



**Hewlett Packard
Enterprise**

HPE 3PAR StoreServ Storage PowerShell Toolkit 2.2 User Guide

Abstract

This document contains detailed instructions on the HPE 3PAR StoreServ Storage PowerShell Toolkit 2.2 installation, features, and PowerShell cmdlets.

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Introduction

Overview of HPE 3PAR PowerShell Toolkit

The HPE 3PAR StoreServ Storage PowerShell Toolkit supports cmdlets, which are wrappers around the native HPE 3PAR StoreServ Storage CLI commands or HPE 3PAR StoreServ Storage Web Services API (WSAPI).

Features of HPE 3PAR PowerShell Toolkit

HPE 3PAR StoreServ Storage PowerShell Toolkit v2.2 works with PowerShell v3.0 and later, upto PowerShell v5.1.

It can be used in following two ways:

1. With Native HPE 3PAR StoreServ Storage CLI command.

When you run the cmdlets, the following actions take place:

- a. A secure connection to the HPE 3PAR StoreServ Storage is established over Secure Shell.
- b. The native HPE 3PAR StoreServ Storage CLI command and parameters are formed based on the PowerShell cmdlet and parameters.
- c. The native HPE 3PAR StoreServ Storage CLI command is executed.
- d. The output of the cmdlets is returned as PowerShell objects. This output can be piped to other PowerShell cmdlets for further processing.

2. With HPE 3PAR Web Service API.

When you run the cmdlets, the following actions take place:

- a. A secure connection using HPE 3PAR Web Service API is established as a session key (credential). Unused session keys expire after 15 minutes.
- b. The HPE 3PAR Web Service API and parameters are formed based on the PowerShell cmdlet and parameters.
- c. WSAPI uses the HTTPS protocol to enable programmatic management of 3PAR storage servers, and provides client access to web services at specified HTTPS locations. Clients communicate with the WSAPI server using HTTPS methods and data structures represented with JSON.
- d. The output of the cmdlets is returned as PowerShell objects. This output can be piped to other PowerShell cmdlets for search.

New features in HPE 3PAR PowerShell Toolkit 2.2

- Support for HPE 3PAR StoreServ Storage Operating System 3.3.1(MU1, MU2, MU3 & MU4) with CLI-based cmdlets.
- Support for HPE 3PAR StoreServ Storage Operating System 3.3.1(MU1, MU2 & MU3) with WSAPI-based cmdlets.
- Support for Windows 2019.
- HPE 3PAR Web Service API v1 (1.6.3) support for the following:

- CRUD operations on CPG, Volume, host, host sets, VV sets, VLUN, FPG/VFS/File Shares, Remote Copy Group and so on.
- Querying and filtering system events and tasks.
- Configuring and querying ports.
- Querying system capacity.
- Creating physical copy of volume/VV set and resynchronizing these volumes.
- SR reports - Statistical data reports for CPG, PD, ports, VLUN, QoS & Remote Copy volumes and so on.
- Querying WSAPI users and roles.
- Support for PowerShell (POSH) SSH module to establish SSH connections to the storage system.
- Support latest PowerShell 5.1.
- Session Management (using session variable).
- Support for all parameters in existing cmdlets.

Product support

HPE 3PAR StoreServ Storage PowerShell Toolkit supports PowerShell 3.0 and later. This Toolkit provides cmdlets to manage the following operations:

- Views and manages Common Provisioning Group (CPG).
- Views and manages VVols.
- Views and manages Virtual Volume sets.
- Views and manages Hosts.
- Views and manages Host sets.
- Views and manages Virtual Logical Unit Number (vLUN).
- Views and manages Physical copy.
- Views and manages Virtual copy (Snapshots).
- Views and manages ports.
- Views and manages tasks.
- Views and manages Disk Enclosure.
- Views and manages Performance Management.
- Views and manages Spares.
- Supports for HPE 3PAR Web Services API.
- Supports for System Reporter cmdlets.
- Supports for Remote Copy cmdlets.
- Supports for Compression-related cmdlets.
- Supports for Asynchronous streaming replication.
- Supports for Deduplication-related cmdlets.

- Supports for Storage Federation related cmdlets.
- Supports for Smart SAN Enhancements (iSCSI) related cmdlets.

HPE 3PAR Web Services API 1.6.3

The Web Services API (WSAPI) provides a more flexible and powerful way to perform storage management tasks than the HPE 3PAR Command Line Interface (CLI) or the HPE 3PAR OS Management Console software. Use WSAPI to automate your management tasks for hosts, ports, volumes, and more.

WSAPI uses the HTTPS protocol to enable programmatic management of 3PAR storage servers, and provides client access to web services at specified HTTPS locations. Clients communicate with the WSAPI server using HTTPS methods and data structures represented with JSON.

You can use WSAPI with a series of HTTP or HTTPS requests to automate and manage many tasks. For security reasons, Hewlett Packard Enterprise recommends using HTTPS.

Because HTTP/1.0 does not support chunked transfer encoding, the WSAPI server does not support HTTP/1.0. If an HTTP/1.0 request comes in, the WSAPI server generates the following error message, indicating an unsupported HTTP version: **UNSUP_HTTP**

Starting and configuring the WSAPI server

WSAPI uses HPE 3PAR CLI commands to start, configure, and modify the WSAPI server.

For more information about using the CLI, see:

- HPE 3PAR Command Line Interface Administrator Guide
- HPE 3PAR Command Line Interface Reference

For more information, see <http://www.hpe.com/info/storage/docs/>

Starting the WSAPI server

The WSAPI server does not start automatically.

Using the CLI, enter **startwsapi** to manually start the WSAPI server.

Configuring the WSAPI server

To configure WSAPI, enter **setwsapi** in the CLI.

Basic CLI commands for WSAPI server Configuration

Command	Description
removewsapisession	Removes the WSAPI user connections from the current system.
setwsapi	Sets properties of the Web Services API server, including options to enable or disable the HTTP and HTTPS ports.
showwsapi	Displays the WSAPI server service configuration state as either Enabled or Disabled. It displays the server current running status as Active, Inactive, or Error. It also displays the status of the HTTP and HTTPS ports and their port numbers. WSAPI server URL is also displayed.

Table Continued

Command	Description
showwsapisession	Displays the WSAPI server sessions connection information, including the id, node, username, role, hostname, and IP Address of the connecting client. It also displays the session creation time and session type.
startwsapi	Starts the Web Services API server to service HTTP and HTTPS requests. By default, the Web Services API server is not started until this command is issued.
statwsapi	Shows Web Services API (wsapi) server statistics.
stopwsapi	Stops the Web Services API server from servicing HTTP and HTTPS requests.

NOTE: The HPE 3PAR StoreServ Storage PowerShell Toolkit also has the cmdlets for starting and configuring the WSAPI server, so user have a choice to Start and configure the WSAPI server either from CLI or from PowerShell Toolkit.

Following are the HPE 3PAR StoreServ Storage PowerShell Toolkit Cmdlets for starting and configuring the WSAPI server:

- Stop-3parWsapi
- Start-3parWsapi
- Get-3parWsapi
- Get-3parWsapiSession
- Set-3PARWsapi
- Remove-3PARWsapiSession

Importing HPE 3PAR StoreServ Storage PowerShell Toolkit

Supported Host operating systems and HPE 3PAR PowerShell versions

HPE 3PAR StoreServ Storage PowerShell Toolkit works with HPE 3PAR PowerShell Toolkit 3.0 and later. You can use this Toolkit in the following environments:

- Windows 2019
- Windows Server 2016
- Windows Server 2012 R2
- Windows Server 2012
- Windows Server 2008 R2 SP1
- Windows Server 2008 R2
- Windows Server 2008 SP1
- Windows 10
- Windows 8
- Windows 7 SP1
- Windows 7

Supported HPE 3PAR StoreServ Storage Platforms

Supported HPE 3PAR StoreServ Storage platforms are:

HPE 3PAR StoreServ 7000, 8000, 10000, and 20000 series.

Supported firmware for HPE 3PAR StoreServ Storage are:

- 3.3.1 (MU1, MU2, MU3 & MU4)

NOTE: Only CLI-based cmdlets are qualified with 3.3.1 MU4 and WSAPI-based cmdlets are qualified until 3.3.1 MU3.

- 3.3.1 (MU1, MU2, and MU3)
- 3.2.2 (including all MUs)
- 3.2.1 (including all MUs)

Importing HPE 3PAR StoreServ Storage PowerShell Toolkit

Prerequisites

- Ensure that PowerShell v3.0 or later and .NET Framework 4.0 or later is available on your system.
- Ensure one among the following software is installed for establishing a Secure Shell connection:

- HPE 3PAR StoreServ CLI client
- Open-source POSH SSH Module

NOTE: The HPE 3PAR StoreServ Storage PowerShell Toolkit is provided as a compressed package.

Procedure

1. Unzip the package and copy the folder `HPE3PARPSToolkit` to a location. For example, `C:\Home\Projects\HPE3PARPSToolkit`
2. Install the HPE 3PAR StoreServ Storage CLI software, to use HPE 3PAR StoreServ Storage CLI to establish a secure connection.
3. Install the POSH SSH module, to use POSH SSH module to establish a secure connection.
For more information on installing the POSH SSH module, see **Installation of POSH SSH module**.
4. Configure WSAPI server to establish a secure connection for HPE 3PAR Web Service API Cmdlets.
For more information on installing WASAPI server module, see **Starting and configuring the WSAPI server**.
5. Open an interactive PowerShell console.
6. Navigate to the location where HPE3PARPSToolkit is saved.
For example, `PS C:>cd C:\Home\PSToolkit\HPE3PARPSToolkit` and press Enter.
7. Import the HPE3PARPSToolkit v2.2 to the supported Windows host that contains two modules:
 - HPE3PARPSToolkit-CLI: Support HPE 3PAR StoreServ CLI client and POSH SSH Module.
 - HPE3PARPSToolkit-WSAPI: Support HPE 3PAR Web Service API Cmdlets.

You can import either one or both the modules.

Example: Importing a single module

```
PS C:\Home\PSToolkit\HPE3PARPSToolkit> Import-Module .\HPE3PARPSToolkit-CLI.psm1
```

Example: Importing both modules

```
PS C:\Home\PSToolkit\HPE3PARPSToolkit> Import-Module .\HPE3PARPSToolkit-CLI.psm1
```

```
PS C:\Home\PSToolkit\HPE3PARPSToolkit> Import-Module .\HPE3PARPSToolkit-WSAPI.psm1
```

8. Navigate to the location where HPE3PARPSToolkit is saved to view the log file.
For example, HPE3PARPSToolkit location is `C:\Home\PSToolkit\HPE3PARPSToolkit` then the log file location is `C:\Home\PSToolkit\Log`.

Installation of POSH SSH module

POSH SSH module is hosted on GitHub at: <http://github.com/darkoperator/Posh-SSH>

Prerequisites

PowerShell 3.0 and .NET Framework 4.0

Procedure

Run the command: `iex (New-Object Net.WebClient).DownloadString("https://gist.github.com/darkoperator/6152630/raw/c67de4f7cd780ba367cccbc2593f38d18ce6df89/instposhsshdev")`

This command downloads and installs the latest version of Posh-SSH. After the download is complete and the module is copied, the available commands are listed.

For more information, see <http://www.powershellmagazine.com/2014/07/03/posh-ssh-open-source-ssh-powershell-module/>

Using session variable

You can use session variable for session management in HPE 3PAR StoreServ Storage PowerShell Toolkit 2.2. You can use different sessions and execute cmdlets on one or multiple HPE 3PAR StoreServ Storage devices using same or different user credentials.

Procedure

1. Create the connection object to the array, save the connection object into a variable.
2. Create the sessions as required on same or different arrays. For each session, save the connection object into a variable.

NOTE: Create multiple sessions to one array with different credentials. Creating multiple sessions to same array using same credentials is not allowed.

3. Run the cmdlets using required connection object.

```
$Connection1 = New-3ParPoshSshConnection -SANIPAddress 1.2.3.4 -SANUserName ABC
```

Creates session to 1.2.3.4

```
$Connection2 = New-3ParPoshSshConnection -SANIPAddress 1.1.1.1 -SANUserName ZYX
```

Creates session to 1.1.1.1

```
Get-3parVersion -SANConnection $Connection1
```

Cmdlet is run on array 1.2.3.4.

```
Get-3parVersion -SANConnection $Connection2
```

Cmdlet is run on array 1.1.1.1.

4. Run the WASAPI cmdlets using required connection object.

```
$Connection1 = 3PARWSAPIConnection -SANIPAddress 1.2.3.4 -SANUserName ABC
```

Creates session to 1.2.3.4

```
$Connection2 = New-3PARWSAPIConnection -SANIPAddress 1.1.1.1 -SANUserName ZYX
```

Creates session to 1.1.1.1

```
Get-3parVersion_WASAPI -SANConnection $Connection1
```

Cmdlet is run on array 1.2.3.4.

```
Get-3parVersion_WASAPI -SANConnection $Connection2
```

Cmdlet is run on array 1.1.1.1

HPE 3PAR PowerShell ToolKit CLI cmdlets quick reference

Cmdlets help

Symbol	Meaning
[]	Indicates optional items.
< >	Indicates a value that you define.
	Separates mutually exclusive choices. Type one of the choices.

- To get list of cmdlets offered by HPE 3PAR StoreServ Storage PowerShell Toolkit, run:

```
PS C:\> Get-3parCmdList
```

- To get cmdlet specific help, run:

```
PS C:\> Get-Help <cmdlet>
```

- To get cmdlet specific help using the -full option, run:

```
PS C:\> Get-Help <cmdlet> -full
```

NOTE: Toolkit command and parameter names are case insensitive, but parameter values are case sensitive.

Connection management cmdlet

cmdlet	Description	For details, see
New-3ParPoshSshConnection	Builds a SAN connection object using Posh SSH connection.	<u>New-3ParPoshSshConnection</u>
New-3parCLIConnection	Builds a SAN connection object using HPE 3PAR CLI.	<u>New-3parCLIConnection</u>
Set-3parPoshSshConnectionPasswordFile	Creates an encrypted password file on client machine.	<u>Set-3parPoshSshConnectionPasswordFile</u>
Set-3parPoshSshConnectionUsingPasswordFile	Creates a SAN Connection object using Encrypted password file.	<u>Set-3parPoshSshConnectionUsingPasswordFile</u>

CPG management cmdlet

cmdlet	Description	For details, see
New-3parCPG	Creates a new CPG.	<u>New-3parCPG</u>
Get-3parCPG	Displays a list of CPGs.	<u>Get-3parCPG</u>
Remove-3parCPG	Removes a CPG.	<u>Remove-3parCPG</u>

Disk Enclosure management cmdlets

cmdlet	Description	For details, see
Approve-3parPD	Creates physical disk definitions to enable the use of disks.	Approve-3parPD
Test-3parPD	Executes surface scans or diagnostics on physical disks.	Test-3parPD
Find-3parCage	Allows system administrators to locate a drive cage, drive magazine, or port in the system using the device blinking LEDs.	Find-3parCage
Set-3parCage	Enables service personnel to set or modify parameters for a drive cage.	Set-3parCage
Set-3parPD	Marks a PD as allocatable or non allocatable for LDs.	Set-3parPD
Get-3parCage	Displays information about drive cages.	Get-3parCage
Get-3parPD	Displays configuration information about the PDs (physical disks) on a system.	Get-3parPD

Federation cmdlets

cmdlet	Description	For details, see
Join-3parFed	Makes the StoreServ system a member of the Federation identified by the specified name and UUID.	Join-3parFed
New-3parFed	Generates a UUID for the named Federation and makes the StoreServ system a member of that Federation.	New-3parFed
Remove-3parFed	Removes the StoreServ system from Federation membership.	Remove-3parFed
Set-3parFed	Modifies name, comment, or key/value attributes of the Federation of which the StoreServ system is member.	Set-3parFed
Show-3parFed	Displays the name, UUID, and comment of the Federation of which the StoreServ system is member.	Show-3parFed

FBO cmdlets

cmdlet	Description	For details, see
Start-3parFSNDMP	Starts both NDMP service and iSCSI service.	<u>Start-3parFSNDMP</u>
Stop-3parFSNDMP	Stops both NDMP service and iSCSI service.	<u>Stop-3parFSNDMP</u>

Help cmdlet

cmdlet	Description	For details, see
Get-3parCmdList	Gets a list of HPE 3PAR StoreServ PowerShell cmdlets.	<u>Get-3parCmdList</u>
Get-Help/Help	Displays help for respective command.	<u>Help cmdlet</u>

Host and Host Set management cmdlets

cmdlet	Description	For details, see
New-3parHost	Creates a new host.	<u>New-3parHost</u>
Get-3parHost	Lists all hosts.	<u>Get-3parHost</u>
New-3parHostSet	Creates a new host set.	<u>New-3parHostSet</u>
Get-3parHostSet	Gets a list of host set information.	<u>Get-3parHostSet</u>
Remove-3parHostSet	Removes a host set or remove hosts from an existing set.	<u>Remove-3parHostSet</u>
Remove-3parHost	Creates a new host.	<u>Remove-3parHost</u>
Set-3parHost	Adds WWN or iSCSI name to an existing host.	<u>Set-3parHost</u>

Node subsystem management cmdlet

cmdlet	Description	For details, see
Get-3parSystem	Displays the HPE 3PAR StoreServ Storage system information.	<u>Get-3parSystem</u>
Ping-3parRCIPPorts	Verifies that the Servers Are Connected.	<u>Ping-3parRCIPPorts</u>
Show-3pariSCSISession	Displays the iSCSI sessions.	<u>Show-3pariSCSISession</u>
Show-3pariSCSISessionStatistics	Displays the iSCSI session statistics.	<u>Show-3pariSCSISessionStatistics</u>
Show-3pariSCSIStatistics	Displays the iSCSI statistics.	<u>Show-3pariSCSIStatistics</u>

Table Continued

Show-3parPortARP	Displays the ARP table for iSCSI ports in the system.	Show-3parPortARP
Show-3parPortISNS	Displays iSNS host information for iSCSI ports in the system.	Show-3parPortISNS

Performance management cmdlets

cmdlet	Description	For details, see
Compress-3parVV	Changes the properties of a virtual volume.	Compress-3parVV
Get-3parHistChunklet	Displays a histogram of service times in a timed loop for individual chunklets.	Get-3parHistChunklet
Get-3parHistLD	Displays a histogram of service times for LDs (Logical Disks) in a timed loop.	Get-3parHistLD
Get-3parHistPD	Displays a histogram of service times for Physical Disks (PDs).	Get-3parHistPD
Get-3parHistPort	Displays a histogram of service times for ports within the system.	Get-3parHistPort
Get-3parHistRCopyVV	Displays a histogram of total Remote-copy service times and backup system remote-copy service times in a timed loop.	Get-3parHistRCopyVV
Get-3parHistVLUN	Displays VLUN (Virtual Volume Logical Unit Number) service time histograms.	Get-3parHistVLUN
Get-3parHistVV	Displays Virtual Volume (VV) service time histograms in a timed loop.	Get-3parHistVV
Get-3parStatChunklet	Displays chunklet statistics in a timed loop.	Get-3parStatChunklet
Get-3parStatCMP	Displays CMP (Cache Memory Page) statistics by node or by Virtual Volume.	Get-3parStatCMP
Get-3parStatCPU	Displays CPU statistics for all nodes.	Get-3parStatCPU
Get-3parStatLD	Displays read/write (I/O) statistics for LDs in a timed loop.	Get-3parStatLD
Get-3parStatLink	Displays statistics for link utilization for all nodes in a timed loop.	Get-3parStatLink
Get-3parStatPD	Displays the read/write (I/O) statistics for physical disks in a timed loop.	Get-3parStatPD

Table Continued

Get-3parStatPort	Displays read/write (I/O) statistics for ports.	Get-3parStatPort
Get-3parStatRCVV	Displays statistics for remote-copy volumes in a timed loop.	Get-3parStatRCVV
Get-3parStatVLUN	Displays statistics for VVs and LUN host attachments.	Get-3parStatVlun
Get-3parStatVV	Displays statistics for VVs.	Get-3parStatVV
Set-3parstatch	Sets the statistics collection mode for all in-use chunklets on a Physical Disk (PD).	Set-3parstatch
Set-3parStatpdch	Starts and stops the statistics collection mode for chunklets.	Set-3parStatpdch

Physical copy management cmdlets

cmdlet	Description	For details, see
New-3parVVCopy	Creates a full physical copy of a virtual volume or a read/write virtual copy on another virtual volume.	New-3parVVCopy
New-3parGroupVVCopy	Creates consistent group of physical copies of a list of virtual volumes.	New-3parGroupVVCopy
Push-3parVVCopy	Promotes a physical copy back to a regular base volume.	Push-3parVVCopy

Port management cmdlets

cmdlet	Description	For details, see
Get-3parFCPorts	Sends a query HPE 3PAR StoreServ to get FC ports.	Get-3parFCPorts
Get-3parFCPortsToCSV	Sends a query HPE 3PAR StoreServ to get FC ports.	Get-3parFCPortsToCSV
Set-3parFCPorts	Configures HPE 3PAR StoreServ FC ports.	Set-3parFCPorts
Get-3parHostPorts	Sends a query HPE 3PAR StoreServ to get all ports including targets, disks, and RCIP ports.	Get-3parHostPorts
Set-3parHostPorts	Configures settings of the HPE 3PAR StoreServ array.	Set-3parHostPorts

Replication cmdlets

cmdlet	Description	For details, see
Add-3parRcopytarget	Adds a target to a remote-copy volume group.	Add-3parRcopytarget
Add-3parRcopyVV	Adds an existing virtual volume to an existing remote copy volume group.	Add-3parRcopyVV
Approve-3parRCopyLink	Adds one or more links (connections) to a remote-copy target system.	Approve-3parRCopyLink
Disable-3ParRcopylink	Removes one or more links.	Disable-3ParRcopylink
Disable-3ParRcopytarget	Removes a remote copy target from a remote copy volume group.	Disable-3ParRcopytarget
Disable-3ParRcopyVV	Removes a virtual volume from a remote copy volume Group.	Disable-3ParRcopyVV
Get-3parRCopy	Displays remote-copy configuration information.	Get-3parRCopy
Get-3parStatRCopy	Displays statistics for remote-copy volume groups.	Get-3parStatRCopy
New-3parRCopyGroup	Command creates a remote-copy volume group.	New-3parRCopyGroup
New-3parRCopyGroupCPG	Command creates a remote-copy volume group.	New-3parRCopyGroupCPG
New-3parRCopyTarget	Command creates a remote-copy target definition.	New-3parRCopyTarget
Remove-3parRCopyTargetFromGroup	Removes a remote-copy target from a remote-copy volume group.	Remove-3parRCopyTargetFromGroup
Remove-3parRCopyVVFromGroup	Removes a virtual volume from a remote-copy volume group.	Remove-3parRCopyVVFromGroup
Remove-3parRCopyGroup	Removes a remote-copy volume group or multiple remote-copy groups that match a given pattern.	Remove-3parRCopyGroup
Remove-3parRCopyTarget	Removes target designation from a remote-copy system and removes all links affiliated with that target definition.	Remove-3parRCopyTarget
Set-3parRCopyGroupPeriod	Sets a resynchronization period for volume groups in asynchronous periodic mode.	Set-3parRCopyGroupPeriod

Table Continued

Set-3parRCopyGroupPol	Sets the policy of the remote-copy volume group for dealing with I/O failure and error handling.	<u>Set-3parRCopyGroupPol</u>
Set-3parRCopyTargetName	Changes the name of the indicated target.	<u>Set-3parRCopyTargetName</u>
Set-3parRCopyTarget	Changes the name of the indicated target using the <New Name> specifier.	<u>Set-3parRCopyTarget</u>
Set-3parRCopyTargetPol	Sets the policy for the specified target using the <policy> specifier.	<u>Set-3parRCopyTargetPol</u>
Set-3parRCopyTargetWitness	Changes the name of the indicated target.	<u>Set-3parRCopyTargetWitness</u>
Show-3ParRcopyTransport	Shows status and information about end-to-end transport for Remote Copy in the system.	<u>Show-3ParRcopyTransport</u>
Start-3parRcopy	Starts the Remote Copy Service.	<u>Start-3parRcopy</u>
Start-3parRCopyGroup	Enables remote copy for the specified remote-copy volume group.	<u>Start-3parRCopyGroup</u>
Stop-3parRcopy	Disables the remote-copy functionality for any started remote-copy.	<u>Stop-3parRcopy</u>
Stop-3parRCopyGroup	Stops the remote-copy functionality for the specified remote-copy volume group.	<u>Stop-3parRCopyGroup</u>
Sync-3parRcopy	Synchronizes remote-copy volume groups.	<u>Sync-3parRcopy</u>
Sync-Recover3ParDRRcopyGroup	Performs data synchronization and recovery operation.	<u>Sync-Recover3ParDRRcopyGroup</u>
Test-3parRcopyLink	Performs a connectivity, latency, and throughput test between two connected HPE 3PAR storage systems.	<u>Test-3parRcopyLink</u>

Software version cmdlet

cmdlet	Description	For details, see
Get-3parVersion	Gets HPE 3PAR StoreServ Storage system software version information.	<u>Get-3parVersion</u>

Sparing cmdlets

cmdlet	Description	For details, see
New-3parSpare	Allocates chunklet resources as spares.	<u>New-3parSpare</u>
Push-3parChunklet	Moves a list of chunklets from one physical disk to another.	<u>Push-3parChunklet</u>
Push-3parChunkletToSpare	Moves data from specified PDs to a temporary location selected by the system.	<u>Push-3parChunkletToSpare</u>
Push-3parPD	Moves data from specified PDs to a temporary location selected by the system.	<u>Push-3parPD</u>
Push-3parPDToSpare	Moves data from specified PDs to a temporary location selected by the system.	<u>Push-3parPDToSpare</u>
Push-3parRelocPD	Moves chunklets that were on a physical disk to the target of relocation.	<u>Push-3parRelocPD</u>
Remove-3parSpare	Removes chunklets from the spare chunklet list.	<u>Remove-3parSpare</u>
Get-3parSpare	Displays information about chunklets in the system that are reserved for spares.	<u>Get-3parSpare</u>

System management cmdlets

cmdlet	Description	For details, see
Get-3parSR	Displays the amount of space consumed by the various System Reporter databases on the System Reporter volume.	<u>Get-3parSR</u>
Start-3parSR	Starts 3par System reporter.	<u>Start-3parSR</u>
Stop-3parSR	Stops 3par System reporter.	<u>Stop-3parSR</u>

System Reporter cmdlets

cmdlet	Description	For details, see
Get-3parSpace	Displays estimated free space for logical disk creation.	<u>Get-3parSpace</u>
Get-3parSystemInformation	Command displays the 3PAR Storage system information.	<u>Get-3parSystemInformation</u>

Table Continued

Get-3parSRAAlertCrit	Displays the criteria that System Reporter evaluates to determine if a performance alert should be generated.	<u>Get-3parSRAAlertCrit</u>
Get-3parSRAOMoves	Displays the space that AO has moved between tiers.	<u>Get-3parSRAOMoves</u>
Get-3parSRCPGSpace	Displays historical space data reports for common provisioning groups (CPGs).	<u>Get-3parSRCPGSpace</u>
Get-3parSRHistLD	Displays historical histogram performance data reports for logical disks.	<u>Get-3parSRHistLD</u>
Get-3parSRHistPD	Displays historical histogram performance data reports for physical disks.	<u>Get-3parSRHistPD</u>
Get-3parSRHistPort	Displays historical histogram performance data reports for ports.	<u>Get-3parSRHistPort</u>
Get-3parSRHistVLUN	Displays historical histogram performance data reports for VLUNs.	<u>Get-3parSRHistVLUN</u>
Get-3parSRLDSpace	Displays historical space data reports for LDs.	<u>Get-3parSRLDSpace</u>
Get-3parSRPDSpace	Displays historical space data reports for PDs.	<u>Get-3parSRPDSpace</u>
Get-3parSRStatCache	Displays historical performance data reports for flash cache and data cache.	<u>Get-3parSRStatCache</u>
Get-3parSRStatCMP	Displays historical performance data reports for cache memory.	<u>Get-3parSRStatCMP</u>
Get-3parSRStatCPU	Displays historical performance data reports for CPUs.	<u>Get-3parStatCPU</u>
Get-3parSRStatLD	Displays historical performance data reports for logical disks.	<u>Get-3parSRStatLD</u>
Get-3parSRStatPD	Displays system reporter performance reports for PDs.	<u>Get-3parSRStatPD</u>
Get-3parSRStatPort	Displays system reporter performance reports for ports.	<u>Get-3parSRStatPort</u>
Get-3parSRStatVLUN	Displays historical performance data reports for VLUNs.	<u>Get-3parSRStatVLUN</u>
Get-3parSRVVSspace	Displays historical performance data reports for VVs.	<u>Get-3parSRVVSspace</u>

Table Continued

New-3parSRAAlertCrit	Creates a criterion that System Reporter evaluates to determine if a performance alert should be generated.	New-3parSRAAlertCrit
Remove-3parSRAAlertCrit	Removes a criterion that System Reporter evaluates to determine if a performance alert should be generated.	Remove-3parSRAAlertCrit
Set-3parSRAAlertCrit	Enables or disables a System Reporter alert criterion.	Set-3parSRAAlertCrit
Show-3parSRStatlscsi	Displays historical performance data reports for iSCSI ports.	Show-3parSRStatlscsi
Show-3parSRSTATISCSISession	Displays historical performance data reports for iSCSI sessions.	Show-3parSRSTATISCSISession

Task management cmdlet

cmdlet	Description	For details, see
Get-3parTask	Displays tasks information.	Get-3parTask

User management cmdlets

cmdlet	Description	For details, see
Close-3PARConnection	Session Management Command to close the connection.	Close-3PARConnection
Get-3parUserConnection	Displays information about users who are currently connected.	Get-3parUserConnection
Get-ConnectedSession	Display Current session detail.	Get-ConnectedSession

VASA cmdlets

cmdlet	Description	For details, see
Get-3ParVVolISC	Displays VVol storage containers, used to contain VMware Volumes for Virtual Machines (VVols).	Get-3ParVVolISC
Set-3ParVVolISC	Create and remove storage containers for VMware Virtual Volumes (VVols).	Set-3ParVVolISC
Show-3ParVVolum	Displays information about all virtual machines (VVol-based) or a specific virtual machine in a system.	Show-3ParVVolum

Virtual Copy (Snapshot) Management cmdlets

cmdlet	Description	For details, see
New-3parSnapVolume	Creates a point in time (snapshot) copy of a virtual volume.	<u>New-3parSnapVolume</u>
Push-3parGroupSnapVolume	Copies the differences of snapshots back to their base volumes.	<u>Push-3parGroupSnapVolume</u>
Push-3parSnapVolume	Copies the differences of a snapshot back to its base volume, allowing you to revert the base volume to an earlier point in time.	<u>Push-3parSnapVolume</u>

Virtual LUN management cmdlets

cmdlet	Description	For details, see
New-3parVLUN	Creates a new vLUN and presents it to a host.	<u>New-3parVLUN</u>
Get-3parVLUN	Gets a list of LUNs that are exported or presented to hosts.	<u>Get-3parVLUN</u>
Remove-3parVLUN	Unpresents virtual volumes.	<u>Remove-3parVLUN</u>

Virtual Volume and Virtual Volume Set Management cmdlets

cmdlet	Description	For details, see
Add-3parVV	Creates and admits remotely exported virtual volume definitions to enable the migration of these volumes.	<u>Add-3parVV</u>
Get-3parVV	Gets a list of virtual volumes per domain and CPG.	<u>Get-3parVV</u>
Get-3parVVSet	Gets a list of virtual volume sets defined on the storage system and their members.	<u>Get-3parVVSet</u>
Get-3parVVList	Gets a list of virtual volumes.	<u>Get-3parVVList</u>
Import-3parVV	Starts migrating the data from a remote LUN to the local HPE 3PAR Storage System.	<u>Import-3parVV</u>
New-3parVV	Creates a virtual volume.	<u>New-3parVV</u>
New-3parVVSet	Creates a new volume set.	<u>New-3parVVSet</u>

Table Continued

Show-3parPeer	Displays the arrays connected through the host ports or peer ports over the same fabric.	<u>Show-3parPeer</u>
Set-3parVV	Updates a snapshot virtual volume with a new snapshot.	<u>Set-3parVV</u>
Remove-3parVVSet	Removes a virtual volume set or removes virtual volumes from an existing set.	<u>Remove-3parVVSet</u>
Remove-3parVV	Deletes a virtual volume.	<u>Remove-3parVV</u>
Test-3parVV	Command executes validity checks of VV administration information.	<u>Test-3parVV</u>
Update-3parVV	Increases the size of a virtual volume.	<u>Update-3parVV</u>

HPE 3PAR PowerShell ToolKit CLI cmdlets

Add cmdlets

For more details execute `Get-Help "Command Name" with Full Option`.

Add-3parRcopytarget

Syntax

```
Add-3parRcopytarget [-Target_name] <String> [-Mode] <String> [-Group_name] <String> [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Adds a target to a remote-copy volume group.

Parameters

Target_name

Specifies the name of the target that is created with the `creatercopytarget` command.

Mode

Specifies the mode of the target as synchronous (sync), asynchronous periodic (periodic), or asynchronous streaming (async).

Group_name

Specifies the name of the existing remote copy volume group created with the `creatercopygroup` command to which the target is added.

Example

```
C:\PS>Add-3parRcopytarget -Target_name XYZ -Mode sync -Group_name TEST
```

Admits physical disks.

Add-3parRcopyVV

Syntax

```
Add-3parRcopyVV [[-Pat]] [[-CreateVV]] [[-NoWWN]] [[-NoSync]] [-SourceVolumeName] <String> [[-Snapname] <String>] [-Group_name] <String> [-Target_name] <String> [-TargetVolumeName] <String> [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Adds an existing virtual volume to an existing remote copy volume group.

Parameters

Pat

Specifies that the <VV_name> is treated as a glob-style pattern and that all remote copy volumes matching the specified pattern are admitted to the remote copy group.

Createvv

Specifies that the secondary volumes should be created automatically.

NoWWN

When used with `-CreateVV`, it ensures a different WWN is used on the secondary volume. Without this option `-CreateVV` will use the same WWN for both primary and secondary volumes.

NoSync

Specifies that the volume should skip the initial sync.

SourceVolumeName

Specifies the name of the existing virtual volume to be admitted to an existing remote copy volume group that was created with the `creatercopygroup` command.

Snapname

An optional read-only snapshot <snapname> can be specified along with the virtual volume name <VV_name>.

Group_name

Specifies the name of the existing remote copy volume group created with the `creatercopygroup` command, to which the volume will be added.

Target_name

The target name associated with this group, as set with the `creatercopygroup` command. The target is created with the `creatercopytarget` command.

TargetVolumeName

The target name associated with this group, as set with the `creatercopygroup` command.

Examples

```
C:\PS> Add-3parRcopyVV -SourceVolumeName XXXX -Group_name ZZZZ -Target_name TestTarget -TargetVolumeName YYYY
C:\PS> Add-3parRcopyVV -SourceVolumeName XXXX -Snapname snp -Group_name ZZZZ -Target_name TestTarget -TargetVolumeName YYYY
C:\PS> Add-3parRcopyVV -SourceVolumeName XXXX -Snapname snp -Group_name AS_TEST -Target_name CHIMERA03 -TargetVolumeName YYYY
C:\PS> Add-3parRcopyVV -Pat -SourceVolumeName XXXX -Group_name ZZZZ -Target_name TestTarget -TargetVolumeName YYYY
C:\PS> Add-3parRcopyVV -CreateVV -SourceVolumeName XXXX -Group_name ZZZZ -Target_name TestTarget -TargetVolumeName YYYY
C:\PS> Add-3parRcopyVV -NoWWN -SourceVolumeName XXXX -Group_name ZZZZ -Target_name TestTarget -TargetVolumeName YYYY
```

NOTE: For More information, execute `Get-Help "Command Name" with Full Option`.

Add-3parVV

Syntax

```
Add-3parVV [[-DomainName] <String>] [[-VV_WWN] <String>] [[-VV_WWN_NewWWN] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates and admits remotely exported virtual volume definitions to enable the migration of these volumes.

Parameters**DomainName**

Creates the admitted volume in the specified domain.

VV_WWN

Specifies the World Wide Name (WWN) of the remote volumes to be admitted.

VV_WWN_NewWWN

Specifies the World Wide Name (WWN) for the local copy of the remote volume.

Examples

```
C:\PS> Add-3parVV -VV_WWN XYZ
```

```
C:\PS> Add-3parVV -DomainName XYZ -VV_WWN XYZ
```

NOTE: For More information, execute Get-Help "Command Name" with Full Option.

Approve cmdlets

Approve-3parPD

Syntax

```
Approve-3parPD [[-Nold]] [[-NoPatch]] [[-wwn] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates and admits physical disk definitions to enable the use of disks.

Parameters

Nold

Do not use the PD (as identified by the <world_wide_name> specifier) for logical disk allocation.

NoPatch

Suppresses the check for drive table update packages for new hardware enablement.

wwn

Indicates the World-Wide Name (WWN) of the physical disk to be admitted. If WWNs are specified, only one or more specified physical disks are admitted.

Examples

```
C:\PS>Approve-3parPD
```

Admits physical disks.

```
C:\PS>Approve-3parPD -wwn xxx
```

```
C:\PS> Approve-3parPD -Nold
```

```
C:\PS> Approve-3parPD -Nold -wwn xxx
```

```
C:\PS> Approve-3parPD -NoPatch
```

```
C:\PS> Approve-3parPD -NoPatch -wwn xxx
```

NOTE: For More information, execute Get-Help Command Name with Full Option.

Approve-3parRCopyLink

Syntax

```
Approve-3parRCopyLink [[-TargetName] <String>] [[-N_S_P_IP] <String>] [[-N_S_P_WWN] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Adds one or more links, connections, to a Remote Copy target system.

Parameters

TargetName

Specifies the name of the target to be updated.

N_S_P_IP

Specifies the node number, slot number, port Number, and IP address of the target to be created.

N_S_P_WWN

Specifies the node number, slot number, port Number, and WWN address of the target to be created.

Examples

```
C:\PS> Approve-3parRCopyLink -TargetName demo1 -N_S_P_IP 1:2:1:193.1.2.11
```

This Example adds a link on System2 using the node, slot, and port information of node 1, slot 2, port 1 of the Ethernet port on the primary system. The IP address 193.1.2.11 specifies the address on the target system:

```
C:\PS> Approve-3parRCopyLink -TargetName System2 -N_S_P_WWN 5:3:2:1122112211221122
```

This Example WWN creates an RCFC link to target System2, which connects to the local 5:3:2 (N:S:P) in the target system.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Compress cmdlets

Compress-3parVV

Syntax

```
Compress-3parVV [-SUBCommand] <String> [-VVName] <String> [[-CPGName] <String>] [[-WaitTask]] [[-DryRun]] [[-Count] <String>] [[-TPVV]] [[-TDVV]] [[-DeDup]] [[-Full]] [[-Compr]] [[-KeepVV] <String>] [[-Threshold] <String>] [[-SliceSize] <String>] [[-Src_Cpg] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

The Compress-3parVV command is used to change the properties of a virtual volume that was created with the Create VV command by associating it with a different CPG.

