DISK_GROUP` command displays configuration information about the disk groups for the currently selected array.

Syntax

```
LS DISK_GROUP disk_group_name
```

LS DISKSHELF

The `LS DISKSHELF` command displays information about the disk enclosures in the currently selected array.

Syntax

```
LS DISKSHELF disk_shelf_name
```

LS DR_GROUP

The `LS DR_GROUP` command displays information about the DR groups configured for the currently selected array.

Syntax

```
LS DR_GROUP dr_group_name
```

LS DR_PROTOCOL

The `LS DR_PROTOCOL` command displays the selected DR protocol.

Syntax

```
LS DR_PROTOCOL
```

LS FOLDER

The `LS FOLDER` command displays a list of folders for the currently selected array.

Syntax

```
LS FOLDER folder_name
```

LS HOST

The `LS HOST` command displays information about the hosts configured for the currently selected array.

Syntax

```
LS HOST host_name
```

LS ISCSI_CONTROLLER

The `LS ISCSI_CONTROLLER` command displays information about the iSCSI controllers configured for the currently selected array.

Syntax

```
LS ISCSI_CONTROLLER iSCSI_controller_name
```

LS ISCSI_HOST

The LS ISCSI_HOST command displays information about the iSCSI hosts configured for the currently selected array.

Syntax

```
LS ISCSI_HOST iSCSI_host_name
```

LS ISCSI_IPHOST

The `LS ISCSI_IPHOST` command displays information about the iSCSI IP hosts configured for the currently selected array.

NOTE:

This command does not have an XML output option.

Syntax

```
LS ISCSI_IPHOST
```

LS ISCSI_LUN

The `LS ISCSI_LUN` command displays information about the iSCSI LUNs configured for the currently selected array.

NOTE:

You cannot use aliases to specify LUNs.

Syntax

`LS ISCSI_LUN` *`iSCSI_LUN_name`*

LS LICENSES

The `LS LICENSES` command displays the license information for all arrays currently managed by HP Command View EVA.

Syntax

`LS LICENSES` *`array_name`*

LS LUN

The `LS LUN` command displays information about the LUNs configured for the currently selected array.

NOTE:

You cannot use aliases to specify LUNs.

Syntax

```
LS LUN LUN_name
```

LS MANAGER

The LS MANAGER command displays information about the currently selected instance of HP Command View EVA.

NOTE:

This command does not have an XML output option.

Syntax

```
LS MANAGER
```

LS OPTIONS

The LS OPTIONS command displays the options you have configured for the current utility session.

NOTE:

This command does not have an XML output option.

Syntax

```
LS OPTIONS
```

LS PORT_PREFERENCE

The LS PORT_PREFERENCE command displays the data replication port preferences, including the port number and priority, for all the ports on the selected storage system to a remote storage system.

Syntax

```
LS PORT_PREFERENCE
```

The following options are available with the LS PORT_PREFERENCE commands.

full	Displays the port preferences of the selected storage system to all remote storage systems.
remote_world_wide_name	Displays the port preferences of the selected storage system to the specified remote storage system.

Example

```
LS PORT_PREFERENCE REMOTE_WORLD_WIDE_NAME=1111-2222-3333-4444
```

LS PREFERRED_PATH

The `LS PREFERRED_PATH` command displays information about preferred port connections and general status information about these connections between the local and remote arrays. You can use this command on arrays running controller software XCS 6.0 or later only.

Syntax

```
LS PREFERRED_PATH
```

LS SNAPSHOT

The `LS SNAPSHOT` command displays information about snapshots created for the currently selected array.

Syntax

```
LS SNAPSHOT snapshot_name
```

LS SYSTEM

The `LS SYSTEM` command displays information about the arrays currently managed by HP Command View EVA.

Syntax

```
LS SYSTEM array_name
```

LS TIME

Use the `LS TIME` command to display the current time for the currently selected array.

NOTE:

This command does not have an XML output option.

Syntax

```
LS TIME
```

LS VDISK

The `LS VDISK` command displays information about the virtual disks, containers, snapshots and mirrorclones configured for the currently selected array.

Syntax

`LS VDISK` *`virtual_disk_name`*

The following option is available with the `LS VDISK` command.

full	Lists all virtual disks and their properties.
nofull	Lists all virtual disks.
`virtual_disk_name`	Displays detailed information about the virtual disk.

LS WORLD_WIDE_NAME

The `LS WORLD_WIDE_NAME` command displays the host world wide names that are visible to the currently selected array and that are not already assigned to hosts.

NOTE:

This command does not have an XML output option.

Syntax

`LS WORLD_WIDE_NAME`

MOVE HOST

The `MOVE HOST` command moves a host to another host folder or to the host root folder.

Syntax

`MOVE HOST` *`source_host_name destination_host_folder_name`*

Example

Move the host from `\Hosts\development` to `\Hosts\america\development`:

```
MOVE HOST “\Hosts\development” “\Hosts\america\development”
```

MOVE VDISK

The `MOVE VDISK` command moves a virtual disk to another virtual disk folder or to the virtual disk root folder.

Syntax

`MOVE VDISK` *`source_virtual_disk_name destination_virtual_disk_folder_name`*

Example

Move the virtual disk `\Virtual Disks\engineering` to `\Virtual Disks\department\engineering`:

```
MOVE VDISK “\Virtual Disks\engineering” “\Virtual Disks\department\engineering”
```

Password Authentication commands

The following commands are available for password authentication.

SSSU -a

The `SSSU -a` command adds an entry to the password file. This command is invoked from the command line.

Syntax

```
SSSU -a
```

SSSU -d

The `SSSU -d` command deletes the entry from the password file. This command is invoked from the command line.

Syntax

```
SSSU -d
```

SSSU -l

The `SSSU -l` command lists the set of entries in the password file, displaying the manager name and user name. This command is invoked from the command line.

Syntax

```
SSSU -l
```

PAUSE

The PAUSE command stops the utility or script for a specified amount of time. Enter the time in seconds.

Syntax

PAUSE *time*

Example

Pause a script for 10 seconds:

```
pause 10
```

REDISCOVER

The REDISCOVER command instructs HP Command View EVA to find new arrays or update the status of existing arrays. For example, when communication is lost and then restored, you can use the REDISCOVER command.

Syntax

```
REDISCOVER
```

REFRESH

The REFRESH command triggers discovery of the selected array and updates the object states. This command does not have any options. You must select an array before issuing this command.

Syntax

```
REFRESH
```

RESTART

The RESTART command restarts specified controllers.

Syntax

```
RESTART controller_name
```

Options

all_peers	Restarts all peer controllers (both controllers) on this array.
noall_peers	The default; restarts only the specified controller.

Examples

Restart controller B and its peer controller:

```
RESTART "\Hardware\Rack 1\Enclosure 7\Controller B" ALL_PEERS
```

Restart controller A, but not its peer controller:

```
RESTART "\Hardware\Rack 1\Enclosure 7\Controller A" NOALL_PEERS
```

SELECT MANAGER

The SELECT MANAGER command configures the utility for use on the specified HP Command View EVA instance. The *manager name* can be a management server name or an IP address. The *user name* and *password* are the account credentials that were created for you during HP Command View EVA installation. The user name and password are validated in the background on every command.

NOTE:

The SELECT MANAGER command is available for use only in batch scripts. When the command is run from a script, the command does not display on screen nor is it redirected to a file.

When HP Storage Scripting Utility is connected to an HP Command View EVA server in interactive mode, the SELECT MANAGER command can be issued again to connect to another HP Command View EVA server. The SELECT MANAGER command prompts for hostname, user name, and password.

Syntax

```
SELECT MANAGER manager_name USERNAME=user_name|domain_name\user_name
PASSWORD=password
```

Options

The following are the options available with the SELECT MANAGER command.

password	The account password that was created for you during HP Command View EVA installation. The password switch is optional.
username	The account user name that was created for you during HP Command View EVA installation. As an option, the domain name can be specified with the username to authenticate users against a domain group. The username switch is required.

Examples

Select the north_campus server:

```
SELECT MANAGER north_campus USERNAME=administrator PASSWORD=administrator
```

Select the north_campus server as user Alan in the domain Turing:

```
SELECT MANAGER north_campus USERNAME=Turning\Alan PASSWORD=administrator
```

In the following example, SSSU will read the password from the password file for the manager north_campus and the user alan combination, if available:

```
SELECT MANAGER north_campus USERNAME=alan
```

SELECT SYSTEM

The SELECT SYSTEM command directs the command prompt to the selected array. All configuration commands affect the selected array. If the system name includes spaces, enclose it in quotes.