Parameters

CPGName

Indicates that only regions of the VV which are part of the specified CPG need to be tuned to the destination USR or SNP CPG.

VVName

Specifies the name of the existing virtual volume.

WaitTask

Specifies that the command will wait for any created tasks to complete.

DryRun

Specifies that the command is a dry run and that no logical disks or virtual volumes are tuned.

Count

Specifies the number of identical virtual volumes to tune using an integer from 1 through 999.

TPVV

Indicates that the VV should be converted to a thin provision virtual volume..

TDVV

This option is deprecated, see -DeDup.

DeDup

Indicates that the VV should be converted to a thin provision virtual volume that shares logical disk space with other instances of this volume type. Cannot be used with the -tpvv or -full options.

Full

Indicates that the VV should be converted to a fully provisioned virtual volume.

Compr

Indicates that the VV should be converted to a compressed virtual volume.

KeepVV

Indicates that the original logical disks should be saved under a new virtual volume with the given name

Src_Cpg

Indicates that only regions of the VV which are part of the specified CPG should be tuned to the destination USR or SNP CPG.

Threshold

Slice threshold. Volumes above this size will be tuned in slices.<threshold> must be in multiples of 128GiB. Minimum is 128GiB.Default is 16TiB. Maximum is 16TiB.

SliceSize

Size of slice to use when volume size is greater than <threshold>. <size> must be in multiples of 128GiB. Minimum is 128GiB. Default is 2TiB. Maximum is 16TiB.

Example

```
C:\PS> Compress-3parVV -SUBCommand usr_cpg -CPGName xxx -VVName zzz
C:\PS> Compress-3parVV -SUBCommand usr_cpg -CPGName xxx -DryRun -VVName zzz

C:\PS> Compress-3parVV -SUBCommand snp_cpg -CPGName xxx -VVName zzz
C:\PS> Compress-3parVV -SUBCommand restart -CPGName xxx -WaitTask -VVName zzz
C:\PS> Compress-3parVV -SUBCommand rollback -CPGName xxx -DryRun -VVName zzz
```

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Close cmdlets

Close-3PARConnection

Syntax

```
Close-3PARConnection [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Closes the connection. This command is the Session Management Command to close the connection.

Examples

```
C:\PS> Close-3PARConnection
```

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Disable cmdlets

Disable-3ParRcopylink

Syntax

```
Disable-3ParRcopylink [[-RCIP]] [[-RCFC]] [[-Target_name] <String>] [[-NSP_IP_address] <String>] [[-NSP_WWN] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Removes one or more links.

Parameters

RCIP

Syntax for remote copy over IP (RCIP)

RCFC

Syntax for remote copy over FC (RCFC)

Target_name

The target name, as specified with the `creatercopytarget` command.

NSP_IP_address

The node, slot, and port information of the Ethernet port on the local system and an IP address of the peer port on the target system.

NSP_WWN

The node, slot, and port information of the Fibre Channel port on the local system and World Wide Name (WWN) of the peer port on the target system.

Examples

```
C:\PS> Disable-3ParRcopylink -RCIP -Target_name test -NSP_IP_address 1.1.1.1
```

```
C:\PS> Disable-3ParRcopylink -RCFC -Target_name test -NSP_WWN 1245
```

NOTE: For more information, execute `Get-Help "Command Name" with Full Option`.

Disable-3ParRcopytarget

Syntax

```
Disable-3ParRcopytarget [[-Target_name] <String>] [[-Group_name] <String>]  
[[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Removes a remote copy target from a remote copy volume group.

Parameters

Target_name

The name of the target to be removed.

Group_name

The name of the group that currently includes the target.

Examples

```
C:\PS> Disable-3ParRcopytarget -Target_name Test -Group_name Test2
```

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Disable-3ParRcopyVV

Syntax

```
Disable-3ParRcopyVV [[-option] <String>] [[-VV_name] <String>] [[-Group_name]  
<String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Removes a virtual volume from a Remote Copy volume group.

Parameters

Pat

Specifies that specified patterns are treated as glob-style patterns and all Remote Copy volumes matching the specified pattern will be dismissed from the Remote Copy group. This option must be used if the <pattern> specifier is used.

KeepSnap

Specifies that the resync snapshot of the local volume must be retained.

RemoveVV

Removes the volumes of remote side.

VV_name

Specifies the name of the volume to be removed. Volumes are added to a group with the `admitrcopyvv` command.

Group_name

Specifies the name of the group that currently includes the target.

Examples

```
C:\PS> Disable-3ParRcopyVV -VV_name XYZ -Group_name XYZ
C:\PS> Disable-3ParRcopyVV -Pat -VV_name XYZ -Group_name XYZ
C:\PS> Disable-3ParRcopyVV -KeepSnap -VV_name XYZ -Group_name XYZ
C:\PS> Disable-3ParRcopyVV -RemoveVV -VV_name XYZ -Group_name XYZ
```

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Find cmdlets

Find-3parCage

Syntax

```
Find-3parCage [[-Time] <String>] [-CageName] <String> [[-Mag]<String>] [[-PortName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Allows system administrators to locate a drive cage, drive magazine, or port in the system using the device blinking LEDs.

Parameters

Time

Specifies the number of seconds (0 - 255) the LED blinks. If time is not specified, then the default time is 60 seconds.

CageName

Specifies the drive cage name as shown in the name column of List-3parCage command output.

Mag

Indicates the drive magazine by a number.

- For DC1 drive cages, the valid values are 0 through 4.
- For DC2 and DC4 drive cages, the valid values are 0 through 9.
- For DC3 drive cages, the valid values are 0 through 15.

PortName

Indicates the port specifics. The valid values are A0|B0|A1|B1|A2|B2|A3|B3.

Examples

```
C:\PS>Find-3parCage -Time 30 -CageName cage0
```

Causes the Fibre Channel LEDs on the drive CageName cage0 to blink for 30 seconds.

```
C:\PS>Find-3parCage -Time 30 -CageName cage0 -Mag 3
```

Causes the Fibre Channel LEDs on the drive CageName cage0 to blink for 30 seconds, indicates the drive magazine by number 3.

```
C:\PS>Find-3parCage -Time 30 -CageName cage0 -port_name demo1
```

Causes the Fibre Channel LEDs on the drive CageName cage0 to blink for 30 seconds. If a port is specified, the port LED oscillates between green and off.

```
C:\PS>Find-3parCage -CageName cage1 -Mag 2
```

Causes the Fibre Channel LEDs on the drive CageName cage1 to blink, indicates the drive magazine by number 2.

NOTE: For more information, execute `Get-Help "Command Name with Full Option"`.

Get cmdlets

NOTE: For More detail execute `Get-Help "Command Name" with Full Option`.

Get-ConnectedSession

Syntax

```
Get-ConnectedSession
```

Description

Displays a current session detail.

Example

```
C:\PS> Get-ConnectedSession
```

NOTE: For more information, execute `Get-Help "Command Name" with Full Option`.

Get-3parCPG

Syntax

```
Get-3parCPG [[-ListCols]] [[-Detailed]] [[-RawSpace]] [[-Alert]] [[-AlertTime]] [[-SAG]] [[-SDG]] [[-Space]] [[-History]] [[-Domain_Name] <String>] [[-cpgName] <String>] [[-SANConnection] <Object>] [  
<CommonParameters>]
```

Description

Displays a list of CPGs.

Parameters

cpgName

Specifies the cpg names to be listed.

ListCols

Lists the columns available to be shown in the -showcols option. (Run `clihelp -col showcpg` command for help on each column).

Detailed

Displays detailed information about the CPGs.

RawSpace

Specifies that raw space used by the CPGs is displayed.

Alert

Indicates whether alerts are posted.

Alerttime

Displays the time when alerts were posted (when applicable).

SAG

Specifies that the snapshot admin space auto-growth parameters are displayed.

SDG

Specifies that the snapshot data space auto-growth parameters are displayed.

Space

Shows the space saving of CPGs.

Hist

Specifies that the current and historical data from the CPG is displayed.

Domain_Name

Shows only CPGs that are in domains with names matching.

Examples

```
C:\PS> Get-3parCPG -cpgName "MyCPG"
```

Lists the specified CPG name "MyCPG"

```
C:\PS> Get-3parCPG -Detailed -cpgName "MyCPG"
```

Displays detailed information about the CPGs.

```
C:\PS> Get-3parCPG -RawSpace -cpgName "MyCPG"
```

Displays the specified raw space used by the CPGs.

```
C:\PS> Get-3parCPG -AlertTime -cpgName "MyCPG"
```

Show times when alerts were posted (when applicable).

```
C:\PS> Get-3parCPG -Domain_Name XYZ -cpgName "MyCPG"
```

Show time with domain name depicts.

Returns

Returns PS object if executed successfully. You can use this object to search further.

For example,

```
C:\PS> Get-3parCPG | Select Name,VVs:
```

Name	VVols
FC_cpg1	6
FC_cpg2	75

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Get-3parVV

Syntax

```
Get-3parVV [[-vvName] <String>] [[-DomainName] <String[]>] [[-CPGName] <String[]>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Gets a list of virtual volumes per domain and CPG.

Parameters

vvName

Lists the parameterized name details.

DomainName

Lists the domain name details.

CPGName

Lists the CPG name details.

Example

```
Get-3parVV -vvName PassThru-Disk
```

Lists virtual volume PassThru-Disk.

Returns

Returns PS object if executed successfully. You can use this object to search further.

For example,

```
C:\PS> Get-3parVV | select name,CPG:
```

Name	CPG
Test_ISV_10.9.1.31_32_D2	Test_ISV_cpg2
Test_ISV_10.9.1.31_32_D3	Test_ISV_cpg2
Test_ISV_10.9.1.31_32_D4	Test_ISV_cpg2

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Get-3parVVSet

Syntax

```
Get-3parVVSet [[-Detailed]] [[-VV]] [[-Summary]] [[-vvSetName] <String>] [[-vvName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Gets a list of virtual volume sets defined on the storage system and their members.

Parameters

vvSetName

Specifies the name of the vvset to be listed.

Detailed

Displays detailed listing of each set.

vv

Shows VV sets that contain the supplied vvnames or patterns.

Summary

Shows VV sets with summarized output with VV sets names and number of VVs in those sets.

vvName

Specifies that the sets containing virtual volume.

Example

```
C:\PS> Get-3parVVSet :
```

ID	Name	Members
34	demoSet1	demoVolume1
42	demoSet2	demoVolume2

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parHost

Syntax

```
Get-3parHost [[-Domain] <String>] [[-D]] [[-Verb]] [[-CHAP]] [[-Descriptor]]  
[[ -Agent]] [[-Pathsum]] [[-Persona]] [[-Listpersona]] [[-NoName]] [[-  
CRCErrors]] [[-hostName] <String>] [[-SANConnection] <Object>]  
[<CommonParameters>]
```

Description

Lists all hosts.

Parameters

D

Displays a detailed listing of host and path information.

Verb

Displays a verbose listing of all host information.

CHAP

Displays the CHAP authentication properties.

Descriptor

Displays the host descriptor information.

Agent

Displays information provided by host agent.

Pathsum

Displays summary information about hosts and paths.

Persona

Displays the host persona settings in effect.

Listpersona

Lists the defined host personas.

NoName

Displays only host paths (WWNs and iSCSI names) that are not assigned to any host.

Domain

Displays only hosts that are in domains or domain sets.

CRCError

Displays the CRC error counts for the host or port.

hostName

Specifies new name of the host.

Examples

```
C:\PS>Get-3parHost
```

Lists all hosts.

```
C:\PS>Get-3parHost -hostName HV01A
```

Lists host HV01A.

Returns

Returns PS object if executed successfully. You can use this object to search further.

For example, `C:\PS>Get-3parHost | select Name, ID :`

Name	ID
--	--
10000000C9E79802	21
DemoHost1	34

NOTE: For more information, execute `Get-Help "Command Name" with Full Option.`

Get-3parHostSet

Syntax

```
Get-3parHostSet [[-hostSetName] <String>] [[-hostName] <String>] [[-D]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Lists the host sets information.

Parameters

D

Shows a more detailed listing of each set.

hostSetName

Specifies the host names that are to be listed.

hostName

Shows the host sets containing hostName.

Examples

```
C:\PS> Get-3parHostSet
```

Lists complete host set information.

```
C:\PS> Get-3parHostSet -hostSetName "MyVVSet"
```

Lists specific host set names MyVVSet.

```
C:\PS> Get-3parHostSet -hostName "MyHost"
```

Shows the host sets that are containing host MyHost.

Returns

Returns a string object.

For example, `C:\PS>Get-3parHostSet -hostSetName "MyVVSet"` lists specific HostSet name "MyVVSet".

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parHostPorts

Syntax

```
Get-3parHostPorts [[-I]] [[-PAR]] [[-RC]] [[-RCFC]] [[-RCIP]] [[-PEER]] [[-ISCSI]] [[-ISCSINAME]] [[-ISCSIVLANS]] [[-FCOE]] [[-SFP]] [[-FAILED]] [[-STATE]] [[-Detailed]] [[-IDS]] [[-FS]] [[-NSP] <String>] [[-D]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Sends a query to HPE 3PAR StoreServ to get all ports including targets, disks, and RCIP ports.

Parameters

I

Shows port hardware inventory information.

C

Displays all devices that are connected to the port. Such devices include cages (for initiator ports), hosts (for target ports), and ports from other storage system (for RCFC and peer ports).

PAR

Lists the parameter such as the configured data rate of a port and the maximum data rate that the card supports. Also, provide information on the type of attachment (Direct Connect or Fabric Attached) and whether the `unique_nwwn` and VCN capabilities are enabled.

RC

Displays information that is specific to the Remote Copy ports.

RCFC

Displays information that is specific to the Fibre Channel Remote Copy ports.

PEER

Displays information that is specific to the Fibre Channel ports for Data Migration.

RCIP

Displays information specific to the Ethernet Remote Copy ports.

ISCSI

Displays information about iSCSI ports.

ISCSINAME

Displays iSCSI names associated with iSCSI ports.

ISCSIVLANS

Displays information about VLANs on iSCSI ports.

Fcoe

Displays information that is specific to Fibre Channel over Ethernet (FCoE) ports.

SFP

Displays information about the SFPs attached to ports.

DDM

Displays Digital Diagnostics Monitoring (DDM) readings from the SFPs if they support DDM. This option must be used with the -sfp option.

D

Displays detailed information about the SFPs attached to ports. This option is used with the -sfp option.

FAILED

Shows only failed ports.

STATE

Displays the detailed state information. This is the same as -s.

Detailed

Displays the detailed state information. This option is deprecated and will be removed in a subsequent release.

IDS

Displays the identities hosted by each physical port.

FS

Displays information specific to the Ethernet File Persona ports. To see IP address, netmask and gateway information on File Persona, run `showfs -net`.

NSP

Nede sloat poart

Examples

```
C:\PS> Get-3parHostPorts
```

Lists all ports including targets, disks, and RCIP ports.

```
C:\PS> Get-3parHostPorts -I
```

```
C:\PS> Get-3parHostPorts -I -NSP 0:0:0
```

```
C:\PS> Get-3parHostPorts -PAR
```

```
C:\PS> Get-3parHostPorts -PAR -NSP 0:0:0
```

```
C:\PS> Get-3parHostPorts -RC
```

```
C:\PS> Get-3parHostPorts -RC -NSP 0:0:0
```

```
C:\PS> Get-3parHostPorts -RCFC
```

```
C:\PS> Get-3parHostPorts -RCFC -NSP 0:0:0
```

```
C:\PS> Get-3parHostPorts -RCIP
```

Returns

String object.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSpace

Syntax

```
Get-3parSpace [[-cpgName] <String>] [[-RaidType] <String>] [[-Cage] <String>]
[[[-Disk] <String>] [[-History]] [[-SSZ] <String>] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Displays estimated free space for logical disk creation.

Parameters

cpgName

Specifies that logical disk creation parameters are taken from CPGs that match the specified CPG name.

RaidType

Specifies the RAID type of the logical disk. The different types are r0 for RAID-0, r1 for RAID-1, r5 for RAID-5, or r6 for RAID 6.

Cage

Specifies one or more drive cages.

Disk

Specifies one or more disks.

History

Specifies that free space history over time for the specified CPGs.

SSZ

Specifies the set size in terms of chunklets.

Example

```
C:\PS> Get-3parSpace
C:\PS> Get-3parSpace -cpgName as -RaidType 1
C:\PS> Get-3parSpace -cpgName TEST_CPG
C:\PS> Get-3parSpace -Cage 1
C:\PS> Get-3parSpace -History
C:\PS> Get-3parSpace -SSZ 1
```

Returns

A string object.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSystemInformation

Syntax

```
Get-3parSystemInformation [[-Option] <String>] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Displays the 3PAR Storage system information.

Options

-d

Displays more information about the system.

-param

Displays the system parameters.

-fan

Displays the system fan information.

-space

Displays the system capacity information in MiB.

-vvspace

Displays the system capacity information in MiB with an emphasis on VVs.

-domainspace

Displays the system capacity information broken down by domain in MiB.

-desc

Displays the system descriptor properties.

-devtype

FC|NL|SSD

Displays the system capacity information where the disks must have a device type string matching the specified device type.

Example input

```
C:\PS> Get-3parSystemInformation
C:\PS> Get-3parSystemInformation -Option d
C:\PS> Get-3parSystemInformation -Option fan
C:\PS> Get-3parSystemInformation -Option domainspace
```

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parVLUN

Syntax

```
]Get-3parVLUN [[-vvName] <String>] [[-PresentTo] <String>] [[-SANConnection]
<Object>] [<CommonParameters>]
```

Description

Gets a list of LUNs that are exported or presented to hosts.

Parameters

vvName

Lists the details available in 3par VLUN with the `vvName`.

PresentTo

Lists the details available in 3par VLUN with the `vvName`.

Examples

```
C:\PS>Get-3parVLUN
```

Lists exported volumes.

```
C:\PS>Get-3parVLUN -vvName PassThru-Disk
```

Lists the LUN numbers and host sets of LUN PassThru-Disk.

Returns

Returns PS object if executed successfully. You can use this object to search further.

For example, `C:\PS> Get-3parVLUN | select Name, ID` returns:

Name	ID
----	----
Test_ISV_10.9.1.31_32_D2	50
Test_ISV_10.9.1.31_32_D3	36

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parFCPorts

Syntax

```
Get-3parFCPORTS [[-SANConnection] <_SANConnection>] [<CommonParameters>]
```

Description

Sends a query to HPE 3PAR StoreServ to get FC ports.

Example

```
C:\PS> Get-3parFCPorts
```

Lists the FC ports available on HPE 3PAR StoreServ array.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parFCPortsToCSV

Syntax

```
Get-3parFCPortsToCSV [[-SANConnection] <_SANConnection>] [[-ResultFile] <String>] [<CommonParameters>]
```

Description

Sends a query to HPE 3PAR StoreServ to get FC ports.

Parameters

ResultFile

Redirects the result to a specified file with an address of the file.

Example

```
C:\PS>Get-3parFCPortstoCSV -ResultFile C:\3PAR-FC.CSV
```

Saves the list of FC Ports and stores the result in a `.csv` file available at the default location.

Returns

String object.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parVVLList

Syntax

```
Get-3parVVLList [[-Listcols]] [[-D]] [[-Pol]] [[-Space]] [[-R]] [[-Zone]] [[-G]] [[-Alert]] [[-AlertTime]] [[-CPProg]] [[-CpgAlloc]] [[-State]] [[-Hist]] [[-RCopy]] [[-NoTree]] [[-Domain] <String>] [[-Expired]] [[-Retained]] [[-Failed]] [[-vvName] <String>] [[-Type] <String>] [[-Prov] <String>] [[-Pattern]] [[-CPG] <String>] [[-Host] <String>] [[-Baseid] <String>] [[-Copyof] <String>] [[-Rcopygroup] <String>] [[-Policy] <String>] [[-vmName] <String>] [[-vmId] <String>] [[-vmHost] <String>] [[-vvolState] <String>] [[-vvolsc] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

The `Get-3parVVLList` command displays information about all Virtual Volumes (VVs) or a specific VV in a system.

Parameters

Listcols

List the columns available to be shown in the -showcols option that are described later.

D

Displays detailed information about the VVs.

Pol

Displays policy information about the VVs. The following columns are shown: Id Name Policies

Space

Displays Logical Disk (LD) space use by the VVs.

R

Displays raw space use by the VVs.

Zone

Displays mapping zone information for VVs.

G

Displays the SCSI geometry settings for the VVs.

Alert

Indicates whether alerts are posted on behalf of the VVs.

AlertTime

Shows times when alerts were posted (when applicable).

CPProg

Shows the physical copy and promote progress.

CpgAlloc

Shows the physical copy and promote progress.

State

Shows the detailed state information for the VVs.

Hist

Shows the history information of the VVs.

RCopy

This option appends two columns, RcopyStatus and RcopyGroup, to any of the display options that are explained earlier.

NoTree

Do not display VV names in tree format.

Expired

Show only VVs that have expired.

Retained

Shows only VVs that have a retention time.

Failed

Shows only failed VVs.

Domain

Shows only VVs that are in domains with names matching one or more of the specified domain_name or patterns.

Pattern

Pattern for matching VVs.

CPG

Show only VVs whose UsrCPG or SnpCPG that matches one or more of the cpgrname_or_patterns.

Prov

Show only VVs with Prov (provisioning) values that match the prov_or_pattern.

Type

Show only VVs of types that match the type_or_pattern.

Host

Show only VVs that are exported as VLUNs to hosts with names that match one or more of the hostname_or_patterns.

Baseid

Show only VVs whose Bsld column matches one more of the baseid_or_patterns.

Copyof

Show only VVs whose Bsld column matches one more of the baseid_or_patterns.

Rcopygroup

Show only VVs that are in Remote Copy groups that match one or more of the groupname_or_patterns.

Policy

Show only VVs whose policy matches one or more of the policy_or_pattern.

vmName

Show only VVs whose vmname matches one or more of the vvmname_or_patterns.

vmId

Show only VVs whose vmid matches one or more of the vmids.

vmHost

Show only VVs whose vmhost matches one or more of the vmhost_or_patterns.

vvolState

Show only VVs whose vvolstate matches the specified state - bound or unbound.

vvolsc

Show only VVs whose storage container (vvset) name matches one or more of the vvset_name_or_patterns.

vvName

Specify name of the volume. If prefixed with 'set:', the name is a volume set name.

Prov

Specify name of the Prov type (full | tppv | tdiv | snp | cpvv).

Type

Specify name of the Prov type (base | vcopy).

Example input

```
C:\PS>Get-3parVVLlist
```

Lists all the virtual volumes.

```
C:\PS> Get-3parVVLlist -vvName xyz
```

.

List virtual volume xyz

```
C:\PS> Get-3parVVLlist -Space -vvName xyz
```

Lists the virtual volume provision type as tppv.

```
C:\PS> Get-3parVVLlist -Space -vvName xyz
```

List snapshot(vitual copy) volumes

Returns

Returns PS object if executed successfully. You can use this object to search further.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parTask

Syntax

```
Get-3parTask [[-All]] [[-Done]] [[-Failed]] [[-Active]] [[-Hours] <String>]
[[-Task_type] <String>] [[-TaskID] <String>] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Displays tasks information.

Parameters

All

Displays all tasks.

Done

Displays only tasks that are successfully completed.

Failed

Displays only tasks that are unsuccessful.

Active

Displays only tasks that are currently in progress

Hours

Shows only tasks started within the past <hours>, where <hours> is an integer from 1 through 99999.

Task_type

Shows that specified patterns are treated as glob-style patterns and all task types that matches with the specified pattern are displayed. To see the different task types, use the showtask column help.

TaskID

Shows detailed task status for a specified task. Tasks must be explicitly specified using their task IDs <task_ID>. Multiple task IDs can be specified. This option cannot be used in conjunction with other options.

Examples

```
C:\PS> Get-3parTask
```

Displays all tasks.

```
C:\PS> Get-3parTask -All
```

Display all tasks. Unless the -all option is specified, system tasks are not displayed.

```
C:\PS> Get-3parTask -Done
```

Display the tasks that are successfully completed.

```
C:\PS> Get-3parTask -Failed
```

Display includes only tasks that are unsuccessfully completed.

```
C:\PS> Get-3parTask -Active
```

Display includes only tasks that are currently in progress.

```
C:\PS> Get-3parTask -Hours 10
```

Show only tasks started within the past <hours>.

```
C:\PS> Get-3parTask -Task_type xyz
```

Shows that specified patterns are treated as glob-style patterns, and all task types that matches with the specified pattern are displayed.

```
C:\PS> Get-3parTask -taskID 4
```

Show detailed task status for specified task 4.

Returns

A string object.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parCmdList

Syntax

```
Get-3parCmdList [<CommonParameters>]
```

Description

Gets a list of HPE 3PAR StoreServ PowerShell cmdlets.

Examples

```
C:\PS>Get-3parCmdList
```

Lists the available HPE 3PAR StoreServ PowerShell cmdlets.

Returns

Returns PS object if executed successfully. You can use this object to search further.

NOTE: For more information, execute Get-Help Command Name with Full Option.

Get-3parVersion

Syntax

```
Get-3parVersion [[-number]] [[-build]] [[-SANConnection] <Object>]  
[<CommonParameters>]
```

Description

Gets HPE 3PAR StoreServ Storage system software versions.

Parameters

number

Lists only HPE 3PAR StoreServ Storage system release version numbers.

build

Lists HPE 3PAR StoreServ Storage system build levels.

Example input

```
C:\PS>Get-3parVersion
```

Gets a list of HPE 3PAR StoreServ Storage system software versions.

```
C:\PS>Get-3parVersion -number
```

Gets a list of HPE 3PAR StoreServ Storage system release version numbers only.

```
C:\PS>Get-3parVersion -build
```

Gets a list of HPE 3PAR StoreServ Storage system build levels.

Returns

Returns PS object if executed successfully. You can use this object to search further.

NOTE: For more information, execute Get-Help Command Name with Full Option.

Get-3parCage

Syntax

```
Get-3parCage [[-D]] [[-E]] [[-C]] [[-SFP]] [[-DDM]] [[-I]] [[-SVC]] [[-  
CageName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays information about drive cages.

Parameters

D

Displays detailed information about the drive cage. If this option is not used, then only summary information about the drive cages is displayed.

E

Displays error information.

C

Specifies to use cached information. This option displays information faster because the cage does not need to be probed, however, some information might not be up-to-date without that probe.

SFP

Specifies information about the SFP(s) attached to a cage. Currently, additional SFP information can only be displayed for DC2 and DC4 cages.

I

Specifies that inventory information about the drive cage is displayed. If this option is not used, then only summary information about the drive cages is displayed.

DDm

Specifies the SFP DDM information.

SVC

Displays the inventory information with HPE serial number, spare part number, and so on. It is supported only on HPE 3PAR StoreServ 7000 Storagesystems and HPE 3PAR 8000 series systems".

CageName

Specifies a drive cage name for which information is displayed. This specifier can be repeated to display information for multiple cages.

Examples

```
C:\PS> Get-3parCage
```

Displays information about a drive cage of single system.

```
C:\PS> Get-3parCage -D -CageName cage2
```

Specifies that detailed information about the drive cage is displayed

```
C:\PS> Get-3parCage -I -CageName cage2
```

Specifies that inventory information about the drive cage is displayed.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parHistChunklet

Syntax

```
Get-3parHistChunklet [[-LDname] <String>] [[-Chunklet_num] <String>] [[-Metric] <String>] [[-Iteration] <String>] [[-Percentage]] [[-Previous]] [[-Beginning]] [[-RW]] [[-Interval] <String>] [[-NI]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays a histogram of service times in a timed loop for individual chunklets.

Parameters**LDname**

Specifies the Logical Disk (LD), identified by name, from which chunklet statistics are sampled.

Chunklet_num

Specifies that statistics are limited to only the specified chunklet, identified by number.

Metric

Selects which metric to display. Both - (Default) Display both I/O time and I/O size histograms time - Display only the I/O time histogram size - Display only the I/O size histogram.

Percentage

Shows the access count in each bucket as a percentage.

Previous

Histogram displays data either from a previous sample (-prev) or from when the system was last started (-begin).

Beginning

Histogram displays data either from a previous sample (-prev) or from when the system was last started (-begin).

RW

Specifies that the display includes separate read and write data.

Interval

Specifies the interval in seconds that statistics are sampled from using an integer from 1 through 2147483.

Iteration

Specifies the interval in seconds that statistics are sampled from using an integer from 1 through 2147483.

NI

Specifies that histograms for only non-idle devices are displayed.

Examples

```
C:\PS> Get-3parHistChunklet -Iteration 1
```

Displays one iteration of a histogram of service.

```
C:\PS> Get-3parHistChunklet -LDname dildil -Iteration 1
```

Identified by name, from which chunklet statistics are sampled.

```
C:\PS> Get-3parHistChunklet -Iteration 1 -Previous
```

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parHistLD

Syntax

```
Get-3parHistLD [[-Iteration] <String>] [[-Metric] <String>] [[-VV_Name]
<String>] [[-Domain] <String>] [[-Timecols] <String>] [[-Sizecols] <String>]
[[[-Percentage]] [[-Previous]] [[-Beginning]] [[-NI]] [[-Secs] <String>] [[-
LDName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays a histogram of service times for LDs (Logical Disks) in a timed loop.

Parameters

Timecols

For the I/O time histogram, shows the columns from the first column <fcol> through last column <lcol>. The available columns range from 0 through 31.

Sizecols

For the I/O size histogram, shows the columns from the first column (<fcol>) through the last column (<lcol>). Available columns range from 0 through 15.

Percentage

Shows the access count in each bucket as a percentage

Secs

Specifies the interval in seconds that statistics are sampled from using an integer from 1 through 2147483.

NI

Specifies that histograms for only non-idle devices are displayed.

Iteration

Displays a histogram of service Iteration number of times.

LdName

Displays a histogram of service linked with LD_NAME.

VV_Name

Shows only logical disks that are mapped to virtual volumes with names matching any of the names or patterns specified. Multiple volumes or patterns can be repeated using a comma-separated list.

Domain

Shows only logical disks that are in domains with names matching any of the names or patterns specified. Multiple domain names or patterns can be repeated using a comma-separated list.

Metric

Selects which metric to display. Metrics can be one of the following:

- both - (Default): Displays both I/O time and I/O size histograms
- time: Displays only the I/O time histogram
- size: Displays only the I/O size histogram

Previous

Histogram displays data either from a previous sample (-prev) or from when the system was last started (-begin). If no option is specified, the histogram displays data from the beginning when the is command executed.

Beginning

Histogram displays data either from a previous sample (-prev) or from when the system was last started (-begin). If no option is specified, the histogram shows data from the beginning of the command's execution.

Examples

```
C:\PS> Get-3parHistLD -Iteration 1
```

Displays a histogram of service Iteration number of times

```
C:\PS> Get-3parHistLD -LdName abcd -Iteration 1
```

Displays a histogram of service linked with LD_NAME on Iteration number of times

```
C:\PS> Get-3parHistLD -Iteration 1 -VV_Name ZXZX
```

Shows only logical disks that are mapped to virtual volumes with names matching any of the names or patterns specified.

```
C:\PS> Get-3parHistLD -Iteration 1 -Domain ZXZX
```

Shows only logical disks that are in domains with names matching any of the names or patterns specified.

```
C:\PS> Get-3parHistLD -Iteration 1 -Percentage
```

Shows the access count in each bucket as a percentage.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parHistPD

Syntax

```
Get-3parHistPD [[-Iteration] <String>] [[-WWN] <String>] [[-Nodes] <String>]
[[[-Slots] <String>] [[-Ports] <String>] [[-Devinfo]] [[-Metric] <String>] [[-
Percentage]] [[-Previous]] [[-Beginning]] [[-FSpec] <String>] [[-
SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays a histogram of service times for PDs in a timed loop.

Parameters

WWN

Specifies the world wide name of the PD for which service times are displayed.

Nodes

Specifies that the display is limited to specified nodes and physical disks connected to those nodes. The node list is specified as a series of integers separated by commas (e.g. 1,2,3). The list can also consist of a single integer. If the node list is not specified, all disks on all nodes are displayed.

Slots

Specifies that the display is limited to specified PCI slots and physical disks connected to those PCI slots. The slot list is specified as a series of integers separated by commas (e.g. 1,2,3). The list can also consist of a single integer. If the slot list is not specified, all disks on all slots are displayed.

Ports

Specifies that the display is limited to specified ports and physical disks connected to those ports. The port list is specified as a series of integers separated by commas (e.g. 1,2,3). The list can also consist of a single integer. If the port list is not specified, all disks on all ports are displayed.

Percentage

Shows the access count in each bucket as a percentage. If this option is not specified, the histogram shows the access counts.

Previous

Histogram displays data either from a previous sample(-prev) or from when the system was last started(-begin). If no option is specified, the histogram shows data from the beginning of the command's execution.

Beginning

Histogram displays data either from a previous sample (-prev) or from when the system was last started (-begin). If no option is specified, the histogram shows data from the beginning of the command's execution.

Devinfo

Indicates the device disk type and speed.

Metric

Selects a metric to display.

Selects which metric to display. Metrics can be one of the following:

- both - (Default): Display both I/O time and I/O size histograms
- time : Display only the I/O time histogram
- size: Display only the I/O size histogram

Iteration

Specifies that the histogram is to stop after the indicated number of iterations using an integer from 1 up-to 2147483647.

FSpec

Specifies that histograms below the threshold specified by the <fspec> argument are not displayed.

Examples

```
C:\PS> Get-3parHistPD -iteration 1 -WWN abcd
```

Specifies the world wide name of the PD for which service times are displayed.

```
C:\PS> Get-3parHistPD -iteration 1
The Get-3parHistPDcommand
```

Displays a histogram of service iteration number of times

Histogram displays data from when the system was last started (-begin).

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parHistPort

Syntax

```
Get-3parHistPort [[-Iteration] <String>] [[-Both]] [[-CTL]] [[-Data]] [[-Nodes] <String>] [[-Slots] <String>] [[-Ports] <String>] [[-Host]] [[-PEER]] [[-Disk]] [[-RCFC]] [[-Metric] <String>] [[-Percentage]] [[-Previous]] [[-Beginning]] [[-RW]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays a histogram of service times for ports within the system.

Parameters

Both

- Specifies both control and data transfers are displayed (-both)
- Only control transfers are displayed (-ctl)
- only data transfers are displayed (-data). If this option is not specified, only data transfers are displayed.

CTL

- Specifies both control and data transfers are displayed (-both)
- Only control transfers are displayed (-ctl)
- only data transfers are displayed (-data). If this option is not specified, only data transfers are displayed.

Data

- Specifies both control and data transfers are displayed (-both)
- Only control transfers are displayed (-ctl)
- only data transfers are displayed (-data). If this option is not specified, only data transfers are displayed.

Nodes

both

Specifies that the display is limited to specified nodes and physical disks connected to those nodes.

Slots

Specifies that the display is limited to specified PCI slots and physical disks connected to those PCI slots.

Ports

Specifies that the display is limited to specified ports and physical disks connected to those ports.

Host

Specifies to display only host ports (target ports), only disk ports (initiator ports), only Fibre Channel Remote Copy configured ports, or only Fibre Channel ports for Data Migration.

Disk

Specifies to display only host ports (target ports), only disk ports (initiator ports), only Fibre Channel Remote Copy configured ports, or only Fibre Channel ports for Data Migration.

RCFC

Specifies to display only host ports (target ports), only disk ports (initiator ports), only Fibre Channel Remote Copy configured ports, or only Fibre Channel ports for Data Migration.

PEER

Specifies to display only host ports (target ports), only disk ports (initiator ports), only Fibre Channel Remote Copy configured ports, or only Fibre Channel ports for Data Migration.

Metric

Selects which metric to display. Metrics can be one of the following:

- both - (Default): Displays both I/O time and I/O size histograms
- time: Displays only the I/O time histogram
- size: Displays only the I/O size histogram

vIteration

Specifies that the histogram is to stop after the indicated number of iterations using an integer from 1 up-to 2147483647.

Previous

Histogram displays data either from a previous sample (-prev) or from when the system was last started (-begin).

Beginning

Histogram displays data either from a previous sample (-prev) or from when the system was last started (-begin). If no option is specified, the histogram displays data from the beginning when the command execution starts.

RW

Specifies that the display includes separate read and write data.

Examples

```
C:\PS> Get-3parHistPort -iteration 1
```

Displays a histogram of service times with option which can be one of both, ctrl, or data option.

```
C:\PS> Get-3parHistPort -iteration 1 -Both
```

Specifies that both control and data transfers are displayed (-both).

```
C:\PS>Get-3parHistPort -iteration 1 -Nodes nodesxyz
```

Specifies that the display is limited to specified nodes and physical disks connected to those nodes.

```
C:\PS>Get-3parHistPort -Metric both -iteration 1
```

Displays a histogram of service times with -metric option. Metric can be one of both, time, or size.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parHistRCopyVV

Syntax

```
Get-3parHistRCopyVV [[-ASync]] [[-Sync]] [[-Periodic]] [[-Primary]] [[-Secondary]] [[-TargetSum]] [[-PortSum]] [[-GroupSum]] [[-VVSUM]] [[-DomainSum]] [[-Pct]] [[-Prev]] [[-VV_Name] <String>] [[-interval] <String>] [[-domain] <String>] [[-group] <String>] [[-target] <String>] [[-iteration] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays a histogram of total remote-copy service times and backupsystem remote-copy service times in a timed loop.

Parameters

Async

Show only volumes which are being copied in asynchronous mode.

sync

Show only volumes that are being copied in synchronous mode.

periodic

Show only volumes which are being copied in asynchronous periodic mode.

primary

Show only virtual volumes in the primary role.

secondary

Show only virtual volumes in the secondary role.

targetsum

Displays the sums for all volumes of a target.

portsum

Displays the sums for all volumes on a port.

groupsum

Displays the sums for all volumes of a volume group.

vvsum

Displays the sums for all targets and links of a virtual volume.

domainsum

Displays the sums for all volumes of a domain.

VV_Name

Displays statistics only for the specified virtual volume or volume name pattern.

interval

Specifies the interval in seconds that statistics are sampled from using an integer from 1 through 2147483. If no count is specified, the command defaults to 2 seconds.

Pct

Shows the access count in each bucket as a percentage.

Prev

Specifies that the histogram displays data from a previous sample.

domain

Shows only the virtual volumes that are in domains with names that match the specified domain name(s) or pattern(s).

target

Shows only volumes whose group is copied to the specified target name or pattern. Multiple target names or patterns may be specified using a comma-separated list.

group

Shows only volumes whose volume group matches the specified group name or pattern of names.

iteration

Specifies that the statistics are to stop after the indicated number of iterations using an integer from 1 through 2147483647.

Examples

```
C:\PS> Get-3parHistRCopyVV -iteration 1
```

The Get-3parHistRCopyVV command shows a histogram of total remote-copy service iteration number of times.

```
C:\PS> Get-3parHistRCopyVV -iteration 1 -Sync
The Get-3parHistRCopyVV
```

The Get-3parHistRCopyVV command shows a histogram of total remote-copy service iteration number of times with option sync

```
C:\PS> Get-3parHistRCopyVV -group groupvv_1 -iteration
C:\PS> Get-3parHistRCopyVV -iteration 1 -Periodic
C:\PS> Get-3parHistRCopyVV -iteration 1 -PortSum
C:\PS> Get-3parHistRCopyVV -target name_vv1 -iteration 1
```

The Get-3parHistRCopyVV command shows a histogram of total remote-copy service with specified target name.

```
C:\PS> Get-3parHistRCopyVV -group groupvv_1 -iteration
```

The Get-3parHistRCopyVV command shows a histogram of total remote-copy service with specified Group name.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parHistVLUN

Syntax

```
Get-3parHistVLUN [[-iteration] <String>] [[-domain] <String>] [[-host]
<String>] [[-vvname] <String>] [[-lun] <String>] [[-Nodes] <String>] [[-
Slots] <String>] [[-Ports] <String>] [[-Percentage]] [[-Previous]] [[-
Beginning]] [[-Metric] <String>] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Displays VLUN (Virtual Volume Logical Unit Number) service time histograms.

Parameters

domain

Displays only VLUNs with VirtualVolumes (VVs) in domains with names that match one or more specified domain names or patterns. Multiple domain names or patterns can be repeated using a comma-separated list.

host

Displays only VLUNs exported to the specified hosts or patterns. Multiple host names or patterns can be repeated using a comma-separated list.

vvname

Displays only LDs mapped to VVs that match and are of the specified names or patterns. Multiple volume names or patterns can be repeated using a comma-separated list.

nodes

Specifies that only exports from the specified nodes are displayed. The node list is specified as a series of integers separated by commas (1,2, and 3).

lun

Specifies that VLUNs with LUNs matching the specified LUNs or patterns are displayed. Multiple LUNs or patterns can be repeated using a comma-separated list.

iteration

Specifies that the statistics are to stop after the indicated number of iterations, the iterations are specified using an integer (1 - 2147483647).

slots

Specifies that the display is limited to specified PCI slots.

Ports

Specifies that the display is limited to specified ports.

Metric both|time|size

Selects a metric to display.

Percentage

Shows the access count in each bucket as a percentage.

Previous | Beginning

Histogram displays data either from a previous sample or beginning.

Iteration

Specifies that the statistics stops after the indicated number of iterations.

Examples

```
C:\PS> Get-3parHistVLUN -iteration 1
Get-3parHistVLUN -iteration 1 -nodes 1
Get-3parHistVLUN -iteration 1 -domain DomainName
Get-3parHistVLUN -iteration 1 -Percentage
```

NOTE: For more information, execute **Get-Help Command Name with Full Option**.

Get-3parHistVV

Syntax

```
Get-3parHistVV [[-iteration] <String>] [[-domain] <String>] [[-Metric]
<String>] [[-Timecols] <String>] [[-Sizecols] <String>] [[-VVname] <String>]
[[--Percentage]] [[--Previous]] [[-RW]] [[-IntervalInSeconds] <String>] [[-
FSpace] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays Virtual Volume (VV) service time histograms in a timed loop.

Parameters

domain

Shows only the VVs that are in domains with names that match the specified domain name(s).

Metric

Selects which Metric to display. Metrics can be one of the following:

- both - (Default): Displays both I/O time and I/O size histograms.
- time: Displays only the I/O time histogram
- size: Displays only the I/O size histogram

Timecols

Displays both I/O time and I/O size histograms.

time

Displays the I/O time histogram,

Sizecols

Displays only the I/O size histogram.

Percentage

Shows the access count in each bucket as a percentage.

Previous

Histogram displays data either from a previous sample (`-prev`) or from when the system was last started (`-begin`).

Beginning

Histogram displays data either from a previous sample (`-prev`) or from when the system was last started (`-begin`).

RW

Specifies that the display includes separate read and write data.

IntervalInSeconds

Specifies the interval in seconds that statistics are sampled from using an integer from 1 through 2147483.

FSpace

Specifies that histograms below the threshold specified by the `<fspec>` argument are not displayed.

VVName

Displays Virtual Volume name.

iteration

Specifies that the statistics are to stop after the indicated number of iterations using an integer from 1 through 2147483647.

Examples

```
C:\PS> Get-3parHistVV -iteration 1
```

This Example displays Virtual Volume (VV) service time histograms service iteration number of times.

```
C:\PS> Get-3parHistVV -iteration 1 -domain domain.com
```

This Example Shows only the VVs that are in domains with names that match one or more specified domain names

```
C:\PS> Get-3parHistVV -iteration 1 -Metric both
```

This Example Selects which Metric to display.

```
C:\PS> Get-3parHistVV -iteration 1 -Timecols "1 2"
```

```
C:\PS>Get-3parHistVV -iteration 1 -Sizecols "1 2"
```

```
C:\PS> Get-3parHistVV -Metric both -VVname demoVV1 -iteration 1
```

This Example selects which Metric to display and associated with Virtual Volume name.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parPD

Syntax

```
Get-3parPD [[-I]] [[-E]] [[-C]] [[-StateInfo]] [[-State]] [[-Path]] [[-Space]] [[-Failed]] [[-Degraded]] [[-Node] <String>] [[-Slots] <String>] [[-Ports] <String>] [[-WWN] <String>] [[-Pattern]] [[-ND] <String>] [[-ST] <String>] [[-PT] <String>] [[-CG] <String>] [[-MG] <String>] [[-PN] <String>] [[-DK] <String>] [[-Devtype] <String>] [[-RPM] <String>] [[-PD_ID] <String>] [[-Listcols]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays configuration information about the PDs (physical disks) on a system.

Parameters

Listcols

List the columns available to be shown in the `-showcols` option described below. Run `clihelp -col showpd` for help on each column).

I

Show disk inventory (inquiry) data.

E

Show disk environment and error information. Note that reading this information places a significant load on each disk.

C

Show chunklet usage information. Any chunklet in a failed disk will be shown as "Fail".

S

Show detailed state information. This option is deprecated and will be removed in a subsequent release.

State

Show detailed state information. This is the same as `-s`.

Path

Show current and saved path information for disks.

Space

Show disk capacity usage information (in MB).

Failed

Specifies that only failed physical disks are displayed.

Degraded

Specifies that only degraded physical disks are displayed.

Pattern

Physical disks matching the specified pattern are displayed.

ND

Specifies one or more nodes. Nodes are identified by one or more integers (item).

ST

Specifies one or more PCI slots.

PT

Specifies one or more ports.

CG

Specifies one or more drive cages.

MG

Specifies one or more drive magazines

PN

Specifies one or more disk positions within a drive magazine.

DK

Specifies one or more physical disks.

Devtype

Specifies that physical disks must have the specified device type (FC for Fast Class, NL for Nearline, SSD for Solid State Drive) to be used.

RPM

Drives must be of the specified relative performance metric, as shown in the "RPM" column of the `showpd` command.

Node

Specifies that the display is limited to specified nodes and physical disks connected to those nodes.

Slots

Specifies that the display is limited to specified PCI slots and physical disks connected to those PCI slots.

Ports

Specifies that the display is limited to specified ports and physical disks connected to those ports.

WWN

Specifies the WWN of the physical disk.

Examples

```
C:\PS> get-3parPD
```

This example displays configuration information about all the physical disks (PDs) on a system.

```
C:\PS> Get-3parPD -PD_ID 5
```

This example displays configuration information about specific or given physical disks (PDs) on a system.

```
C:\PS> Get-3parPD -C
```

This example displays chunklet use information for all disks.

```
C:\PS> Get-3parPD -C -PD_ID 5
```

This example will display chunklet use information for all disks with the physical disk ID.

```
C:\PS> Get-3parPD -C -Pattern -Devtype FC
```

```
C:\PS> Get-3parPD -option p -pattern mg -patternValue 0
```

This example will display all the FC disks in magazine 0 of all cages.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parRCopy

Syntax

```
Get-3parRCopy [[-Detailed]] [[-QW]] [[-Domain] <String>] [[-Links]] [[-Groups] <String>] [[-Targets] <String>] [[-SANConnection] <Object>] [  
<CommonParameters>]
```

Description

Displays Remote Copy configuration information.

Parameters

Detailed

Displays more detailed configuration information.

QW

Displays additional target-specific automatic transparent failover-related configuration, where applicable.

Domain

Shows only Remote Copy links whose virtual volumes are in domains with names that match one or more of the specified domain name or pattern.

Links

Specifies all Remote Copy links.

Groups

Specifies either all Remote Copy volume groups or a specific Remote Copy volume group by name or by glob-style pattern.

Targets

Specifies either all target definitions or a specific target definition by name or by glob-style pattern.

Examples

```
C:\PS> Get-3parRCopy -Detailed -Links
```

This Example displays details of the Remote Copy configuration and specifies all Remote Copy links.

```
C:\PS> Get-3parRCopy -Detailed -Domain PSTest -Targets Demovv1
```

This example displays details of the Remote Copy configuration and specifies all target definitions.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSpace

Syntax

```
Get-3parSpace [[-cpgName] <String>] [[-RaidType] <String>] [[-Cage] <String>]
[[[-Disk] <String>] [[-History]] [[-SSZ] <String>] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Displays estimated free space for logical disk creation.

Parameters

cpgName

Specifies that logical disk creation parameters are taken from CPGs that match the specified CPG name.

RaidType

Specifies the RAID type of the logical disk. The different types are r0 for RAID-0, r1 for RAID-1, r5 for RAID-5, or r6 for RAID 6.

Cage

Specifies one or more drive cages.

Disk

Specifies one or more disks.

History

Specifies that free space history over time for the specified CPGs.

SSZ

Specifies the set size in terms of chunklets.

Example

```
C:\PS> Get-3parSpace
C:\PS> Get-3parSpace -cpgName as -RaidType 1
C:\PS> Get-3parSpace -cpgName TEST_CPG
C:\PS> Get-3parSpace -Cage 1
C:\PS> Get-3parSpace -History
C:\PS> Get-3parSpace -SSZ 1
```

Returns

A string object.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSpare

Syntax

```
Get-3parSpare [[-used]] [[-count]] [[-SANConnection] <Object>]  
[<CommonParameters>]
```

Description

Displays information about chunklets in the system that are reserved for spares.

Parameters

used

Displays only used spare chunklets.

count

Specifies number of loop iteration.

Examples

```
C:\PS>Get-3parSpare
```

Displays chunklets information in the system that are reserved for spares.

Get-3parSR

Syntax

```
Get-3parSR [[-ldrg]] [[-Btsecs] <String>] [[-Etsecs] <String>] [[-  
SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays the amount of space consumed by the various System Reporter databases on the System Reporter volume.

Parameters

ldrg

Displays the available LD region statistic samples.

Btsecs

Specifies begin time in EpocSeconds for the report.

Etsecs

Specifies end time in EpocSeconds for the report.

Examples

```
C:\PS>Get-3parSR
```

Displays the System Reporter status.

Get-3parSRAAlertCrit

Syntax

```
Get-3parSRAAlertCrit [[-Hourly]] [[-Daily]] [[-Hires]] [[-Major]] [[-Minor]]  
[[[-Info]] [[-Enabled]] [[-Disabled]] [[-Critical]] [[-SANConnection]  
<Object>] [<CommonParameters>]
```

Description

Displays the criteria that System Reporter evaluates to determine if a performance alert should be generated.

Parameters

Daily

This criterion will be evaluated on a daily basis at midnight.

Hourly

This criterion will be evaluated on an hourly basis.

Hires

This criterion will be evaluated on a high resolution (5 minute) basis. This is the default.

Major

This alert should require urgent action.

Minor

This alert should require not immediate action.

Info

This alert is informational only. This is the default.

Enabled

Displays only criteria that are enabled.

Disabled

Displays only criteria that are disabled.

Critical

Displays only criteria that have critical severity.

Examples

```
C:\PS> Get-3parSRAAlertCrit
```

Displays the criteria that System Reporter evaluates to determine if a performance alert should be generated.

```
C:\PS> Get-3parSRAAlertCrit -Daily
```

Displays all the criteria evaluated on an hourly basis.

```
C:\PS> Get-3parSRAAlertCrit -Hires
```

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRAOMoves

Syntax

```
Get-3ParSRAOMoves [[-btsecs] <String>] [[-etsecs] <String>] [[-online]] [[-VV_name] <String>] [[-withvv]] [[-SANConnection] <Object>] [  
  <CommonParameters>]
```

Description

Displays the space that AO has moved between tiers.

Parameters

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

online

Displays data in simplified format with one line per AOCFG.

VV_name

Limits the analysis to VVs with names that match one or more.

withvv

Displays data for each vv.

Examples

```
C:\PS>Get-3parSRAOMoves
```

Displays the space that AO has moved between tiers.

```
C:\PS>Get-3parSRAOMoves -btsecs -7200
```

Displays the space moved by AO beginning 2 hours (7200 seconds) ago.

NOTE: For more information, execute Get-Help Command Name with Full Option.

Get-3parSRCPGSpace

Syntax

```
Get-3parSRCPGSpace [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-groupby] <String>] [[-DiskType] <String>] [[-RaidType] <String>] [[-CpgName] <String>] [[-SANConnection] <Object>] [  
<CommonParameters>]
```

Description

Displays historical space data reports for common provisioning groups (CPGs).

Parameters

attime

Performance is shown at a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Select the begin time in seconds for the report

etsecs

Select the end time in seconds for the report.

hires

Selects high resolution samples (5 minute intervals) for the report. This is a default setting.

hourly

Selects hourly samples for the report.

daily

Selects daily samples for the report.

Groupby**DOM_NAME**

Domain name

CPGID

Common Provisioning

DISK_TYPE

Displays the disk type of the PDs used by the CPG

RAID_TYPE

Displays the RAID type of the CPG

disk_type**FC**

Fast Class

NL

Nearline

SSD

Solid State Drive

raid_type

Limits the data to RAID of the specified types. Allowed types are 0, 1, 5 and 6.

Cpg_name

Displays CPGs matching either the specified CPG_name or glob-style patterns are included. This specifier can be repeated to display information for multiple CPGs. If not specified, all CPGs are included.

Examples

```
C:\PS>Get-3parSRCPGSpace
C:\PS> Get-3parSRCPGSpace -etsecs 1
C:\PS> Get-3parSRCPGSpace -btsecs 1
C:\PS> Get-3parSRCPGSpace -groupby DOM_NAME
C:\PS> Get-3parSRCPGSpace -Hourly
C:\PS> Get-3parSRCPGSpace -Daily
C:\PS> Get-3parSRCPGSpace -Hires
C:\PS> Get-3parSRCPGSpace -RaidType 0
```

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRHistLD

Syntax

```
Get-3parSRHistLd [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-rw]] [[-groupby] <String>] [[-cpgName] <String>] [[-node] <String>] [[-LDName] <String>] [[-Metric] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical histogram performance data reports for logical disks.

Parameters

attime

Performance is shown at a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

Hires

Selects high resolution samples (5 minute intervals) for the report. This is a default setting.

Hourly

Selects hourly samples for the report.

Daily

Selects daily samples for the report.

rw

Specifies that the display includes separate read and write data.

Groupby

DOM_NAME

Displays domain name.

LDID

Displays logical disk ID.

LD_NAME

Displays common logical disk name.

CPG_NAME

Displays common Provisioning Group name.

NODE

Specifies the node that owns the LD.

cpgName

Limits the data to LDs in CPGs with names that match one or more of the specified names or glob-style patterns.

node

Limits the data to the corresponding specified nodes.

LDName

Specifies that LDs matching either the specified LD_name or glob-style patterns are included. This specifier can be repeated to display information for multiple LDs.

Metric

Selects which metric to display.

Metrics can be one of the following:

both

Displays both I/O time and I/O size histograms.

time

Displays only the I/O time histogram.

size

Displays only the I/O size histogram.

Examples

```
C:\PS>Get-3parSRHistLd
```

Displays historical histogram performance data reports for logical disks.

```
C:\PS>Get-3parSRHistLd -option hourly -btsecs -24h
```

Displays aggregate hourly histogram performance statistics for all logical disks beginning 24 hours ago.

```
C:\PS> Get-3parSRHistLd -Metric Both
```

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRHistPD

Syntax

```
Get-3parSRHistPD [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-rw]] [[-groupby] <String>] [[-diskType] <String>] [[-rpmSpeed] <String>] [[-PDID] <String>] [[-Metric] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical histogram performance data reports for physical disks.

Parameters

attime

Displays the performance for a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

Hires

Selects high resolution samples (5 minute intervals) for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects hourly samples for the report.

rw

Specifies that the display includes separate read and write data.

Groupby**PDID**

Specifies the physical disk ID.

PORT_N

Specifies the node number for the primary port for the PD

PORT_S

Specifies the PCI slot number for the primary port for the PD.

PORT_P

Specifies the port number for the primary port for the PD

DISK_TYPE

Specifies the disk type of the PD.

SPEED

Specifies the speed of the PD.

DiskType

Limit the data to disks of the types specified. Following are the allowed types:

FC

Fast Class

NL

Nearline

SSD

Solid State Drive

rpmSpeed

Limits the data to disks of the specified RPM. Allowed speeds are 7, 10, 15, 100 and 150.

PDID

Specifies that LDs matching either the specified LD_name or glob-style patterns are included. This specifier can be repeated to display information for multiple LDs. If not specified, all LDs are included.

Metric

Selects which metric to display.

Metrics can be one of the following:

both

Displays both I/O time and I/O size histograms.

time

Displays only the I/O time histogram.

size

Displays only the I/O size histogram.

Examples

```
C:\PS>Get-3parSRHistPD
```

Command displays historical histogram performance data reports for physical disks

```
C:\PS> Get-3parSRHistPD -Hourly -btsecs -24h
```

Displays aggregate hourly histogram performance statistics for all physical disks beginning 24 hours ago

```
C:\PS> Get-3parSRHistPD -Metric both
```

```
C:\PS> Get-3parSRHistPD -Metric both
```

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRHistPort

Syntax

```
Get-3parSRHistPort [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-rw]] [[-groupby] <String>] [[-portType] <String>] [[-Port] <String>] [[-Metric_Val] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical histogram performance data reports for ports.

Parameters**attime**

Performance is shown at a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

Hourly

Selects hourly samples for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects hourly samples for the report.

Metric_Val

Selects which metric to display.

Metrics can be one of the following:

both

Displays both I/O time and I/O size histograms.

time

Displays only the I/O time histogram.

size

Displays only the I/O size histogram.

rw

Specifies that the display includes separate read and write data.

groupby

For `atttime` reports, generates a separate row for <groupby> items. Each <groupby> must be different and one of the following:

PORT_N

Displays the node number for the port.

PORT_S

Displays the PCI slot number for the port.

PORT_P

Displays the port number of the port.

PORT_TYPE

Displays the Port type.

GBITPS

Displays the speed of the port.

TRANS_TYPE

Displays the transaction type `-ctl` or data.

portType

Limits the data to port of the types specified. Allowed types are:

disk

Disk port.

host

Host Fibre channel port.

iscsi

Host ISCSI port.

free

Unused port

fs

File Persona port.

peer

Data migration FC port.

rcip

Remote copy IP port.

rcfc

Remote copy FC port.

Port

Ports with <port_n>:<port_s>:<port_p> that match any of the specified[<npat>:<spat>:<ppat>...]patterns are included, where each of the patterns is a glob-style pattern. If not specified, all ports are included.

Examples

```
C:\PS>Get-3parSRHistPort
```

Displays historical histogram performance data reports for ports.

```
C:\PS> Get-3parSRHistPort -Metric_Val size
```

```
C:\PS> Get-3parSRHistPort -Groupby PORT_N
```

```
C:\PS>Get-3parSRHistPort -option hourly -btsecs -24h -portType "host,disk" -port "0:*:* 1:*:*"
```

Displays aggregate hourly histogram performance statistics for disk and host ports on nodes 0 and 1 that began 24 hours ago.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRHistVLUN

Syntax

```
btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-rw]] [[-groupby] <String>] [[-host] <String>] [[-vv] <String>] [[-lun] <String>] [[-Port] <String>] [[-Metric_Val] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical histogram performance data reports for VLUNs.

Parameters**attime**

Displays the performance for a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

Hires

Selects high resolution samples (5 minute intervals) for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects hourly samples for the report.

rw

Specifies that the display includes separate read and write data.

Groupby

Following are the allowed options:

DOM_NAME

Displays the domain name.

VV_NAME

Displays the virtual volume name.

HOST_NAME

Displays the host name.

HOST_WWN

Specifies the host WWN for the VLUN.

LUN

Specifies LUN number for the VLUN.

PORT_N

Specifies the node number for the VLUN port.

PORT_S

Specifies the PCI slot number for the VLUN port.

PORT_P

Specifies the port number for the VLUN port.

VVSET_NAME

Specifies virtual volume set name.

HOSTSET_NAME

Specifies host set name.

host

Limits the data to hosts with names that match one or more of the specified names or glob-style patterns. Host set name must start with set: and can also include patterns.

vv

Limit the data to hosts with names that match one or more of the specified names or glob-style patterns.

vv

Limit the data to VVs with names that match one or more of the specified names or glob-style patterns.

lun

Limit the data to LUNs that match one or more of the specified LUNs or glob-style patterns.

Port

Ports with <port_n>:<port_s>:<port_p> that match any of the specified[<npat>:<spat>:<ppat>...]patternsareincluded, where each of the patterns is a glob-style pattern. If not specified, all ports are included.

Examples

```
C:\PS>Get-3parSRHistVLUN
```

Displays historical histogram performance data reports for VLUNs.

```
C:\PS>Get-3parSRHistVLUN -option hourly -btsecs -24h
```

Displays aggregate hourly histogram performance statistics for all VLUNs that began 24 hours ago.

```
C:\PS>Get-3parSRHistVLUN -btsecs -2h -host "set:hostset" -vv "set:vvset*"
```

VV or host sets can be specified with patterns.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRLDSpace

Syntax

```
Get-3parSRLDSpace [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-groupby] <String>] [[-cpgName] <String>] [[-DiskType] <String>] [[-RaidType] <String>] [[-ownernode] <String>] [[-LDname] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical space data reports for LDs.

Parameters

attime

Displays the performance for a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

Hires

Selects high resolution samples (5 minute intervals) for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects hourly samples for the report.

Groupby

Following are the allowed options:

DOM_NAME

Displays the domain name.

CPG_NAME

Displays the Common Provisioning Group name.

LDID

Displays the logical disk ID.

LD_NAME

Displays the logical disk name.

DISK_TYPE

Specifies the disk type of the PDs used by the LD.

RAID_TYPE

Specifies the RAID type of the LD.

SET_SIZE

Specifies the RAID set size of the LD.

STEP_SIZE

Specifies the RAID step size of the LD.

ROW_SIZE

Specifies the RAID row size of the LD.

OWNER

Specifies the owner node for the LD.

cpgName

Limits the data to LDs in CPGs with names that match one or more of the specified names or glob-style pattern.

DiskType

FC

Fast Class.

NL

Nearline.

SSD

Solid State Drive.

Raidtype

Limits the data to RAID of the specified types. Allowed types are 0, 1, 5 and 6.

Ownernode

Limits data to LDs owned by the specified nodes.

LDname

Specifies that CPGs matching either the specified CPG_name or glob-style patterns are included.

Examples

```
C:\PS>Get-3parSRLDspace
```

Displays historical space data reports for logical disks.

```
C:\PS> Get-3parSRLDspace -groupby OWNER
```

```
C:\PS> Get-3parSRLDspace -DiskType FC
```

```
C:\PS> Get-3parSRLDspace -raidType 5 -Hourly -btsecs 24h -LDName fc*
```

Displays aggregate hourly LD space information for all RAID 5 LDs with names that match either "fc*" patterns beginning 24 hours ago.

NOTE: For more information, execute Get-Help Command Name with Full Option.

Get-3parSRPDspace

Syntax

```
Get-3parSRPDspace [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-groupby] <String>] [[-DiskType] <String>] [[-capacity]] [[-rpmspeed] <String>] [[-PDID] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical space data reports for PDs.

Parameters

attime

Displays the performance for a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

Hires

Selects high resolution samples (5 minute intervals) for the report. This is the default setting.

Hourly

Selects hourly samples for the report.

Daily

Selects hourly samples for the report.

Groupby

Following are the allowed options:

PDID

Displays physical disk ID.

CAGEID

Displays CAGE ID.

CAGESIDE

Displays CAGE side.

MAG

Specifies the disk Magazine number within the cage.

DISK

Specifies the disk position within the magazine.

DISK_TYPE

Specifies the disk type of the PD.

SPEED

Specifies the disk speed.

DiskType**FC**

Fast Class

NL

Nearline

SSD

Solid State Drive

capacity

Displays disk contributions to the system capacity categories: Allocated, Free, Failed, and Total.

rpmspeed

Limits the data to disks of the specified RPM. Allowed speeds are 7, 10, 15, 100 and 150.

PDID

Specifies that PDs with IDs that match either the specified PDID or glob-style patterns are included.

Examples

```
C:\PS>Get-3parSRPDspace
```

Displays historical space data reports for physical disks (PDs).

```
C:\PS>Get-3parSRPDspace -hourly -btsecs -24h
```

Displays aggregate hourly PD space information for all PDs beginning 24 hours ago.

```
C:\PS>Get-3parSRPDspace -capacity -attime -diskType SSD
```

Displays current system capacity values of SSD PDs.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRStatCache

Syntax

```
Get-3parSRStatCache [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-InternalFlashCache]] [[-FmpQueue]] [[-CmpQueue]] [[-Full]] [[-groupby] <String>] [[-Node] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical performance data reports for flash cache and data cache.

Parameters

attime

Displays the performance for a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

Hires

Selects high resolution samples (5 minute intervals) for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects hourly samples for the report.

InternalFlashcache

Lists the IOPS and bandwidth each for both read back and destaged write flash cache activity.

FmpQueue

List the FMP queue statistics. May be combined with `-cmp_queue` and `-internal_flashcache`.

CmpQueue

List the CMP queue statistics.

Full

List all the metrics for each row in a single line.

groupby

One of the following:

NODE

Displays the controller node.

Node

Only the specified node numbers are included, where each node is a number from 0 through 7.

Examples

```
C:\PS>Get-3parSRStatCache
```

Displays historical performance data reports for flash cache and data cache.

```
C:\PS>Get-3parSRStatCache -option Hourly -btsecs -24h
```

Displays aggregate hourly performance statistics for flash cache and data cache beginning 24 hours ago.

```
C:\PS>Get-3parSRStatCache -option Daily -attime -groupby node
```

Displays daily flash cache and data cache performance aggregated by nodes.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRStatCMP

Syntax

```
Get-3parSRStatCMP [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-Full]] [[-Page]] [[-groupby] <String>] [[-Node] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical performance data reports for cache memory.

Parameters

attime

Displays the performance for a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

Hires

Selects high resolution samples (5 minute intervals) for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects hourly samples for the report.

Full

List all the metrics for each row in a single line.

Page

List the page state information.

Groupby

Specifies that for `attime` reports, generate a separate row for each combination of `<groupby>` items. Each `<groupby>` must be different and one of the following:

NODE

The controller node

Node

Displays specified node numbers, where each node is a number from 0 through 7. To display information for multiple nodes specify <nodenumber>, <nodenumber2>, and so on. If not specified, all nodes are included.

Examples

```
C:\PS>Get-3parSRStatCMP
```

Displays historical performance data reports for node cache.

```
C:\PS>Get-3parSRStatCMP -option Hourly -btsecs -24h
```

Displays aggregate hourly performance statistics for node cache beginning 24 hours ago.

```
C:\PS>Get-3parSRStatCMP -option Daily -attime -groupby node
```

Displays daily node cache performance aggregated by nodes.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRStatCPU

Syntax

```
Get-3parSRStatCPU [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-groupby] <String>] [[-Node] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical performance data reports for CPUs.

Parameters

attime

Displays the performance for a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

Hires

Selects high resolution samples (5 minute intervals) for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects hourly samples for the report.

Groupby

For `attime` reports, generate a separate row for each combination of <groupby> items. Each <groupby> must be different and one of the following:

NODE

Specifies the controller node

CPU

Specifies the CPU within the controller node.

Node

Displays the specified node numbers, where each node is a number from 0 through 7.

Examples

```
C:\PS>Get-3parSRStatCPU
```

Displays historical performance data reports for CPUs.

```
C:\PS> Get-3parSRStatCPU -Groupby CPU
```

```
C:\PS> Get-3parSRStatCPU -btsecs 24h
```

```
C:\PS> Get-3parSRStatCPU -Hourly -btsecs 24h
```

Displays the aggregate hourly performance statistics for all CPUs beginning 24 hours ago.

```
C:\PS> Get-3parSRStatCPU -option daily -attime -groupby node
```

Displays daily node CPU performance aggregated by nodes.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRStatLD

Syntax

```
Get-3parSRStatLD [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-groupby] <String>] [[-cpgName] <String>] [[-Node] <String>] [[-LDName] <String>] [[-SANConnection] <Object>] [  

<CommonParameters>]
```

Description

Displays historical performance data reports for logical disks.

Parameters**attime**

Displays the performance for a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

Hires

Selects high resolution samples (5 minute intervals) for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects hourly samples for the report.

groupby

Specifies that for `attime` reports, generates a separate row for each combination of <groupby> items. Each <groupby> must be different and one of the following:

DOM_NAME

Specifies the domain name

LDID

Specifies logical disk ID

LD_NAME

Specifies logical disk name

CPG_NAME

Specifies common provisioning group name

Node

Specifies the node that owns the LD

cpgName

Limits the data to LDs in CPGs with names that match one or more of the specified names or glob-style patterns.

Node

Limit the data to the corresponding to one of the specified nodes -Node 0, 1, ,2.

LDName

Specifies that LDs matching either the specified LD_name or glob-style patterns are included.

Examples

```
C:\PS>Get-3parSRStatLD
```

Displays historical performance data reports for logical disks.

```
C:\PS>Get-3parSRStatLD -option Hourly -btsecs -24h
```

Displays aggregate hourly performance statistics for all logical disks beginning 24 hours ago.

```
C:\PS> Get-3parSRStatLD -Groupby Node
```

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRStatPD

Syntax

```
Get-3parSRStatPD [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-groupby] <String>] [[-diskType] <String>] [[-rpmSpeed] <String>] [[-PDID] <String>] [[-SANConnection] <Object>] [  
[<CommonParameters>]
```

Description

Displays system reporter performance reports for PDs.

Parameters

attime

Displays the performance at a particular time interval, specified by the `-etsecs` option, with one row per object.

btsecs

Specifies begin time in seconds for the report.

etsecs

Specifies end time in seconds for the report.

option

Hires

Selects high resolution samples (5 minute intervals) for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects daily samples for the report.

groupby

For `attime` reports, generate a separate row for each combination of `<groupby>` items. Each `<groupby>` must be different and one of the following:

PDID

Specifies the physical disk ID.

PORT_N

Specifies the node number for the primary port of the PD.

PORT_S

Specifies the PCI slot number for the primary port for the PD.

PORT_P

Specifies the port number for the primary port for the PD.

DISK_TYPE

Specifies the disk type of the PD.

SPEED

Specifies the speed of the PD.

diskType

Limits the data to disks of the types specified. Allowed types are:

FC

Fast Class

NL

Nearline

SSD

Solid State Drive

rpmSpeed

Limits the data to disks of the specified RPM. Allowed speeds are 7, 10, 15, 100 and 150.

PDID

Specifies that PDs with IDs that match either the specified PDID or glob-style patterns are included. This specifier can be repeated to include multiple PDIDs or patterns. If not specified, all PDs are included.

Examples

```
C:\PS>Get-3parSRStatPD
```

System reporter performance reports for PDs.

```
C:\PS>Get-3parSRStatPD -Hourly -btsecs -24h
```

Displays aggregate hourly performance statistics for all physical disks beginning 24 hours ago.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRStatPort

Syntax

```
Get-3parSRStatPort [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-groupby] <String>] [[-portType] <String>] [[-port] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays system reporter performance reports for ports.

Parameters

attime

Displays the performance at a particular time interval, specified by the `-etsecs` option, with one row per object.

btsecs

Specifies the begin time in seconds for the report.

etsecs

Specifies the end time in seconds for the report.

option

Hires

Selects high resolution samples (5 minute intervals) for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects daily samples for the report.

groupby

Specifies that for `attime` reports, generate a separate row for each combination of `<groupby>` items. Each `<groupby>` must be different and one of the following:

PORT_N

Specifies the node number for the port

PORT_S

Specifies the PCI slot number for the port

PORT_P

Specifies the port number for the port

PORT_TYPE

Specifies the type of the port

GBITPS

Specifies the speed of the port

portType

Limits the data to ports of the types specified. Allowed types are:

disk

Disk port

host

Host Fibre channel port

iscsi

Host ISCSI port

free

Unused port

fs

File Persona port

peer

Data Migration FC port

rcip

Remote copy IP port

rcfc

Remote copy FC port

port

Specifies that the ports with <port_n>:<port_s>:<port_p> that match any of the specified <npat>:<spat>:<ppat> patterns are included, where each of the patterns is a glob-style pattern.

Examples

```
C:\PS>Get-3parSRStatPort
```

System reporter performance reports for ports.

```
C:\PS> Get-3parSRStatPort -portType "disk,host" -Hourly -btsecs -24h -port "0:*:* 1:*:*"
```

Displays aggregate hourly performance statistics for disk and host ports on nodes 0 and 1 beginning 24 hours ago.

```
C: \ PS> Get-3parSRStatPort -Groupby PORT_N
```

NOTE: For more information, execute

Get-Help

Command Name with Full Option.

Get-3parSRStatVLUN

Syntax

```
Get-3parSRStatVLUN [[-attime]] [[-Summary] <String>] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-groupby] <String>] [[-host] <String>] [[-vv] <String>] [[-lun] <String>] [[-port] <String>] [[-vLun] <String>] [[-vmName] <String>] [[-vmHost] <String>] [[-vvoLsc] <String>] [[-vmId] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical performance data reports for VLUNs.

Parameters

attime

Displays the performance for a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies the begin time in seconds for the report.

etsecs

Specifies the end time in seconds for the report.

Hires

Selects high resolution samples (5 minute intervals) for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects hourly samples for the report.

Groupby

Specifies that for `attime` reports, generate a separate row for each combination of `<groupby>` items. Each `<groupby>` must be different and one of the following:

DOM_NAME

Displays the domain name.

VV_NAME

Virtual Volume name

HOST_NAME

Displays the Host name.

LUN

Displays the LUN number for the VLUN.

HOST_WWN

Displays the host WWN for the VLUN.

PORT_N

Displays the node number for the VLUN port.

PORT_S

Displays the PCI slot number for the VLUN port.

PORT_P

Displays the port number for the VLUN port.

VVSET_NAME

Displays the Virtual Volume set name.

HOSTSET_NAME

Displays the Host set name.

VM_NAME

Displays the Virtual Machine Name for VVol based VMs.

VM_ID

Displays the Virtual Machine Identification number for VVol based VMs.

VM_HOST

Displays the Virtual Machine host for VVol based VMs.

VVOLSC

Displays the Virtual Volume Storage Container for VVol based VMs.

host

Limits data to hosts with names that match one or more of the specified names or glob-style patterns.

vv

Limits data to VVs with names that match one or more of the specified names or glob-style patterns.
VV set name must be prefixed by set: and can also include patterns.

lun

Limits data to LUNs that match one or more of the specified LUNs or glob-style patterns.

vLun

Limit the data to VLUNs matching the specified combination of host, VV, lun, and port.

vmName

Limit the data to VMs that match one or more of the specified VM names or glob-styled patterns for VVol based VMs.

vmId

Limit the data to VMs that match one or more of the specified VM IDs or glob-styled patterns for VVol based VMs.

vmHost

Limit the data to VMs that match one or more of the specified VM host names or glob-styled patterns for VVol based VMs.

vvolLsc

Limit the data to VVol containers that match one or more of the specified VVol container names or glob-styled patterns.

Summary

Summarize performance across requested objects and time range.

Examples

```
C:\PS>Get-3parSRStatVLUN
```

Displays historical performance data reports for VLUNs.

```
C:\PS>Get-3parSRStatVLUN -option Hourly -btsecs -24h
```

Displays aggregate hourly performance statistics for all VLUNs beginning 24 hours ago.

```
C:\PS> Get-3parSRStatVLUN -btsecs -2h -host "set:hostset" -vv "set:vvset*"
```

Displays VV or host sets can be specified with patterns.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parSRVVSspace

Syntax

```
Get-3parSRVVSspace [[-attime]] [[-btsecs] <String>] [[-etsecs] <String>] [[-Hourly]] [[-Daily]] [[-Hires]] [[-groupby] <String>] [[-usrcpg] <String>] [[-snpcpg] <String>] [[-provType] <String>] [[-VVName] <String>] [[-vmName] <String>] [[-vmHost] <String>] [[-vvolLsc] <String>] [[-vmId] <String>] [[-vvolState] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical performance data reports for VVs.

Parameters

attime

Displays the performance for a particular time interval, specified by the `-etsecs` option, with one row per object group described by the `-groupby` option. Without this option, performance is shown versus time with a row per time interval.

btsecs

Specifies the begin time in seconds for the report.

etsecs

Specifies the end time in seconds for the report.

Hires

Selects high resolution samples (5 minute intervals) for the report.

Hourly

Selects hourly samples for the report.

Daily

Selects hourly samples for the report.

groupby

Following are the allowed options:

DOM_NAME

Displays domain name,

VVID

Displays Vvirtual volume ID.

VV_NAME

Displays Virtual Volume name.

BSID

Displays virtual volume ID of the base virtual volume.

WWN

Displays virtual volume world wide name (WWN).

SNP_CPG_NAME

Displays Snap space Common Provisioning Group name.

USR_CPG_NAME

Display User space Common Provisioning Group name.

PROV_TYPE

Displays the virtual volume provisioning type.

VV_TYPE

Displays the type of the virtual volume.

VVSET_NAME

Displays virtual volume set name.

VM_NAME

Displays virtual Machine name for VVol based VMs.

VM_ID

Displays virtual Machine Identification number for VVol based VMs.

VM_HOST

Displays virtual machine host for VVol based VMs.

VVOLSC

Displays Virtual Volume Storage Container for VVol based VMs.

VVOL_STATE

Displays Virtual Volume state, either bound or unbound.

COMPR

Displays whether Compression is enabled, disabled, or NA.

usrcpg

Specifies that only VVs with user space mapped to a CPG are included. The CPG name matches one of the specified CPG_name or glob-style patterns.

snpCpg

Specifies that only VVs with snp space mapped to a CPG are included. The CPG name matches one of the specified CPG_name or glob-style patterns.

provType

Specifies that only to include VVs of one or more specified provisioning types.