Syntax

```
SELECT SYSTEM array_name
```

Examples

Select the employees array:

```
SELECT SYSTEM employees
```

Select the `payroll storage` array:

```
SELECT SYSTEM "payroll storage"
```

SET CABINET

The `SET CABINET` command changes the specified cabinet properties.

Syntax

```
SET CABINET cabinet_name
```

Options

The following options are available with the `SET CABINET` command.

`comment`	Associates a user-defined comment with the cabinet. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.
`name`	The new name of the cabinet.

SET CONTROLLER

The `SET CONTROLLER` command changes the specified controller properties.

Syntax

```
SET CONTROLLER controller_name
```

Options

The following options are available with the `SET CONTROLLER` command.

`comment`	Associates a user-defined comment with the controller. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.
`name`	The new name of the controller.

SET DISK

The `SET DISK` command changes the specified disk properties.

Syntax

```
SET DISK disk_name
```

Options

The following options are available with the SET DISK command.

comment	Associates a user-defined comment with the disk. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.
name	The new name of the disk.

Example

Rename disk Disk 005 to 5Disk:

```
SET DISK "\Disk Groups\Ungrouped Disks\Disk 005" NAME=5Disk
```

SET DISK_GROUP

The SET DISK_GROUP command changes the specified disk group properties.

Syntax

```
SET DISK_GROUP group_name
```

Options

The following options are available with the SET DISK_GROUP command.

add	The number of disk drives to add to the disk group.
comment	Associates a user-defined comment with the disk group. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.
delete	The name of the disk drive to remove from the disk group.
name	The new name of the disk group.
occupancy_alarm	The point when a defined percentage of space is used. When this point is reached, an event is generated and sent to the management server (or the host) informing the administrator that the group is reaching full capacity. Do not use the percent sign (%) after the number. The default is 95%

`spare_policy`

Determines the amount of storage space, if any, set aside for use in the event that disks fail. The default is `single`. The space set aside is not in numbers of physical disks. It is the equivalent amount of storage space spread across all disks.

- `None`—Reserves no space within a disk group to allow for data reconstruction in case of a disk drive failure

NOTE:

Using a spare policy of none can cause data loss and is not recommended.

- `Single`—Reserves space within a disk group to allow for data reconstruction in case of a failure of one disk drive
- `Double`—Reserves space within a disk group to allow for data reconstruction in case of a failure of two disk drives

Example

Rename the disk group `pool` to `accounting disk group`:

```
SET DISK_GROUP " \Disk Groups\pool" NAME="accounting disk group"
```

SET DISKSHELF

The `SET DISKSHELF` command changes the specified disk enclosure properties.

Syntax

```
SET DISKSHELF disk_shelf_name
```

Options

The following option is available with the `SET DISKSHELF` command.

`comment`

Associates a user-defined comment with the disk enclosure. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.

SET DR_GROUP

The `SET DR_GROUP` command changes the specified DR group properties.

Syntax

```
SET DR_GROUP group_name
```

Options

The following options are available with the `SET DR_GROUP` command.

NOTE:

From the destination side, a user can set only the `comment` and `name` options.

`accessmode`	The access rights for a connected host. Possible values are `readonly`, `presentonly`, and `disable`.
`add_vdisk`	The name of the source array virtual disk to add to the DR group. A destination virtual disk is automatically created on the destination array NOTE: If a name is already in use, it is rejected and you must specify a new name. When adding a virtual disk to the DR group, the following options are available and are optional: • `destination_disk_group` The disk group on the destination array on which the virtual disk is created. • `destination_vdisk_name` The virtual disk that is created on the destination array. By default, the name is the same as the source virtual disk. • `targetredundancy` The redundancy level of the virtual disk created on the destination array.
`comment`	Associates a user-defined comment with the DR group. The maximum number of characters is 64 (including spaces) and the string must be enclosed in quotes.
`delete_vdisk`	The name of the source array virtual disk to remove from the DR group and delete. The corresponding virtual disk on the destination array is removed from the DR group and deleted from the array.
`detach_vdisk`	The name of the source array virtual disk to remove from the DR group. The corresponding virtual disk on the destination array is removed from the DR group but not deleted. The detached destination virtual disk continues to exist as an independent virtual disk.
`failover_resume`	Instructs the controller to perform failover, and after failover is complete, resume the connection between the DR groups.
`failover_suspend`	Instructs the controller to perform failover, and after failover is complete, suspend the connection between the DR groups.
`failsafe`	When the connection between the source and the destination array fails, all writes are halted immediately and no write is reported as complete until the connection is restored or the `nofailsafe` option is set.
`failsafe_on_powerup_link-down`	Disables the unit presentations for a DR source after a hard controller reboot, when the link is down.
`fullcopy_autosuspend`	Suspends DR link when a full copy is triggered, enabling you to choose a convenient time to start the full copy. Possible values are enable and disable (default).
`forcefullcopy`	Forces the DR group to ignore the DR log and fully copy data from the source array to the destination array.

`link_down_autosuspend`	When enabled, DR group replication is automatically suspended if the link between the arrays goes down. Replication remains suspended even if the link becomes active again. Possible values are `enabled` and `disabled`.
`max_log_size`	The maximum size of the DR log disk. The log size range depends on EVA model and write mode. • 136-MB (278528blocks) - 2-TB (4294967296blocks)— If DR is in synchronous/asynchronous mode for EVA 3000 and EVA 5000, and in synchronous mode for EVA 4000/4100, EVA 6000/6100 and EVA8000/8100. • 5-GB(10485760 blocks) - 2-TB(4294967296blocks) –This log size range exists If for DRs in the rest of the combination of hardware model and write mode. If the log size is left blank or set to 0 (zero), the controller software calculates the optimum log size for the available space.
`name`	The new name of the DR group.
`nofailsafe`	The default when you create the DR group. When the connection between the source array and the destination array fails, writes are directed to the log until the connection is restored. When the connection is restored, the pending writes are copied to the destination array and the log is resynchronized. If the log becomes full, the array makes a full copy of the source virtual disk to the destination virtual disk when the connection is restored.
`nofailsafe_on_powerup_link-down`	Enables the unit presentations for a DR source after a hard controller reboot, when the link is down.
`nosuspend`	Allows data replication from the source array to the destination array to resume. This causes the same behavior as a restored connection.
`suspend`	Stops data replication from the source array to the destination array. This causes the same behavior as a failed connection.
`writemode`	Defines the I/O interaction between the destination array and the source array. Possible values are `synchronous` and `asynchronous`.

Example

Suspend replication for the DR group `Transactions`:

```
SET DR_GROUP "\Data Replication\Transactions" suspend
```

SET DR_PROTOCOL

The `SET DR_PROTOCOL` starts remote data replication using one of the following protocol options, depending on whether you have a fiber channel or SCSI connection.

Syntax

```
SET DR_PROTOCOL dr_protocol_name
```

Options

The following protocol options are available with the `SET DR_PROTOCOL` command.

HPCA	HP FC Data Replication Protocol—Requires in-order delivery of all FC frames between the source and the destination.
SCSIFC	HP SCSI FC Compliant Data Replication Protocol—Supports fabrics configured for either port-based or exchange-based routing.
EITHER	Either of the two protocols—Facilitates data migration between arrays and requires in-order delivery of all FC frames between the source and the destination. NOTE: SCSIFC is the default value for arrays with firmware version XCS 09520000. All other arrays with earlier versions will default to HPCA.

Example

```
SET DR_PROTOCOL HPCA
```

SET FOLDER

The SET FOLDER command changes the specified folder properties.

NOTE:

You cannot rename root folders.

Syntax

```
SET FOLDER folder_name
```

Options

The following options are available with the SET FOLDER command .

comment	Associates a user-defined comment with the disk enclosure. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.
name	The new name of the folder.

Example

Rename the folder top_secret to everyone_knows:

```
SET FOLDER "\Virtual Disks\top_secret" name=everyone_knows
```

SET HOST

The SET HOST command changes the specified host properties.

Syntax

`SET HOST host_name`

Options

The following options are available with the `SET HOST` command.