VVName

Specifies that PDs with IDs that match either the specified PDID or glob-style patterns are included.

vmName

Limit the data to VMs that match one or more of the specified VM names or glob-styled patterns for VVol based VMs.

vmId

Limit the data to VMs that match one or more of the specified VM IDs or glob-styled patterns for VVol based VMs.

vmHost

Limit the data to VMs that match one or more of the specified VM host names or glob-styled patterns for VVol based VMs.

vvolState

Limit the data to VVOLS that have states in either the Bound or Unbound state.

vvolLsc

Limit the data to VVol containers that match one or more of the specified VVol container names or glob-styled patterns

Examples

```
C:\PS>Get-3parSRVVSspace
```

Displays historical space data reports for VVs.

```
C:\PS> Get-3parSRVVSspace -Hourly -btsecs -24h -VVName dbvv*
```

Displays aggregate hourly VV space information for VVs with names matching either dbvv* patterns beginning 24 hours ago.

```
C:\PS> Get-3parSRVVSspace -Daily -attime -groupby vv_name -vvName tp*
```

Displays VV space information for the most recent daily sample aggregated by the VV name for VVs with names that match the pattern tp*.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parStatChunklet

Syntax

```
Get-3parStatChunklet [[-Iteration] <String>] [[-RW]] [[-IDLEP]] [[-Begin]]
[[ -NI]] [[-Delay] <String>] [[-LDname] <String>] [[-CHnum] <String>] [[-
SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays chunklet statistics in a timed loop.

Parameters

option

RW

Specifies that read and write data are displayed separately. If this option is not used, then the total of reads plus writes is displayed.

Idlep

Specifies the percent of idle columns in the output.

Begin

Specifies that I/O averages are computed from the system start time. If not specified, the average is computed since the first iteration of the command.

NI

Specifies that statistics for only non-idle devices are displayed

Delay

Specifies the interval in seconds. Statistics are sampled using an integer from 1 through 2147483.

LDname

Specifies that statistics are restricted to chunklets from a particular logical disk.

CHnum

Specifies that statistics are restricted to a particular chunklet number.

Iteration

Specifies that CMP statistics are displayed specified number of times as indicated by the num argument using an integer.

Examples

```
C:\PS>Get-3parStatChunklet -Iteration 1
```

Displays chunklet statistics in a timed loop.

```
C:\PS>Get-3parStatChunklet -option RW -Iteration 1
```

Specifies that reads and writes are displayed separately. The chunklet statistics are displayed in a timed loop.

```
C:\PS>Get-3parStatChunklet -LDname demo1 -CHnum 5 -Iteration 1
```

Specifies particular chunklet number and logical disk.

NOTE: For more information, execute Get-Help Command Name with Full Option.

Get-3parStatCMP

Syntax

```
Get-3parStatCMP [[-NI]] [[-VVname] <String>] [[-Domian] <String>] [[-Delay] <String>] [[-Iteration] <String>] [[-SANConnection] <Object>] [  
<CommonParameters>]
```

Description

Displays CMP (Cache Memory Page) statistics by node or by Virtual Volume.

Parameters

VVname

Specifies that statistics are displayed for virtual volumes matching the specified name or pattern.

Domain

Displays VVs that are in domains with names that match one or more of the specified domains or patterns.

Delay

Specifies the interval, in seconds, that statistics are sampled using an integer from 1 through 2147483.

NI

Specifies that statistics for only non-idle VVs are displayed.

Iteration

Specifies that CMP statistics are displayed a specified number of times as indicated by the num argument using an integer.

Examples

```
C:\PS>Get-3parStatCMP -Iteration 1
```

Displays CMP statistics.

```
C:\PS>Get-3parStatCMP -VVname Demo1 -Iteration 1
```

Displays CMP statistics by Virtual Volume -VVname Demo1.

NOTE: For more information, execute Get-Help Command Name with Full Option.

Get-3parStatCPU

Syntax

```
Get-3parStatCPU [[-delay] <String>] [[-total]] [[-Iteration] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays CPU statistics for all nodes.

Parameters

Delay

Specifies the interval in seconds that statistics are sampled using an integer from 1 through 2147483.

total

Displays only the totals for all the CPUs on each node.

Iteration

Specifies that CMP statistics are displayed a specified number of times as indicated by the num argument using an integer.

Examples

```
C:\PS>Get-3parStatCPU -iteration 1
```

Displays CPU statistics for all nodes.

```
C:\PS>Get-3parStatCPU -delay 2 -total -iteration 1
```

Displays only the totals for all the CPUs on each node.

NOTE: For more information, execute Get-Help Command Name with Full Option.

Get-3parStatLD

Syntax

```
Get-3parStatLD [[-RW]] [[-IDLEP]] [[-Begin]] [[-NI]] [[-VVname] <String>] [[-LDname] <String>] [[-Domain] <String>] [[-Delay] <String>] [[-Iteration] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays read/write (I/O) statistics for LDs in a timed loop.

Parameters

option

RW

Specifies that read and write data are displayed separately.

Begin

Specifies that I/O averages are computed from the system start time.

IDLEP

Specifies the percent of idle columns in the output.

VVname

Display only LDs that are mapped to VVs with names matching any of the names or patterns specified.

LDname

Displays only statistics for the specified LD or pattern.

Domain

Displays only LDs that are in domains with names matching any of the names or specified patterns.

Delay

Specifies the interval in seconds. Statistics are sampled using an integer from 1 through 2147483.

Iteration

Specifies that I/O statistics are displayed a specified number of times as indicated by the number argument using an integer from 1 through 2147483647.

Examples

```
C:\PS>Get-3parStatLD -Iteration 1
```

Displays read/write (I/O) statistics for LDs.

```
C:\PS>Get-3parStatLD RW -Iteration 1
```

Displays statistics for LDs with specification read/write

```
C:\PS>Get-3parStatLD --Begin -Delay 2 -Iteration 1
```

Displays statistics for LDs with specification begin and delay in execution of 2 sec.

```
C:\PS>Get-3parStatLD -Begin -VVname demo1 -Delay -Iteration 1
```

Displays statistics for LDs, only LDs that are mapped to VVs.

```
C:\PS>Get-3parStatLD -Begin -LDname demoLD1 -Delay -Iteration 1
```

Displays statistics for the specified LDs.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parStatLink

Syntax

```
Get-3parStatLink [[-Detail]] [[-Interval] <String>] [[-Iteration] <String>]  
[[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays statistics for link utilization for all nodes in a timed loop.

Parameters

Detail

Displays detailed information regarding the Queue statistics.

Interval

Specifies the interval, in seconds, that statistics are sampled using an integer from 1 through 2147483.

Iteration

Specifies that I/O statistics are displayed a specified number of times as indicated by the number argument using an integer from 1 through 2147483647.

Examples

```
C:\PS>Get-3parStatLink -Iteration 1
```

Displays statistics for link utilization for all nodes in a timed loop.

```
C:\PS>Get-3parStatLink -Delay 3 -Iteration 1
```

Displays statistics for link utilization for all nodes in a timed loop, with a delay of 3 sec.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parStatPD

Syntax

```
Get-3parstatPD [[-RW]] [[-IDLEP]] [[-Begin]] [[-NI]] [[-wwn] <String>] [[-  
nodes] <String>] [[-slots] <String>] [[-ports] <String>] [[-Iteration]  
<String>] [[-DevInfo]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays the read/write (I/O) statistics for physical disks in a timed loop.

Parameters

option

Devinfo

Indicates the device disk type and speed.

RW

Specifies that reads and writes are displayed separately. If this option is not used, then the total of reads plus writes is displayed.

Begin

Specifies that I/O averages are computed from the system start time.

IDLEP

Specifies the percent of idle columns in the output.

NI

Specifies that statistics for only non-idle devices are displayed.

wwn

Specifies that statistics for a particular PD identified by WWNs are displayed.

nodes

Specifies that the display is limited to specified nodes and PDs connected to those nodes.

port

Specifies that the display is limited to specified ports and PDs connected to those ports.

Iteration

Specifies that the histogram is to stop after the indicated number of iterations using an integer from 1 through 2147483647.

Examples

```
C:\PS> Get-3parstatPD -RW -Iteration 1
```

Displays one iteration of I/O statistics for all PDs.

```
C:\PS> Get-3parstatPD -IDLEP -nodes 2 -Iteration 1
```

Displays one iteration of I/O statistics for all PDs with the specification idlep preference of node 2.

```
C:\PS> Get-3parstatPD -NI -wwn 1122112211221122 -nodes 2 -Iteration 1
```

Specifies that statistics for a particular Physical Disk (PD) identified by World Wide Names (WWNs) and nodes.

NOTE: For more information, execute Get-Help Command Name with Full Option.

Get-3parStatPort

Syntax

```
Get-3parStatPort [[-Both]] [[-Ctl]] [[-Data]] [[-Rcfc]] [[-Rcip]] [[-RW]] [[-FS]] [[-Host]] [[-Peer]] [[-IDLEP]] [[-Begin]] [[-NI]] [[-Disk]] [[-nodes] <String>] [[-slots] <String>] [[-ports] <String>] [[-Iteration] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays read/write (I/O) statistics for ports.

Parameters**Both**

Displays both data transfers.

Ctl

Show control transfers only.

Data

Show both data and control transfers only.

Rcfc

Includes only statistics for Remote Copy over Fibre Channel ports related to cached READ requests.

Rcip

Includes only statistics for Ethernet configured Remote Copy ports.

RW

Specifies that the display includes separate read and write data.

Begin

Specifies that I/O averages are computed from the system start time.

Idlep

Specifies the percent of idle columns in the output.

Host

Displays only host ports (target ports).

Disk

Displays only disk ports (initiator ports).

Rcfc

Displays only Fibre Channel remote-copy configured ports.

NI

Specifies that statistics for only non-idle devices are displayed.

FS

Includes only statistics for File Persona ports.

Peer

Specifies to display only host ports (target ports).

nodes

Specifies that the display is limited to specified nodes and PDs connected to those nodes.

port

Specifies that the display is limited to specified ports and PDs connected to those ports.

slots

Specifies that the display is limited to specified PCI slots and physical disks connected to those PCI slots.

iteration

Specifies that the histogram is to stop after the indicated number of iterations using an integer from 1 through 2147483647.

Examples

```
C:\PS> Get-3parStatPort -Iteration 1
```

Displays one iteration of I/O statistics for all ports.

```
C:\PS> Get-3parStatPort -Both -Iteration 1
```

Displays one iteration of I/O statistics for all ports, displays data transfers only.

```
C:\PS> Get-3parStatPort -Host -nodes 2 -Iteration 1
```

Displays I/O statistics for all ports associated with node 2.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parStatRCopy

Syntax

```
Get-3parStatRCopy [[-Interval] <String>] [[-HeartBeat]] [[-Unit] <String>]  
[[[-Iteration] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays statistics for Remote Copy volume groups.

Parameters

HeartBeat

Specifies that the heartbeat round-trip time of the links should be displayed and the link throughput.

Unit

Displays statistics as k(kilobytes), m (megabytes), or g (gigabytes). If no unit is specified, the default is kilobytes.

Iteration

Specifies that I/O statistics are displayed a specified number of times as indicated by the num argument using an integer from 1 through 2147483647.

Interval

Specifies the interval, in seconds, that statistics are sampled using an integer from 1 through 2147483647.

Examples

```
C:\PS> Get-3parStatRCopy -HeartBeat -Iteration 1
```

Displays statistics for sending links, specifies the heartbeat round-trip time.

```
C:\PS> Get-3parStatRCopy -Iteration 1
```

Displays statistics for sending links, link 0, and link 1.

```
C:\PS> Get-3parStatRCopy -HeartBeat -Unit k -Iteration 1
```

Displays statistics for sending links, specifies that the heartbeat round-trip time and displays statistics as kilobytes.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parStatRCVV

Syntax

```
Get-3parStatRCVV [[-Iteration] <String>] [[-Interval] <String>] [[-Target]
<String>] [[-Port] <String>] [[-Group] <String>] [[-VVname] <String>] [[-
DomainName] <String>] [[-ASync]] [[-Sync]] [[-Periodic]] [[-Primary]] [[-
Secondary]] [[-TargetSum]] [[-PortSum]] [[-GroupSum]] [[-VVSUm]] [[-
DomainSum]] [[-NI]] [[-SubSet]] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Displays statistics for Remote Copy volumes in a timed loop.

Parameters

Async

Show only volumes which are being copied in asynchronous mode.

sync

Show only volumes that are being copied in synchronous mode.

periodic

Show only volumes that are being copied in asynchronous periodic mode.

primary

Show only volumes that are in the primary role.

secondary

Show only volumes that are in the secondary role.

targetsum

Specifies that the sums for all volumes of a target are displayed.

portsum

Specifies that the sums for all volumes on a port are displayed.

groupsum

Specifies that the sums for all volumes of a group are displayed.

vvsum

Specifies that the sums for all targets and links of a volume are displayed.

domainsum

Specifies that the sums for all volumes of a domain are displayed.

ni

Specifies that statistics for only non-idle devices are displayed.

target

Show only volumes whose group is copied to the specified target name.

port

Show only volumes that are copied over the specified port or pattern.

group

Show only volumes whose group matches the specified group name or pattern.

VVname

Displays statistics only for the specified virtual volume or volume name pattern.

Iteration

Specifies that the histogram is to stop after the indicated number of iterations using an integer from 1 through 2147483647.

DomainName

Shows only the virtual volumes that are in domains with names that match one or more specified domain names or patterns.

Interval

Specifies the interval in seconds that statistics are sampled from using an integer from 1 through 2147483.

Subset

Show subset statistics for Asynchronous Remote Copy on a per group basis.

Examples

```
C:\PS>Get-3parStatRCVV -Iteration 1
```

Displays statistics for Remote Copy volumes in a timed loop.

```
C:\PS> Get-3parStatRCVV -Iteration 1 -ASync
```

```
C:\PS> Get-3parStatRCVV -Iteration 1 -TargetSum
```

```
C:\PS> Get-3parStatRCVV -Iteration 1 -VVSUm
```

```
C:\PS> Get-3parStatRCVV -Iteration 1 -periodic
```

Displays statistics for Remote Copy volumes in a timed loop and show only volumes that are being copied in asynchronous periodic mode.

```
C:\PS> Get-3parStatRCVV -target demotarget1 -Iteration 1
```

Displays statistics for Remote Copy volumes in a timed loop and Show only volumes whose group is copied to the specified target name.

NOTE: For more information, execute `Get-Help Command Name with Full Option`.

Get-3parStatVlun

Syntax

```
Get-3parStatVlun [[-RW]] [[-IDLEP]] [[-Begin]] [[-NI]] [[-LW]] [[-DomainSum]] [[-vvSum]] [[-HostSum]] [[-domain] <String>] [[-VVname] <String>] [[-LUN] <String>] [[-nodes] <String>] [[-Iteration] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays statistics for VVs and LUN host attachments.

Parameters

LW

Lists the host's World Wide Name (WWN) or iSCSI names.

Domainsum

Specifies that sums for VLUNs are grouped by domain in the display.

vvSum

Specifies that sums for VLUNs of the same VV are displayed.

Hostsum

Specifies that sums for VLUNs are grouped by host in the display.

RW

Specifies reads and writes to be displayed separately.

Begin

Specifies that I/O averages are computed from the system start time.

IDLEP

Includes a percent idle columns in the output.

NI

Specifies that statistics for only nonidle devices are displayed.

domian

Shows only Virtual Volume Logical Unit Number (VLUNs) whose VVs are in domains with names that match one or more of the specified domain names or patterns.

VVname

Requests that only Logical Disks (LDs) mapped to VVs that match any of the specified names to be displayed.

LUN

Specifies that VLUNs with LUNs matching one or more specified LUNs or patterns are displayed.

nodes

Specifies that the display is limited to specified nodes and Physical Disks (PDs) connected to those nodes.

Iteration

Specifies that the histogram is to stop after the indicated number of iterations using an integer from 1 through 2147483647.

Examples

```
C:\PS> Get-3parStatVlun -Iteration 1
```

Displays statistics for VVs and LUN host attachments.

```
C:\PS> Get-3parStatVlun -vvSum -Iteration 1
```

Displays statistics for VVs and specifies that sums for VLUNs of the same VV are displayed.

```
C:\PS> Get-3parStatVlun -vvSum -RW -Iteration 1
```

```
C:\PS> Get-3parStatVlun -vvSum -RW -VVname xxx -Iteration 1
```

```
C:\PS>Get-3parStatVlun -VVname demovv1 -Iteration 1
```

Displays statistics for Virtual Volumes (VVs) and only Logical Disks (LDs) mapped to VVs that match any of the specified names to be displayed.

NOTE: For more information, execute `Get-Help "Command Name" with Full Option`.

Get-3parStatVV

Syntax

```
Get-3parStatVV [[-RW]] [[-NI]] [[-Delay] <String>] [[-domian] <String>] [[-VVname] <String>] [[-Iteration] <String>] [[-SANConnection] <Object>] [  
  <CommonParameters>]
```

Description

Displays statistics for VVs.

Parameters

RW

Specifies reads and writes to be displayed separately.

Delay

Specifies the interval in seconds that statistics are sampled from using an integer from 1 through 2147483.

NI

Specifies that statistics for only non-idle devices are displayed.

domian

Shows only Virtual Volume Logical Unit Number (VLUNs) whose VVs are in domains with names that match one or more of the specified domain names or patterns.

Iteration

Specifies that the histogram is to stop after the indicated number of iterations using an integer from 1 through 2147483647.

VVname

Only statistics are displayed for the specified VV.

Examples

```
C:\PS>Get-3parStatVV -Iteration 1
```

Displays statistics for VVs in a timed loop.

```
C:\PS> Get-3parStatVV -RW -Iteration 1
```

Displays statistics for VVs with specification of read/write option.

```
C:\PS> Get-3parStatVV -Delay -Seconds 2 -Iteration 1
```

Specifies the interval in seconds that statistics are sampled from using an integer from 1 through 2147483.

```
C:\PS> Get-3parStatVV -RW -domain ZZZ -VVname demovv1 -Iteration 1
```

Displays statistics for Virtual Volumes (VVs) with Only statistics are displayed for the specified VVname.

NOTE: For more information, execute `Get-Help "Command Name" with Full Option`.

Get-3parSystem

Syntax

```
Get-3parSystem [[-Detailed]] [[-SystemParameters]] [[-Fan]] [[-SystemCapacity]] [[-vvSpace]] [[-DomainSpace]] [[-Descriptor]] [[-DevType] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays the HPE 3PAR StoreServ Storage system information.

Parameters

Detailed

Specifies that more detailed information about the system is displayed.

SystemParameters

Specifies that the system parameters are displayed.

Fan

Displays the system fan information.

SystemCapacity

Displays the system capacity information in MiB.

vvSpace

Displays the system capacity information in MiB with an emphasis on VVs.

Domainspace

Displays the system capacity information broken down by domain in MiB.

Descriptor

Displays the system descriptor properties.

DevType

Displays the system capacity information where the disks must have a device type string matching the specified device type; either Fast Class (FC), Nearline (NL), Solid State Drive (SSD).

Examples

```
C:\PS>Get-3parSystem
```

Displays HPE 3PAR Storage system information, such as system name, model, serial number, and system capacity information.

```
C:\PS> Get-3parSystem -SystemCapacity
```

Lists HPE 3PAR StoreServ Storage system space information in MB (1024^2 bytes).

```
C:\PS> Get-3parSystem -DevType FC
```

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Get-3parTask

Syntax

```
Get-3parTask [[-All]] [[-Done]] [[-Failed]] [[-Active]] [[-Hours] <String>]
[[-Task_type] <String>] [[-TaskID] <String>] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Displays information about tasks.

Parameters

All

Displays all tasks.

Done

Displays only tasks that are successfully completed.

Failed

Displays only tasks that are unsuccessfully completed.

Active

Displays only tasks that are currently in progress.

Hours

Show only tasks started within the past <hours>, where <hours> is an integer from 1 through 99999.

Task_type

Specifies that specified patterns are treated as glob-style patterns and that all tasks whose types match the specified pattern are displayed. To see the different task types, use the showtask column help.

TaskID

Shows detailed task status for specified tasks. Tasks must be explicitly specified using their task IDs <task_ID>. Multiple task IDs can be specified. This option cannot be used in conjunction with other options.

Examples

```
C:\PS> Get-3parTask
```

Display all tasks.

```
C:\PS>Get-3parTask -All
```

Display all tasks. Unless the -All option is specified, system tasks are not displayed.

```
C:\PS> Get-3parTask -Done
```

Display includes only tasks that are successfully completed

```
C:\PS> Get-3parTask -Failed
```

Display includes only tasks that are unsuccessfully completed.

```
C:\PS> Get-3parTask -Active
```

Display includes only tasks that are currently in progress.

```
C:\PS> Get-3parTask -Hours 10
```

Show only tasks started within the past <hours>

```
C:\PS> Get-3parTask -Task_type xyz
```

Specifies that specified patterns are treated as glob-style patterns and that all tasks whose types match the specified pattern are displayed

```
C:\PS> Get-3parTask -taskID 4
```

Show detailed task status for specified task 4.

NOTE: For more information, execute `Get-Help "Command Name" with Full Option`.

Get-3parUserConnection

Syntax

```
Get-3parUserConnection [[-Current]] [[-Detailed]] [[-SANConnection] <Object>]  
[<CommonParameters>]
```

Description

Displays information about users who are currently connected (logged in) to the storage system.

Parameters

Current

Shows all information about the current connection only.

Examples

```
C:\PS> Get-3parUserConnection
```

Shows information about users who are currently connected (logged in) to the storage system.

```
C:\PS> Get-3parUserConnection -Current
```

Shows all information about the current connection only.

```
C:\PS> Get-3parUserConnection -Detailed
```

Specifies the more detailed information about the user connection

NOTE: For more information, execute `Get-Help "Command Name" with Full Option`.

Get-3ParVVols

Syntax

```
Get-3ParVVols [[-Detailed]] [[-Listcols]] [[-SC_name] <String>] [[-  
SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays VVol storage containers, used to contain VMware Volumes for Virtual Machines (VVols).

Parameters

listcols

Lists the columns available to be shown in the `-showcols` option described below.

Detailed

Displays more information about the storage containers, including any VVols that have been auto-dismissed by remote copy DR operations.

SC_name

Specifies the name of the storage container.

Examples

```
C:\PS> Get-3ParVVolSC
```

```
C:\PS> Get-3ParVVolSC - option Detailed
```

NOTE: For more information, execute `Get-Help "Command Name" with Full Option`.

Invoke cmdlets

Invoke-3parCLICmd

Syntax

```
Invoke-3parCLICmd [-Connection] <Object> [-Cmds] <String>  
[<CommonParameters>]
```

Description

Executes a command on a HPE 3PAR StoreServ Storage using POSH SSH Module or CLI.

Parameters

Connection

Pointer to an object that contains password file and IP address.

Cmds

Command to be executed.

Examples

```
C:\PS>Invoke-3parCLICmd -Connection $global:SANConnection -Cmds "showsysmgr"
```

Alternate usage

1. `$Cmd = "createvvcopy -s -p set:vvcopyset set:copies"`
2. `Invoke-3parCLICmd -Connection $SANConnection -cmds $Cmd`

Import cmdlets

Import-3parVV

Syntax

```
Import-3parVV [[-Usrcpg] <String>] [[-Snapname] <String>] [[-Snp_cpg]  
<String>] [[-NoCons]] [[-Priority] <String>] [[-Job_ID] <String>] [[-NoTask]]  
[[[-Cleanup]]] [[-TpVV]] [[-TdVV]] [[-DeDup]] [[-Compr]] [[-MinAlloc] <String>]  
[[[-VVName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Starts migrating the data from a remote LUN to the local HPE 3PAR Storage System.

Parameters

NoCons

Any VV sets specified will not be imported as consistent groups.

If the VV set contains any VV members that in a previous import attempt were imported consistently, they will continue to get imported consistently.

Priority

Specifies the priority of migration of a volume or a volume set.

Job_ID

Specifies the Job ID up to 511 characters for the volume.

NoTask

Performs import-related preprocessing which results in transitioning the volume to exclusive state and setting up of the "consistent" flag on the volume if importing consistently.

Cleanup

Performs cleanup on source array after successful migration of the volume.

TpVV

Import the VV into a thinly provisioned space in the CPG specified in the command line.

TdVV

This option is deprecated, see DeDup.

DeDup

Import the VV into a thinly provisioned space in the CPG specified in the command line.

Compr

Import the VV into a compressed virtual volume in the CPG specified in the command line.

MinAlloc

This option specifies the default allocation size (in MB) to be set for TPVVs and TDVVs.

Snapname

Create a snapshot of the volume at the end of the import phase.

Snp_cpg

Specifies the name of the CPG from which the snapshot space will be allocated.

Usrcpg

Specifies the name of the CPG from which the volume user space will be allocated.

Snp_cpg

Specifies the name of the CPG from which the snapshot space will be allocated.

VVName

Specifies the VVs with the specified name.

Examples

```
C:\PS> Import-3parVV -Usrcpg XYZ
C:\PS> Import-3parVV -Usrcpg asCpg -VVName as4
C:\PS> Import-3parVV -Usrcpg asCpg -Snapname asTest -VVName as4
C:\PS> Import-3parVV -Usrcpg asCpg -Snp_cpg asCpg -VVName as4
C:\PS> Import-3parVV -Usrcpg asCpg -Priority high -VVName as4
C:\PS> Import-3parVV -Usrcpg asCpg -NoTask -VVName as4
```

Returns

String object.

NOTE: For more detail, execute `Get-Help "Command Name" with Full Option`.

Join cmdlets

Join-3parFed

Syntax

```
Join-3parFed [[-UUID] <String>] [[-FedName] <String>] [[-Comment] <String>]
[[-Setkv] <String>] [[-Setkvifnotset] <String>] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Makes the StoreServ system a member of the Federation identified by the specified name and UUID.

Parameters

Comment

Specifies any additional textual information.

Setkv

Sets or resets key/value pairs on the federation.

setkvifnotset

Sets key/value pairs on the federation if not already set.

UUID

Specifies the UUID of the Federation to be joined.

FedName

Specifies the name of the Federation to be joined.

CommentString

Specifies any additional textual information.

Examples

```
C:\PS> Join-3parFed -FedName TETS -UUID 12345
C:\PS> Join-3parFed -Comment hello -UUID 12345
C:\PS> Join-3parFed -Setkv 12 -UUID 12345 -FedName TEST
```

NOTE: For More detail execute `Get-Help "Command Name" with Full Option`.

New cmdlets

New-3parCPG

Syntax

```
New-3parCPG [[-cpgName] <String>] [[-TemplateName] <String>] [[-AW] <String>]
[[-SDGS] <String>] [[-SDGL] <String>] [[-SDGW] <String>] [[-saLD_name]
<String>] [[-sdLD_name] <String>] [[-Domain] <String>] [[-RAIDType] <String>]
[[-SSZ] <String>] [[-RS] <String>] [[-SS] <String>] [[-HA] <String>] [[-CH]
<String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates a Common Provisioning Group (CPG).

Parameters

TemplateName

Displays Template Names.

AW

Specifies the percentage of used snapshot administration or snapshot data space that results in a warning alert.

SDGS

Specifies the growth increment, the amount of logical disk storage created on each auto-grow operation.

SDGL

Specifies that the auto-grow operation is limited to the specified storage amount.

SDGW

Specifies that the threshold of used logical disk space, when exceeded, results in a warning alert.

saLD_name

Specifies that existing logical disks are added to the CPG and are used for snapshot admin (SA) space allocation.

sdLD_name

Specifies that existing logical disks are added to the CPG and are used for snapshot data (SD) space allocation.

Domain <domain>

Specifies the name of the domain with which the object will reside.

RAID_type

Specifies the RAID type of the logical disk: r0 for RAID-0, r1 for RAID-1, r5 for RAID-5, or r6 for RAID 6. If no RAID type is specified, then the default is r6.

SSZ

Specifies the set size in terms of chunklets. The default depends on the RAID type specified: 2 for RAID-1, 4 for RAID-5, and 8 for RAID 6.

RS

Specifies the number of sets in a row.

SS

Specifies the step size from 32 KB to 512 KB.

HA

Specifies that the layout must support the failure of one port pair, one cage, or one drive magazine (mag).

CH

Specifies the chunklet location characteristics: either first (attempt to use the lowest numbered available chunklets) or last (attempt to use the highest numbered available chunklets).

Example

```
C:\PS> New-3parCPG -cpgName "MyCPG" -Size 32G -RAIDType r1
```

Creates a CPG named MyCPG with initial size of 32 GB and RAID configuration is r1 (RAID 1).

```
C:\PS> New-3parCPG -cpgName asCpg
```

```
C:\PS> New-3parCPG -cpgName asCpg1 -AW 1
```

```
C:\PS> New-3parCPG -cpgName asCpg1 -SDGS 1
```

```
C:\PS> New-3parCPG -cpgName asCpg1 -SDGL 12241
```

```
C:\PS> New-3parCPG -cpgName asCpg1 -saLD_name XYZ
```

```
C:\PS> New-3parCPG -cpgName asCpg1 -sdLD_name XYZ
```

```
C:\PS> New-3parCPG -cpgName asCpg1 -RAIDType r1
```

Returns

String object.

NOTE: For more information, execute `Get-Help <command name>` with Full Option.

New-3parFed

Syntax

```
New-3parFed [[-Fedname] <String>] [[-Comment] <String>] [[-Setkv] <String>]
[[-Setkvifnotset] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Generates a UUID for the named Federation and makes the StoreServ system a member of that Federation.

Parameters

comment

Specifies any additional textual information.

Setkv

Sets or resets key/value pairs on the federation.

Setkvifnotset

Sets key/value pairs on the federation if not already set.

Fedname

Specifies the name of the Federation to be created.

Examples

```
C:\PS> New-3parFed -Fedname XYZ
C:\PS> New-3parFed -CommentString XYZ -Fedname XYZ
C:\PS> New-3parFed -Setkv TETS -Fedname XYZ
C:\PS> New-3parFed -Setkvifnotset TETS -Fedname XYZ
```

Returns

String object.

NOTE: For more information, execute `Get-Help <command name> with Full Option.`

New-3parVV

Syntax

```
New-3parVV [[-vvName] <String>] [[-Size] <String>] [[-CPGName] <String>] [[-vvSetName] <String>] [[-Force]] [[-Template] <String>] [[-Volume_ID] <String>] [[-Count] <String>] [[-Wait] <String>] [[-Comment] <String>] [[-Shared]] [[-tpvv]] [[-Snp_Cpg]] [[-Sectors_per_track] <String>] [[-Heads_per_cylinder] <String>] [[-minAlloc]<String>] [[-Snp_aw] <String>] [[-Snp_al] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates a virtual volume.

Parameters

Size

Specifies the memory size to be allocated.

vvName

Assigns a new host name

vvSetName

Allocates the newly created VVol to presentVVol set name.

vvType

Specifies the destination vvcopy type. For example, tpvv or tdvv.

minAlloc

Specifies the default allocation size in MB.

CPGName

Specify the name of CPG.

Template

Use the options defined in template <tname>.

Volume_ID

Specifies the ID of the volume. By default, the next available ID is chosen.

Count <count>

Specifies the number of identical VVs to create.

Shared

Specifies that the system will try to share the logical disks among the VVs.

Wait <secs>

If the command would fail due to the lack of clean space, the -wait.

minalloc

This option specifies the default allocation size (in MB) to be set.

Snp_aw <percent>

Enables a snapshot space allocation warning.

Snp_al <percent>

Sets a snapshot space allocation limit.

Comment <comment>

Specifies any additional information up to 511.

Example

```
C:\PS> New-3parVV
C:\PS> New-3parVV -vvName AVV
C:\PS> New-3parVV -vvName AVV -CPGName ACPG
C:\PS> New-3parVV -vvName VV_Aslam -CPGName CPG_Aslam
C:\PS> New-3parVV -vvName AVV -CPGName CPG_Aslam
C:\PS> New-3parVV -vvName AVV1 -CPGName CPG_Aslam -Force
C:\PS> New-3parVV -vvName AVV -CPGName CPG_Aslam -Force -tpvv
```

Returns

String object.

NOTE: For more information, execute Get-Help "Command Name" with Full option.

New-3parVVSet

Syntax

```
New-3parVVSet [[-vvSetName] <String>] [[-Add]] [[-Count] <String>] [[-
Comment] <String>] [[-Domain] <String>] [[-vvName] <String>] [[-
SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates a new volume set.

Parameters

vvSetName

Assigns HostSetname.

Domain

Specifies the domain name.

vvName

Specifies the VV to add to the volume set.

comment

Adds comment for Volume set.

Count

Add a sequence of <num> VVs starting with "vvname".

Add

Specifies that the VVs listed should be added to an existing set.

Examples

```
C:\PS>New-3parVVSet -vvSetName "MyVolumeSet"
```

Creates a volume set named MyVolumeSet.

```
C:\PS>New-3parVVSet -vvSetName "MYVolumeSet" -Domain MyDomain
```

Creates a volume set named MyVolumeSet in the domain MyDomain.

Returns

String object.

NOTE: For more information, execute `Get-Help <command name> with Full option.`

New-3parHost

Syntax

```
New-3parHost [[-HostName] <string>] [[-Iscsi]] [[-Add]] [[-Domain] <string>]  
[[[-Forces]] [[-Persona] <string>] [[-Location] <string>] [[-IPAddress]  
<string>] [[-OS] <string>] [[-Model] <string>] [[-Contact] <string>] [[-  
Comment] <string>] [[-NSP] <string>] [[-WWN] <string>] [[-IscsiName]  
<string>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates a host.

Parameters

HostName

Specify new name of the host

Add

Add one or more specified WWNs or iscsi_name(s) to an existing host (at least one WWN or iscsi_name must be specified).

Domain

Create the host in the specified domain or domain set.

Forces

Forces the tear down of lower priority VLUN exports if necessary.

Persona

Sets the host persona that specifies the personality for all ports which are part of the host set.

Location

Specifies the host location.

IPAddress

Specifies the host IP address.

OS

Specifies the operating system running on the host.

Model

Specifies the host model.

Contact

Specifies the host owner and contact information.

Comment

Specifies any additional information for the host.

NSP

Specifies the desired relationship between one or more array ports and host for target-driven zoning.

WWN

Specifies the World Wide Name(WWN) to be assigned or added to an existing host.

IscsiName

Host iSCSI name to be assigned or added to a host. This specifier is optional.

iSCSI

When specified, it means that the address is an iSCSI address.

Example

```
C:\PS> New-3parHost -HostName HV01A -Persona 2 -WWN 10000000C97B142E
```

Creates a host entry named HV01A with WWN equal to 10000000C97B142E.

```
C:\PS> New-3parHost -HostName HV01B -Persona 2 -iSCSI
```

Creates a host entry named HV01B with iSCSI equal to iqn.1991-06.com.microsoft:dt-391-xp.hq.3par.com.

```
C:\PS> New-3parHost -HostName HV01A -Persona 2
```

```
C:\PS> New-3parHost -HostName Host3 -iSCSI
```

```
C:\PS> New-3parHost -HostName Host4 -iSCSI -Domain ZZZ
```

Returns

String object.

NOTE: For more information, execute `Get-Help <command name>` with Full option.

New-3parHostSet

Syntax

```
New-3parHostSet [[-HostSetName] <String>] [[-hostName] <String>] [[-Add]] [[-Comment] <String>] [[-Domain] <String>] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Creates a new host set.

Parameters

hostSetName

Specifies the host set name.

hostname

Specify new name of the host

Domain

Create the host set in the specified domain.

Add

Specifies any comment or additional information for the set.

Examples

```
C:\PS> New-3parHostSet -hostSetName HV01C-HostSet
```

```
C:\PS> New-3parHostSet -hostSetName HV01C-HostSet -Domain domain
```

```
C:\PS> New-3parHostSet -hostSetName HV01C-HostSet -hostname "MyHost"
```

Returns

String object.

NOTE: For more information, execute `Get-Help <command name>` with Full Option.

New-3parVLUN

Syntax

```
New-3parVLUN [[-vvName] <string>] [[-vvSet] <string>] [[-LUN] <string>] [[-NSP] <string>] [[-HostSet] <string>] [[-HostName] <string>] [[-Cnt] <string>] [[-NoVcn]] [[-Ovrd]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates a vLUN and presents it to a host.

Parameters

vvName

Specifies the virtual volume or virtual volume set name, using up to 31 characters in length. The volume name is provided in the syntax of `basename.int`. The VV set name must start with "set:".

vvSet

Specifies the virtual volume or virtual volume set name, using up to 31 characters in length.

LUN

Specifies the LUN as an integer from 0 through 16383.

HostName

Specifies the host where the LUN is exported, using up to 31 characters.

HostSet

Specifies the host set where the LUN is exported, using up to 31 characters in length.

NSP

Specifies the system port of the virtual LUN export.

node

Specifies the system node, where the node is a number from 0 through 7.

slot

Specifies the PCI bus slot in the node, where the slot is a number from 0 through 5.

port

Specifies the port number on the FC card, where the port number is 1 through 4.

Cnt

Specifies that a sequence of VLUNs, as specified by the num argument, are exported to the same system port and host that is created.

NoVcn

Specifies that a VLUN Change Notification (VCN) not be issued after export.

Ovrd

Specifies that existing lower priority VLUNs will be overridden, if necessary.

Examples

```
C:\PS>New-3parVLUN -vvName PassThru-Disk -PresentTo HV01
```

Exports a virtual volume named PassThru-Disk and presents it to HV01.

```
C:\PS>New-3parVLUN -vvName set:Witness_Set -PresentTo set:HV01C-set
```

Exports a volume set and presents it to a host set.

Returns

String object.

NOTE: For more information, execute `Get-Help <command name>` with Full Option.

New-3parVVCopy

Syntax

```
New-3parVVCopy [-parentName] <String> [-vvCopyName] <String> [[-online]] [[-CPGName] <String>] [[-snapcpvg] <String>] [[-Tpvv]] [[-Tdvv]] [[-Dedup]] [[-Compr]] [[-AddToSet]] [[-R]] [[-Halt]] [[-Saves]] [[-Blocks]] [[-Priority] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates a full physical copy of a VVol or a read/write virtual copy on another VVol.

Parameters**parentName**

Specifies name of the parent Virtual Volume.

Online

Creates an online copy of Virtual Volume.

vvCopyName

Specifies the name of the virtual volume copy name.

CPGName

Specifies the name of CPG.

snapcpvg

Specifies the name of the CPG from which the snapshot space will be allocated.

Tpvv

Specifies the type of destination vvcopy.

Indicates that the VV the online copy creates should be a thinly provisioned volume. Cannot be used with the -dedup option.

Tdvv

This option is deprecated, see -dedup.

Dedup

Indicates that the VV the online copy creates should be a thinly deduplicated volume, which is a thinly provisioned volume with inline data deduplication.

Compr

Indicates that the VV the online copy creates should be a compressed virtual volume.

AddToSet

Adds the VV copies to the specified VV set. The set will be created if it does not exist.

R

Specifies that the destination volume be resynchronized with its parent volume using a saved snapshot so that only the changes since the last copy or resynchronization needs to be copied.

Halt

Specifies that an ongoing physical copy to be stopped. This will cause the destination volume to be marked with the 'cpf' status, which will be cleared up when a new copy is started.