`add world_wide_name`	Adds the world wide name of the host Fibre Channel adapter.
`comment`	Associates a user-defined comment with the host. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.
`delete world_wide_name`	Deletes the world wide name of the host Fibre Channel adapter. HP StorageWorks Storage System Scripting Utility reference 61
`ip`	The network IP address of the host.
`name`	The new name of the host.
`operating_system`	The operating system of the specified host. To set a default operating system, select User interface options from Management Server Options window in the user interface. Select one of the following operating systems (they are listed as they appear in the utility): • CUSTOM= (You must include the equal sign after CUSTOM and the value must be 16-digit hexadecimal characters.) • HPUX • IBMAIX • LINUX • MACOSX • OPEN_VMS • SOLARIS • TRU64 • UNKNOWN • VMWARE • WINDOWS • WINDOWS2008

Examples

Specify `OpenVMS` as the operating system for the host `install`:

```
SET HOST \Hosts\install operating_system=OPEN_VMS
```

Add a WWN to the host `install`:

```
SET HOST \Hosts\install add_world_wide_name=1000-0000-C922-36CA
```

SET ISCSI_CONTROLLER

The `SET ISCSI_CONTROLLER` command changes the specified iSCSI controller properties.

Syntax

```
SET ISCSI_CONTROLLER iSCSI_controller_name
```

Options

The following options are available with the `SET ISCSI_CONTROLLER` command.

`comment`	Associates a user-defined comment with the iSCSI controller. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.
`gateway`	The gateway for the controller.
`ip`	The IP address for the management port.
`ip_mode`	The IP mode of the controller. Possible values are `dynamic` and `static`.
`ipv6_address_1`	IPv6 address 1 for management port.
`ipv6_address_2`	IPv6 address 2 for management port.
`ipv6_address_mode`	Sets the address mode of the management port. Available options are AUTO and MANUAL (default). NOTE: You cannot set any of the IPv6 addresses or the `IPV6_ADDRESS_MODE` (except Port 0 and Port 1) unless you execute `IPV6_ADDRESS_STATE=ENABLE` first.
`ipv6_address_state=`	The IPv6 address state of the management port. Available options are DISABLE and ENABLE. NOTE: The `SET ISCSI_CONTROLLER <ISCSI_controller_name> IPV6_ADDRESS_STATE=ENABLE` command displays an error if the `IPV6_ADDRESS_MODE` is not specified.
`ipv6_router_address=`	The IPv6 router address for the management port. NOTE: `IPV6_ADDRESS_1`, `IPV6_ADDRESS_2` and `IPV6_ROUTER_ADDRESS` are available only when `IPV6_ADDRESS_STATE` is set to MANUAL.
`name=`	The new name of the iSCSI controller.
`port0_gateway=`	The gateway for port 0.
`port0_ip_address=`	The IP address of port 0.
`port0_ipv6_address_1=`	Sets IPv6 address 1 for port 0 of IP port.
`port0_ipv6_address_2=`	Sets IPv6 address 2 for port 0 of IP port.
`port0_ipv6_address_mode=`	Sets IPv6 address mode for port 0. Available options are AUTO and MANUAL (default).

`port0_ipv6_router_address=`	Sets IPv6 router address for port 0 of IP port.
`port0_isns_ipv6_address=`	Sets the port 0 ISNS IPv6 address.
`port1_ipv6_address_1=`	Sets IPv6 address 1 for port 1 of IP port.
`port1_ipv6_address_2=`	Sets IPv6 address 2 for port 1 of IP port.
`port1_ipv6_address_mode=`	Sets IPv6 address mode for port 1. Available options are AUTO and MANUAL (default).
`port0_ipv6_router_address=`	Sets IPv6 router address for port 1 of IP port.
`port1_isns_ipv6_address=`	Sets the port 0 ISNS IPv6 address.
`port0_isns_ip_address=`	The ISNS IP address for port 0. NOTE: If you specify `PORT0_ISNS_IP_ADDRESS`, the ISNS is enabled.
`port0_isns_state=`	The ISNS state of port 0. Possible value is `disable`. NOTE: To disable the ISNS, `PORT0_ISNS_STATE` option should be set to `disable` and `PORT0_ISNS_IP_ADDRESS` need not be specified.
`port0_link_requested=`	The requested speed for port 0. The possible values are: • `auto` • `10` • `100` • `1000`
`port0_subnet_mask=`	The subnet mask for port 0.
`port1_gateway=`	The gateway for port 1.
`port1_ip_address=`	The IP address of port 1.
`port1_isns_ip_address=`	The ISNS IP address of port 1. NOTE: If you specify `PORT1_ISNS_IP_ADDRESS`, the ISNS is enabled.
`port1_isns_state=`	The ISNS state of port 1. Possible value is `disable`. NOTE: To disable the ISNS, `PORT1_ISNS_STATE` option should be set to `disable` and `PORT1_ISNS_IP_ADDRESS` need not be specified.

`port1_link_requested=`	The requested speed for port 1. Possible values are: • `auto` • `10` • `100` • `1000`
`port1_subnet_mask=`	The subnet mask for port 1.
`subnet_mask=`	The subnet mask for the controller.

Examples

Set the IPv6 address mode to AUTO: `SET ISCSI_CONTROLLER IPV6_ADDRESS_MODE=AUTO`

To set IPv6 address mode to AUTO, If the IPV6_ADDRESS_STATE is not enabled: `SET ISCSI_CONTROLLER <ISCSI_controller_name> IPV6_ADDRESS_STATE=ENABLE IPV6_ADDRESS_MODE=AUTO`

Set the Port 0 IPv6 address mode to AUTO: `SET ISCSI_CONTROLLER <ISCSI_controller_name> PORT0_IPV6_ADDRESS_ MODE=AUTO`

Set the Port 1 IPv6 address mode to AUTO: `SET ISCSI_CONTROLLER <ISCSI_controller_name> PORT1_IPV6_ADDRESS_ MODE=AUTO`

If you set the IPv6 address mode to MANUAL, you must specify either the `IPV6_ADDRESS_1, IPV6_ROUTER_ADDRESS` or `IPV6_ADDRESS_2` option, or all as shown in the following examples:

- `SET ISCSI_CONTROLLER <ISCSI_controller _name> IPV6_ADDRESS_ MODE=MANUAL IPV6_ADDRESS_1=2001::29 IPV6_ADDRESS_2=FEC0::10 IPV6_ROUTER_ADDRESS= 2001::87`
- `SET ISCSI_CONTROLLER <ISCSI_controller _name> IPV6_ADDRESS_MODE=MANUAL IPV6_ADDRESS_1=2001::29`
- `SET ISCSI_CONTROLLER <ISCSI_controller _name> IPV6_ADDRESS_ 2=FEC0::10` or `IPV6_ROUTER_ADDRESS=2001::87`

Set the IPv6 address mode to DISABLE: `SET ISCSI_CONTROLLER <ISCSI_controller_name> IPV6_ADDRESS_STATE=DISABLE`

Set the IPv6 address mode to ENABLE: `SET ISCSI_CONTROLLER <ISCSI_controller_name> IPV6_ADDRESS_MODE=AUTO` or `SET ISCSI_CONTROLLER <ISCSI_controller_name> IPV6_ADDRESS_STATE=ENABLE IPV6_ADDRESS_MODE=MANUAL IPV6_ADDRESS_1=2001::35`

Set the port 0 iSNS IPv6 address: SET ISCSI_CONTROLLER <ISCSI_controller_name> PORT0_ISNS_IPV6_ADDRESS= 2000::10

Set the port 1 iSNS IPv6 address: `SET ISCSI_CONTROLLER <ISCSI_controller_name> PORT1_ISNS_IPV6_ADDRESS= 2000::10`

Set the iSCSI controller gateway address to 16.0.0.0:

`SET ISCSI_CONTROLLER "\Hardware\iSCSI Devices\iSCSI Controller" GATEWAY= 16.0.0.0`

SET ISCSI_HOST

The `SET ISCSI_HOST` command changes the specified iSCSI host properties.

Syntax

`SET ISCSI_HOST` *`host_name`*

Options

The following options are available with the `SET ISCSI_HOST` command:

`comment`	Associates a user-defined comment with the iSCSI host. The maximum number of characters is 128, including spaces; the string must be enclosed in quotes.
`name`	The name of the iSCSI host.
`operating_system`	The operating system of the specified iSCSI host. Select one of the following: • HPUX • LINUX • OPEN_VMS • OTHER • SOLARIS • VMWARE • WINDOWS NOTE: • In the graphical user interface, LINUX displays as Linux/OS X. • Mac OS X is also a supported operating system. If the host is Mac OS X, select LINUX as the operating system.

Example

Specify Linux as the operating system when installing the iSCSI host:

```
SET ISCSI_HOST \Hosts\install operating_system=LINUX
```

SET MULTIMIRROR

The `SET MULTIMIRROR` command fractures, detaches, or resynchronizes multiple mirrorclones (virtual disks) with a single command. Up to 28 mirrorclones can be specified.

Syntax

`SET MULTIMIRROR` *`OPTION`* `VDISK=` *`mirror_clone_name1`* `VDISK=`*`mirror_clone_name2`*
...

Options

The following options are available with the `SET MULTIMIRROR` command. Only one option can be specified for each command.

`fracture`	Fractures the relationship between the specified mirrorclone and its source virtual disk. You can resume the relationship by selecting the RESYNC option.

`resync`	Resumes the relationship between the specified mirrorclone and its source virtual disk. The data on the mirrorclone is overwritten with the source virtual disk's data. A mirrorclone that is presented cannot be resynchronized.
`detach`	Removes the relationship between the specified mirrorclone and its source virtual disk permanently. Host I/O to the source virtual disk is no longer copied to the mirrorclone and the mirrorclone becomes an independent virtual disk.

Examples

Fracture the relationship between mirrorclones `mc1` and `mc2` and their source virtual disks:

```
SET MULTIMIRROR fracture VDISK=mc1 VDISK=mc2
```

SET OPTIONS

The `SET OPTIONS` command changes the properties of the utility session.

NOTE:

The options you set with the `SET OPTIONS` command are effective for the current session only. Each time you start the utility, the default options are reinstated.

Syntax

```
SET OPTIONS
```

Options

The following options are available with the `SET OPTIONS` command.

`command_delay`	The number of seconds (0–300) to wait between issuing commands when running a script from a `FILE` command. The default is 10 seconds. This option has no effect when entering commands at the command line.
`display_status`	Displays the status of the last command executed. Zero (0) indicates that the command was successful. A nonzero value indicates a full or partial command failure.
`display_time_off`	Cancels the display of the time before starting and after finishing an SSSU command. `DISPLAY_TIME_OFF` is the default setting.
`display_time_on`	Enables the display of the time before starting and after finishing an SSSU command.
`display_width`	Sets the number of characters (70–500) displayed on a line for LS commands. The default is 80. If you parse the utility output, it is useful to set a high line width. This keeps the lines from wrapping, making the output easier to cut, paste, and parse

`display_xmlstatus`

Displays the status of the last command executed in XML format. Zero (0) indicates that the command was successful. A nonzero value indicates a full or partial command failure.

`hide_status`

Hides the status of the last command executed. This is the default setting. No message is returned if the command is successful. If the command fails, an error message is displayed, but a status is not.

`nocommand_delay`

Specifies that no wait time occurs between commands issued from a `FILE` command.

`noretries`

Specifies that you do not want the scripting utility to retry commands.

`nosafe_delete`

Allows deletion of an object even if dependent or related objects are present. The behavior of the `nosafe_delete` option depends on the mode of operation (entering commands manually or running commands through a script).

For example, if you enter commands manually, the utility prompts you if you delete an object that has dependent or related objects. The `Are you sure?` prompt is displayed. You must enter `yes` to proceed. If you are using a script to run commands, the utility will delete the dependent or related objects without a prompt.

CAUTION:

Using the `nosafe_delete` option can cause accidental deletion of virtual disks or presentations.

`on_error`

Sets the action to occur when an error is encountered. Possible values are:

- `Continue`—In this mode, only the `EXIT` command causes the scripting utility to halt. This is the default and is recommended when you are manually entering commands.
- `Exit_on_error`—Any error causes the scripting utility to exit with an error code. This mode is useful when requesting the entire script to halt immediately if errors occur while executing. This causes the scripting utility to exit on any kind of error: failed command, syntax error, or ambiguous command.
- `Halt_on_error`—This is similar to `exit_on_error`. Any error causes the scripting utility to halt but not exit until any key is pressed. The scripting utility then exits with an error code. This allows you to see the error before the window closes on exit.

NOTE:

If you are entering commands manually, HP does not recommend using `exit_on_error` or `halt_on_error`. These modes cause the utility to exit on any kind of error, including a typographical one.

`retries`

The number of minutes (1–120) the utility should retry a command when the HP Command View EVA service is busy or restarting. The default is four minutes.

`safe_delete`

Specifies that you want to delete all dependent or related objects before deleting the specified object. For example, if you specify deletion of a virtual disk that has LUNs presented, the `DELETE VDISK` command is rejected and a message explains that you must delete all presented LUNs presented before you can delete the virtual disk. This is the default.

Examples

Set the utility to stop when it encounters an error and not to retry the commands:

```
SET OPTIONS on_error= halt_on_error noretries
```

Set the utility to display the status of the `LS VDISK` command:

```
SET OPTIONS display_status LS VDISK
```

Set the utility to display the status of the `LS VDISK` command in XML:

```
SET OPTIONS display_xmlstatus LS VDISK
```

SET PORT_PREFERENCE

This command sets the data replication port preference values. This includes priority and preference check intervals.

Syntax

```
SET PORT_PREFERENCE
```

The following options are available with the `SET PORT_PREFERENCE` command.

`lca_rca_p1`	The priority of port 1 of local controller A on the selected storage system to the priority of the remote controller A on the remote storage system.
`lca_rca_p2`	The priority of port 2 of local controller A on the selected storage system to the priority of the remote controller A on the remote storage system.
`lca_rca_p3`	The priority of port 3 of local controller A on the selected storage system to the priority of the remote controller A on the remote storage system.
`lca_rca_p4`	The priority of port 4 of local controller A on the selected storage system to the priority of the remote controller A on the remote storage system.
`lca_rcb_p1`	The priority of port 1 of local controller A on the selected storage system to the priority of the remote controller B on the remote storage system.
`lca_rcb_p2`	The priority of port 2 of local controller A on the selected storage system to the priority of the remote controller B on the remote storage system.
`lca_rcb_p3`	The priority of port 3 of local controller A on the selected storage system to the priority of the remote controller B on the remote storage system.
`lca_rcb_p4`	The priority of port 4 of local controller A on the selected storage system to the priority of the remote controller B on the remote storage system.
`lcb_rca_p1`	The priority of port 1 of local controller B on the selected storage system to the priority of the remote controller A on the remote storage system.
`lcb_rca_p2`	The priority of port 2 of local controller B on the selected storage system to the priority of the remote controller A on the remote storage system.
`lcb_rca_p3`	The priority of port 3 of local controller B on the selected storage system to the priority of the remote controller A on the remote storage system.

`lcb_rca_p4`	The priority of port 4 of local controller B on the selected storage system to the priority of the remote controller A on the remote storage system.
`lcb_rcb_p1`	The priority of port 1 of local controller B on the selected storage system to the priority of the remote controller B on the remote storage system.
`lcb_rcb_p2`	The priority of port 2 of local controller B on the selected storage system to the priority of the remote controller B on the remote storage system.
`lcb_rcb_p3`	The priority of port 3 of local controller B on the selected storage system to the priority of the remote controller B on the remote storage system.
`lcb_rcb_p4`	The priority of port 4 of local controller B on the selected storage system to the priority of the remote controller B on the remote storage system.
`portcheck_interval`	Interval after which the controller checks whether the user-set preferences can be applied.
`remote_world_wide_name`	World wide name of the remote storage system.
`reset_port_preference`	Resets the port preferences to the default values. If this option is specified then either `remote_world_wide_name` or `full` should be specified. No other options are valid when this option is used.

Example

Set to 1 the priority of port 1 on local controller A to the priority of the remote controller A. Set to 0 the priority of port 4 of local controller B to the priority of the remote controller B. Set the port check interval to 20.

```
SET PORT_PREFERENCE REMOTE_WORLD_WIDE_NAME=1111-2222-3333-4444
LCA_RCA_P1=1 LCB_RCB_P4=0 PORTCHECK_INTERVAL=20
```

Reset the port preferences to default values.

```
SET PORT_PREFERENCE REMOTE_WORLD_WIDE_NAME=1111-2222-3333-4444
RESET_PORT_PREFERENCE
```

SET SYSTEM

The `SET SYSTEM` command modifies the specified array properties.

Syntax

`SET SYSTEM` *`array_name`*

Options

The following options are available with the `SET SYSTEM` command.

`comment`	Associates a user-defined comment with the array. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.

`console_lun_id`	The LUN used for console communication. If set to zero, no LUN is presented to the host. This option is used for IBM AIX (set to zero), OpenVMS (required), and Tru64 UNIX (recommended). Other host operating systems ignore this option.
`manage`	Specifies that the array is to be managed by the selected HP Command View EVA instance.
`name`	The new name of the array.

Example

Rename the array `engineering` to `accounting`:

```
SET SYSTEM engineering NAME=accounting
```

SET VDISK

The `SET VDISK` command modifies the specified virtual disk properties.

Syntax

```
SET VDISK virtual_disk_name
```

Options

The following options are available with the `SET VDISK` command.