Save

Saves the snapshot of the source volume after the copy of the volume is completed.

Blocks

Specifies that this command blocks until the operation is completed.

priority

Specifies the priority of the copy operation when it is started <high|med|low>.

Examples

```
C:\PS> New-3parVVCopy -parentName VV1 -vvCopyName VV2
C:\PS> New-3parVVCopy -parentName VV1 -vvCopyName VV2 -online -CPGName ZZZ
C:\PS> New-3parVVCopy -parentName as1 -vvCopyName as3 -online -CPGName asCpg -Tpvv
C:\PS> New-3parVVCopy -parentName as1 -vvCopyName as3 -Tdvv
C:\PS> New-3parVVCopy -parentName as1 -vvCopyName as3 -Dedup
C:\PS> New-3parVVCopy -parentName as1 -vvCopyName as3 -Compr
C:\PS> New-3parVVCopy -parentName as1 -vvCopyName as3 -AddToSet
C:\PS> New-3parVVCopy -parentName as1 -vvCopyName as3 -Priority med
```

Returns

String object.

NOTE: For more information, execute `Get-Help <command name> with Full Option.`

New-3parGroupVVCopy

Syntax

```
New-3parGroupVVCopy [[-parent_VV] <String>] [[-destination_VV] <String>] [[-destination_cpg] <String>] [[-VV_name] <String>] [[-wwn] <String>] [[-P]] [[-R]] [[-Halt]] [[-S]] [[-B]] [[-Priority] <String>] [[-Skip_zero]] [[-Online]] [[-TPVV]] [[-TdVV]] [[-Dedup]] [[-Compressed]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates consistent group physical copies of a list of virtual volumes.

Parameters

parent_VV

Indicates the parent virtual volume.

destination_VV

Indicates the destination virtual volume.

destination_cpg

Specifies the destination CPG to use for the destination volume if the -online option is specified.

VV_name

Specifies the virtual volume name to use for the destination volume if the -online option is specified.

wwn

Specifies the WWN to use for the destination volume if the -online option is specified.

P

Starts a copy operation from the specified parent volume to its destination volume.

R

Resynchronizes the set of destination volumes with their respective parents using saved snapshots so that only the changes made since the last copy or resynchronization is copied.

Halt

Halt

S

Saves snapshots of the parent volume for quick resynchronization and to retain the parent-copy relationships between each parent and destination volume.

B

Use this specifier to block until all the copies are complete.

Priority

Specifies the priority of the copy operation when it is started.

Online

Specifies that the copy is to be performed online.

Skip_zero

When copying from a thin provisioned source, only copy allocated portions of the source VV.

TPVV

Indicates that the VV the online copy creates should be a thinly provisioned volume. Cannot be used with the -dedup option.

TdVV

This option is deprecated, see -Dedup.

Dedup

Indicates that the VV the online copy creates should be a thinly deduplicated volume, which is a thinly provisioned volume with inline data deduplication.

Compressed

Indicates that the VV the online copy creates should be a compressed virtual volume.

Examples

```
C:\PS> New-3parGroupVVCopy -P -parent_VV ZZZ -destination_VV ZZZ
C:\PS> New-3parGroupVVCopy -P -Online -parent_VV ZZZ -destination_cpg ZZZ -VV_name ZZZ -wnn 123456
C:\PS> New-3parGroupVVCopy -R -destination_VV ZZZ
C:\PS> New-3parGroupVVCopy -Halt -destination_VV ZZZ
```

Returns

String object.

NOTE: For more information, execute `Get-Help <command name>` with Full Option.

New-3parSnapVolume

Syntax

```
New-3parSnapVolume [[-svName] <String>] [[-vvName] <String>] [[-VV_ID]
<String>] [[-exp] <String>] [[-retain] <String>] [[-ro]] [[-Rcopy]] [[-
vvSetName] <String>] [[-Comment] <String>] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Creates a point in time snapshot copy of a virtual volume.

Parameters

svName

Specifies the snapshotname.

vvName

Specifies the parent volume name or volume set name.

vv_ID

Specifies the ID of the copied VV set.

Comment

Specifies any additional information up to 511 characters for the volume.

exp

Specifies the relative time from the current time, when a volume expires.

<time>[d|D|h|H] .

<time> is a positive integer value. Time can be optionally specified in days or hours. You can use either d or D for day and h or H for hours, following the entered time value.

retain

Specifies the relative time from the current time up to when a volume is retained.

<time>[d|D|h|H] .

<time> is a positive integer value. Time can be optionally specified in days or hours. You can use either d or D for day and h or H for hours, following the entered time value.

Rcopy

Specifies that synchronous snapshots be taken of a volume in a remote copy group.

vvSetName

Specifies the virtual volume set names as set: vvset name. For example, set:vvcopies.

Examples

```
C:\PS>New-3parSnapVolume -ro -svName svr0_vv0 -vvName vv0
```

Creates a read-only snapshot volume "svr0_vv0" from volume "vv0".

```
C:\PS>New-3parSnapVolume -svName svrw_vv0 -vvName svro_vv0
```

Creates a snapshot volume "svrw_vv0" from the snapshot "svro_vv0".

```
C:\PS>New-3parSnapVolume -ro svName svro-@vvname@ -vvSetName set:vvcopies
```

Creates a snapshot volume for each member of the VVol set vvcopies. Each snapshot is named svro-
<name of parentvolume> .

Returns

String object.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

New-3parGroupSnapVolume

Syntax

```
New-3parGroupSnapVolume [[-vvNames] <String>] [[-OR]] [[-exp] <String>] [[-retain] <String>] [[-Comment] <String>] [[-Match]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates consistent group snapshots.

Parameters

vvName

Specifies the existing VVol with comma () separation.

For example, vv1, vv2, vv3.

Comment

Specifies any additional information up to 511 characters for the volume.

exp

Specifies the relative time from the current time that volume will expire.

retain

Specifies the amount of time, relative to the current time, that the volume will be retained.

Match

By default, all read and write snapshots are created.

Examples

```
C:\PS> New-3parGroupSnapVolume
C:\PS> New-3parGroupSnapVolume -vvNames WSDS_compr02F.
C:\PS> New-3parGroupSnapVolume -vvNames WSDS_compr02F -exp 2d
C:\PS> New-3parGroupSnapVolume -vvNames WSDS_compr02F -retain 2d
C:\PS> NNew-3parGroupSnapVolume -vvNames WSDS_compr02F -Comment Hello
C:\PS> New-3parGroupSnapVolume -vvNames WSDS_compr02F -OR
```

Returns

String object.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

New-3parRCopyGroup

Syntax

```
New-3parRCopyGroup [[-GroupName] <String>] [[-TargetName] <String>] [[-Mode] <String>] [[-domain] <String>] [[-Usr_Cpg_Name] <String>] [[-Target_TargetCPG] <String>] [[-Snp_Cpg_Name] <String>] [[-Target_TargetSNP] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```


Description

Creates a remote-copy volume group.

Parameters

domain

Creates the remote-copy group in the specified domain.

GroupName

Specifies the name of the volume group. 22 characters are used if the mirror_config policy is set, or up to 31 characters otherwise. This name is assigned with this command.

TargetName

Specifies the target name associated with this group.

Mode

sync

Synchronous replication

async

Asynchronous streaming replication

periodic

Periodic asynchronous replication

Usr_Cpg_Name

Specifies the local user CPG and target user CPG that will be used for volumes that are auto-created.

Target_TargetCPG

Specifies the local user CPG and target user CPG that will be used for volumes that are auto-created.

Snp_Cpg_Name

Specifies the local user CPG and target user CPG that will be used for volumes that are auto-created.

Target_TargetSNP

Specifies the local user CPG and target user CPG that will be used for volumes that are auto-created.

Example output

```
C:\PS> New-3parRCopyGroup -GroupName AS_TEST -TargetName CHIMERA03 -Mode sync
C:\PS> New-3parRCopyGroup -GroupName AS_TEST -TargetName CHIMERA03 -Mode async
C:\PS> New-3parRCopyGroup -GroupName AS_TEST -TargetName CHIMERA03 -Mode periodic
C:\PS> New-3parRCopyGroup -domain DEMO -GroupName AS_TEST3 -TargetName CHIMERA03 -Mode periodic
C:\PS> New-3parRCopyGroup -domain demo.com -GroupName group1 -TargetName target1 -Mode periodic
```

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

New-3parRCopyTarget

Syntax

```
New-3parRCopyTarget [[-RCIP]] [[-RCFC]] [[-Disabled]] [[-TargetName]
<String>] [[-Node_WWN] <String>] [[-NSP_IP] <String>] [[-NSP_WWN] <String>]
[[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates a Remote Copy target definition.

Parameters

TargetName

The name of the target definition to be created, specified by using up to 23 characters.

RCIP

Displays Remote Copy over IP (RCIP).

RCFC

Displays Remote Copy over Fibre Channel (RCFC).

Node_WWN

Displays the WWN of a node on the target system(Fibre Channel target only).

NSP_IP

Node number: Slot number:Port Number:IP Address of the target to be created.

NSP_WWN

Node number: Slot number: Port Number:WWN address of the target system.

Examples

```
C:\PS> New-3parRCopyTarget -TargetName demo1 -RCIP -NSP_IP 1:2:3:10.1.1.1
```

Creates a Remote Copy target, with option N_S_P_IP Node, Slot, Port, and IP address as 1:2:3:10.1.1.1 for target name demo1.

```
C:\PS> New-3parRCopyTarget -TargetName demo1 -RCIP -NSP_IP "1:2:3:10.1.1.1,1:2:3:10.20.30.40"
```

Creates a Remote Copy with multiple targets.

```
C:\PS> New-3parRCopyTarget -TargetName demo1 -RCFC -Node_WWN 1122112211221122 -NSP_WWN 1:2:3:1122112211221122
```

Creates a Remote Copy target, with option NSP_WWN Node, Slot, Port, and WWN as 1:2:3:1 221 221 221 22 for target name demo1.

```
C:\PS> New-3parRCopyTarget -TargetName demo1 -RCFC -Node_WWN  
1122112211221122 -NSP_WWN "1:2:3:1122112211221122,1:2:3:2244224422442244"
```

Creates a Remote Copy of FC with multiple targets

NOTE: For more information, execute `Get-Help <command name> with Full Option.`

New-3parSRAAlertCrit

Syntax

```
New-3parSRAAlertCrit [-Type] <String> [-Condition] <String> [-Name] <String>  
[[[-Daily]] [[-Hourly]] [[-Hires]] [[-Count] <String>] [[-Recurrences]  
<String>] [[-Btsecs] <String>] [[-Critical]] [[-Major]] [[-Minor]] [[-Info]]  
[[[-Comment] <String>] [[-PortType] <String>] [[-PortNSP] <String>] [[-Both]]  
[[[-CTL]] [[-Data]] [[-Host] <String>] [[-VV] <String>] [[-vLun] <String>] [[-  
Node] <String>] [[-CPG] <String>] [[-DiskType] <String>] [[-RPM] <String>]  
[[[-Target] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates a criterion that System Reporter evaluates to determine if a performance alert should be generated.

Parameters

Type

Type must be one of the following: port, vlun, pd, ld, cmp, cpu, link, qos,rcopy, rcvv, ldspace, pdspace, cpgspace, vvspace, sysspace..

Condition

The condition must be of the format <field><comparison><value>.

Name

Specifies the name of the SR alert criterion, with a maximum of 31 characters.

Daily

This criterion will be evaluated on a daily basis at midnight.

Hourly

This criterion will be evaluated on an hourly basis.

Hires

This criterion will be evaluated on a high resolution (5 minute) basis.

Count

The number of matching objects that must meet the criteria in order for the alert to be generated.

Recurrences

The alert will only be generated if the other conditions of the criterion recur repeatedly.

Btsecs

A negative number indicating the number of seconds before the data sample time used to evaluate conditions which compare against an average.

Critical

This alert has the highest severity.

Major

This alert should not require immediate action.

Minor

This alert should not require immediate action.

Info

This alert is informational only. This is the default.

Comment

Specifies comments or additional information for the criterion.

PortType

Limit the data to port of the types specified. Allowed types are:

disk

Disk port

host

Host Fibre channel port

iscsi

Host ISCSI port

free

Unused port

fs

File Persona port

peer

Data Migration FC port

rcip

Remote copy IP port

rcfc

Remote copy FC port

Port

Ports with <port_n>:<port_s>:<port_p> that match any of the specified <npat>:<spat>:<ppat> patterns are included, where each of the patterns is a glob-style pattern. If not specified, all ports are included.

Both

Specifies that both control and data transfers are displayed (-both), only control transfers are displayed -ctl, or only data transfers are displayed (-data).

CTL

Specifies that both control and data transfers are displayed -both, only control transfers are displayed -ctl, or only data transfers are displayed -data.

Data

Specifies that both control and data transfers are displayed -both, only control transfers are displayed -ctl, or only data transfers are displayed -data.

Host

Limit the data to hosts with names that match one or more of the specified names or glob-style patterns.

VV

Limit the data to VVs with names that match one or more of the specified names or glob-style patterns.

vLun

Limit the data to VLUNs matching the specified combination of host, VV, lun, and port.

CPG

Limit the data to LDs in CPGs with names that match one or more of the specified names or glob-style patterns.

DiskType

Limit the data to disks of the types specified. Allowed types are:

FC

Fast Class

NL

Nearline

SSD

Solid State Drive

RPM

Limit the data to disks of the specified RPM. Allowed speeds are 7, 10, 15, 100 and 150

Target

Limit the data to TARGET_NAMES that match one or more of the specified TARGET_NAMES or glob-style patterns.

Examples

```
C:\PS> New-3parSRAlertCrit -Type port -Condition "write_iops>50"  
-Name write_port_check
```

```
C:\PS> New-3parSRAlertCrit -Type port -Condition "write_iops>50"  
-Name write_port_check
```

```
C:\PS> New-3parSRAlertCrit -Type port -Condition "write_iops>50"  
-Name write_port_check -Common_option daily
```

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

New-3parSpare

Syntax

```
New-3parSpare [[-Pdid_chunkNumber] <String>] [[-pos] <String>] [[-Partial]]  
[[[-SANConnection] <Object>]] [<CommonParameters>]
```

Description

Allocates chunklet resources as spares. Chunklets marked as spare are not used for logical disk creation and are reserved explicitly for spares, thereby guaranteeing a minimum amount of spare space.

Parameters

Pdid_chunkNumber

Specifies the identification of the physical disk and the chunklet number on the disk.

Pos

Specifies the position of a specific chunklet identified by its position in a drive cage, drive magazine, physical disk, and chunklet number.

Partial

Specifies that partial completion of the command is acceptable.

Examples

```
C:\PS>New-3parSpare -Pdid_chunkNumber "15:1"
```

Marks chunklet 1 as spare for physical disk 15.

```
C:\PS>New-3parSpare -pos "1:0.2:3:121"
```

Specifies the position in a drive cage, drive magazine, physical disk, and chunklet number. -pos 1:0.2:3:121, where 1 is the drive cage, 0.2 is the drive magazine, 3 is the physical disk, and 121 is the chunklet number.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

New-3parRCopyGroupCPG

Syntax

```
New-3parRCopyGroupCPG [[-GroupName] <String>] [[-TargetName] <String>] [[-Mode] <String>] [[-domain] <String>] [[-UsrCpg]] [[-LocalUserCPG] <String>] [[-TargetUserCPG] <String>] [[-UsrTargetName] <String>] [[-SnpCpg]] [[-LocalSnapCPG] <String>] [[-TargetSnapCPG] <String>] [[-SnpTargetName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates a Remote Copy volume group.

Parameters

UsrCpg

Specifies User CPG.

SnpCpg

Specifies snap CPG.

UsrTargetName

Specifies user target name.

SnpTargetName

Specifies snap target name.

LocalUserCPG

Specifies the local user CPG and target user CPG that will be used for volumes that are auto-created.

TargetUserCPG

```
TargetUserCPG target:Targetcpg
```

The local CPG will only be used after fail-over and recovery.

LocalSnapCPG

Specifies the local snap CPG and target snap CPG that will be used for volumes that are auto-created.

TargetSnapCPG

```
-LocalSnapCPG target:Targetcpg
```

domain

Creates the Remote Copy group in the specified domain.

GroupName

Specifies the name of the volume group, using up to 22 characters if the mirror_config policy is set, or up to 31 characters otherwise. This name is assigned with this command.

TargetName

Specifies the target name associated with this group.

Mode

sync

Synchronous replication.

async

Asynchronous streaming replication

periodic

Periodic asynchronous replication

Examples

```
C:\PS> New-3parRCopyGroupCPG -GroupName ABC -TargetName XYZ -Mode Sync
```

```
C:\PS> New-3parRCopyGroupCPG -UsrCpg -LocalUserCPG BB -UsrTargetName XYZ -  
TargetUserCPG CC -GroupName ABC -TargetName XYZ -Mode Sync
```

NOTE: For more information, execute `Get-Help <command name>` with Full Option.

New-3ParPoshSshConnection

Syntax

```
New-3ParPoshSshConnection [-SANIPAddress] <String> [-SANUserName] <String>  
[[-SANPassword] <String>] [[-AcceptKey]] [<CommonParameters>]
```

Description

Builds a connection object using POSH SSH connection.

Parameters

UserName

Specifies the administrator username. For example, 3paradm.

Password

Specifies the administrator password.

SANIPAddress

Specifies the IP address.

Example

```
C:\PS> New-3ParPoshSshConnection -SANUserName Administrator -SANPassword mypassword -SANIPAddress 10.1.1.1 -AcceptKey
```

Creates a SAN Connection object with the specified SANIP Address.

NOTE: Enter IP and User Name and press enter, the Password window appears.

Creates a connection object with the specified IP address.

Returns

Connection object on success.

For example, PS C:\> `New-3ParPoshSshConnection -SANUserName xyz -SANPassword mypassword -SANIPAddress 0.0.0.0:`

NOTE: For more information, execute `Get-Help <command name>` with Full Option.

New-3parCLIConnection

Syntax

New-3parCLIConnection [-SANIPAddress] <String> [[-CLIDir] <String>] [-epwdFile] <string>

Description

Builds a SAN connection object using HPE 3PAR StoreServ Storage CLI.

Parameters

SANIPAddress

Specifies the SAN IP address.

CLIDir

Specifies the absolute path of HPE3par cli.exe. The default path is C:\ Program Files (x86)\Hewlett Packard Enterprise\HPE 3PAR CLI\bin

epwdFile

Specifies the encrypted password file location , example c:\hpe3parstoreserv244.txt. To create encrypted password file use Set-3parPassword cmdlet.

Example

```
C:\PS>New-3parCLIConnection -SANIPAddress 10.1.1.1 -CLIDir "C:\cli.exe" -epwdFile "C:\HPE3PARRepwdlogin.txt"
```

Creates a SAN connection object with the specified SANIPAddress.

Returns

SAN connection object on success.

For example, PS C:\> New-3parCLIConnection returns:

UserName	3paradm
IPAddress	10.9.2.44
CLIDir	C:\Program Files (x86)\Hewlett Packard Enterprise\HPE 3PAR CLI\bin
3PAR CLI\bin epwdFile	C:\HPE3PAR244.txt
CLIType	3parcli

NOTE:

- For more information, execute Get-Help <command name> with Full Option.
- If a given Encrypted password file does not exist, it will be automatically created.

Ping cmdlets

Ping-3parRCIPPorts

Syntax

```
Ping-3parRCIPPorts [[-IP_address] <String>] [[-NSP] <String>] [[-count] <String>] [[-wait] <String>] [[-size] <String>] [[-PF]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Verifies that the servers are connected.

Parameters

IP_address

Specifies the IP address on the secondary system to ping.

NSP

Interface from which to ping, expressed as node:slot:port

Example

```
C:\PS> Ping-3parRCIPPorts -IP_address 192.168.245.5 -NSP 0:3:1

C:\PS> Ping-3parRCIPPorts -count 2 -IP_address 192.168.245.5 -NSP 0:3:1

C:\PS> Ping-3parRCIPPorts -wait 2 -IP_address 192.168.245.5 -NSP 0:3:1

C:\PS> Ping-3parRCIPPorts -size 2 -IP_address 192.168.245.5 -NSP 0:3:1

C:\PS> Ping-3parRCIPPorts -PF -IP_address 192.168.245.5 -NSP 0:3:1
```

NOTE: For more information, execute `Get-Help <Command Name>with Full Option`.

Push cmdlets

Push-3parVVCopy

Syntax

```
Push-3parVVCopy [[-physicalCopyName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Promotes a physical copy back to a regular base volume.

Parameters

physicalCopyName

Specifies the name of the physical copy to be promoted.

Example input

```
C:\PS>Push-3parVVCopy -physicalCopyName volume1
```

Promotes virtual volume `volume1` to a base volume.

Example output

String object.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Push-3parGroupSnapVolume

Syntax

```
Push-3parGroupSnapVolume [[-VVNames] <String>] [[-TargetVV] <String>] [[-RCP]] [[-Halt]] [[-PRI] <String>] [[-Online]] [[-SANConnection] <Object>] [  
<CommonParameters>]
```

Description

Copies the differences of snapshots back to their base volumes.

Parameters

VVNames

Specifies virtual copy name of the snapshot.

TargetVV

Displays target vv name.

RCP

Proceeds the promote operation.

Halt

Cancels ongoing snapshot promotions.

PRI

Specifies the priority of the copy operation.

Online

Indicates that promote operation is executed.

Example input

```
C:\PS> Push-3parGroupSnapVolume  
C:\PS> Push-3parGroupSnapVolume -VVNames WSDS_compr02F  
C:\PS> Push-3parGroupSnapVolume -VVNames "WSDS_compr02F"  
C:\PS> Push-3parGroupSnapVolume -VVNames "tesWSDS_compr01t_lun"  
C:\PS> Push-3parGroupSnapVolume -VVNames WSDS_compr01 -RCP  
C:\PS> Push-3parGroupSnapVolume -VVNames WSDS_compr01 -Halt  
C:\PS> Push-3parGroupSnapVolume -VVNames WSDS_compr01 -PRI high
```

Example output

String object.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Push-3parSnapVolume

Syntax

```
Push-3parSnapVolume [[-name] <String>] [[-target] <String>] [[-RCP]] [[-Halt]] [[-PRI] <String>] [[-Online]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Copies the differences of a snapshot back to its base volume, enabling you to revert the base volume to an earlier point in time.

Parameters

name

Specifies the name of the virtual copy volume or set of virtual copy volumes to be promoted.

target

Copies the differences of the virtual copy to the specified RW parent in the same virtual volume family tree.

Rcp

Enables the promote operation to proceed.

Halt

Cancels an ongoing snapshot promotion.

pri <high|med|low>

Specifies the priority of the copy operation.

online

Indicates that the promote operation is executed.

Example input

```
C:\PS>Push-3parSnapVolume -name vv1
```

Copies the differences of a snapshot back to its base volume vv1.

```
C:\PS>Push-3parSnapVolume -target vv23 -name vv1
```

Copies the differences of a snapshot back to its target base volume named vv23.

Example output

String object.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Push-3parChunklet

Syntax

```
Push-3parChunklet [-SourcePD_Id] <String> [-SourceChunk_Position] <String> [[-TargetPD_Id] <String>] [[-TargetChunk_Position] <String>] [[-force]] [[-nowait]] [[-Devtype]] [[-Perm]] [[-Ovrd]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Moves a list of chunklets from one physical disk to another.

Parameters

SourcePD_ID

Specifies chunklet at the specified PD.

SourceChunk_Position

Specifies the position of the chunklet on the disk.

TargetPD_Id

Specifies target destination disk.

TargetChunk_Position

Specifies target chunklet position.

DryRun

Specifies that the operation is a dry run.

nowait

Specifies that the command returns before the operation is complete.

Devtype

Permits the moves to happen to different device types.

Perm

Specifies that chunklets are moved permanently.

Ovrd

Permits the moves to happen to a destination.

Example input

```
C:\PS>Push-3parChunklet -SourcePD_Id 24 -SourceChunk_Position 0  
-TargetPD_Id 64 -TargetChunk_Position 50 -force
```

Moves the chunklet in position 0 on disk 24, to position 50 on disk 64 and chunklet in position 0 on disk 25, to position 1 on disk 27.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Push-3parChunkletToSpare

Syntax

```
Push-3parChunkletToSpare [-SourcePD_Id] <String> [-SourceChunk_Position]  
<String> [[-force]] [[-nowait]] [[-SANConnection] <Object>]  
[<CommonParameters>]
```

Description

Moves data from specified PDs to a temporary location selected by the system.

Parameters

SourcePD_ID

Specifies chunklet at the specified PD.

SourceChunk_Position

Specifies the position of the chunklet on the disk.

Devtype

Permits the moves to happen to different device types.

DryRun

Specifies that the operation is a dry run.

nowait

Specifies that the command returns before the operation is complete.

Example input

```
C:\PS>Push-3parChunkletToSpare -SourcePD_Id 66 -SourceChunk_Position 0
-force
```

Displays that chunklet 0 from physical disk 66 is moved to spare.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Push-3parPD

Syntax

```
Push-3parPd [[-force]] [[-DryRun]] [[-nowait]] [[-Devtype]] [-PD_Id] <String>
[[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Moves data from specified PDs to a temporary location selected by the system.

Parameters**PD_ID**

Specifies the physical disk ID. Repeat this specifier to move multiple physical disks.

DryRun

Specifies that the operation is a dry run.

Nowait

Specifies that the command returns before the operation is complete.

Devtype

Permits the moves to happen to different device types.

Perm

Enables permanent moves and removes source tags after relocation.

force

Specifies that the command is forced. If this option is not used, it does a dry run and not chunklets are moved.

nowait

Specifies that the command returns before the operation is complete.

Example input

```
C:\PS>Push-3parPd -PD_Id 0 -force
```

Displays moves data from Physical Disks 0 to a temporary location.

```
C:\PS>Push-3parPd -PD_Id 0
```

Displays a dry run of moving the data on physical disk 0 to free or spare space.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Push-3parPDToSpare

Syntax

```
Push-3parPdToSpare [-PD_Id] <String> [[-DryRun]] [[-nowait]] [[-DevType]] [[-Vacate]] [[-Permanent]] [[-Ovrd]] [[-SANConnection] <Object>] [  
<CommonParameters>]
```

Description

Moves data from specified PDs to a temporary location selected by the system.

Parameters

PD_ID

Specifies the physical disk ID.

force

Specifies that the command is forced. If this option is not used, it does a dry run and no chunklets are moved.

nowait

Specifies that the command returns before the operation completes.

Devtype

Permits the moves to happen to different device types.

DryRun

Specifies that the operation is a dry run. No physical disks are actually moved.

Vacate

Deprecated, use -perm instead.

Permanent

Makes the moves permanent and removes source tags after relocation.

Ovrd

Permits the moves to happen to a destination even when there will be a loss of quality because of the move.

Example input

```
C:\PS>Push-3parPdToSpare -PD_Id 0 -force
```

Displays moving of data from Physical Disk (PD) 0 to a free or spare space

```
C:\PS>Push-3parPdToSpare -PD_Id 0
```

Displays a dry run of moving the data from Physical Disk 0 to a free or spare space.

```
C:\PS>Push-3parPdToSpare -PD_Id 0 -DryRun
```

```
C:\PS>Push-3parPdToSpare -PD_Id 0 -Vacate
```

```
C:\PS>Push-3parPdToSpare -PD_Id 0 -Permanent
```

NOTE: For more information, execute `Get-Help <command name>` with full option.

Push-3parRelocPD

Syntax

```
Push-3parRelocPD [-diskID] <String> [[-force]] [[-nowait]] [[-partial]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Moves chunklets that were on a physical disk to the target of relocation.

Parameters

diskID

Specifies the physical disk ID. Repeat this specifier to move multiple physical disks.

DryRun

Specifies that the operation is a dry run. No physical disks are actually moved.

nowait

Specifies that the command returns before the operation is complete.

partial

Moves as many chunklets as possible. If this option is not specified, the command fails. If not, all specified chunklets can be moved.

Example input

```
C:\PS>Push-3parRelocPD -diskID 8
```

Moves chunklets that were on physical disk 8 and was relocated to another position, back to physical disk 8.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove cmdlets

Remove-3parCPG

Syntax

```
Remove-3parCPG [[-force]] [[-cpgName] <String>] [[-sdLDname] <String>] [[-saLDname] <String>] [[-Pat]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Removes a Common Provisioning Group (CPG).

Parameters

cpgName

Specifies the CPG name.

force

Indicates that the `cmdlet` is forced.

saLDname

Specifies that the logical disk, as identified with the `<LD_name>` argument, used for snapshot administration space allocation is removed.

Pat

Specifies patterns that are treated as glob-style patterns.

Example input

```
C:\PS>Remove-3parCPG -cpgName "MyCPG" -force
```

Removes a CPG `MyCPG`.

Example output

String object.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove-3parVVSet

Syntax

```
Remove-3parVVSet [-vvsetName] <String> [[-vvName] <String>] [[-force]] [[-Pat]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Removes a VVol set or, VVols from an existing set.

Parameters

vvsetName

Removes a specified VVolset.

vvName

Removes a specified VVol.

force

Specifies that the command is forced.

Pat

Specifies that both the set name and VVs are treated as glob-style patterns.

Example input

```
C:\PS>Remove-3parVVSet -vvsetName "MyVVSet" -force
```

Removes the VVol set `MyVVSet`.

```
C:\PS>Remove-3parVVSet -vvsetName "MyVVSet" -vvName "MyVV" -force
```

Remove the single VVol `MyVV` from a VVol set `MyVVSet`.

Example output

String object.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove-3parVV

Syntax

```
Remove-3parVV [-vvName] <String> [[-whatif]] [[-force]] [[-Pat]] [[-Stale]]  
[[--Expired]] [[-Snaponly]] [[-Cascade]] [[-Nowait]] [[-SANConnection]  
<Object>] [<CommonParameters>]
```

Description

Deletes a volume.

Parameters

vvName

Deletes the specified virtual volume.

whatif

Dry-run of the deleted operation on VVol.

force

Specifies that the command is forced.

Pat

Specifies that specified patterns are treated as glob-style patterns.

Stale

Specifies that all stale VVs can be removed.

Expired

Removes specified expired volumes.

Snaponly

Removes the snapshot copies only.

Cascade

Removes specified volumes and their descendent volumes as long as none has an active VLUN.

Nowait

Prevents command blocking that is normally in effect until the vv is removed.

Example input

```
C:\PS>Remove-3parVV -vvName PassThru-Disk -whatif
```

Dry-run of the deleted operation on the vVolume named `PassThru-Disk`.

```
C:\PS>Remove-3parVV -vvName PassThru-Disk -force
```

Forcibly deletes the vVolume named `PassThru-Disk`.

Example output

String object.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove-3parHostSet

Syntax

```
Remove-3parHostSet [-hostsetName] <String> [[-hostname] <String>] [[-force]]  
[[[-Pat]]] [[[-SANConnection] <Object>]] [<CommonParameters>]
```

Description

Removes a host set or hosts from an existing set.

Parameters

hostsetName

Removes the specific host set passed through this parameter.

hostname

Removes the specific host passed through this parameter.

force

Specifies that the command is forced.

Pat

Specifies that both the set name and hosts are treated as glob-style patterns.

Example input

```
C:\PS>Remove-3parHostSet -hostsetName "MyHostSet" -force
```

Removes the host set `MyHostSet`.

```
C:\PS>Remove-3parHostSet -hostsetName "MyHostSet" -hostname "MyHost"  
-force
```

Removes the single host `MyHost` from the host set `MyHostSet`.

Example output

String object.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove-3parHost

Syntax

```
Remove-3parHost [[-hostname] <String>] [[-Rvl]] [[-ISCSI]] [[-Pat]] [[-Port]  
<String>] [[-Address] <String[]>] [[-SANConnection] <Object>]  
[<CommonParameters>]
```

Description

Removes a new host.

Parameters

HostName

Displays WWN address of the host.

iSCSI

Displays iSCSI address of the host.

Address

Displays address of the FC from which you want to remove the host.

Rvl

Removes WWN(s) or iSCSI name(s) even if there are VLUNs exported to the host.

Pat

Specifies that host name are treated as a glob-style pattern.

Port

Specifies the NSP(s) for the zones

Example input

```
C:\PS>Remove-3parHost -hostName HV01A
```

Removes the host named HV01A.

```
C:\PS>Remove-3parHost -hostName HV01A -address 10000000C97B142E
```

Removes the WWN address of the host named HV01A.

Example output

String object.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove-3parVLUN

Syntax

```
Remove-3parVLUN [[-force]] [[-whatif]] [[-vvName] <String>] [[-PresentTo]
<String>] [[-Novcn]] [[-Pat]] [[-Remove_All]] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Unpresents virtual volumes.

Parameters**Force**

Performs delete operation forcibly.

Novcn

Specifies that a VLUN Change Notification (VCN) is not issued after removal of the VLUN.

Pat

Specifies that the <VV_name> and <LUN> are treated as a glob-style pattern.

Remove_All

Removes all the VLUNS associated with a VVOL container.

vvName

Unpresents the specified vvName.

PresentTo

Unpresents the virtual volume disk to a host.

whatif

Dry-run of the deleted operation on VVol.

Example input

```
C:\PS> Remove-3parVLUN -vvName PassThru-Disk -force
```

Unpresents the virtual volume PassThru-Disk from all hosts.

```
C:\PS> Remove-3parVLUN -vvName PassThru-Disk -PresentTo INF01 -force
```

Unpresents the virtual volume PassThru-Disk only to host INF01. All other presentations of PassThru-Disk remain intact.

Example output

String object.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove-3parRCopyGroup

Syntax

```
Remove-3parRCopyGroup [[-RemoveVV]] [[-KeepSnap]] [[-Pat]] [[-GroupName]
<String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Removes a Remote Copy volume group or multiple Remote Copy groups that match a given pattern.

Parameters

pat

Specifies patterns that are treated as glob-style patterns and all Remote Copy groups matching the specified pattern are removed.

keepsnap

Specifies that the resync snapshot of the local volume must be retained.

removevv

Removes remote side volumes.

GroupName

Displays the name of the group that currently includes the target.

Example input

```
C:\PS>Remove-3parRCopyGroup -pat -GroupName testgroup*
```

Removes Remote Copy groups that start with the name test group.

```
C:\PS>Remove-3parRCopyGroup -keepsnap -GroupName group1
```

Removes the Remote Copy group (group1) and retains the resync snapshots associated with each volume.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove-3parRCopyTarget

Syntax

```
Remove-3parRCopyTarget [[-ClearGroups]] [[-TargetName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Removes target designation from a Remote Copy system and removes all links affiliated with that target definition.

Parameters

cleargroups

Removes all groups that have no other targets or dismiss this target.

TargetName

Displays the name of the group that currently includes the target.

Example input

```
C:\PS>Remove-3parRCopyTarget -cleargroups -TargetName demovv1
```

Removes target designation from a Remote Copy system and removes all groups.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove-3parRCopyTargetFromGroup

Syntax

```
Remove-3parRCopyTargetFromGroup [[-TargetName] <String>] [[-GroupName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Removes a remote-copy target from a remote-copy volume group.

Parameters

TargetName

Displays the name of the target to be removed.

GroupName

Displays the name of the group that currently includes the target.

Example input

```
C:\PS>Remove-3parRCopyTargetFromGroup -TargetName target1 -GroupName group1
```

Removes target Target1 from group Group1.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove-3parRCopyVVFFromGroup

Syntax

```
Remove-3parRCopyVVFFromGroup [[-Pat]] [[-KeepSnap]] [[-RemoveVV]] [[-VVname]
<String>] [[-GroupName] <String>] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Removes a virtual volume from a Remote Copy volume group.

Parameters

pat

Indicates that the specified patterns are treated as glob-style patterns. Also, removes the Remote Copy volumes matching the specified pattern from the Remote Copy group.

KeepSnap

Indicates that resync snapshot of the local volume must be retained.

RemoveVV

Removes the volumes of remote sides.

VVname

Displays the name of the volume to be removed. Volumes are added to a group with the `admitrcopyvv` command.

GroupName

Displays the name of the group that currently includes the target.

Example input

```
C:\PS>Remove-3parRCopyVVFFromGroup -option f -VV_name vv1 -group_name Group1
```

Dismisses virtual volume vv1 from Group1.

```
C:\PS>Remove-3parRCopyVVFFromGroup -option pat -VV_name testvv*
-group_name Group1
```

Dismisses all virtual volumes that start with the name `testvv` from Group1.

```
C:\PS>Remove-3parRCopyVVFFromGroup -option keepsnap -VV_name vv1
-group_name Group1
```

Dismisses volume vv1 from Group1 and removes the corresponding volumes of vv1 on all the target Systems of Group1.

```
C:\PS> Remove-3parRCopyVVFFromGroup -RemoveVV -VV_name vv2 -group_name Group1
```

Dismisses volume vv2 from Group2 and retains the resync snapshot associated with vv2 for this group.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove-3parSpare

Syntax

```
Remove-3parSpare [[-Pdid_chunkNumber] <String>] [[-pos] <String>] [[-
SANConnection] <Object>] [<CommonParameters>]
```

Description

Removes chunklets from the spare chunklet list.

Parameters

Pdid_chunkNumber

Specifies the identification of the physical disk and the chunklet number on the disk.

pos

Specifies the position of a specific chunklet identified by its position in a drive cage, drive magazine, physical disk, and chunklet number.

Example input

```
C:\PS>Remove-3parSpare -Pdid_chunkNumber "1:3"
```

Removes a spare chunklet from position 3 on physical disk 1.

```
C:\PS>Remove-3parSpare -pos "1:0.2:3:121"
```

Removes a spare chunklet from the position in a drive cage, drive magazine, physical disk, and Chunklet number.

-pos 1:0.2:3:121, where 1 is the drive cage, 0.2 is the drive magazine, 3 is the physical Disk, and 121 is the chunklet number.

NOTE: For More information, execute `Get-Help <Command Name>` with full option.

Remove-3parFed

Syntax

```
Remove-3parFed [[-SANConnection] <Object>] <CommonParameters>]
```

Description

Removes the StoreServ system from Federation membership.

Parameters

force

Indicates that the cmdlet is forced (No need to add included it in command).

Example input

```
C:\PS> Remove-3parFed
```

Removes a Federation.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Remove-3parSRAAlertCrit

Syntax

```
Remove-3parSRAAlertCrit [-Name] <String> [[-force]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Removes a criterion that System Reporter evaluates to determine if a performance alert should be generated.

Parameters

Name

Specifies the name of the criterion to remove.

force

Do not ask for confirmation before removing this criterion.

Example input

```
C:\PS> Remove-3parSRAAlertCrit -force -Name write_port_check
```

Removes the criterion named `write_port_check`.

NOTE: For more information, execute `Get-Help <command name>` with full option.

Set cmdlets

Set-3parVV

Syntax

```
Set-3parVV [[-Name] <String>] [[-Force]] [[-RemoveAndRecreate]] [[-RO]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Updates a snapshot virtual volume with a new snapshot.