`change_into_container`	Converts the virtual disk to a container and deletes any data on the virtual disk. Use this option to revert to a previous point-in-time copy (snapclone) if a virtual disk is corrupted. The container has the same settings as the original virtual disk. You can then restore the virtual disk data by creating a snapclone of the previous backup snapclone. When the new snapclone is complete, it becomes an independent virtual disk with the same settings as the corrupted virtual disk. Your data will be as current as your most recent backup snapclone.
`comment`	Associates a user-defined comment with the virtual disk. The maximum number of characters is 128 (including spaces) and the string must be enclosed in quotes.
`detach`	Removes the relationship between the mirrorclone and the source virtual disk permanently. Host I/O to the source virtual disk is no longer copied to the mirrorclone and the mirrorclone becomes an independent virtual disk.
`fracture`	Fractures the relationship between the mirrorclone and the source virtual disk. You can resume the relationship by selecting the `RESYNC` option.
`mirrorcache`	Sets the controller's mirror cache. Possible values are mirrored (cache is `mirrored` between both controllers) and `notmirrored` (cache is not mirrored). NOTE: For active-active controllers, the only option is `mirrored`. If you try to select `notmirrored`, an error message is displayed.

`name`	The new name of the virtual disk.
`nopreferred_path`	Allows either controller to handle I/O.
`noread_cache`	Reads are always performed by the physical disks, not the controller's cache.
`nowrite_protect`	Allows writing to the virtual disk from all presented LUNs and hosts.
`os_unit_id`	The ID presented to the host operating system. If set to zero, no ID is presented to the host. This option is used for IBM AIX (set to zero), OpenVMS (required), and Tru64 UNIX (recommended). Other host operating systems ignore this option.
`preferred_path`	The preferred controller that will handle all I/O for the virtual disks. If the preferred controller fails, the working controller becomes the preferred controller. • `Path_A_Both`—Controller A fails over to controller B. When controller A restarts, the virtual disks fail back to controller A. This is failover/failback mode. • `Path_A_Failover`—Controller A fails over to controller B. When controller A restarts, the virtual disks do not fail back over to controller A. This is failover-only mode. • `Path_B_Both`—Controller B fails over to controller A. When controller B restarts, the virtual disks fail back to controller B. This is failover/failback mode. • `Path_B_Failover`—Controller B fails over to controller A. When controller B restarts, the virtual disks do not fail back over to controller B. This is failover-only mode.
`read_cache`	Reads are performed by the controller's cache.
`restore`	Restores data from the mirrorclone or snapshot of a mirrorclone or snapshot to the source virtual disk. Data on the source virtual disk is overwritten even if the source virtual disk is write-protected. Only unpresented mirrorclones and snapshots are eligible for restoration. A mirrorclone cannot be restored if the mirrorclone source is a DR group member.
`resync`	Resumes the relationship between the specified mirrorclone and its source virtual disk. The data on the mirrorclone is overwritten with the data from the source virtual disk. A mirrorclone that is presented cannot be resynchronized.
`size`	The new size of the virtual disk in whole gigabytes (GB). (Fractions are not allowed.) The value can be 2–2000 GB, depending on the disk group's available space. You can specify a value for the capacity of a virtual disk that is smaller than the current size. CAUTION: Make sure your host operating system can handle changes in volume size before you change the underlying virtual disk size. Changing the size on some operating systems can cause instability or data loss When using the GUID Partition Table (GPT) in Windows, the virtual disk should be a minimum 1 GB greater than the host volume size.

`world_wide_lun_name`	Sets the world wide LUN name of an unpresented virtual disk. This option does not work on a presented virtual disk. NOTE: This option is commonly used to allow a host to point to a new version of a snapshot by giving the new snapshot the same WWN as the old snapshot.
`writecache`	Sets the controller's write cache. Possible values are `writethrough` and `writeback`. With `writethrough`, the operation completes when the data is written to the disk. With `writeback`, the operation completes when the data is written to cache.
`write_protect`	Does not allow writing to the virtual disk from all presented LUNs and hosts.

Example

Assign the world wide LUN name to the virtual disk `archive`:

```
SET VDISK "\Virtual Disks\archive"
world_wide_lun_name=6000-1fe1-ff00-0000
```

SHUTDOWN

The `SHUTDOWN` command shuts down any controller displayed by the LS CONTROLLER command.

Syntax

`SHUTDOWN` *`controller_name`*

Options

The following options are available with the `SHUTDOWN` command:

`all_peers`	Shuts down all peer controllers (both controllers) on this array. It also shuts down all disk enclosures.
`noall_peers`	The default; shuts down only the specified controller.

ALL_PEERS

Shuts down all peer controllers (both controllers) on this array. It also shuts down all disk enclosures.

NOALL_PEERS

The default; shuts down only the specified controller.

Examples

Shut down only controller A:

```
SHUTDOWN “\Hardware\Rack 1\Enclosure 7\Controller A” noall_peers
```

Shut down controller B and its peer:

```
SHUTDOWN "\Hardware\Rack 1\Enclosure 7\Controller B" all_peers
```

VERSION

The VERSION command displays the HP Storage System Scripting Utility version.

Syntax

```
VERSION
```

3 Troubleshooting

This chapter describes possible issues you may encounter and possible resolutions.

Resetting the array password

Symptom: An array has been password protected and the password has not been entered in HP Command View EVA. The following error message appears when attempting to enter a command:

```
Error: API unable to get the lock
```

Resolution: Enter the array password in HP Command View EVA.

Losing communication with HP Command View EVA

Symptom: In rare instances, the utility loses communication with HP Command View EVA and reports that it is down, stopped, or restarting, even though it is possible to browse to the HP Command View EVA user interface.

Resolution: Restart HP Command View EVA.

Opening https connection error

Symptom: You open the utility and enter the manager, user name, and password, and the following error message appears:

```
Error opening https connection
```

Resolution: Check the following:

- The manager, user name and password are correct.
- The user name is a member of the HP Storage Admins or HP Storage Users group.
- The HP Command View EVA service is running on the server to which the utility is communicating.
- The current version of HP Command View EVA is running.
- If the utility is running on another server, ping the server on which HP Command View EVA is installed.

Resolving general errors

Symptom: The `No Object Found` error or `Neither Success or Failure` error appears.

Resolution: Do one of the following:

- Wait a few seconds and the problem may resolve itself.
- Close all open browser windows, including the HP Command View EVA user interface. You do not need to restart the utility. If the problem persists, restart HP Command View EVA.

4 Configuring an array using the utility

This chapter shows the process of configuring an array using the utility.

1. When you first open the utility, enter the following information:

   ```
   Manager: cvevaserver

   Username: evaadmin

   Password: admintest
   ```

   The utility validates the user credentials for the server and establishes an SSL connection with the server.
2. List the available arrays:

   ```
   NoSystemSelected: ls system

   Systems available on this Manager:

     Uninitialized Storage System [5000-1FE1-0015-1F50]
   ```
3. Select an array (if the array is uninitialized, “Uninitialized Storage System” with the world wide name xxxx-xxxx-xxxx-xxxx is displayed):

   ```
   NoSystemSelected: select system "Uninitialized Storage System [5000-1FE1-0015-1F50]"
   ```
4. Add the array `Archive` and display the options available with the `ADD SYSTEM` command:

   ```
   Uninitialized Storage System [5000-1FE1-0015-1F50]: add system Archive ?

     The options are:

       COMMENT

       CONSOLE_LUN_ID

       DEVICE_COUNT

       DISKGROUP_DISKTYPE

       SPARE_POLICY
   ```
5. Add eight disks to the `Archive` array :

   ```
   Uninitialized Storage System [5000-1FE1-0015-1F50]: add system Archive device_count=8
   ```
6. List the available arrays:

   ```
   NoSystemSelected: ls system

   Systems available on this Manager:

     Archive
   ```
7. Select the `Archive` array :

   ```
   NoSystemSelected: select system Archive
   ```
8. Add the virtual disk `History` with a size of 10 GB to the `Archive` array:

```
Archive: add vdisk History size=10
```

9. Add the host `MainServer` to the array, specifying the WWN and the operating system:

```
Archive: add host MainServer world_wide_name=1234-4321-1234-4231 operating_system=hpux
```

10. Present the virtual disk `History` as `LUN 3` to `MainServer`:

```
Archive: add lun 3 vdisk=History host=MainServer
```

11. List the available virtual disks on `MainServer`:

```
Archive: ls vdisk

Vdisks available on this Cell:

  \Virtual Disks\History\ACTIVE
```