Parameters

name

Specifies names of either the snapshot or virtual volumes or virtual volumesets that you want to update.

ro

Specifies that if the specified virtual volume (<VV_name>) is a read/write snapshot, the snapshot's read-only parent volume is also updated with a new snapshot if the parent volume is not a member of a virtual volume set.

force

Specifies cmdlet is forced.

Example

```
C:\PS> Set-3parVV -name volume1
```

Snapshot update of VVol "volume1"

```
C:\PS> Set-3parVV -name volume1, volume2
```

Snapshot update of VVol's "volume1" and "volume2"

```
C:\PS> Set-3parVV -name set:vvset1
```

Snapshot update of VVolSet "vvset1"


```
C:\PS>Set-3parVV -name set:vvset1,set:vvset2
```

Snapshot update of VVolSet's "vvset1" and "vvset2"

Returns

String object.

NOTE: For more information, execute Get-Help "Command Name" with Full Option

Set-3parHostPorts

Syntax

```
Set-3parHostPorts [[-Demo]] [-FCConfigFile <string>] [-iSCSIConfigFile  
<string>] [-LDConfigFile <string>] [-RCIPConfiguration] [-RCFCConfiguration]  
[-Port_IP <string>] [-NetMask <string>] [-NSP <string>] [-SANConnection  
<_SANConnection>] [<CommonParameters>]
```

Description

Configures settings of the HPE 3PAR StoreServ array.

Parameters

FCConfigFile

Configures FC host controllers on the HPE 3PAR StoreServ Storage array.

iSCSIConfigFile

Configures iSCSI host controllers on the HPE 3PAR StoreServ Storage array.

LDConfigFile

Configures logical disks on the HPE 3PAR StoreServ Storage array.

RCIPConfiguration

Go for RCIP Configuration.

RCFCConfiguration

Go for RCFC Configuration.

Port_IP

Specifies the port ip address.

NetMask

Specifies the net Mask Name.

Example

```
C:\PS>Set-3parHostPorts -FCConfigFile FC-Nodes.CSV
```

Configures FC host controllers on the HPE 3PAR StoreServ array.

```
C:\PS>Set-3parHostPorts -iSCSIConfigFile iSCSI-Nodes.CSV
```

Configures iSCSI host controllers on the HPE 3PAR StoreServ array.

```
C:\PS>Set-3parHostPorts -LDConfigFile LogicalDisks.CSV
```

Configures logical disks on the HPE 3PAR StoreServ array.

```
C:\PS>Set-3parHostPorts -FCConfigFile FC-Nodes.CSV -iSCSIConfigFile iSCSI-Nodes.CSV -LDConfigFile LogicalDisks.CSV
```

Configures FC, iSCSI host controllers, and logical disks on the HPE 3PAR StoreServ array.

Returns

String object.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Set-3parFCPorts

Syntax

```
Set-3parFCPORTS [[-Ports] <String>] [[-DirectConnect]] [[-Demo]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Configures HPE 3PAR StoreServ FC ports.

Parameters

Ports

Assigns a port address for the communication of the WWNs.

DirectConnect

FC connected to a host.

Example

```
C:\PS>Set-3parFCPorts -Ports 1:2:1
```

Configures HPE 3PAR StoreServ port 1:2:1 as FC connected to a fabric.

```
C:\PS>Set-3parFCPorts -Ports 1:2:1 -DirectConnect
```

Configures HPE 3PAR StoreServ port 1:2:1 as FC connected to a host (no SAN fabric).

```
C:\PS>Set-3parFCPorts -Ports 1:2:1,1:2:2
```

Configures HPE 3PAR StoreServ ports 1:2:1 and 1:2:2 as FC connected to a fabric.

Returns

String object.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Set-3parFed

Syntax

```
Set-3parFed [[-FedName] <String>] [[-Comment] <String>] [[-Setkv] <String>] [[-Setkvifnotset] <String>] [[-ClrAllKeys]] [[-ClrKey] <String>] [[-ClrKV] <String>] [[-IfKV] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Modifies name, comment, or key/value attributes of the Federation of which the StoreServ system is member.

Parameters

Options

FedName

Specifies the new name of the Federation.

Comment

Specifies any additional textual information.

Setkv

Sets or resets key/value pairs on the federation.

Setkvifnotset

Sets key/value pairs on the federation if not already set.

ClrallKeys

Clears all key/value pairs on the federation.

ClrKey

Clears key/value pairs, regardless of the value.

ClrKV

Clears key/value pairs only if the value matches the given key.

IfKV

Checks whether given key/value pairs exist.

FedName

Specifies the new name of the Federation.

CommentString

Specifies any additional textual information.

KeyValue

Sets or resets key/value pairs on the federation.

Key

Clears key/value pairs, regardless of the value.

Examples

```
C:\PS> Set-3parFed -Option name -FedName TEST
C:\PS> Set-3parFed -Option comment -CommentString hello
C:\PS> Set-3parFed -Option setkv -KeyValue test
C:\PS> Set-3parFed -Option clrkey -Key 1
```

Returns

String object.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Set-3parHost

Syntax

```
Set-3parHost [[-hostName] <String>] [[-Address] <String[]>] [[-iSCSI]] [[-Add]] [[-Domain] <String[]>] [[-Loc] <String[]>] [[-IP] <String[]>] [[-OS] <String[]>] [[-Model] <String[]>] [[-Contact] <String[]>] [[-Comment] <String[]>] [[-Persona] <String[]>] [[-SANConnection] <Object>] [  
<CommonParameters>]
```

Description

Adds WWN or iSCSI name to an existing host.

Parameters

hostName

Specifies the name of an existing host.

Address

Specifies the list of WWNs for the new host.

iSCSI

If present, the iSCSI address instead of WWN address.

Add

Adds the specified WWN(s) or iscsi_name(s) to an existing host

Domain

Creates the host in the specified domain or domain set

Loc

Specifies the host's location

IP

Specifies the host's IP address

OS

Specifies the operating system running on the host

Model

Specifies the host's model

Contact

Specifies the host's owner and contact information

Comment

Specifies any additional information for the host.

Examples

```
C:\PS>Set-3parHost -hostName HV01A -Address 10000000C97B142E, 10000000C97B142F
```

Adds WWN 10000000C97B142E, 0000000C97B142F to host HV01A.

```
C:\PS>Set-3parHost -hostName HV01B -iSCSI:$true -Address iqn.1991-06.com.microsoft:dt-391-xp.hq.3par.com
```

Adds iSCSI iqn.1991-06.com.microsoft:dt-391-xp.hq.3par.com to host HV01B.

Returns

String object.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Set-3parCage

Syntax

```
Set-3parCage [[-Position] <String>] [[-PSModel] <String>] [[-CageName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Enables service personnel to set or modify parameters for a drive cage.

Parameters

Position

Sets a description for the position of the cage in the cabinet, where <position> is a description to be assigned by service personnel (for example, left-top).

Examples

Position

Sets a description for the position of the cage in the cabinet, where <position> is a description to be assigned by service personnel (for example, left-top).

PSModel

Sets the model of a cage power supply, where <model> is a model name to be assigned to the power supply by service personnel.

CageName

Indicates the name of the drive cage that is the object of the setcage operation.

Examples

```
C:\PS>Set-3parCage -Position left -CageName cage1
```

Demonstrates how to assign cage1 a position description of Side Left.

```
C:\PS>Set-3parCage -Position left -PSModel 1 -CageName cage1
```

Demonstrates how to assign model names to the power supplies in cage1. In this example, Cage1 has two power supplies (0 and 1).

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Set-3parPD

Syntax

```
Set-3parPD [[-Ldalloc] <String>] [-PD_ID] <String> [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Marks a PD as allocatable or non allocatable for LDs.

Parameters

ldalloc

Specifies that the PD, as indicated with the PD_ID specifier, is either allocatable (on) or nonallocatable for LDs(off).

PD_ID

Specifies the PD identification using an integer.

Examples

```
C:\PS>Set-3parPD -Ldalloc off -PD_ID 20
```

Displays PD 20 marked as non allocatable for LDs.

```
C:\PS>Set-3parPD -Ldalloc on -PD_ID 25
```

Displays PD 25 marked as allocatable for LDs.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Set-3parPoshSshConnectionPasswordFile

Syntax

```
Set-3parPoshSshConnectionPasswordFile [-SANIPAddress] <String> [-SANUserName]  
<String> [[-SANPassword] <String>] [-epwdFile] <String> [[-AcceptKey]]  
[<CommonParameters>]
```

Description

Creates an encrypted password file on client machine.

Parameters

SANIPAddress

Specifies the SAN IP address.

SANUserName

Specifies the SANUserName

SANPassword

Specifies the file location to create encrypted password file.

epwdFile

Specifies the file location to create encrypted password file.

Examples

```
C:\PS> Set-3parPoshSshConnectionPasswordFile -SANIPAddress "15.1.1.1" -  
SANUserName "3parDemoUser " -SANPassword "demoPass1 " -epwdFile "C:  
\hp3paradmepwd.txt"
```

This example stores the encrypted password file hp3paradmepwd.txt on client machine c:\ drive, subsequent commands uses this encrypted password file. This example authenticates the entered credentials if correct creates the password file.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Set-3parPoshSshConnectionUsingPasswordFile

Syntax

```
Set-3parPoshSshConnectionUsingPasswordFile [-SANIPAddress] <String> [-SANUserName] <String> [-epwdFile] <String> [<CommonParameters>]
```

Description

Set-3parPoshSshConnectionUsingPasswordFile.

Parameters

SANIPAddress

Specifies the SAN IP address.

SANUserName

Specifies the SAN SANUserName.

epwdFile

Specifies the file location to create encrypted password file.

Examples

```
C:\PS> Set-3parPoshSshConnectionUsingPasswordFile -SANIPAddress 10.1.1.1 -SANUserName "3parUser" -epwdFile "C:\HP3PARpwdlogin.txt"
```

Creates a SAN Connection object with the specified SANIPAddress and password file.

Set-3parRCopyGroupPeriod

Syntax

```
Set-3parRCopyGroupPeriod [[-PeriodValue] <String>] [[-Force]] [[-T] <String>] [[-Nostart]] [[-Nosync]] [[-Discard]] [[-Nopromote]] [[-Nosnap]] [[-Stopgroups]] [[-Local]] [[-Natural]] [[-Current]] [[-Waittask]] [[-Pat]] [[-Usr_cpg] <String>] [[-Snp_cpg] <String>] [[-Usr_cpg_unset]] [[-Snp_cpg_unset]] [[-TargetName] <String>] [[-GroupName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Sets a re-synchronization period for volume groups in asynchronous periodic mode.

Parameters

PeriodValue

Specifies the time period in units of seconds (s), minutes (m), hours (h), or days (d), for automatic resynchronization (for example, 14hfor14 hours).

Force

Does not ask for confirmation for disaster recovery commands.

T <tname>

When used with <dr_operation> subcommands, it specifies the target to which the <dr_operation> command applies

NOTE: The -t option without the groups listed in the command, will only work in a unidirectional configuration.

Stopgroups

Specifies that groups are stopped before running the reverse subcommand.

Local

The -local option only applies to the "reverse" operation and then only when the -natural or -current options for the "reverse" operation are specified.

Natural

When issuing the -natural option with the reverse specifier.

TargetName

Specifies the target name for the target definition.

Examples

```
C:\PS> Set-3parRCopyGroupPeriod -Period 10m -TargetName CHIMERA03 -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPeriod -Period 10m -Force -TargetName CHIMERA03 -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPeriod -Period 10m -T 1 -TargetName CHIMERA03 -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPeriod -Period 10m -Stopgroups -TargetName CHIMERA03 -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPeriod -Period 10m -Local -TargetName CHIMERA03 -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPeriod -Period 10m -Natural -TargetName CHIMERA03 -GroupName AS_TEST
```

NOTE: For more information, execute `Get-Help <Command Name>` with the 'Full' option.

Set-3parRCopyGroupPol

Syntax

```
Set-3parRCopyGroupPol [[-Force]] [[-T] <String>] [[-Nostart]] [[-Nosync]] [[-Discard]] [[-Nopromote]] [[-Nosnap]] [[-Stopgroups]] [[-Local]] [[-Natural]] [[-Current]] [[-Waittask]] [[-Pat]] [[-Usr_cpg] <String>] [[-Snp_cpg] <String>] [[-Usr_cpg_unset]] [[-Snp_cpg_unset]] [[-policy] <String>] [[-GroupName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Sets the policy of the Remote Copy volume group for dealing with I/O failure and error handling.

Parameters

Nostart

Specifies that groups are not started after role reversal is completed.

Nosync

Specifies that groups are not synced after role reversal is completed through the recover, restore, and failover specifiers.

Discard

Specifies not to check a group's other targets to see if newer data should be pushed from them if the group has multiple targets.

Nopromote

This option is only valid for the failover and reverse specifiers.

Nosnap

Specifies that snapshots are not taken for groups that are switched from secondary to primary. Additionally, existing snapshots are deleted if groups are switched from primary to secondary.

Stopgroups

Specifies that groups are stopped before running the reverse subcommand.

Local

When issuing the command with the reverse specifier.

Natural

Specifying the -natural option with the "reverse" operation changes the role of the groups but not the direction of data flow between the groups on the arrays.

Current

Specifying the -current option with the "reverse" operation changes both the role and the direction of data flow between the groups.

WaitTask

Wait for all tasks created by this command to complete before returning.

Pat

Specifies that specified patterns are treated as glob-style patterns and all Remote Copy groups matching the specified pattern will be set.

User_cpg

Specifies the local user CPG and target user CPG that will be used for volumes that are auto-created. The local CPG will only be used after failover and recover.

Snp_cpg

Specifies the local snap CPG and target snap CPG that will be used for auto-created volumes.

Snp_cpg_unset

Unsets all snap CPGs that are associated with this group.

Usr_cpg_unset

Unsets all user CPGs that are associated with this group.

GroupName

Specifies the name of the volume group whose policy is set, or whose target direction is switched.

policy

Policy Value	Description
auto_failover	Configure automatic failover on a Remote Copy group.
no_auto_failover	Remote-copy groups will not be subject to automatic fail-over (default).
auto_recover	Specifies that if the Remote Copy is stopped as a result of the Remote Copy links going down, the group must be restarted manually after the links come back up (default).

Table Continued

Policy Value	Description
no_auto_recover	Specifies that if the Remote Copy is stopped as a result of the Remote Copy links going down, the group must be restarted manually after the links come back up (default).
over_per_alert	If a synchronization of a periodic remote-copy group takes longer to complete than its synchronization period, then an alert will be generated.
no_over_per_alert	If a synchronization of a periodic Remote Copy group takes longer to complete than its synchronization period then an alert will not be generated.
path_management	Volumes in the specified group will be enabled to support ALUA.
no_path_management	ALUA behavior will be disabled for volumes in the group.

Examples

```
C:\PS> Set-3parRCopyGroupPol -policy test -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPol -policy auto_failover -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPol -Force -policy auto_failover -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPol -T 1 -policy auto_failover -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPol -Stopgroups -policy auto_failover -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPol -Local -policy auto_failover -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPol -Natural -policy auto_failover -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPol -policy no_auto_failover -GroupName AS_TEST
C:\PS> Set-3parRCopyGroupPol -Force -policy no_auto_failover -GroupName AS_TEST
```

NOTE: For more information, execute `Get Help <Command Name>` with the 'Full' option.

Set-3parRCopyTarget

Syntax

```
Set-3parRCopyTarget [[-Enable]] [[-Disable]] [[-TargetName] <String>] [[-
SANConnection] <Object>] [<CommonParameters>]
```

Description

Changes the name of the indicated target using the <NewName> specifier.

Parameters

Enable

Specifies enable to enable the target.

Disable

Specifies disable to disable the target.

Examples

```
C:\PS>Set-3parRCopyTarget -Enable -TargetName Demo1
```

Enables the TargetName Demo1.

```
C:\PS>Set-3parRCopyTarget -Disable -TargetName Demo1
```

Disables the TargetName Demo1.

NOTE: For more information, execute `Get-Help <Command Name>` with the 'Full' option.

Set-3parRCopyTargetName

Syntax

```
Set-3parRCopyTargetName [[-NewName] <String>] [[-TargetName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Parameters

NewName

Specifies the new name for the indicated target.

TargetName

Specifies the target name for the target definition.

Examples

```
C:\PS>Set-3parRCopyTargetName -NewName DemoNew1 -TargetName Demo1
```

Changes the name of the indicated target.

NOTE: For more information, execute `Get-Help "Command Name"` with Full Option.

Set-3parRCopyTargetPol

Syntax

```
Set-3parRCopyTargetPol [[-Mirror_Config]] [[-No_Mirror_Config]] [[-Target] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Sets the policy for the specified target using the <policy> specifier.

Parameters

Mirror_Config

Specifies that all configuration commands, involving the specified target are duplicated.

No_Mirror_Config

If not specified, all configuration commands are duplicated.

Target

Specifies the target name for the target definition.

Examples

```
C:\PS>Set-3parRCopyTargetPol -Mirror_Config -Target vv3
```

Sets the policy that all configuration commands, involving the specified target are duplicated for the target named vv3.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Set-3parRCopyTargetWitness

Syntax

```
et-3parRCopyTargetWitness [[-SubCommand] <String>] [[-Remote]] [[-Witness_ip] <String>] [[-Target] <String>] [[-Node_id] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Changes the name of the indicated target.

Parameters

SubCommand

Sub Command like create, Start, Stop, Remove, and Check.

Create

Creates an association between a synchronous target and a Quorum Witness (QW) as part of a Peer Persistence configuration.

Start|stop|remove

Activates, deactivates, and removes the ATF configuration.

Check

Checks connectivity to Quorum Witness.

Remote

Used to forward a witness sub command to be executed on the remote HPE 3PAR Storage System.

Node

Used to conjunction with the "witness check" sub command to test the connectivity to the Quorum Witness through the Quorum Announce process running on the specified node.

Witness_ip

The IP address of the Quorum Witness (QW) application, to which the HPE 3PAR Storage System will connect to update its status periodically.

Target

Specifies the target name for the target definition previously created with the `creatercopytarget` command.

Node_id

Node ID with node option.

Examples

```
C:\PS> Set-3parRCopyTargetWitness -SubCommand create -Witness_ip 1.2.3.4 -Target TEST
C:\PS> Set-3parRCopyTargetWitness -SubCommand create -Option remote -Witness_ip 1.2.3.4 -Target TEST
C:\PS> Set-3parRCopyTargetWitness -SubCommand start -Target TEST
C:\PS> Set-3parRCopyTargetWitness -SubCommand stop -Target TEST
C:\PS> Set-3parRCopyTargetWitness -SubCommand remove -Option remote -Target TEST
C:\PS> Set-3parRCopyTargetWitness -SubCommand check -Option node -Node_id 1 -Witness_ip 1.2.3.4
```

NOTE: For more information, execute `Get Help <Command Name>` with the 'Full' option.

Set-3parSRAAlertCrit

Syntax

```
Set-3parSRAAlertCrit [[-Enable]] [[-Disable]] [[-Daily]] [[-Hourly]] [[-
Hires]] [[-Count] <String>] [[-Recurrences_Samples] <String>] [[-BtSecs]
<String>] [[-Critical]] [[-Major]] [[-Minor]] [[-Info]] [[-PAT]] [[-ALL]] [[-
NewName] <String>] [-NameOfTheCriterionToModify] <String> [[-SANConnection]
<Object>] [<CommonParameters>]
```

Description

Enables or disables a System Reporter alert criterion.

Parameters

Option

Option values can either be enable or disable.

Enable

Enables the specified criterion.

Disable

Disables the specified criterion.

Daily

Specifies that this criterion is evaluated on a daily basis at midnight.

Hourly

Specifies that this criterion is evaluated on an hourly basis.

Hires

This criterion is evaluated on a high resolution (5 minute) basis. This is the default.

Count

The number of matching objects that must meet the criteria in order for the alert to be generated.

Critical

Specifies that this alert has the highest severity.

Examples

```
C:\PS> Set-3parSRAAlertCrit -Enable -NameOfTheCriterionToModify write_port_check
```

Enables the criterion called write_port_check.

```
C:\PS> Set-3parSRAalertCrit -Disable -NameOfTheCriterionToModify write_port_check
```

Disables the criterion called write_port_check.

```
C:\PS> Set-3parSRAalertCrit -Daily -NameOfTheCriterionToModify  
write_port_check
```

```
C:\PS> Set-3parSRAalertCrit -Info -Name write_port_check
```

NOTE: For more information, execute `Get-Help <Command Name>` with the 'Full' option.

Set-3parstatch

Syntax

```
Set-3parstatch [[-Start]] [[-Stop]] [[-LDname] <String>] [[-CLnum] <String>]  
[[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Sets the statistics collection mode for all in-use chunklets on a Physical Disk (PD).

Parameters

Start

Specifies that the collection of statistics is started for the specified Logical Disk (LD) and chunklet.

Stop

Specifies that the collection of statistics is stopped for the specified Logical Disk (LD) and chunklet.

LDname

Specifies the name of the logical disk in which the chunklet that has to be configured resides.

CLnum

Specifies the chunklet that is configured using the `setstatch` command.

Examples

```
C:\PS> Set-3parstatch -start -LDname test1 -CLnum 1
```

Starts the statistics collection mode for chunklets with the LD name test1.

```
C:\PS> Set-3parstatch -stop -LDname test1 -CLnum 1
```

Stops the statistics collection mode for chunklets with the LD name test1.

NOTE: For more information, execute `Get-Help "Command Name"` with Full Option.

Set-3parStatpdch

Syntax

```
Set-3parStatpdch [[-Start]] [[-Stop]] [[-PD_ID] <String>] [[-SANConnection]  
<Object>] [<CommonParameters>]
```

Description

Starts and stops the statistics collection mode for chunklets.

Parameters

Start

Specifies that the collection of statistics is started for the specified Logical disk (LD) and chunklet.

Stop

Specifies that the collection of statistics is stopped for the specified Logical disk (LD) and chunklet.

PD_ID

Specifies the PD ID.

Examples

```
C:\PS>Set-3parStatpdch -Start -PD_ID 2
```

Sets the statistics collection mode for all in-use chunklets on a PD 2.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Set-3parPassword

Syntax

```
Set-3parPassword [[-CLIDir] <String>] [-SANIPAddress] <String> [-epwdFile] <String> [<CommonParameters>]
```

Description

Creates an encrypted password file on client machine.

Parameters

CLIDir

Specifies the absolute path of HPE3par cli.exe. The default path is C:\Program Files (x86)\Hewlett Packard Enterprise\HPE 3PAR CLI\bin

SANIPAddress

Specifies the SAN IP Address.

epwdFile

Specifies the file location to create encrypted password file.

Examples

```
C:\PS>Set-3parPassword -CLIDir "C:\Program Files (x86)\Hewlett Packard Enterprise\HPE 3PAR CLI\bin" -SANIPAddress "15.212.196.2 18" -epwdFile "C:\hp3paradmepwd.txt"
```

Stores the encrypted password file hp3paradmepwd.txt on client machine c:\ drive, subsequent commands uses this encrypted password file.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Set-3ParVVolSC

Syntax

```
Set-3ParVVolSC [[-vvset] <String>] [[-Create]] [[-Remove]] [[-Keep]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Creates and removes storage containers for VMware Virtual Volumes (VVols).

Parameters

Create

Specifies that an empty existing <vvset> that is not marked as a VVol Storage Container is updated.

Remove

Removes the VV set storage container and the associated volumes if the specified VV set is a VVol storage container.

Keep

Provides an option to mark VV set with existing volumes as a VVol storage container if specified. This option is used only with the `-create` option.

vvset

Specifies the Virtual Volume set (VV set) name, which is used, or to be used, as a VVol storage container.

Examples

```
C:\PS> Set-3ParVVolSC -vvset XYZ
C:\PS> Set-3ParVVolSC -Create -vvset ASSET
C:\PS> Set-3ParVVolSC -Remove -vvset ASSET
C:\PS> Set-3ParVVolSC -Keep -vvset ASSET
```

NOTE: set: already include in code, do not add with vvset.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Show cmdlets

Show-3parFed

Syntax

```
Show-3parFed [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays the name, UUID, and comment of the Federation of which the StoreServ system is member.

Example

```
C:\PS> Show-3parFed
```

Display Federation Information.

NOTE: For More information, execute Get-Help "Command Name" with Full Option.

Show-3parISCSISession

Syntax

```
Show-3parISCSISession [[-Detailed]] [[-ConnectionState]] [[-NSP] <String>]
[[-SANConnection] <Object>] [<CommonParameters>]]
```

Description

Displays the iSCSI sessions.

Parameters

Detailed

Specifies that detailed information about the iSCSI session is displayed.

ConnectionState

Specifies the connection state of current iSCSI sessions.

NSP

Specifies that information for a specified port is displayed.

Example

```
C:\PS> Show-3parISCSISession
```

```
C:\PS> Show-3parISCSISession -NSP 1:2:1
```

```
C:\PS> Show-3parISCSISession -Detailed -NSP 1:2:1
```

NOTE: For More information, execute `Get-Help <command name>` with Full Option.

Show 3parISCSISessionStatistics

Syntax

```
Show-3parISCSISessionStatistics [[-Iterations] <String>] [[-Delay] <String>]
[[-NodeList] <String>] [[-SlotList] <String>] [[-PortList] <String>] [[-
Previous]] [[-Begin]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays the iSCSI session statistics.

Parameters

Iterations

Specifies that the command stops after a user-defined <number> of iterations.

Delay

Specifies Looping delay in seconds <secs>. The default setting is 2.

NodeList

Lists the nodes for which the ports are included.

SlotList

Lists the PCI slots for which the ports are included.

PortList

Lists the ports for which the ports are included.

Previous

Displays the differences from the previous sample.

Begin

Shows the values from when the system was last initiated.

Example

```
C:\PS> Show-3pariSCSIStatistics -Iterations 1
```

```
C:\PS> Show-3pariSCSIStatistics -Iterations 1 -Delay 2
```

```
C:\PS> Show-3pariSCSIStatistics -Iterations 1 -NodeList 1
```

NOTE: For More information, execute `Get-Help <command name>` with Full Option.

Show-3pariSCSIStatistics

Syntax

```
Show-3pariSCSIStatistics [[-Iterations] <String>] [[-Delay] <String>] [[-NodeList] <String>] [[-SlotList] <String>] [[-PortList] <String>] [[-Fullcounts]] [[-Prev]] [[-Begin]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays the iSCSI statistics.

Parameters**Iterations**

Specifies that the command stops after a user-defined <number> of iterations.

Delay

Specifies Looping delay in seconds <secs>. The default setting is 2.

NodeList

Lists the nodes for which the ports are included.

SlotList

Lists the PCI slots for which the ports are included.

PortList

Lists the ports for which the ports are included.

Fullcounts

Displays the values for the full list of counters instead of the default packets and KBytes for the specified protocols.

Current

Specifies the counts since the last sample.

CmdStart

Specifies the counts since the start of the command.

Begin

Specifies the counts since the port was reset.

Prev

Lists the differences from the previous sample.

Begin

Displays the values from when the system was last initiated.

Example

```
C:\PS> Show-3parSCSIStatistics -Iterations 1
C:\PS> Show-3parSCSIStatistics -Iterations 1 -Delay 2
C:\PS> Show-3parSCSIStatistics -Iterations 1 -NodeList 1
C:\PS> Show-3parSCSIStatistics -Iterations 1 -SlotList 1
C:\PS> Show-3parSCSIStatistics -Iterations 1 -PortList 1
C:\PS> Show-3parSCSIStatistics -Iterations 1 -Fullcounts
```

NOTE: For More information, execute Get-Help "Command Name" with Full Option.

Show-3parPeer

Syntax

```
Show-3parPeer [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays the arrays connected through the host ports or peer ports over the same fabric.

Example

```
C:\PS> Show-3parPeer
```

NOTE: For More information, execute Get-Help "Command Name" with Full Option.

Show-3parPortARP

Syntax

```
Show-3parPortARP [[-NSP] <String>] [[-SANConnection] <Object>]
[<CommonParameters>]
```

Description

Displays ARP table for iSCSI ports in the system.

Parameters**NSP**

Specifies the port for which information about devices on that port are displayed.

Example

```
C:\PS> Show-3parPortARP -NSP 1:2:3
```

NOTE: For More information, execute Get-Help "Command Name" with Full Option.

Show-3parPortISNS

Syntax

```
Show-3parPortISNS [[-NSP] <String>] [[-SANConnection] <Object>]  
[<CommonParameters>]
```

Description

Displays iSNS host information for iSCSI ports in the system.

Parameters

NSP

Specifies the port for which information about devices on the port are displayed.

Example

```
C:\PS> Show-3parPortARP -NSP 1:2:3
```

NOTE: For More information, execute Get-Help "Command Name" with Full Option.

Show-3ParRcopyTransport

Syntax

```
Show-3ParRcopyTransport [[-RCIP]] [[-RCFC]] [[-SANConnection] <Object>]  
[<CommonParameters>]
```

Description

Shows status and information about end-to-end transport for Remote Copy in the system.

Parameters

Rcip

Displays information about Ethernet end-to-end transport.

Rcfc

Displays information about Fibre Channel end-to-end transport.

Example

```
C:\PS> Show-3ParRcopyTransport
```

```
C:\PS> Show-3ParRcopyTransport
```

NOTE: For More information, execute Get-Help <command name> with Full Option.

Show-3parSRStatIscsi

Syntax

```
Show-3parSRStatIscsi [[-Attime]] [[-Hires]] [[-Hourly]] [[-Daily]] [[-Summary] <String>] [[-BTsecs] <String>] [[-ETsecs] <String>] [[-Groupby] <String>] [[-NSP] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical performance data reports for iSCSI ports.

Parameters

The parameters for are:

Attime

Displays performance in a particular time interval.

BTsecs

Specifies the begin time in seconds for the report.

ETsecs

Specifies the end time in seconds for the report.

Hires

Specifies high resolution samples (5 minute intervals) for the report.

Hourly

Provides hourly samples for the report.

Daily

Provides daily samples for the report.

Summary

Provides summary of performance across requested objects and time range.

Groupby

Each <groupby> must be different and one of the following:

- PORT_N: The node number for the port
- PORT_S The PCI slot number for the port
- PORT_P The port number for the port
- PROTOCOL The protocol type for the port

NSP

Dode Sloat Port Value 1:2:3

Example

```
C:\PS> Show-3parSRStatIscsi
C:\PS> Show-3parSRStatIscsi -Attime
C:\PS> Show-3parSRStatIscsi -Summary min
C:\PS> Show-3parSRStatIscsi -BTsecs 1
C:\PS> Show-3parSRStatIscsi -ETsecs 1
C:\PS> Show-3parSRStatIscsi -Groupby PORT_N
```

NOTE: For More information, execute `Get-Help <command name>` with Full Option.

Show-3parSRSTATISCSISession

Syntax

```
Show-3parSRSTATISCSISession [[-Attime]] [[-Hires]] [[-Hourly]] [[-Daily]] [[-Summary] <String>] [[-BTsecs] <String>] [[-ETsecs] <String>] [[-Groupby] <String>] [[-NSP] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays historical performance data reports for iSCSI sessions.

Parameters

Attime

Performance is shown at a particular time interval.

Btsecs

Select the begin time in seconds for the report.

Etsecs

Select the end time in seconds for the report.

Hires

Select high resolution samples (5 minute intervals) for the report.

Hourly

Select hourly samples for the report.

Daily

Select daily samples for the report.

Summary

Summarize performance across requested objects and time range.

Groupby

PORT_N

The node number for the session

PORT_S

The PCI slot number for the session

PORT_P

The port number for the session

ISCSI_NAME

The iSCSI name for the session

TPGT

The TPGT ID for the session

NSP

Displays node: slot: port value 1:2:3

Example

```
C:\PS> Show-3parSRSTATISCSISession
C:\PS> Show-3parSRSTATISCSISession -Attime
C:\PS> Show-3parSRSTATISCSISession -Attime -NSP 0:2:1
C:\PS> Show-3parSRSTATISCSISession -Hourly -NSP 0:2:1
C:\PS> Show-3parSRSTATISCSISession -Summary min -NSP 0:2:1
C:\PS> Show-3parSRSTATISCSISession -Summary min -NSP 0:2:1
C:\PS> Show-3parSRSTATISCSISession -Btsecs 1 -NSP 0:2:1
C:\PS> Show-3parSRSTATISCSISession -Daily
C:\PS> Show-3parSRSTATISCSISession -Groupby PORT_N
```

NOTE: For More information, execute `Get-Help <command name> with Full Option.`

Show-3ParVVolum

Syntax

```
Show-3ParVVolum [[-container_name] <String>] [[-ListCols]] [[-ShowCols]
<String>] [[-Detailed]] [[-StorageProfiles]] [[-Summary]] [[-Binding]] [[-
VVAassociatedWithVM]] [[-RemoteCopy]] [[-AutoDismissed]] [[-VM_name] <String>]
[[-SANConnection] <Object>] [<CommonParameters>]
```

Description

The Show-3ParVVolum command displays information about all virtual machines (VVol-based) or a specific virtual machine in a system.

Parameters

container_name

The name of the virtual volume storage container. May be "sys: all" to display all VMs.

Listcols

List the columns available to be shown in the -showcols option following (see "clihelp -col showvvolum" for help on each column).

Detailed

Displays detailed information about the VMs.

StorageProfiles

Shows the storage profiles with constraints associated with the VM.

Summary

Shows the summary of virtual machines (VM) in the system, including the total number of the following: VMs, VVs, and total physical and exported space used.

Binding

Shows the detailed binding information for the VMs.

VVAssociatedWithVM

Shows all the VVs (Virtual Volumes) associated with the VM.

RemoteCopy

Shows the Remote Copy group name, sync status, role, and last sync time of the volumes associated with a VM.

AutoDismissed

Shows only VMs containing automatically dismissed volumes.

VM_name

Specifies the VMs with the specified name (up to 80 characters in length).

Example

```
C:\PS> Show-3ParVVolum -container_name XYZ -option listcols
C:\PS> Show-3ParVVolum -container_name XYZ -Detailed
C:\PS> Show-3ParVVolum -container_name XYZ -StorageProfiles
C:\PS> Show-3ParVVolum -container_name XYZ -Summary
C:\PS> Show-3ParVVolum -container_name XYZ -Binding
C:\PS> Show-3ParVVolum -container_name XYZ -VVAssociatedWithVM
```

NOTE: For More information, execute `Get-Help <command name>` with Full Option.

Start cmdlets

Start-3parFSNDMP

Syntax

```
Start-3parFSNDMP [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Starts both NDMP service and ISCSI service.

Example input

```
C:\PS> Start-3parFSNDMP
```

Starts NDMP service and ISCSI service.

NOTE: For more information, execute `Get-Help<Command Name>` with full option.

Start-3parSR

Syntax

```
Start-3parSR [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Start 3par System reporter.

Example input

```
C:\PS> Start-3parSR
```

Starts 3par System Reporter.

NOTE: For more information, execute `Get-Help<Command Name>` with full option.

Start-3parRCopyGroup

Syntax

```
Start-3parRCopyGroup [[-NoSync]] [[-Wait]] [[-Pat]] [[-TargetName] <String>]  
[[[-GroupName] <String>] [[-Volumes_Snapshots] <String>] [[-SANConnection]  
<Object>] [<CommonParameters>]
```

Description

Enables Remote Copy for the specified Remote Copy volume group.

Parameters

- `nosync` -
- `wait` - Specifies that the command blocks until the initial synchronization is complete. The system generates an event when the synchronization is complete.
- `pat` - Specifies that specified patterns are treated as glob-style patterns and that all Remote Copy groups matching the specified pattern will be started. *option*

NoSync

Prevents the initial synchronization and sets the virtual volumes to a synchronized state.

Wait

Specifies that the command blocks until the initial synchronization is complete. The system generates an event when the synchronization is complete.

Pat

Specifies that specified patterns are treated as glob-style patterns and that all Remote Copy groups matching the specified pattern will be started. *option*.

Target

Indicates that only the group on the specified target is started. If this option is not used, by default the `New-3parRCopyGroup` command affect all a group's targets.

GroupName

Displays the name of the Remote Copy volume group.

Volumes_Snapshots

Member volumes and snapshots can be specified by vv: sv syntax, where vv is the base volume name and sv is the snapshot volume name.

Example input

```
C:\PS> Start-3parRCopyGroup -NoSync -GroupName Group1
```

Starts Remote Copy for Group1.

```
C:\PS> Start-3parRCopyGroup -NoSync -GroupName Group2 -Volumes_Snapshots "vv1:sv1 vv2:sv2 vv3:sv3"
```

Starts Group2, which contains four virtual volumes, and specify starting snapshots, with vv4 starting from a full resynchronization.

NOTE: For more information, execute `Get-Help<Command Name>` with full option.

Start-3parRcopy

Syntax

```
Start-3parRcopy [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Starts the Remote Copy Service.

Example input

```
C:\PS>Start-3parRcopy
```

Starts the Remote Copy Service.

NOTE: For more information, execute `Get-Help<Command Name>` with full option.

Stop cmdlets

Stop-3parRCopyGroup

Syntax

```
Stop-3parRCopyGroup [[-NoSnap]] [[-TargetName] <String>] [[-GroupName] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Stops the remote-copy functionality for the specified remote-copy volume group.

Parameters

NoSnap

Turns off the creation of snapshots in synchronous mode.

Target

Indicates that only the group on the specified target is started. If this option is not used, by default the `New-3parRCopyGroup` command affects all of a group's targets.

GroupName

Specifies the name of the remote copy volume group.

Example input

```
C:\PS>Stop-3parRCopyGroup -NoSnap -GroupName Group1
```

Stops remote copy for Group1.

```
Stop-3parRCopyGroup -TargetName RCFC_Romulus_1 -GroupName RCFromRMC
```

NOTE: For more information, execute `Get-Help<Command Name>` with full option.

Stop-3parRCopy

Syntax

```
Stop-3parRCopy [[-StopGroups]] [[-Clear]] [[-SANConnection] <Object>]  
[<CommonParameters>]
```

Description

Disables the remote copy functionality for any started remote-copy.

Parameters

StopGroups

Specifies that any started remote-copy volume groups are stopped.

Clear

Specifies that configuration entries affiliated with the stopped mode are deleted.

Example input

```
C:\PS>Stop-3parRCopy -StopGroups
```

Disables the remote-copy functionality of all primary remote-copy volume groups.

NOTE: For more information, execute `Get-Help<Command Name>` with full option.

Stop-3parSR

Syntax

```
Stop-3parSR [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Stops 3par System reporter.

Example input

```
C:\PS> Stop-3parSR
```

Stops 3par System Reporter.

NOTE: For more information, execute `Get-Help<Command Name>` with full option.

Stop-3parFSNDMP

Syntax

```
Stop-3parFSNDMP [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Stops both NDMP service and ISCSI service.

Example input

```
C:\PS> Stop-3parFSNDMP
```

Stops NDMP service and ISCSI service.

NOTE: For more information, execute `Get-Help<Command Name>` with full option.

Sync cmdlets

Sync-3parRCopy

Syntax

```
Sync-3parRCopy [[-Wait]] [[-N]] [[-Ovrd]] [[-TargetName] <String>] [[-Group
Name] <String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Synchronizes remote-copy volume groups.