12. View information about the virtual disk `History`:

```
Archive: ls vdisk History

\Virtual Disks\ history\ACTIVE information:

object

  objectid ..............................: 00200710b4080560671f10000090000000005843

  objectname ............................: \Virtual Disks\ history\ACTIVE

  objecttype ............................: virtualdisk

  objectwwn .............................:

  objecthexuid ..........................: 6005-08b4-0010-1f67-0000-9000-4358-0000

  partitionname .........................: ACTIVE

  uid ...................................: 8192.7.16.1610942644.1056615.36864.1129840640

  parentstoragecellinfo

    storagecellname .....................: HSV210_v5100_F670

    storagecellid .......................: 08000710b4080560671f1000090000000000e942

    storagecellwwn ......................: 5005-08B4-0101-F670

  objectparentuid .......................: 0.7.16.1610942644.1056615.36864.1129775104

  objectparenthexuid ....................: 6005-08b4-0010-1f67-0000-9000-4357-0000

  objectparentid ........................: 00000710b4080560671f10000090000000005743

  comments ..............................: active comments

  creationdatetime ......................: 13-Sep-2005 18:12:50

  timestampmodify .......................: 83969593

  previousclonesourcevdiskid ............: 00000000000000000000000000000000000000000000

  previousclonesourcevdiskhexuid ........: 0000-0000-0000-0000-0000-0000-0000-0000

  familyname ............................: history

  wwlunid ...............................: 6005-08b4-0010-1f67-0000-9000-4358-0000
```

```
onlinecontroller
  controllername .....................: Controller A
  controllerid .......................: 00000708b4080550591f10000000000000000000
operationalstate ....................: good
operationalstatedetail ..............: operating_normally
allocatedcapacity ...................: 10
allocatedcapacityblocks .............: 20971520
virtualdisktype .....................: original
requestedcapacity ...................: 10
requestedcapacityblocks .............: 20971520
sharingrelationship .................: none
sharinginformation
  parentvdiskhexuid .................: n/a
  parentvdiskid .....................: n/a
  parentvdiskname ...................: n/a
  childvdiskhexuid ..................: n/a
  childvdiskid ......................: n/a
  childvdiskname ....................: n/a
redundancy ..........................: vraid0
writecacheactual ....................: writethrough
writecache ..........................: writethrough
vdisksecondarystate .................: none
mirrorcache .........................: mirrored
readcache ...........................: enable
iscsipresentationexists .............: yes
iscsipresentations
  iscsipresentation
   iscsihostipaddress ...............: 16.112.98.100
   iscsihostname ....................:
    iqn.1991-05.com.microsoft:ait-test5.americas.hpqcorp.net
   iscsihostalias ...................:
   iscsiscsireservation .............: none
vdiskpresentedtoiscsihost ............: yes
virtualdiskpresented ................: yes
```

```
presentations
  presentation
    hostid ..........................: 17800710b4080560591f100000a0000000006701
    lunnumber .......................: 1
    hostname ........................: \Hosts\iSCSI Host
    scsireservationtype .............: none
 presentation
  hostid ............................: 00800710b4080560ae4201000050020000000cb00
  lunnumber .......................: 3
  hostname ........................: \Hosts\MainServer
  scsireservationtype .............: none
writeprotect ........................: disable
osunitid ............................: 10
diskgroupname .......................: \Disk Groups\Default Disk Group
diskgroupid .........................: 00010710b4080560671f1000090000000000eb42
preferredpath .......................: no_preference
```

13. List the available hosts on `MainServer`:

```
Archive: ls host MainServer
Hosts available on this Cell:
\Hosts\MainServer information:
object
  objectid ..........................: 00800710b4080560ae4201000050020000000cb00
  objectname ........................: \Hosts\MainServer
  objecttype ........................: host
  objecthexuid ......................: 6005-08b4-0001-42ae-0002-5000-00cb-0000
  hostname ..........................: MainServer
  uid ...............................: 32768.7.16.1610942644.82606.151552.13303808
  objectparentuid ...................: 1028.4.4.67372036.67372036.67372036.67372036
  objectparenthexuid ................: 0404-0404-0404-0404-0404-0404-0404-0404
  ipaddress .........................: dynamic_ip_assignment
  presentations
    presentation
      lunnumber .....................: 3
      virtualdiskid .................: 00200710b4080560ae420100005002000000c700
```

```
      virtualdiskname .................: \Virtual Disks\History\ACTIVE
  operationalstate ....................: good
  operationalstatedetail ..............: initialized_ok
  fcadapterports
    port
      portwwn .........................: 1234-4321-1234-4231
  directeventing ......................: enable
  osmode ..............................: hpux
  osmodebitmask .......................: n/a
```

14. List the available LUNs on disk 3 of the array `MainServer`:

```
Archive: ls lun \Hosts\MainServer\3
LUNs available on this Cell:
\Hosts\MainServer\3 information:
object
  objectid ............................: 00880710b4080560ae4201000050020000000cc00
  objectname ..........................: \Hosts\MainServer\3
  objecttype ..........................: presentedunit
  objecthexuid ........................: 6005-08b4-0001-42ae-0002-5000-00cc-0000
  virtualdiskname .....................: \Virtual Disks\History\ACTIVE
  virtualdiskid .......................: 00200710b4080560ae4201000050020000000c700
  hostname ............................: \Hosts\MainServer
  hostid ..............................: 00800710b4080560ae4201000050020000000cb00
  lunnumber ...........................: 3
```

15. List the available LUNs on disk 3 of the array `MainServer` with the output in XML format:

```
Archive: ls lun \Hosts\MainServer\3 xml
\Hosts\MainServer\3 information:
<object>
  <objectid>00880710b4080560ae4201000050020000000cc00</objectid>
  <objectname>\Hosts\MainServer\3</objectname>
  <objecttype>presentedunit</objecttype>
  <objecthexuid>6005-08b4-0001-42ae-0002-5000-00cc-0000</objecthexuid>
  <objectdiskname>\Virtual Disks\History\ACTIVE</objectdiskname>
  <objectdiskid>00200710b4080560ae4201000050020000000c700</objectdiskid>
  <hostname>\Hosts\MainServer</hostname>
```

```
  <hostid>00800710b4080560ae42010000500200000cb00</hostid>

  <lunnumber>3</lunnumber>

</object>
```