Parameters**Wait**

Wait for synchronization to complete before returning to a command prompt

N

Do not save resynchronization snapshot. This option is only relevant for asynchronous periodic mode volume groups.

Ovrd

Force synchronization without prompting for confirmation, even if volumes are already synchronized.

Target

Indicates that only the group on the specified target is started. If this option is not used, by default the `New-3parRcopyGroup` command affects all of a group's targets.

GroupName

Specifies the name of the remote-copy volume group to be synchronized.

Example input

```
C:\PS> Sync-3parRCopy -Wait -TargetName RCFC_Romulus_1 -GroupName
AS_TEST1
```

```
C:\PS> Sync-3parRCopy -N -TargetName RCFC_Romulus_1 -GroupName AS_TEST1
```

NOTE: For more information, execute `Get-Help<Command Name>` with full option.

Sync-Recover3ParDRRcopyGroup

Syntax

```
Sync-Recover3ParDRRcopyGroup [[-Subcommand] <String>]
```

```

[[-Target_name] <String>] [[-Nowaitonsync]]
[[-Nosynbeforecovery]] [[-Nofailoveronlinkdown]]
[[-Forceasprimary]] [[-Nostart]] [[-Waittime] <String>]
[[-Group_name] <String>] [[-SANConnection] <Object>] [<CommonParameters>]

```

Description

Performs data synchronization from primary remote copy volume groups to secondary remote copy volume groups and Performs the complete recovery operation for the remote copy volume group in both planned migration and disaster scenarios.

Parameters

Subcommand

Enables sync and recovery

Target_name

Specifies the target for the sub command.

Force

Requires no confirmation for this command.

Nowaitonsync

Specifies that this command should not wait for data synchronization.

Nosynbeforecovery

Specifies that this command should not perform data synchronization.

Nofailoveronlinkdown

Specifies that this command should not perform storage failover operation.

Forceasprimary

Specifies that this command does the storage failover operation.

Forceassecondary

This option must be used after successful execution of recovery sub command with force as primary option on the other array.

Nostart

Specifies that this command does not start the group after storage failover operation is complete.

Waittime

Specifies the timeout value for this command.

Group_Name

Specifies the name of the group.

Example input

```

C:\PS> Sync-Recover3ParDRRcopyGroup -Subcommand sync
-Target_name test -Group_name Grp1

C:\PS> Sync-Recover3ParDRRcopyGroup -Subcommand recovery
-Target_name test -Group_name Grp1

C:\PS> Sync-Recover3ParDRRcopyGroup -Subcommand sync -Force
-Group_name Grp1

C:\PS> Sync-Recover3ParDRRcopyGroup -Subcommand sync
-Nowaitonsync -Group_name Grp1

C:\PS> Sync-Recover3ParDRRcopyGroup -Subcommand sync
-Nosynbeforecovery -Group_name Grp1

```

NOTE: For more information, execute `Get-Help<Command Name>` with full option.

Test cmdlets

Test-3parRcopyLink

Syntax

```
Test-3parRcopyLink [[-StartClient]] [[-StopClient]] [[-StartServer]] [[-StopServer]] [[-PortConn]] [[-TimeInSeconds] <string>] [[-FCIP]] [[-NSP] <string>] [[-Dest_IP_Addr] <string>] [[-Time] <string>] [[-Port] <string>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Performs a connectivity, latency, and throughput test between two connected HPE 3PAR storage systems.

Parameters

StartClient

Starts the link test.

StopClient

Stops the link test.

StartServer

Starts the server.

PortConn

Uses the Cisco Discovery Protocol Reporter to show display information about devices that are connected to network ports.

NSP

Specifies the interface from which to check the link, expressed as node:slot:port.

TimeInSeconds

Specifies the number of seconds for the test to run using an integer from 300 to 172800.

FCIP

Specifies if the link is running over fcip.

Dest_IP_Addr

Specifies the address of the target system (for example, the IP address).

Time

Specifies the test duration in seconds.

Port

Specifies the port on which to run the test.

Examples

```
C:\PS> Test-3parRcopyLink -StartClient -NSP 0:5:4 -Dest_IP_Addr 1.1.1.1 -Time 20 -Port 1
C:\PS> Test-3parRcopyLink -StartClient -TimeInSeconds 30 -NSP 0:5:4 -Dest_IP_Addr 1.1.1.1 -Time 20 -Port 1
C:\PS> Test-3parRcopyLink -StartClient -FCIP -NSP 0:5:4 -Dest_IP_Addr 1.1.1.1 -Time 20 -Port 1
C:\PS> Test-3parRcopyLink -StopClient -NSP 0:5:4
C:\PS> Test-3parRcopyLink -StartServer -NSP 0:5:4
C:\PS> Test-3parRcopyLink -StartServer -TimeInSeconds 30 -NSP 0:5:4 -Dest_IP_Addr 1.1.1.2 -Port 1
C:\PS> Test-3parRcopyLink -StartServer -FCIP -NSP 0:5:4 -Dest_IP_Addr 1.1.1.2 -Port 1
C:\PS> Test-3parRcopyLink -StopServer -NSP 0:5:4
C:\PS> Test-3parRcopyLink -PortConn -NSP 0:5:4
```

NOTE: For more information, execute `Get-Help <command name> with Full Option.`

Test-3parVV

Syntax

```
Test-3parVV [[-Yes]] [[-No]] [[-Offline]] [[-VVName] <String>] [[-Fixsd]] [[-Dedup_Dryrun]] [[-Compr_Dryrun]] [[-Dedup_Compr_Dryrun]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Executes validity checks of VV administration information when an uncontrolled system shut down and optionally repairs corrupted virtual volumes.

Parameters

Options

Yes

Specifies that if errors are found they are either modified so they are valid (-Yes) or left unmodified (-No).

No

Specifies that if errors are found are either modified so they are valid (-Yes) or left unmodified (-No).

Offline

Indicates that VVs specified by <VV_name> are offline before validating the VV administration information.

Dedup_Dryrun

Launches a dedup ratio calculation task in the background that analyzes the potential space savings with HPE 3PAR Deduplication technology if the VVs specified were in a same deduplication group.

Compr_Dryrun

Launches a compression ratio calculation task in the background that analyzes the potential space savings with HPE 3PAR Compression technology of specified VVs.

Fixsd

Indicates that VVs specified by <VV_name> are checked for compressed data consistency.

Dedup_Compr_Dryrun

Launches background space estimation task that analyzes the overall savings of converting the specified VVs into a compressed TDVVs.

VVName

Requests that the integrity of the specified VV is checked.

Examples

```
C:\PS> Test-3parVV -VVName XYZ
```

```
C:\PS> Test-3parVV -Yes -VVName XYZ
```

```
C:\PS> Test-3parVV -Offline -VVName XYZ
```

NOTE: For more information, execute `Get-Help <command name>` with Full Option.

Test-3parPD

Syntax

```
Test-3parPD [[-specifier] <String>] [[-ch] <String>] [[-count] <String>] [[-path] <String>] [[-test] <String>] [[-iosize] <String>] [[-range] <String>] [[-threads] <String>] [[-time] <String>] [[-total] <String>] [[-retry] <String>] [[-pd_ID] <String>] [[-SANConnection] <Object>] [  
<CommonParameters>]
```

Description

Executes surface scans or diagnostics on physical disks.

Parameters

Specifier scrub

Scans one or more chunklets for media defects.

diag

Performs read, write or verifies test diagnostics.

ch

To scan a specific chunklet rather than the entire disk.

count

To scan a number of chunklets starting from-ch.

path

Specifies a physical disk path as [a|b|both|system].

test

Specifies [read|write|verify] test diagnostics. If no type is specified, the default is read.

iosize

Specifies I/O size, valid ranges are from 1s to 1m. If no size is specified, the default is 128k.

range

Limits diagnostic regions to a specified size, from 2m to 2g.

threads

Specifies number of I/O threads, valid ranges are from 1 to 4

time

Indicates the number of seconds to run, from 1 to 36000

total

Indicates total bytes to transfer per disk

retry

Specifies the total number of retries on an I/O error.

PD_ID

Specifies the ID of the physical disk to be checked. Only one PD_ID can be specified for the scrub test.

Examples

```
C:\PS>Test-3parPD -specifier scrub -ch 500 -pd_ID 1
```

Test-3parPD chunklet 500 on physical disk 1 is scanned for media defects.

```
C:\PS>Test-3parPD -specifier scrub -count 150 -pd_ID 1
```

Scans a number of chunklets starting from -ch 150 on physical disk 1.

```
C:\PS>Test-3parPD -specifier diag -path a -pd_ID 5
```

Specifies a physical disk path as a, physical disk 5 is scanned for media defects.

```
C:\PS>Test-3parPD -specifier diag -iosize 1s -pd_ID 3
```

Specifies I/O size 1s, physical disk 3 is scanned for media defects.

```
C:\PS>Test-3parPD -specifier diag -range 5m -pd_ID 3
```

Limits diagnostic to range 5m [mb] physical disk 3 is scanned for media defects.

NOTE: For more information, execute Get-Help "Command Name" with Full Option.

Update cmdlets

Update-3parVV

Syntax

```
Update-3parVV [[-VVname] <String>] [[-Size] <String>] [[-SANConnection]
<Object>] [<CommonParameters>]
```

Description

Increases the size of a virtual volume.

Parameters**VVname**

Displays the name of the volume to be grown.

Size

Specifies the size in MB to be added to the volume user space.

Example input

```
C:\PS> Update-3parVV -VVname XYZ -Size 1g
```

NOTE: For more information, execute `Get-Help <command name>` with full option.

Starting and configuring the WSAPI server cmdlets

Start-3parWsapi

Synopsis

Start the Web Services API server to service HTTP and HTTPS requests.

Syntax

```
Start-3parWsapi [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Start the Web Services API server to service HTTP and HTTPS requests.

Parameters

-SANConnection <Object>

Specifies the SAN Connection object created with `New-SANConnection`

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
PS C:\> Start-3parWsapi
```



TIP:

- To see the examples, enter `get-help Start-3parWsapi -examples`.
 - For more information, enter `get-help Start-3parWsapi -detailed`.
 - For technical information, enter `get-help Start-3parWsapi -full`.
 - For online help, enter `get-help Start-3parWsapi -online`.
-

Stop-3parWsapi

Synopsis

Stop the Web Services API server. Future HTTP and HTTPS requests will be rejected.

Syntax

```
Stop-3parWsapi [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Stops the Web Services API server. Future HTTP and HTTPS requests will be rejected.

Parameters

-SANConnection <Object>

Specifies the SAN Connection object created with new-SANConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
PS C:\>Stop-3parWsapi
```



TIP:

- To see the examples, enter `get-help Stop-3parWsapi -examples`.
- For more information, enter `get-help Stop-3parWsapi -detailed`.
- For technical information, enter `get-help Stop-3parWsapi -full`.
- For online help, enter `get-help Stop-3parWsapi -online`.

Set-3PARWsapi

Synopsis

Set the Web Services API server properties.

Syntax

```
Set-3PARWsapi [[-Force]] [[-Enable_Http]] [[-Disable_Http]] [[-Enable_Https]]  
[[[-Disable_Https]] [[-Pol] <String>] [[-Timeout] <String>] [[-Evtstream]  
<String>] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Set the Web Services API server properties.

Parameters

-Force [<SwitchParameter>]

Forces the operation of the Set-3PARWsapi command, bypassing the typical confirmation message.

One of the following option is required:

- -Enable_Http [<SwitchParameter>]
- -Disable_Http [<SwitchParameter>]
- -Enable_Https [<SwitchParameter>]
- -Disable_Https [<SwitchParameter>]

-Pol <String>

Sets the WSAPI server policy.

•

`tls_strict`: Only TLS connections using TLS 1.2 with secure ciphers will be accepted if HTTPS is

enabled. This is the default policy setting.

- `no_tls_strict`: TLS connections using TLS 1.0 - 1.2 will be accepted if HTTPS is enabled.

-Timeout <String>

Specifies the value that can be set for the idle session timeout for a WSAPI session. <value> is a positive integer and in the range of 3-1440 minutes or (3 minutes to 24 hours). Changing the session timeout takes effect immediately and will affect already opened and subsequent WSAPI sessions.

The default timeout value is 15 minutes.

-Evtstream <String>

Enables or disables the event stream feature. This supports Server Sent Event (SSE) protocol.

The default value is enable.

-SANConnection <Object>

Specify the SAN Connection object created with new-SANConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
PS C:\> Set-3PARWsapi -Force -Enable_Http
```



TIP:

- To see the examples, enter `get-help Set-3PARWsapi -examples`.
- For more information, enter `get-help Set-3PARWsapi -detailed`.
- For technical information, enter `get-help Set-3PARWsapi -full`.
- For online help, enter `get-help Set-3PARWsapi -online`.

Get-3parWsapi

Synopsis

Displays the Web Services API server information.

Syntax

```
Get-3parWsapi [[-D]] [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Show the Web Services API server information. The Get-3parWsapi command displays the WSAPI server service configuration state as either Enabled or Disabled. It displays the server current running status as Active, Inactive or Error. It also displays the current status of the HTTP and HTTPS ports and their port numbers. WSAPI server URL is also displayed.

Parameters

-D [<SwitchParameter>]

Displays WSAPI information in table format.

-SANConnection <Object>

Specifies the SAN Connection object created with new-SANConnection

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
PS C:\> Get-3parWsapi -D
```



TIP:

- To see the examples, enter `get-help Get-3parWsapi -examples`.
- For more information, enter `get-help Get-3parWsapi -detailed`.
- For technical information, enter `get-help Get-3parWsapi -full`.
- For online help, enter `get-help Get-3parWsapi -online`.

Get-3parWsapiSession

Synopsis

Displays the Web Services API server sessions information.

Syntax

```
Get-3parWsapiSession [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Displays the WSAPI server sessions connection information, including the id, node, username, role, hostname, and IP Address of the connecting client. It also displays the session creation time and session type.

Parameters

-SANConnection <Object>

Specifies the SAN Connection object created with new-SANConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
PS C:\> Get-3parWsapiSession
```

**TIP:**

- To see the examples, enter `get-help Get-3parWsapiSession -examples`.
- For more information, enter `get-help Get-3parWsapiSession -detailed`.
- For technical information, enter `get-help Get-3parWsapiSession -full`.
- For online help, enter `get-help Get-3parWsapiSession -online`.

Remove-3PARWsapiSession

Synopsis

Removes WSAPI user connections.

Syntax

```
Remove-3PARWsapiSession [[-Pat]] [[-Dr]] [[-Close_sse]] [-Id] <String> [-User_name] <String> [-IP_address] <String> [[-SANConnection] <Object>] [<CommonParameters>]
```

Description

Removes the WSAPI user connections from the current system.

Parameters

-Pat [<SwitchParameter>]

Specifies that the <id>, <user_name>, and <IP_address> specifiers are treated as glob-style (shell-style) patterns and all WSAPI user connections matching those patterns are removed. By default, confirmation is required to proceed with removing each connection unless the -f option is specified.

-Dr [<SwitchParameter>]

Specifies that the operation is a dry run and no connections are removed.

-Close_sse [<SwitchParameter>]

Specifies that the Server Sent Event (SSE) connection channel will be closed. WSAPI session credential for SSE will not be removed.

-Id <String>

Specifies the Id of the WSAPI session connection to be removed.

-User_name <String>

Specifies the name of the WSAPI user to be removed.

-IP_address <String>

Specifies the IP address of the WSAPI user to be removed.

-SANConnection <Object>

Specifies the SAN Connection object created with new-SANConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
PS C:\>Remove-3PARWsapiSession -Id "1537246327049685" -User_name 3parxyz -IP_address "10.10.10.10"
```



TIP:

- To see the examples, enter `get-help Remove-3PARWsapiSession -examples`.
 - For more information, enter `get-help Remove-3PARWsapiSession -detailed`.
 - For technical information, enter `get-help Remove-3PARWsapiSession -full`.
 - For online help, enter `get-help Remove-3PARWsapiSession -online`.
-

HPE 3PAR PowerShell Toolkit WSAPI cmdlets quick reference

Connection cmdlets

cmdlet	Description	For details, see
New-3PARWSAPIConnection	Creates a WSAPI session key or setup a connection.	<u>New-3PARWSAPIConnection</u> on page 312
Close-3PARWSAPIConnection	Deletes a session key or close the connection.	<u>Close-3PARWSAPIConnection</u> on page 204

System events cmdlets

cmdlet	Description	For details, see
Open-3PARSSE_WSAPI	Establishes a communication channel for Server-Sent Event (SSE).	<u>Open-3PARSSE_WSAPI</u>
Get-3PAREventLogs_WSAPI	Fetches all the past events from system event logs or a logged event information for the available resources.	<u>Get-3PAREventLogs_WSAPI</u>

CPG cmdlets

cmdlet	Description	For details, see
New-3PARCpg_WSAPI	Creates a Common Provisioning Group (CPG).	<u>New-3PARCpg_WSAPI</u> on page 280
Update-3PARCpg_WSAPI	Updates a Common Provisioning Group (CPG).	<u>Update-3PARCpg_WSAPI</u>
Remove-3PARCpg_WSAPI	Removes a Common Provision Group(CPG)	<u>Remove-3PARCpg_WSAPI</u> on page 314
Get-3PARCpg_WSAPI	Fetches a list or single common provisioning groups (CPGs) all CPGs in the storage system.	<u>Get-3PARCpg_WSAPI</u>

Storage volumes cmdlets

cmdlet	Description	For details, see
New-3PARVV_WSAPI	Creates a virtual volume.	<u>New-3PARVV_WSAPI</u> on page 301
Update-3PARVV_WSAPI	Updates an existing virtual volume.	<u>Update-3PARVV_WSAPI</u>

Table Continued

Get-3parVVSspaceDistribution_W SAPI	Displays a volume space distribution for all and for a specific virtual volumes among CPGs.	<u>Get-3parVVSspaceDistribution_WSAPI</u>
Resize-Grow3PARVV_WSAPI	Increases the size of a virtual volume.	<u>Resize-Grow3PARVV_WSAPI</u>
Compress-3PARVV_WSAPI	Tunes a volume.	<u>Compress-3PARVV_WSAPI</u>
Remove-3PARVV_WSAPI	Deletes a virtual volumes.	<u>Remove-3PARVV_WSAPI</u>
Get-3PARVV_WSAPI	Fetches a single or a list of virtual volumes.	<u>Get-3PARVV_WSAPI</u>

File Persona cmdlets

cmdlet	Description	For details, see
Get-3PARFileServices_WSAPI	Fetches the File Services information.	<u>Get-3PARFileServices_WSAPI</u> on page 222
New-3PARFPG_WSAPI	Creates a File Provisioning Group(FPG).	<u>New-3PARFPG_WSAPI</u>
Remove-3PARFPG_WSAPI	Removes a File Provisioning Group.	<u>Remove-3PARFPG_WSAPI</u>
Resize-Grow3PARVV_WSAPI	Increases the size of a virtual volume.	<u>Resize-Grow3PARVV_WSAPI</u>
Get-3PARFPG_WSAPI	Fetches a single or list of File Provisioning Group.	<u>Get-3PARFPG_WSAPI</u>
Get-3PARFPGReclamationTasks_WSAPI	Fetches the reclamation tasks for the FPG.	<u>Get-3PARFPGReclamationTasks_WSAPI</u>
New-3PARVFS_WSAPI	Creates a Virtual File Servers.	<u>New-3PARVFS_WSAPI</u>
Remove-3PARVFS_WSAPI	Removes a Virtual File Servers.	<u>Remove-3PARVFS_WSAPI</u>
Get-3PARVFS_WSAPI	Fetches all or a single Virtual File Servers	<u>Get-3PARVFS_WSAPI</u>
New-3PARFileStore_WSAPI	Creates a File Store.	<u>New-3PARFileStore_WSAPI</u>
Update-3PARFileStore_WSAPI	Updates a File Store.	<u>Update-3PARFileStore_WSAPI</u>
Remove-3PARFileStore_WSAPI	Removes a File Store.	<u>Remove-3PARFileStore_WSAPI</u>
Get-3PARFileStore_WSAPI	Fetches all or a single File Stores.	<u>Get-3PARFileStore_WSAPI</u>
New-3PARFileStoreSnapshot_W SAPI	Creates a File Store snapshot.	<u>New-3PARFileStoreSnapshot_WSAPI</u>
Remove-3PARFileStoreSnapshot_W SAPI	Removes a File Store snapshot.	<u>Remove-3PARFileStoreSnapshot_WSAPI</u>
Get-3PARFileStoreSnapshot_W SAPI	Fetches all or a single File Stores snapshot.	<u>Get-3PARFileStoreSnapshot_WSAPI</u>

Table Continued

New-3PARFileShares_WSAPI	Creates a File Share.	<u>New-3PARFileShares_WSAPI</u>
Remove-3PARFileShare_WSAPI	Removes a File Share.	<u>Remove-3PARFileShare_WSAPI</u>
Get-3PARFileShare_WSAPI	Fetches all or a single File Shares.	<u>Get-3PARFileShare_WSAPI</u>
Get-3PARDirPermission_WSAPI	Fetches the directory permission properties.	<u>Get-3PARDirPermission_WSAPI</u>
New-3PARFilePersonaQuota_WSAPI	Creates a File Persona quota.	<u>New-3PARFilePersonaQuota_WSAPI</u>
Update-3PARFilePersonaQuota_WSAPI	Updates a File Persona quota information.	<u>Update-3PARFilePersonaQuota_WSAPI</u>
Remove-3PARFilePersonaQuota_WSAPI	Removes a File Persona quota.	<u>Remove-3PARFilePersonaQuota_WSAPI</u>
Get-3PARFilePersonaQuota_WSAPI	Fetches all or a single File Persona quota.	<u>Get-3PARFilePersonaQuota_WSAPI</u>
Group-3PARFilePersonaQuota_WSAPI	Archives a File Persona quota.	<u>Group-3PARFilePersonaQuota_WSAPI</u>
Restore-3PARFilePersonaQuota_WSAPI	Restores a File Persona quota.	<u>Restore-3PARFilePersonaQuota_WSAPI</u>

Host management cmdlets

cmdlet	Description	For details, see
New-3PARHost_WSAPI	Creates a new host.	<u>New-3PARHost_WSAPI</u>
Add-Rem3PARHostWWN_WSAPI	Adds or removes a host WWN from target-driven zoning.	<u>Add-Rem3PARHostWWN_WSAPI</u>
Update-3PARHost_WSAPI	Updates a host	<u>Update-3PARHost_WSAPI</u>
Remove-3PARHost_WSAPI	Removes a Host.	<u>Remove-3PARHost_WSAPI</u>
Get-3PARHost_WSAPI	Get a single or list of Hosts.	<u>Get-3PARHost_WSAPI</u>
Get-3PARHostWithFilter_WSAPI	Get a single or list of Host information with WWN filtering. specify the FCPaths WWN or the iSCSIPaths name.	<u>Get-3PARVLUUsingFilters_WSAPI</u>
Get-3PARHostPersona_WSAPI	Get a single or list of host personas.	<u>Get-3PARHostPersona_WSAPI</u>

Host sets and virtual volume sets cmdlets

cmdlet	Description	For details, see
New-3PARHostSet_WSAPI	Creates a host Set.	<u>New-3PARHostSet_WSAPI</u>
Update-3PARHostSet_WSAPI	Updates an existing Host Set.	<u>Update-3PARHostSet_WSAPI</u>
Remove-3PARHostSet_WSAPI	Removes a Host Set.	<u>Remove-3PARHostSet_WSAPI</u>

Table Continued

<u>Set-3PARVVSetFlashCachePolicy_WSAPI</u>	Sets a VV-set Flash Cache policy.	<u>Set-3PARVVSetFlashCachePolicy_WSAPI</u>
<u>Get-3PARHostSet_WSAPI</u>	Gets a single or list of Host sets.	<u>Get-3PARHostSet_WSAPI</u>
<u>New-3PARVVSet_WSAPI</u>	Creates a new virtual volume Set.	<u>New-3PARVVSet_WSAPI</u>
<u>Update-3PARVVSet_WSAPI</u>	Updates an existing virtual volume set.	<u>Update-3PARVVSet_WSAPI</u>
<u>Remove-3PARVVSet_WSAPI</u>	Removes a virtual volume set.	<u>Remove-3PARVVSet_WSAPI</u>
<u>Get-3PARVVSet_WSAPI</u>	Fetches a single or list of virtual volume sets.	<u>Get-3PARVVSet_WSAPI</u>

Ports and switches cmdlets

cmdlet	Description	For details, see
<u>Get-3PARPort_WSAPI</u>	Fetches a single or List ports in the storage system.	<u>Get-3PARPort_WSAPI</u>
<u>Get-3PARiSCSIVLANs_WSAPI</u>	Queries iSCSI VLANs for an iSCSI port	<u>Get-3PARiSCSIVLANs_WSAPI</u>
<u>Get-3PARPort_WSAPI</u>	Fetches a single or List ports in the storage system.	<u>Get-3PARPort_WSAPI</u>
<u>Get-3PARPortDevices_WSAPI</u>	Fetches single or list of port devices in the storage system.	<u>Get-3PARPortDevices_WSAPI</u>
<u>Get-3PARPortDeviceTDZ_WSAPI</u>	Fetches a single or list of port device target-driven zones.	<u>Get-3PARPortDeviceTDZ_WSAPI</u>
<u>Get-3PARFCSwitches_WSAPI</u>	Fetches a list of all FC switches that are connected to a specified port.	<u>Get-3PARFCSwitches_WSAPI</u>
<u>New-3PARiSCSIVlan_WSAPI</u>	Creates a VLAN on an iSCSI port.	<u>New-3PARiSCSIVlan_WSAPI</u>
<u>Set-3PARiSCSIVlan_WSAPI</u>	Configures a VLAN on an iSCSI port.	<u>Set-3PARiSCSIVlan_WSAPI</u>
<u>Reset-3PARiSCSIPort_WSAPI</u>	Resets an iSCSI port configuration.	<u>Reset-3PARiSCSIPort_WSAPI</u>
<u>Remove-3PARiSCSIVlan_WSAPI</u>	Removes an iSCSI port VLAN.	<u>Remove-3PARiSCSIVlan_WSAPI</u>

Virtual LUNs cmdlets

cmdlet	Description	For details, see
<u>New-3PARVLun_WSAPI</u>	Creates a VLUN	<u>New-3PARVLun_WSAPI</u>
<u>Remove-3PARVLun_WSAPI</u>	Removes a VLUN.	<u>Remove-3PARVLun_WSAPI</u>
<u>Get-3PARVLun_WSAPI</u>	Fetches a single or list of Vlun.	<u>Get-3PARVLun_WSAPI</u>
<u>Get-3PARVLunUsingFilters_WSAPI</u>	Fetches the VLUNs using filters.	<u>Get-3PARVLunUsingFilters_WSAPI</u>

Copy operations Cmdlets

cmdlet	Description	For details, see
New-3PARVVSnapshot_WSAPI	Creates a volume snapshot.	<u>New-3PARVVSnapshot_WSAPI</u>
New-3PARVVListGroupSnapshot_WSAPI	Creates group snapshots of a virtual volumes list	<u>New-3PARVVListGroupSnapshot_WSAPI</u>
New-3PARVVPhysicalCopy_WSAPI	Creates a physical copy of a volume.	<u>New-3PARVVPhysicalCopy_WSAPI</u>
Stop-3PARPhysicalCopy_WSAPI	Stops the physical copy of a volume.	<u>Stop-3PARPhysicalCopy_WSAPI</u>
Reset-3PARPhysicalCopy_WSAPI	Resynchronizes a physical copy to its parent volume.	<u>Reset-3PARPhysicalCopy_WSAPI</u>
Move-3PARVirtualCopy_WSAPI	Promotes the changes from a virtual copy back onto the base volume, thereby overwriting the base volume with the virtual copy.	<u>Move-3PARVirtualCopy_WSAPI</u>
New-3PARVVSetSnapshot_WSAPI	Creates a VV-set snapshot.	<u>New-3PARVVSetSnapshot_WSAPI</u>
New-3PARVVSetPhysicalCopy_WSAPI	Creates a VV-set physical copy.	<u>New-3PARVVSetPhysicalCopy_WSAPI</u>
Reset-3PARVVSetPhysicalCopy_WSAPI	Resynchronizes a VV set physical copy.	<u>Reset-3PARVVSetPhysicalCopy_WSAPI</u>
Stop-3PARVVSetPhysicalCopy_WSAPI	Stops a VV set physical copy.	<u>Stop-3PARVVSetPhysicalCopy_WSAPI</u>
Move-3PARVVSetVirtualCopy_WSAPI	Promotes the changes from a vv set virtual copy back onto the base volume, thereby overwriting the base volume with the virtual copy.	<u>Move-3PARVVSetVirtualCopy_WSAPI</u>
Get-3PARTask_WSAPI	Fetches the status of all or given tasks.	<u>Get-3PARTask_WSAPI</u>
Update-3PARVVOVVSets_WSAPI	Updates the virtual copies or VV-sets.	<u>Update-3PARVVOVVSets_WSAPI</u>

Remote Copy Cmdlets

cmdlet	Description	For details, see
New-3PARRCopyGroup_WSAPI	Creates a Remote Copy group.	<u>New-3PARRCopyGroup_WSAPI</u>
Update-3PARRCopyGroup_WSAPI	Modifies a Remote Copy group.	<u>Update-3PARRCopyGroup_WSAPI</u>
Start-3PARRCopyGroup_WSAPI	Starts a Remote Copy group.	<u>Start-3PARRCopyGroup_WSAPI</u>

Table Continued

Stop-3PARRCopyGroup_WSAPI	Stops a Remote Copy group.	<u>Stop-3PARRCopyGroup_WSAPI</u>
Sync-3PARRCopyGroup_WSAPI	Synchronizes a Remote Copy group.	<u>Sync-3PARRCopyGroup_WSAPI</u>
Remove-3PARRCopyGroup_WSAPI	Removes a Remote Copy group.	<u>Remove-3PARRCopyGroup_WSAPI</u>
Restore-3PARRCopyGroup_WSAPI	Recovers a Remote Copy group.	<u>Restore-3PARRCopyGroup_WSAPI</u>
Add-3PARVVToRCopyGroup_WSAPI	Admits a volume into a Remote Copy group.	<u>Add-3PARVVToRCopyGroup_WSAPI</u>
Remove-3PARVVFromRCopyGroup_WSAPI	Dismisses a volume from a Remote Copy group.	<u>Remove-3PARVVFromRCopyGroup_WSAPI</u>
New-3PARRCopyTarget_WSAPI	Creates a Remote Copy target.	<u>New-3PARRCopyTarget_WSAPI</u>
Update-3PARRCopyTarget_WSAPI	Modifies a Remote Copy Target.	<u>Update-3PARRCopyTarget_WSAPI</u>
Update-3PARRCopyGroupTarget_WSAPI	Modifies a Remote Copy group target.	<u>Update-3PARRCopyGroupTarget_WSAPI</u>
Add-3PARTargetToRCopyGroup_WSAPI	Admits a target into a Remote Copy group.	<u>Add-3PARTargetToRCopyGroup_WSAPI</u>
Remove-3PARTargetFromRCopyGroup_WSAPI	Removes a target from a Remote Copy group.	<u>Remove-3PARTargetFromRCopyGroup_WSAPI</u>
New-3PARSnapRCGroupVV_WSAPI	Creates coordinated snapshots across all Remote Copy group volumes.	<u>New-3PARSnapRCGroupVV_WSAPI</u>
Get-3PARRCopyInfo_WSAPI	Fetches the overall Remote Copy information.	<u>Get-3PARRCopyInfo_WSAPI</u>
Get-3PARRCopyTarget_WSAPI	Fetches all or a single Remote Copy targets.	<u>Get-3PARRCopyTarget_WSAPI</u>
Get-3PARRCopyGroup_WSAPI	Fetches all or a single Remote Copy Group.	<u>Get-3PARRCopyGroup_WSAPI</u>
Get-3PARRCopyGroupTarget_WSAPI	Fetches all or a single Remote Copy Group target.	<u>Get-3PARRCopyGroupTarget_WSAPI</u>
Get-3PARRCopyGroupVV_WSAPI	Fetches all or a single Remote Copy Group volume.	<u>Get-3PARRCopyGroupVV_WSAPI</u>
Get-3PARRCopyGroupTarget_WSAPI	Fetches all or a single Remote Copy Group target.	<u>Get-3PARRCopyGroupTarget_WSAPI</u>
Get-3PARRCopyGroupVV_WSAPI	Fetches all or a single Remote Copy Group volume.	<u>Get-3PARRCopyGroupVV_WSAPI</u>
Get-3PARRCopyLink_WSAPI	Fetches all or a single Remote Copy Link.	<u>Get-3PARRCopyLink_WSAPI</u>

System information queries and management cmdlets

cmdlet	Description	For details, see
Get-3PARSystem_WSAPI	Retrieves information about the array.	<u>Get-3PARSystem_WSAPI</u>
Update-3PARSystem_WSAPI	Updates the storage system parameters.	<u>Update-3PARSystem_WSAPI</u>
Get-3PARVersion_WSAPI	Fetches the version information.	<u>Get-3PARVersion_WSAPI</u>
Get-3PARWSAPIConfigInfo	Fetches the WSAPI configuration information.	<u>Get-3PARWSAPIConfigInfo</u>
Get-3PARTask_WSAPI	Fetches the status of all or given tasks.	<u>Get-3PARTask_WSAPI</u>
Stop-3PAROngoingTask	Cancels the ongoing task.	<u>Stop-3PAROngoingTask</u>
Set-3PARFlashCache_WSAPI	Sets a Flash Cache policy	<u>Set-3PARFlashCache_WSAPI</u>

Flash cache operations cmdlets

cmdlet	Description	For details, see
New-3PARFlashCache_WSAPI	Creates a Flash Cache.	<u>New-3PARFlashCache_WSAPI</u>
Remove-3PARFlashCache_WSAPI	Removes a Flash Cache.	<u>Remove-3PARFlashCache_WSAPI</u>
Get-3PARFlashCache_WSAPI	Fetches the Flash Cache information.	<u>Get-3PARFlashCache_WSAPI</u>

Available space cmdlets

cmdlet	Description	For details, see
Get-3PARCapacity_WSAPI	Fetches the overall system capacity.	<u>Get-3PARCapacity_WSAPI</u>

WSAPI user and role information cmdlets

cmdlet	Description	For details, see
Get-3PARUsers_WSAPI	Fetches all or a single WSAPI users information.	<u>Get-3PARUsers_WSAPI</u>
Get-3PARRoles_WSAPI	Fetches all or a single WSAPI role information.	<u>Get-3PARRoles_WSAPI</u>

AO configuration information cmdlets

cmdlet	Description	For details, see
Get-3PARAOConfiguration_WSAPI	Get all or a single WSAPI AO configuration information.	<u>Get-3PARAOConfiguration_WSAPI</u>

HPE 3PAR System Reporter cmdlets

cmdlet	Description	For details, see
Get-3PARCacheMemoryStatisticsDataReports_WSAPI	Fetches Cache memory statistics data reports.	<u>Get-3PARCacheMemoryStatisticsDataReports_WSAPI</u>
Get-3PARCPGSpaceDataReports_WSAPI	Fetches CPG space data using either Versus Time or At Time reports.	<u>Get-3PARCPGSpaceDataReports_WSAPI</u>
Get-3PARCPGStatisticalDataReports_WSAPI	Fetches CPG statistical data using either Versus Time or At Time reports.	<u>Get-3PARCPGStatisticalDataReports_WSAPI</u>
Get-3PARCPUStatisticalDataReports_WSAPI	Fetches CPU statistical data reports.	<u>Get-3PARCPUStatisticalDataReports_WSAPI</u>
Get-3PARPDCapacityReports_WSAPI	Fetches the Physical disk capacity reports.	<u>Get-3PARPDCapacityReports_WSAPI</u>
Get-3PARPDStatisticsReports_WSAPI	Fetches the physical disk statistics reports using either Versus Time or At Time reports.	<u>Get-3PARPDStatisticsReports_WSAPI</u>
Get-3PARPDSpaceReports_WSAPI	Requests physical disk space data reports using either Versus Time or At Time reports.	<u>Get-3PARPDSpaceReports_WSAPI</u>
Get-3PARPortStatisticsReports_WSAPI	Requests a port statistics report using either Versus Time or At Time reports.	<u>Get-3PARPortStatisticsReports_WSAPI</u>
Get-3PARQoSStatisticalReports_WSAPI	Requests Quality of Service (QoS) statistical data using either Versus Time or At Time reports.	<u>Get-3PARQoSStatisticalReports_WSAPI</u>
Get-3PARRCStatisticalReports_WSAPI	Requests Remote Copy statistical data using either Versus Time or At Time reports.	<u>Get-3PARQoSStatisticalReports_WSAPI</u>
Get-3PARRCopyVolumeStatisticalReports_WSAPI	Requests statistical data related to Remote Copy volumes using either Versus Time or At Time reports.	<u>Get-3PARRCopyVolumeStatisticalReports_WSAPI</u>
Get-3PARVLUNStatisticsReports_WSAPI	Requests VLUN statistics data using either Versus Time or At Time reports.	<u>Get-3PARVLUNStatisticsReports_WSAPI</u>
Get-3PARVVSpaceReports_WSAPI	Requests volume space data using either Versus Time or At Time reports.	<u>Get-3PARVVSpaceReports_WSAPI</u>

HPE 3PAR PowerShell ToolKit WSAPI Cmdlets

Add Cmdlet

Add-3PARTargetToRCopyGroup_WSAPI

Synopsis

Admitting a target into a Remote Copy group

Syntax

```
Add-3PARTargetToRCopyGroup_WSAPI [-GroupName] <String> [-TargetName] <String>
[[-Mode] <String>] [[-LocalVolumeName] <String>] [[-RemoteVolumeName]
<String>] [[-WsapiConnection] <Object>] [<CommonParameters>]<Object>]
[<CommonParameters>]
```

Description

Admitting a target into a Remote Copy group

Parameters

GroupName <String>

Remote Copy group Name.

TargetName <String>

Specifies the name of the target to admit to an existing Remote Copy group.

Mode <String>

Specifies the mode of the target being added.

- SYNC: Remote Copy group mode is synchronous
- PERIODIC: Remote Copy group mode is periodic. Although WSAPI 1.5 and later supports PERIODIC 2, Hewlett Packard Enterprise recommends using PERIODIC 3
- ASYNC: Remote Copy group mode is asynchronous

LocalVolumeName <String>

Name of the volume on the primary.

RemoteVolumeName <String>

Name of the volume on the target

WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Add-3PARTargetToRCopyGroup_WSAPI
C:\PS>Add-3PARTargetToRCopyGroup_WSAPI -GroupName xxx -TargetName xxx
C:\PS>Add-3PARTargetToRCopyGroup_WSAPI -GroupName xxx -TargetName xxx -Mode xxx
C:\PS>Add-3PARTargetToRCopyGroup_WSAPI -GroupName xxx -TargetName xxx -Mode xxx -LocalVolumeName xxx -RemoteVolumeName xxx
```



TIP:

- To see the examples, enter `get-help Add-3PARTargetToRCopyGroup_WSAPI -examples`.
 - For more information, enter `get-help Add-3PARTargetToRCopyGroup_WSAPI -detailed`.
 - For technical information, enter `get-help Add-3PARTargetToRCopyGroup_WSAPI -full`.
 - For online help, enter `get-help Add-3PARTargetToRCopyGroup_WSAPI -online`.
-

Add-3PARVVTorCopyGroup_WSAPI

Synopsis

Admit a volume into a Remote Copy group.