16. View the preferred path connections between local and remote arrays:

```
Remote system connection information:

preferredportgeneral

remotestoragesystem
    storagesystemname ..................: Unknown
    storagesystemnodewwn ...............: 5000-1FE1-5001-B3C0
    nbpaths ............................: 2
    drlicensed .........................: N/A
    dractive ...........................: No
    managed ............................: No
    remotesystemportcheckinterval ......:
  remotestoragesystem
    storagesystemname ..................: eva3028
    storagesystemnodewwn ...............: 5000-1FE1-5001-B350
    nbpaths ............................: 4
    drlicensed .........................: N/A
    dractive ...........................: No
    managed ............................: No
    remotesystemportcheckinterval ......:
  remotestoragesystem
    storagesystemname ..................: Unknown
    storagesystemnodewwn ...............: 5000-1FE1-5005-E380
    nbpaths ............................: 4
    drlicensed .........................: N/A
    dractive ...........................: No
    managed ............................: No
    remotesystemportcheckinterval ......:
  remotestoragesystem
    storagesystemname ..................: Unknown
    storagesystemnodewwn ...............: 5000-1FE1-5006-C0D0
    nbpaths ............................: 4
    drlicensed .........................: N/A
    dractive ...........................: No
    managed ............................: No
    remotesystemportcheckinterval ......:
  remotestoragesystem
    storagesystemname ..................: EVA-AE50
    storagesystemnodewwn ...............: 5000-1FE1-5003-AE50
    nbpaths ............................: 4
    drlicensed .........................: Yes
    dractive ...........................: No
    managed ............................: Yes
    remotesystemportcheckinterval ......:
  remotestoragesystem
    storagesystemname ..................: Unknown
    storagesystemnodewwn ...............: 5000-1FE1-5001-B3B0
    nbpaths ............................: 4
    drlicensed .........................: N/A
    dractive ...........................: No
    managed ............................: No
    remotesystemportcheckinterval ......:

preferredportpathsdetails
  remotesystempaths
```

```
remotesystempath
  remotestoragesystemname ..........: Unknown
  remotestoragesystemnodewwn .......: 5000-1FE1-5001-B3C0
  hostportpaths
    hostportpath
      localhostport ................: 1
      localcontrollername ..........: A
      remotehostport ...............: 2
      remotecontrollername .........: A
remotesystempath
  remotestoragesystemname ..........: Unknown
  remotestoragesystemnodewwn .......: 5000-1FE1-5001-B3C0
  hostportpaths
    hostportpath
      localhostport ................: 1
      localcontrollername ..........: B
      remotehostport ...............: 2
      remotecontrollername .........: A
remotesystempath
  remotestoragesystemname ..........: eva3028
  remotestoragesystemnodewwn .......: 5000-1FE1-5001-B350
  hostportpaths
    hostportpath
      localhostport ................: 1
      localcontrollername ..........: A
      remotehostport ...............: 1
      remotecontrollername .........: A
remotesystempath
  remotestoragesystemname ..........: eva3028
  remotestoragesystemnodewwn .......: 5000-1FE1-5001-B350
  hostportpaths
    hostportpath
      localhostport ................: 1
      localcontrollername ..........: B
      remotehostport ...............: 1
      remotecontrollername .........: A
remotesystempath
  remotestoragesystemname ..........: eva3028
  remotestoragesystemnodewwn .......: 5000-1FE1-5001-B350
  hostportpaths
    hostportpath
      localhostport ................: 1
      localcontrollername ..........: A
      remotehostport ...............: 2
      remotecontrollername .........: B
remotesystempath
  remotestoragesystemname ..........: eva3028
  remotestoragesystemnodewwn .......: 5000-1FE1-5001-B350
  hostportpaths
    hostportpath
      localhostport ................: 1
      localcontrollername ..........: B
      remotehostport ...............: 2
      remotecontrollername .........: B
remotesystempath
  remotestoragesystemname ..........: Unknown
  remotestoragesystemnodewwn .......: 5000-1FE1-5005-E380
  hostportpaths
    hostportpath
      localhostport ................: 1
      localcontrollername ..........: A
```

```
      remotehostport ..............: 1
      remotecontrollername .........: A
  remotesystempath
    remotestoragesystemname ..........: Unknown
    remotestoragesystemnodewwn .......: 5000-1FE1-5005-E380
    hostportpaths
      hostportpath
        localhostport ................: 1
        localcontrollername ..........: B
        remotehostport ...............: 1
        remotecontrollername .........: A
  remotesystempath
    remotestoragesystemname ..........: Unknown
    remotestoragesystemnodewwn .......: 5000-1FE1-5005-E380
    hostportpaths
      hostportpath
        localhostport ................: 1
        localcontrollername ..........: A
        remotehostport ...............: 1
        remotecontrollername .........: B
  remotesystempath
    remotestoragesystemname ..........: Unknown
    remotestoragesystemnodewwn .......: 5000-1FE1-5005-E380
    hostportpaths
      hostportpath
        localhostport ................: 1
        localcontrollername ..........: B
        remotehostport ...............: 1
        remotecontrollername .........: B
  remotesystempath
    remotestoragesystemname ..........: Unknown
    remotestoragesystemnodewwn .......: 5000-1FE1-5006-C0D0
    hostportpaths
      hostportpath
        localhostport ................: 1
        localcontrollername ..........: A
        remotehostport ...............: 1
        remotecontrollername .........: A
  remotesystempath
    remotestoragesystemname ..........: Unknown
    remotestoragesystemnodewwn .......: 5000-1FE1-5006-C0D0
    hostportpaths
      hostportpath
        localhostport ................: 1
        localcontrollername ..........: B
        remotehostport ...............: 1
        remotecontrollername .........: A
  remotesystempath
    remotestoragesystemname ..........: Unknown
    remotestoragesystemnodewwn .......: 5000-1FE1-5006-C0D0
    hostportpaths
      hostportpath
        localhostport ................: 1
        localcontrollername ..........: A
        remotehostport ...............: 2
        remotecontrollername .........: B
  remotesystempath
    remotestoragesystemname ..........: Unknown
    remotestoragesystemnodewwn .......: 5000-1FE1-5006-C0D0
    hostportpaths
      hostportpath
```

```
      localhostport ..............: 1
      localcontrollername ........: B
      remotehostport .............: 2
      remotecontrollername .......: B
remotesystempath
  remotestoragesystemname ........: EVA-AE50
  remotestoragesystemnodewwn .....: 5000-1FE1-5003-AE50
  hostportpaths
    hostportpath
      localhostport ..............: 1
      localcontrollername ........: A
      remotehostport .............: 1
      remotecontrollername .......: A
remotesystempath
  remotestoragesystemname ........: EVA-AE50
  remotestoragesystemnodewwn .....: 5000-1FE1-5003-AE50
  hostportpaths
    hostportpath
      localhostport ..............: 1
      localcontrollername ........: B
      remotehostport .............: 1
      remotecontrollername .......: A
remotesystempath
  remotestoragesystemname ........: EVA-AE50
  remotestoragesystemnodewwn .....: 5000-1FE1-5003-AE50
  hostportpaths
    hostportpath
      localhostport ..............: 1
      localcontrollername ........: A
      remotehostport .............: 1
      remotecontrollername .......: B
remotesystempath
  remotestoragesystemname ........: EVA-AE50
  remotestoragesystemnodewwn .....: 5000-1FE1-5003-AE50
  hostportpaths
    hostportpath
      localhostport ..............: 1
      localcontrollername ........: B
      remotehostport .............: 1
      remotecontrollername .......: B
remotesystempath
  remotestoragesystemname ........: Unknown
  remotestoragesystemnodewwn .....: 5000-1FE1-5001-B3B0
  hostportpaths
    hostportpath
      localhostport ..............: 1
      localcontrollername ........: A
      remotehostport .............: 2
      remotecontrollername .......: A
remotesystempath
  remotestoragesystemname ........: Unknown
  remotestoragesystemnodewwn .....: 5000-1FE1-5001-B3B0
  hostportpaths
    hostportpath
      localhostport ..............: 1
      localcontrollername ........: B
      remotehostport .............: 2
      remotecontrollername .......: A
remotesystempath
  remotestoragesystemname ........: Unknown
  remotestoragesystemnodewwn .....: 5000-1FE1-5001-B3B0
```

```
  hostportpaths
    hostportpath
      localhostport ................: 1
      localcontrollername ..........: A
      remotehostport ...............: 2
      remotecontrollername .........: B
remotesystempath
  remotestoragesystemname ..........: Unknown
  remotestoragesystemnodewwn .......: 5000-1FE1-5001-B3B0
  hostportpaths
    hostportpath
      localhostport ................: 1
      localcontrollername ..........: B
      remotehostport ...............: 2
      remotecontrollername .........: B
```

5 Command reference

Table 4 provides an overview of the utility commands. All of these commands may be executed by the HP Storage Administrator.

Table 4 Command reference

Command	Options
ADD CONTAINER	DISK_GROUP= REDUNDANCY= SIZE=
ADD COPY	CONTAINER= DISK_GROUP= NOWAIT_FOR_COMPLETION OS_UNIT_ID= REDUNDANCY VDISK= WAIT_FOR_COMPLETION WORLD_WIDE_LUN_NAME=
ADD DISK_GROUP	COMMENT= DEVICE_COUNT= DISKGROUP_DISKTYPE= DISKGROUP_TYPE= OCCUPANCY_ALARM= SPARE_POLICY=
ADD DR_GROUP	ACCESSMODE= COMMENT= DESTINATION_DISK_GROUP= DESTINATION_SYSTEM= DESTINATION_VDISK_NAME= FULLCOPY_AUTOSUSPEND= LINK_DOWN_AUTOSUSPEND= LOG_DESTINATION_DISK_GROUP= LOG_SOURCE_DISK_GROUP= MAX_LOG_SIZE= TARGETREDUNDANCY= VDISK= WRITEMODE=
ADD FOLDER	COMMENT=

Command	Options
ADD HOST	COMMENT= IP= OPERATING_SYSTEM= WORLD_WIDE_NAME=
ADD ISCSI_CONTROLLER	IP=
ADD ISCSI_HOST	ISCSI_IPHOST= COMMENT= OPERATING_SYSTEM=
ADD ISCSI_LUN	ISCSI_HOST= VDISK=
ADD LICENSES	
ADD LUN	HOST= VDISK=
ADD MIRRORCLONE	CONTAINER= VDISK=
ADD MULTISNAP	CONTAINER= SNAPCLONE SNAPSHOT VDISK=
ADD SNAPSHOT	ALLOCATION_POLICY= CONTAINER= OS_UNIT_ID= REDUNDANCY= VDISK= WORLD_WIDE_LUN_NAME
ADD SYSTEM	COMMENT= CONSOLE_LUN_ID= DEVICE_COUNT= DISKGROUP_DISKTYPE= DISKGROUP_TYPE= SPARE_POLICY=

Command	Options
ADD VDISK	COMMENT= DISK_GROUP= MIRRORCACHE= NOPREFERRED_PATH NOREAD_CACHE NOWAIT_FOR_COMPLETION NOWRITE_PROTECT OS_UNIT_ID= PREFERRED_PATH= READ_CACHE REDUNDANCY= SIZE= WAIT_FOR_COMPLETION WORLD_WIDE_LUN_NAME= WRITECACHE= WRITE_PROTECT
CAPTURE CONFIGURATION	SAVE_ALL_WORLD_WIDE_LUN_NAME SAVE_DIFFERENT_WORLD_WIDE_LUN_NAME START_AT=
CAPTURE VALIDATE	
CHECK REDUNDANCY	
CLEAR LICENSES	ALL BC CA CV DM
CODELOAD	LOCAL_PATH SERVER_PATH
CODELOAD DISK	DISK= LOCAL_PATH SERVER_PATH
DELETE DISK_GROUP	
DELETE DR_GROUP	
DELETE FOLDER	
DELETE HOST	
DELETE ISCSI_CONTROL-LER	

Command	Options
DELETE ISCSI_HOST	
DELETE ISCSI_LUN	ISCSI_HOST= VDISK=
DELETE LUN	
DELETE SYSTEM	
DELETE VDISK	NOWAIT_FOR_COMPLETION WAIT_FOR_COMPLETION
EMVERSION	
EXERCISE_DISK	START STOP SUMMARY
EXIT	
EXPORT LICENSES	LOCAL_PATH SERVER_PATH
FILE	
FIND HOST	ADAPTER_WWN=
FIND SYSTEM	SYSTEM_WWN=
FIND VDISK	LUNWWID=
HELP	
IMPORT LICENSES	LOCAL_PATH SERVER_PATH
LOCATE DISK	ON OFF
LOCATE ISCSI_CONTROL-LER	ON OFF
LS	The LS command options are: FULL FULL XML NOFULL NOFULL XML Not all LS commands have the XML options.
LS CABINET	

Command	Options
LS CONTAINER	
LS CONTROLLER	
LS CONTROLLER_ENCLOS-URE	
LS DISK	
LS DISK_GROUP	
LS DISKSHELF	
LS DR_GROUP	
LS DR_PROTOCOL	
LS FOLDER	
LS HOST	
LS ISCSI_CONTROLLER	
LS ISCSI_HOST	
LS ISCSI_IPHOST	
LS ISCSI_LUN	ISCSI_LUN_NAME
LS LICENSES	
LS LUN	
LS MANAGER	
LS OPTIONS	
LS PORT_PREFERENCE	FULL REMOTE_WORLD_WIDE_NAME
LS PREFERRED_PATH	
LS SNAPSHOT	
LS SYSTEM	
LS TIME	
LS VDISK	VIRTUAL_DISK_NAME
LS WORLD_WIDE_NAME	FULL NOFULL VIRTUAL_DISK_NAME
MOVE HOST	

Command	Options
MOVE VDISK	
PAUSE	
REDISCOVER	
REFRESH	
RESTART	ALL_PEERS NOALL_PEERS
SELECT MANAGER	PASSWORD= USERNAME=
SELECT SYSTEM	
SET CABINET	COMMENT= NAME=
SET CONTROLLER	COMMENT= NAME=
SET DISK	COMMENT= NAME=
SET DISK_GROUP	ADD= COMMENT= DELETE= NAME= OCCUPANCY_ALARM= SPARE_POLICY=
SET DISKSHELF	COMMENT=

Command	Options
SET DR_GROUP	ACCESSMODE= ADD_VDISK= COMMENT= DELETE_VDISK= DETACH_VDISK= FAILOVER_RESUME FAILOVER_SUSPEND FAILSAFE FAILSAFE_ON_POWERUP_LINKDOWN FORCEFULLCOPY FULLCOPY_AUTOSUSPEND LINK_DOWN_AUTOSUSPEND= MAX_LOG_SIZE= NAME= NOFAILSAFE NOFAILSAFE_ON_POWERUP_LINKDOWN NOSUSPEND SUSPEND WRITEMODE=
SET DR_PROTOCOL	HPCA SCSIFC EITHER
SET FOLDER	COMMENT= NAME=
SET HOST	ADD_WORLD_WIDE_NAME= COMMENT= DELETE_WORLD_WIDE_NAME= IP= NAME= OPERATING_SYSTEM=

Command	Options
SET ISCSI_CONTROLLER	COMMENT= GATEWAY= IP= IP_MODE= IPV6_ADDRESS_1= IPV6_ADDRESS_2= IPV6_ADDRESS_MODE= IPV6_ADDRESS_STATE= IPV6_ROUTER_ADDRESS= NAME= SUBNET_MASK= PORT0_GATEWAY= PORT0_IP_ADDRESS= PORT0_IPV6_ADDRESS_1= PORT0_IPV6_ADDRESS_2= PORT0_IPV6_ADDRESS_MODE= PORT0_IPV6_ROUTER_ADDRESS= PORT0_ISNS_IPV6_ADDRESS= PORT0_ISNS_IP_ADDRESS= PORT0_ISNS_STATE= PORT0_LINK_REQUESTED= PORT0_SUBNET_MASK= PORT1_GATEWAY= PORT1_IP_ADDRESS= PORT1_ISNS_IP_ADDRESS= PORT1_IPV6_ADDRESS_1= PORT1_IPV6_ADDRESS_2= PORT1_IPV6_ADDRESS_MODE= PORT1_IPV6_ROUTER_ADDRESS= PORT1_IPV6_ISNS_IPV6_ADDRESS= PORT1_ISNS_STATE= PORT1_LINK_REQUESTED= PORT1_SUBNET_MASK=
SET ISCSI_HOST	COMMENT= NAME= OPERATING_SYSTEM=
SET MULTIMIRROR	DETACH FRACTURE RESYNC

Command	Options
SET OPTIONS	COMMAND_DELAY= DISPLAY_STATUS DISPLAY_TIME_OFF DISPLAY_TIME_ON DISPLAY_WIDTH= DISPLAY_XMLSTATUS HIDE_STATUS NOCOMMAND_DELAY NORETRIES NOSAFE_DELETE ON_ERROR= RETRIES= SAFE_DELETE
SET PORT_PREFERENCE	LCA_RCA_P1 LCA_RCA_P2 LCA_RCA_P3 LCA_RCA_P4 LCA_RCB_P1 LCA_RCB_P2 LCA_RCB_P3 LCA_RCB_P4 LCB_RCA_P1 LCB_RCA_P2 LCB_RCA_P3 LCB_RCA_P4 LCB_RCB_P1 LCB_RCB_P2 LCB_RCB_P3 LCB_RCB_P4 PORTCHECK_INTERVAL REMOTE_WORLD_WIDE_NAME RESET_PORT_PREFERENCE
SET SYSTEM	COMMENT= CONSOLE_LUN_ID= MANAGE NAME= SET PORT_PREFERENCE

Command	Options
SET VDISK	CHANGE_INTO_CONTAINER COMMENT= DETACH FRACTURE MIRRORCACHE= NAME= NOPREFERRED_PATH NOREAD_CACHE NOWRITE_PROTECT OS_UNIT_ID= PREFERRED_PATH= READ_CACHE RESTORE RESYNC SIZE= WORLD_WIDE_LUN_NAME= WRITE_PROTECT WRITECACHE=
SHUTDOWN CONTROLLER	ALL_PEERS NOALL_PEERS
SSSU	–a –d –l
VERSION	

6 HP StorageWorks Storage System Scripting Utility best practices

Executing the SSSU scripts

Use the following best practices to execute SSSU scripts:

- Run only one instance of the SSSU script at a time.
- Do not make changes using the GUI or have the GUI active while scripts are executing.

HP Command View EVA and SSSU versions

Ensure that all your hosts have matching SSSU and HP Command View EVA versions. If you do not follow this best practice, you can experience unpredictable results such as scripts that fail.

Using capture configuration commands

When using the capture configuration commands, be aware of the following best practices:

- Execute `capture configuration` after any configuration change is made and *before* any firmware or hardware upgrade.
- The capture configuration command cannot re-create disk groups with
  - Mixed spindles sizes.
  - Spindles of different sizes. An example of disk groups with spindles of difference sizes would be one disk group with all 72-Gb drives and another disk group with all 300-Gb drives.

  Manually re-create these disk group types before proceeding with the rest of the configuration scripts.

Collecting SSSU EVA data on OpenVMS systems

Use the following procedure to collect SSSU data from EVA storage systems running the OpenVMS operating system.

1. Use the following command to create a log file.

   ```
   $ pipe sssu "file addcopy.com" | copy sys$input addcopy.log
   ```

2. Define `sssu` as a foreign command to pass arguments to the SSSU.exe file in OpenVMS DCL.

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