Syntax

```
Add-3PARVVTorCopyGroup_WSAPI [-GroupName] <String> [-VolumeName] <String> [[-SnapshotName] <String>] [[-VolumeAutoCreation] <Boolean>] [[-SkipInitialSync] <Boolean>] [[-DifferentSecondaryWWN] <Boolean>] [-TargetName] <String> [-SecVolumeName] <String> [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Admit a volume into a Remote Copy group

Parameters

GroupName <String>

Remote Copy group Name.

VolumeName <String>

Specifies the name of the existing virtual volume to be admitted to an existing Remote Copy group.

SnapshotName <String>

The optional read-only snapshotName is a starting snapshot when the group is started without performing a full resynchronization.

Instead, for synchronized groups, the volume synchronizes deltas between this snapshotName and the base volume. For periodic groups, the volume synchronizes deltas between this snapshotName and a snapshot of the base.

VolumeAutoCreation <Boolean>

If volumeAutoCreation is set to true, the secondary volumes should be created automatically on the target using the CPG associated with the Remote Copy group on that target. This cannot be set to true if the snapshot name is specified

SkipInitialSync <Boolean>

If skipInitialSync is set to true, the volume should skip the initial sync. This is for the admission of volumes that have been presynced with the target volume. This cannot be set to true if the snapshot name is specified.

DifferentSecondaryWWN <Boolean>

Setting differentSecondary WWN to true, ensures that the system uses a different WWN on the secondary volume. Defaults to false. Use with volumeAutoCreation

TargetName <String>

Specify at least one pair of targetName and secVolumeName.

SecVolumeName <String>

Specifies the name of the secondary volume on the target system.

WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Add-3PARVVTorCopyGroup_Wsapi
```

```
C:\PS>Add-3PARVVTorCopyGroup_Wsapi -GroupName xxx -VolumeName xxx -TargetName xxx -SecVolumeName xxx
```

**TIP:**

- To see the examples, enter `get-help Add-3PARTargetToRCopyGroup_Wsapi -examples`.
- For more information, enter `get-help Add-3PARTargetToRCopyGroup_Wsapi -detailed`.
- For technical information, enter `get-help Add-3PARTargetToRCopyGroup_Wsapi -full`.
- For online help, enter `get-help Add-3PARTargetToRCopyGroup_Wsapi -online`.

Add-Rem3PARHostWWN_Wsapi

Synopsis

Add or remove a host WWN from target-driven zoning.

Syntax

```
Add-Rem3PARHostWWN_Wsapi [-HostName] <String> [-FCWWNs] <String> [[-Port] <String>] [[-AddWwnToHost]] [[-RemoveWwnFromHost]] [[-AddWwnToTZone]] [[-RemoveWwnFromTZone]] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Add a host WWN from a target-driven zoning. Any user with Super or Edit role, or any role granted with host_create permission, can perform this operation. Requires access to all domains.

Parameters

-HostName <String>

Host Name.

-FCWWNs <String>

WWNs of the host.

-Port <String>

Specifies the ports for target-driven zoning.

Use this option when the Smart SAN license is installed only.

This field is NOT supported for the following actions: ADD_WWN_TO_HOST REMOVE_WWN_FROM_HOST. It is a required field for the following actions: ADD_WWN_TO_TZONE REMOVE_WWN_FROM_TZONE.

-AddWwnToHost [<SwitchParameter>]

It is an action to be performed. Recommended method for adding WWN to a host. Operates the same way as using a PUT method with the pathOperation specified as ADD.

-RemoveWwnFromHost [<SwitchParameter>]

Recommended method for removing WWN from host. Operates the same as using the PUT method with the pathOperation specified as REMOVE.

-AddWwnToTZone [<SwitchParameter>]

Adds WWN to target driven zone. Creates the target driven zone if it does not exist, and adds the WWN to the host if it does not exist.

-RemoveWwnFromTZone [<SwitchParameter>]

Removes WWN from the targetzone. Removes the target driven zone unless it is the last WWN. Does not remove the last WWN from the host.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Add-Rem3PARHostWWN_WSAPI -HostName MyHost -FCWWNs "123abc" -AddWwnToHost
C:\PS>Add-Rem3PARHostWWN_WSAPI -HostName MyHost -FCWWNs "$wwn" -AddWwnToHost
C:\PS>Add-Rem3PARHostWWN_WSAPI -HostName MyHost -FCWWNs "$wwn" -RemoveWwnFromHost
```



TIP:

- To see the examples, enter `get-help Add-Rem3PARHostWWN_WSAPI -examples`.
- For more information, enter `get-help Add-Rem3PARHostWWN_WSAPI -detailed`.
- For technical information, enter `get-help Add-Rem3PARHostWWN_WSAPI -full`.
- For online help, enter `get-help Add-Rem3PARHostWWN_WSAPI -online`.

Close-3PARWSAPIConnection

Synopsis

Delete a session key.

Syntax

```
Close-3PARWSAPIConnection [[-WsapiConnection] <Object>] [-WhatIf] [-Confirm]  
[<CommonParameters>]
```

Description

When finishes making requests to the server it should delete the session keys, it created. Unused session keys expire automatically after the configured session times out.

Parameters

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

-WhatIf [<SwitchParameter>]

Checks if another process is running.

-Confirm [<SwitchParameter>]

Confirms for closing the connection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Close-3PARWSAPIConnection
```



TIP:

- To see the examples, enter `get-help Close-3PARWSAPIConnection -examples`.
- For more information, enter `get-help Close-3PARWSAPIConnection -detailed`.
- For technical information, enter `get-help Close-3PARWSAPIConnection -full`.
- For online help, enter `get-help Close-3PARWSAPIConnection -online`.

Compress-3PARVV_WSAPI

Synopsis

Tunes a volume.

Syntax

```
Compress-3PARVV_WSAPI [-VVName] <String> [-TuneOperation] <String> [[-  
UserCPG] <String>] [[-SnapCPG] <String>] [[-ConversionOperation] <String>] [-  
KeepVV] <String> [[-Compression] <Boolean>] [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Tune a volume.

Parameters

-VVName <String>

Name of the volume to be tuned.

-TuneOperation <String>

Tune a operation.

USR_CPG Change the user CPG of the volume.

SNP_CPG Change the snap CPG of the volume.

-UserCPG <String>

Specifies the new user CPG to which the volume will be tuned.

-SnapCPG <String>

Specifies the snap CPG to which the volume will be tuned.

-ConversionOperation <String>

TPVV Convert the volume to a TPVV.

FPVV Convert the volume to an FPVV.

TDVV Convert the volume to a TDVV.

-KeepVV <String>

Name of the new volume where the original logical disks are saved.

-Compression <Boolean>

Enables (true) or disables (false) compression. You cannot compress a fully provisioned volume.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Compress-3PARVV_WSAPI -VVName MyVV -TuneOperation USR_CPG -UserCPG MyuserCpg -ConversionOperation TPVV -KeepVV MyNewVV
C:\PS>Compress-3PARVV_WSAPI -VVName xxx -TuneOperation USR_CPG -KeepVV xxx
C:\PS>Compress-3PARVV_WSAPI -VVName xxx -TuneOperation USR_CPG -UserCPG xxx -KeepVV xxx
C:\PS>Compress-3PARVV_WSAPI -VVName xxx -TuneOperation SNP_CPG -SnapCPG xxx -KeepVV xxx
C:\PS>Compress-3PARVV_WSAPI -VVName xxx -TuneOperation USR_CPG -UserCPG xxx -ConversionOperation xxx -KeepVV xxx
C:\PS>Compress-3PARVV_WSAPI -VVName xxx -TuneOperation USR_CPG -UserCPG xxx -Compression $true -KeepVV xxx
```

**TIP:**

- To see the examples, enter `get-help Compress-3PARVV_WSAPI -examples`.
- For more information, enter `get-help Compress-3PARVV_WSAPI -detailed`.
- For technical information, enter `get-help Compress-3PARVV_WSAPI -full`.
- For online help, enter `get-help Compress-3PARVV_WSAPI -online`.

Get cmdlets

Get-3PARAOConfiguration_WSAPI

Synopsis

Fetches single or all WSAPI AO configuration information.

Syntax

```
Get-3PARAOConfiguration_WSAPI [[-AOconfigName] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Fetches single or all WSAPI AO configuration information.

Parameters**-AOconfigName <String>**

AO configuration name.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARAOConfiguration_WSAPI
```

Fetches all WASAPI AO configuration information.

```
C:\PS>Get-3PARAOConfiguration_WSAPI -AOconfigName XYZ
```

Get single WSAPI AO configuration information.

**TIP:**

- To see the examples, enter `get-help Get-3PARAOConfiguration_WSAPI -examples`.
- For more information, enter `get-help Get-3PARAOConfiguration_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARAOConfiguration_WSAPI -full`.

Get-3PARCacheMemoryStatisticsDataReports_WSAPI

Synopsis

Cache memory statistics data reports.

Syntax

```
Get-3PARCacheMemoryStatisticsDataReports_WSAPI [[-VersusTime]] [[-AtTime]]  
[[[-Frequency_Hires]] [[-Frequency_Hourly]] [[-Frequency_Daily]] [[-NodeId]  
<String>] [[-Groupby] <String>] [[-GETime] <String>] [[-LETime] <String>] [[-  
WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Cache memory statistics data reports. Request cache memory statistics data using either Versus Time or At Time reports.

Parameters

-VersusTime [<SwitchParameter>]

Request cache memory statistics data using Versus Time reports.

-AtTime [<SwitchParameter>]

Request cache memory statistics data using At Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Options are: hires-based on 5 minutes (high resolution)

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Options are: hourly

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Options are: daily

-Nodeid <String>

Provides cache memory data for the specified nodes, in the range of 0 to 7. For example, specify node: 1,3,2. With no nodeid specified, the system calculates cache memory data for all nodes in the system.

-Groupby <String>

Groups the sample data into the node category.

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.

- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- perTime: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- perGroup: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- onlyCompareby: When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-Compareby <String>

Specifies whether to display the top records or the bottom records. Choose value between Top and Bottom.

-NoOfRecords <Int32>

Specifies the number of records to return in the range of 1 to 32 (Versus Time) and 1 to 128 (At Time).

-ComparebyField <String>

Select any one from the following:

- hitIRead: Number of read I/Os per second while data was in cache.
- hitIOWrite: Number of write I/Os per second while data was in cache.
- missIRead: Number of read I/Os per second while data was not in cache.
- accessIRead: Number of read I/Os per second.
- accessIOWrite: Number of write I/Os per second.
- hitPctRead: Hits divided by accesses in percentage for read I/Os.
- hitPctWrite: Hits divided by accesses in percentage for write I/Os.
- totalAccessIO: Number of total read and write I/Os per second.
- lockBulkIO: Number of pages modified per second by host I/O and written to disk by the flusher.
- pageStatisticDelayAckPagesNL_7: Delayed acknowledgment pages associated with NL 7.
- pageStatisticDelayAckPagesFC: Delayed acknowledgment pages associated with FC.
- pageStatisticDelayAckPagesSSD: Delayed acknowledgment pages associated with SSD.
- pageStatisticPageStatesFree: Number of cache pages without valid data on them.
- pageStatisticPageStatesClean: Number of clean cache pages.
- pageStatisticPageStatesWriteOnce: Number of dirty pages modified exactly 1 times.
- pageStatisticPageStatesWriteMultiple: Number of dirty pages modified more than 1 time.

- `pageStatisticPageStatesWriteScheduled`: Number of pages scheduled to be written to disk.
- `pageStatisticPageStatesWriteing`: Number of pages being written to disk.
- `pageStatisticPageStatesDcowpend`: Number of pages waiting for delayed copy on write resolution.
- `pageStatisticDirtyPagesNL`: Dirty cluster memory pages associated with NL 7.
- `pageStatisticDirtyPagesFC`: Dirty cluster memory pages associated with FC.
- `pageStatisticDirtyPagesSSD`: Dirty cluster memory pages associated with SSD.
- `pageStatisticMaxDirtyPagesNL_7`: Maximum allowed number of dirty cluster memory pages associated with NL 7.
- `pageStatisticMaxDirtyPagesFC`: Maximum allowed number of dirty cluster memory pages associated with FC.
- `pageStatisticMaxDirtyPagesSSD`: Maximum allowed number of dirty cluster memory pages associated with SSD.

-GETime <String>

Greater than time For At Time query expressions, you can use the `sampleTime` parameter.

-LETime <String>

Less than time For At Time query expressions, you can use the `sampleTime` parameter.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARCacheMemoryStatisticsDataReports_Wsapi -
VersusTime -Frequency_Hires -GETime 2018-07-18T13:20:00+05:30 -LETime
2018-07-18T13:25:00+05:30
```

```
C:\PS>Get-3PARCacheMemoryStatisticsDataReports_Wsapi -VersusTime -Frequency_Hires -GETime 2018-07-18T13:20:00+05:30
C:\PS>Get-3PARCacheMemoryStatisticsDataReports_Wsapi -VersusTime -Frequency_Hires -LETime 2018-07-18T13:25:00+05:30
```



TIP:

- To see the examples, enter `get-help Get-3PARCacheMemoryStatisticsDataReports_Wsapi -examples`.
- For more information, enter `get-help Get-3PARCacheMemoryStatisticsDataReports_Wsapi -detailed`.
- For technical information, enter `get-help Get-3PARCacheMemoryStatisticsDataReports_Wsapi -full`.
- For online help, enter `get-help Get-3PARCacheMemoryStatisticsDataReports_Wsapi -online`.

Get-3PARCapacity_WSAPI

Synopsis

Overall system capacity.

Syntax

```
Get-3PARCapacity_WSAPI [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Overall system capacity.

Parameters

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARCapacity_WSAPI
```

Display Overall system capacity.



TIP:

- To see the examples, enter `get-help Get-3PARCapacity_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARCapacity_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARCapacity_WSAPI -full`.
 - For online help, enter `get-help Get-3PARCapacity_WSAPI -online`.
-

Get-3parCmdList_WSAPI

Synopsis

Fetches a list of All HPE3par PowerShell cmdlets.

Syntax

```
Get-3parCmdList_WSAPI [<CommonParameters>]
```

Description

Fetches a list of All HPE3par PowerShell cmdlets.

Parameters

< CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3parCmdList_WSAPI
```



TIP:

- To see the examples, enter `get-help Get-3parCmdList_WSAPI -examples`.
 - For more information, enter `get-help Get-3parCmdList_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3parCmdList_WSAPI -full`.
 - For online help, enter `get-help Get-3parCmdList_WSAPI -online`.
-

Get-3PARCpg_WSAPI

Synopsis

Fetches a list of all or a single common provisioning groups (CPGs) in the storage system.

Syntax

```
Get-3PARCpg_WSAPI [[-CPGName] <String>] [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Fetches a list of all or a single common provisioning groups (CPGs) in the storage system.

Parameters

-CPGName <String>

Specifies the name of a cpg to be listed.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARCpg_WSAPI
```

List all or specified common provisioning groups (CPGs) in the system.

```
C:\PS>Get-3PARCpg_WSAPI -CPGName "MyCPG"
```

Lists specified CPG name.

**TIP:**

- To see the examples, enter `get-help Get-3PARCpg_WSAPI -examples`.
- For more information, enter `get-help Get-3PARCpg_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARCpg_WSAPI -full`.
- For online help, enter `get-help Get-3PARCpg_WSAPI -online`.

Get-3PARCPGSpaceDataReports_WSAPI

Synopsis

CPG space data using either Versus Time or At Time reports.

Syntax

```
Get-3PARCPGSpaceDataReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-Frequency_Hires]] [[-Frequency_Hourly]] [[-Frequency_Daily]] [[-CpgName] <String>] [[-DiskType] <String>] [[-RAIDType] <String>] [[-Groupby] <String>] [[-Compareby] <String>] [[-GETime] <String>] [[-LETime] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

CPG space data using either Versus Time or At Time reports.

Parameters**-VersusTime [<SwitchParameter>]**

Request CPG space data using Versus Time reports.

-AtTime [<SwitchParameter>]

Request CPG space data using At Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution).

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly.

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily.

-CpgName <String>

Indicates that the CPG space sample data is only for the specified CPG names. With no name specified, the system calculates the CPG space sample data for all CPGs.

-DiskType <String>

The CPG space sample data is for the specified disk types. With no disk type specified, the system calculates the CPG space sample data is for all the disk types in the system.

FC: Fibre Channel

NL: Near Line

SSD: SSD

-RAIDType <String>

Indicates that the CPG space sample data is for the specified raid types. With no type specified, the system calculates the CPG space sample data for all the raid types in the system.

R0: RAID level 0

R1: RAID level 1

R5: RAID level 5

R6: RAID level 6

-Groupby <String>

Groups the sample data into specified categories. With no category specified, the system group the data into all categories. To specify multiple groupby categories, separate them using a comma. For example, id, diskType, RAIDType.

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.
- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- perTime: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- perGroup: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- onlyCompareby: When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-Compareby <String>

Specifies whether to display the top records or the bottom records. Choose value between Top and Bottom.

-NoOfRecords <Int32>

Specifies the number of records to return in the range of 1 to 32 (Versus Tlme) and 1 to 128 (At Time).

-ComparebyField <String>

Select any one from the following:

- totalSpaceMiB: Total space in MiB.
- freeSpaceMiB: Free space in MiB.
- freeSpaceMiB: Free space in MiB.
- usedSpaceMiB: Used space in MiB.
- compaction: Compaction ratio.
- compression: Compression ratio.
- deduplication: Deduplication ratio.
- dataReduction: Data reduction ratio.

-GETime <String>

Generate time for At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Latest time for At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>get-help Get-3PARCPGSpaceDataReports_Wsapi
C:\PS>Get-3PARCPGSpaceDataReports_Wsapi -VersusTime -Frequency_Hires
C:\PS>Get-3PARCPGSpaceDataReports_Wsapi -VersusTime -Frequency_Hires -RAIDType "R1,R2"
C:\PS>Get-3PARCPGSpaceDataReports_Wsapi -VersusTime -Frequency_Hires -Groupby "id,diskType,RAIDType"
C:\PS>Get-3PARCPGSpaceDataReports_Wsapi -VersusTime -Frequency_Hourly -Summary max
C:\PS>Get-3PARCPGSpaceDataReports_Wsapi -AtTime -Frequency_Hires -DiskType "FC,NL"
C:\PS>Get-3PARCPGSpaceDataReports_Wsapi -AtTime -Frequency_Daily -Compareby top -NoOfRecords 10 -ComparebyField totalSpaceMiB
C:\PS>Get-3PARCPGSpaceDataReports_Wsapi -VersusTime -Frequency_Hires -GETime
2018-07-18T13:20:00+05:30 -LETime 2018-07-18T13:25:00+05:30
```



TIP:

- To see the examples, enter `get-help Get-3PARCPGSpaceDataReports_Wsapi -examples`.
 - For more information, enter `get-help Get-3PARCPGSpaceDataReports_Wsapi -detailed`.
 - For technical information, enter `get-help Get-3PARCPGSpaceDataReports_Wsapi -full`.
 - For online help, enter `get-help Get-3PARCPGSpaceDataReports_Wsapi -online`.
-

Get-3PARCPGStatisticalDataReports_WSAPI

Synopsis

CPG statistical data using either Versus Time or At Time reports.

Syntax

```
Get-3PARCPGStatisticalDataReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-Frequency_Hires]] [[-Frequency_Hourly]] [[-Frequency_Daily]] [[-CpgName] <String>] [[-Groupby] <String>] [[-GETime] <String>] [[-LETime] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

CPG statistical data using either Versus Time or At Time reports.

Parameters

-VersusTime [<SwitchParameter>]

Request CPG space data using Versus Time reports.

-AtTime [<SwitchParameter>]

Request CPG space data using At Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution).

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly.

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily.

-CpgName <String>

Indicates that the CPG space sample data is only for the specified CPG names. With no name specified, the system calculates the CPG space sample data for all CPGs.

-Groupby <String>

Group the sample data into categories. With no category specified, the system groups data into all categories. Separate multiple groupby categories using a comma (,) and no spaces. Use the structure, groupby:name,domain.

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.

- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- perTime: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- perGroup: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- onlyCompareby: When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-Compareby <String>

Specifies whether to display the top records or the bottom records. Choose value between Top and Bottom.

-NoOfRecords <Int32>

Specifies the number of records to return in the range of 1 to 32 (Versus Time) and 1 to 128 (At Time).

-ComparebyField <String>

totalIOPs: Total number of IOPs.

-GETime <String>

Greater than time For At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Less than time For At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>get-help Get-3PARCPGStatisticalDataReports_Wsapi
```


**TIP:**

- To see the examples, enter `get-help Get-3PARCPGStatisticalDataReports_WSAPI -examples`.
- For more information, enter `get-help Get-3PARCPGStatisticalDataReports_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARCPGStatisticalDataReports_WSAPI -full`.
- For online help, enter `get-help Get-3PARCPGStatisticalDataReports_WSAPI -online`.

Get-3PARCPUStatisticalDataReports_WSAPI

Synopsis

CPU statistical data reports.

Syntax

```
Get-3PARCPUStatisticalDataReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-Frequency_Hires]] [[-Frequency_Hourly]] [[-Frequency_Daily]] [[-NodeId] <String>] [[-Groupby] <String>] [[-GETime] <String>] [[-LETime] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

CPU statistical data reports.

Parameters

-VersusTime [<SwitchParameter>]

Request CPU space data using Versus Time reports.

-AtTime [<SwitchParameter>]

Request CPU space data using At Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution).

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly.

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily.

-Nodeld <String>

Indicates that the CPU statistics sample data is only for the specified nodes. The valid range of node IDs is 0 - 7. For example, specify node: 1, 3, 2. With no node ID specified, the system calculates CPU statistics sample data for all nodes in the system.

-Groupby <String>

You can group the CPU statistical data into categories. With no groupby parameter specified, the system groups the data into all available categories.

-GETime <String>

Greater than time For At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Less than time For At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARCPUStatisticalDataReports_WSAPI -VersusTime -Frequency_Hires -
GETime 2018-07-18T13:20:00+05:30 -LETime 2018-07-18T13:25:00+05:30

C:\PS>Get-3PARCPUStatisticalDataReports_WSAPI -VersusTime -Frequency_Hires -GETime 2018-07-18T13:20:00+05:30

C:\PS>Get-3PARCPUStatisticalDataReports_WSAPI -VersusTime -Frequency_Hires -LETime 2018-07-18T13:25:00+05:30
```

**TIP:**

- To see the examples, enter `get-help Get-3PARCPUStatisticalDataReports_WSAPI -examples`.
- For more information, enter `get-help Get-3PARCPUStatisticalDataReports_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARCPUStatisticalDataReports_WSAPI -full`.
- For online help, enter `get-help Get-3PARCPUStatisticalDataReports_WSAPI -online`.

Get-3PARDirPermission_WSAPI

Synopsis

Get directory permission properties.

Syntax

```
Get-3PARDirPermission_WSAPI [-ID] <Int32> [[-WsapiConnection] <Object>]
[<CommonParameters>]
```

Description

Get directory permission properties.

Parameters

-ID <Int32>

File Share ID contains the unique identifier of the File Share you want to Query.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

< CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARDirPermission_WSAPI -ID 12
```



TIP:

- To see the examples, enter `get-help Get-3PARDirPermission_WSAPI -examples`.
- For more information, enter `get-help Get-3PARDirPermission_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARDirPermission_WSAPI -full`.
- For online help, enter `get-help Get-3PARDirPermission_WSAPI -online`.

Get-3PAREventLogs_WSAPI

Synopsis

Get all past events from system event logs or a logged event information for the available resources.

Syntax

```
Get-3PAREventLogs_WSAPI [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Get all past events from system event logs or a logged event information for the available resources.

Parameters

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

< CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PAREventLogs_WSAPI
```

**TIP:**

- To see the examples, enter `get-help Get-3PAREventLogs_WSAPI -examples`.
- For more information, enter `get-help Get-3PAREventLogs_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PAREventLogs_WSAPI -full`.
- For online help, enter `get-help Get-3PAREventLogs_WSAPI -online`.

Get-3PARFCSwitches_WSAPI

Synopsis

Get a list of all FC switches connected to a specified port.

Syntax

```
Get-3PARFCSwitches_WSAPI [-NSP] <String> [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Get all past events from system event logs or a logged event information for the available resources.

Parameters

-NSP <String>

The `<n : s : p>` variable identifies the node, slot, and port of the device.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARFCSwitches_WSAPI -NSP 0:0:0
```

Get a list of all FC switches connected to a specified port.

**TIP:**

- To see the examples, enter `get-help Get-3PARFCSwitches_WSAPI -examples`.
- For more information, enter `get-help Get-3PARFCSwitches_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARFCSwitches_WSAPI -full`.
- For online help, enter `get-help Get-3PARFCSwitches_WSAPI -online`.

Get-3PARFilePersonaQuota_WSAPI

Synopsis

Fetches single or all the File Persona quota.

Syntax

```
Get-3PARFilePersonaQuota_WSAPI [[-ID] <Int32>] [[-Name] <String>] [[-Key] <String>] [[-QType] <String>] [[-VFS] <String>] [[-FPG] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Get all or single File Persona quota.

Parameters

-ID <Int32>

The <id> variable contains the unique ID of the File Persona.

-Name <String>

User, group, or fstore name.

-Key <String>

User, group, or fstore id.

-QType <String>

Quota type.

-VFS <String>

Virtual File Servers name.

-FPG <String>

File Provisioning Groups name.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

< CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARFilePersonaQuota_WSAPI
```

Get List of File Persona quota.

```
C:\PS>Get-3PARFilePersonaQuota_WSAPI -ID xxx
```

Get Single File Persona quota.



TIP:

- To see the examples, enter `get-help Get-3PARFilePersonaQuota_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARFilePersonaQuota_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARFilePersonaQuota_WSAPI -full`.
 - For online help, enter `get-help Get-3PARFilePersonaQuota_WSAPI -online`.
-

Get-3PARFileServices_WSAPI

Synopsis

Get the File Services information.

Syntax

```
Get-3PARFileServices_WSAPI [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Get the File Services information.

Parameters

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

< CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARFileServices_WSAPI
```

Displays File Services Information



TIP:

- To see the examples, enter `get-help Get-3PARFileServices_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARFileServices_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARFileServices_WSAPI -full`.
 - For online help, enter `get-help Get-3PARFileServices_WSAPI -online`.
-

Get-3PARFileShare_WSAPI

Synopsis

Fetches all or single File Shares.

Syntax

```
Get-3PARFileShare_WSAPI [[-ID] <Int32>] [[-FSName] <String>] [[-FSType] <String>] [[-VFS] <String>] [[-FPG] <String>] [[-FStore] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Fetches all or single File Shares.

Parameters

-ID <Int32>

File Share ID contains the unique identifier of the File Share you want to Query.

-FSName <String>

File Share name.

-FSType <String>

File Share type, for example, smb/nfs/obj.

-VFS <String>

Name of the Virtual File Servers.

-FPG <String>

Name of the File Provisioning Groups.

-FStore <String>

Name of the File Stores.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARFileShare_WSAPI
```

Get List of File Shares.

```
C:\PS>Get-3PARFileShare_WSAPI -ID xxx
```

Get Single File Shares.



TIP:

- To see the examples, enter `get-help Get-3PARFileShare_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARFileShare_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARFileShare_WSAPI -full`.
 - For online help, enter `get-help Get-3PARFileShare_WSAPI -online`.
-

Get-3PARFileStore_WSAPI

Synopsis

Fetches all or single File Stores..

Syntax

```
Get-3PARFileStore_WSAPI [[-FStoreID] <Int32>] [[-FileStoreName] <String>] [[-VFSName] <String>] [[-FPGName] <String>] [[-WsapiConnection] <Object>] [  
<CommonParameters>]
```

Description

Fetches all or single File Stores.

Parameters

-FStoreID <Int32>

File Stores ID.

-FileStoreName <String>

File Store Name.

-VFSName <String>

Virtual File Servers Name.

-FPGName <String>

File Provisioning Groups Name.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARFileStore_WSAPI
```

Get List of File Stores.

```
C:\PS>Get-3PARFileStore_WSAPI -ID xxx
```

Get Single File Store.



TIP:

- To see the examples, enter `get-help Get-3PARFileStore_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARFileStore_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARFileStore_WSAPI -full`.
 - For online help, enter `get-help Get-3PARFileStore_WSAPI -online`.
-

Get-3PARFileStoreSnapshot_WSAPI

Synopsis

Fetches all or single File Store snapshot.

Syntax

```
Get-3PARFileStoreSnapshot_WSAPI [[-ID] <String>] [[-FileStoreSnapshotName] <String>] [[-FileStoreName] <String>] [[-VFSName] <String>] [[-FPGName] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```


Description

Fetches all or single File Store snapshot.

Parameters

-ID <String>

File Store snapshot ID.

-FileStoreSnapshotName <String>

File Store snapshot name - exact match and pattern match.

-FileStoreName <String>

File Store name.

-VFSName <String>

The name of the VFS to which the File Store snapshot belongs.

-FPGName <String>

The name of the FPG to which the VFS belongs.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARFileStoreSnapshot_WSAPI
```

Get a list of File Stores snapshot.

```
C:\PS>Get-3PARFileStoreSnapshot_WSAPI -ID xxx
```

Get a single File Store snapshot.



TIP:

- To see the examples, enter `get-help Get-3PARFileStoreSnapshot_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARFileStoreSnapshot_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARFileStoreSnapshot_WSAPI -full`.
 - For online help, enter `get-help Get-3PARFileStoreSnapshot_WSAPI -online`.
-

Get-3PARFlashCache_WSAPI

Synopsis

Get Flash Cache information.

Syntax

```
Get-3PARFlashCache_WSAPI [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Get Flash Cache information.

Parameters

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARFlashCache_WSAPI
```

Get List of File Shares.



TIP:

- To see the examples, enter `get-help Get-3PARFlashCache_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARFlashCache_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARFlashCache_WSAPI -full`.
 - For online help, enter `get-help Get-3PARFlashCache_WSAPI -online`.
-

Get-3PARFPG_WSAPI

Synopsis

Get Single or list of File Provisioning Group.

Syntax

```
Get-3PARFPG_WSAPI [[-FPG] <String>] [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Get Single or list of File Provisioning Group.

Parameters

-FPG <String>

Name of File Provisioning Group.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARFPG_WSAPI
```

Displays a list of File Provisioning Group.

```
C:\PS>Get-3PARFPG_WSAPI -FPG MyFPG
```

Display Multiple File Provisioning Group.



TIP:

- To see the examples, enter `get-help Get-3PARFPG_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARFPG_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARFPG_WSAPI -full`.
 - For online help, enter `get-help Get-3PARFPG_WSAPI -online`.
-

Get-3PARFPGReclamationTasks_WSAPI

Synopsis

Get the reclamation tasks for the FPG.

Syntax

```
Get-3PARFPGReclamationTasks_WSAPI [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Get the reclamation tasks for the FPG.

Parameters

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARFPGReclamationTasks_WSAPI
```

Get the reclamation tasks for the FPG.

**TIP:**

- To see the examples, enter `get-help Get-3PARFPGReclamationTasks_WSAPI -examples`.
- For more information, enter `get-help Get-3PARFPGReclamationTasks_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARFPGReclamationTasks_WSAPI -full`.
- For online help, enter `get-help Get-3PARFPGReclamationTasks_WSAPI -online`.

Get-3PARHost_WSAPI

Synopsis

Get a single or list of hosts.

Syntax

```
Get-3PARHost_WSAPI [[-HostName] <String>] [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Get a single or list of hosts.

Parameters

-HostName <String>

Specify name of the Host.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARHost_WSAPI
```

Displays a list of hosts.

```
C:\PS>Get-3PARHost_WSAPI -HostName MyHost
```

Get the information of a given host.

**TIP:**

- To see the examples, enter `get-help Get-3PARHost_WSAPI -examples`.
- For more information, enter `get-help Get-3PARHost_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARHost_WSAPI -full`.
- For online help, enter `get-help Get-3PARHost_WSAPI -online`.

Get-3PARHostPersona_WSAPI

Synopsis

Fetches a single or list of host personas.

Syntax

```
Get-3PARHostPersona_WSAPI [[-Id] <Int32>] [[-WsapiAssignedId] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Get a single or list of host personas.

Parameters

-Id <Int32>

Specify host persona ID you want to query.

-WsapiAssignedId <String>

To filter by wsapi Assigned ID.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARHostPersona_WSAPI
```

Displays a list of host personas.

```
C:\PS>Get-3PARHostPersona_WSAPI -Id 10
```

Display a host persona of given ID.

```
C:\PS>Get-3PARHostPersona_WSAPI -WsapiAssignedId 100
```

Displays a host persona of given WSAPI Assigned Id.

```
C:\PS>Get-3PARHostPersona_WSAPI -Id 10
```

Get the information of a given host persona.

**TIP:**

- To see the examples, enter `get-help Get-3PARHostPersona_WSAPI-examples`.
- For more information, enter `get-help Get-3PARHostPersona_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARHostPersona_WSAPI -full`.
- For online help, enter `get-help Get-3PARHostPersona_WSAPI -online`.

Get-3PARHostSet_WSAPI

Synopsis

Get a single or list of Host Sets.

Syntax

```
Get-3PARHostSet_WSAPI [[-HostSetName] <String>] [[-Members] <String>] [[-Id] <String>] [[-Uuid] <String>] [[-WsapiConnection] <Object>] [  
<CommonParameters>]
```

Description

Get a single or list of Host Sets.

Parameters

-HostSetName <String>

Specify name of the Host Set.

-Members <String>

Specify name of the Hosts.

-Id <String>

Specify id of the Host Set.

-Uuid <String>

Specify uuid of the Host Set.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARHostSet_WSAPI
```

Displays a list of Host Set.

```
C:\PS>Get-3PARHostSet_WSAPI -HostSetName MyHostSet
```

Get the information of given Host Set.

```
C:\PS>Get-3PARHostSet_WSAPI -Members MyHost
```

Get the information of Host Set that contain MyHost as member.

```
C:\PS>Get-3PARHostSet_WSAPI -Members "MyHost,MyHost1,MyHost2"
```

Get the information of Host Set with Multiple members.

```
C:\PS>Get-3PARHostSet_WSAPI -Id 10
```

Filter Host Set with Id.

```
C:\PS>Get-3PARHostSet_WSAPI -Uuid 10
```

Filter Host Set with uuid

```
C:\PS>Get-3PARHostSet_WSAPI -Members "MyHost,MyHost1,MyHost2" -Id 10 -Uuid 10
```

Multiple filters.



TIP:

- To see the examples, enter `get-help Get-3PARHostSet_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARHostSet_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARHostSet_WSAPI -full`.
 - For online help, enter `get-help Get-3PARHostSet_WSAPI -online`.
-

Get-3PARHostWithFilter_WSAPI

Synopsis

Fetches a single or list of Hosts information with WWN filtering.

Syntax

```
Get-3PARHostWithFilter_WSAPI [[-WWN] <String>] [[-ISCSI] <String>] [[-  
WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Get a single or list of Hosts information with WWN filtering. Specify the FCPaths WWN or the iSCSIPaths names.

Parameters

-WWN <String>

Specify WWN of the Host.

-ISCSI <String>

Specify iSCSI of the Host.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARHostWithFilter_WSAPI -WWN 123
```

Get the host details with single WWN name.

```
C:\PS>Get-3PARHostWithFilter_WSAPI -WWN "123,ABC,000"
```

Get a host details with multiple WWN names.

```
C:\PS>Get-3PARHostWithFilter_WSAPI -ISCSI 123
```

Get a host detail with single iSCSI name.

```
C:\PS>Get-3PARHostWithFilter_WSAPI -ISCSI "123,ABC,000"
```

Get a host detail with multiple iSCSI names.



TIP:

- To see the examples, enter `get-help Get-3PARVLunUsingFilters_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARVLunUsingFilters_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARVLunUsingFilters_WSAPI -full`.
 - For online help, enter `get-help Get-3PARVLunUsingFilters_WSAPI-online`.
-

Get-3PARiSCSIVLANs_WSAPI

Synopsis

Querying iSCSI VLANs for an iSCSI port.

Syntax

```
Get-3PARiSCSIVLANs_WSAPI [[-Type] <String>] [[-NSP] <String>] [[-VLANtag] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Querying iSCSI VLANs for an iSCSI port.

Parameters

-Type <String>

Port connection type.

-NSP <String>

The `<n : s : p>` variable identifies the node, slot, and port of the device.

-VLANtag <String>

VLAN ID.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARiSCSIVLANS_WSAPI
```

Get the status of all the tasks.

```
C:\PS>Get-3PARiSCSIVLANS_WSAPI -Type FS
```

```
C:\PS>Get-3PARiSCSIVLANS_WSAPI -NSP 1:0:1
```

```
C:\PS>Get-3PARiSCSIVLANS_WSAPI -VLANTag xyz -NSP 1:0:1
```



TIP:

- To see the examples, enter `get-help Get-3PARiSCSIVLANS_WSAPI -examples`.
- For more information, enter `get-help Get-3PARiSCSIVLANS_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARiSCSIVLANS_WSAPI -full`.
- For online help, enter `get-help Get-3PARiSCSIVLANS_WSAPI -online`.

Get-3PARPDCapacityReports_WSAPI

Synopsis

Physical disk capacity reports.

Syntax

```
Get-3PARPDCapacityReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-Frequency_Hires]] [[-Frequency_Hourly]] [[-Frequency_Daily]] [[-Id] <String>] [[-DiskType] <String>] [[-RPM] <String>] [[-Groupby] <String>] [[-GETime] <String>] [[-LETime] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Physical disk capacity reports.

Parameters

-VersusTime [<SwitchParameter>]

Requests Physical disk capacity using Versus Time reports.

-AtTime [<SwitchParameter>]

Requests Physical disk capacity using At Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution)

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily

-DiskType <String>

Specifies the disk types to query for physical disk capacity sample data. With no disktype specified, the system calculates physical disk capacity for all disk types in the system.

- FC: Fibre Channel
- NL: Near Line
- SSD: SSD

-RPM <String>

Specifies the RPM speeds to query for physical disk capacity data. With no speed indicated, the system calculates physical disk capacity data for all speeds in the system. You can specify one or multiple disk RPM speeds by separating them with a comma. For example, specify RPM: 7, 15, 150. Valid RPM values are: 7, 10, 15, 100, and 150.

-Groupby <String>

Id | cageID | cageSide | mag | diskPos | type | RPM

Groups the sample data into specified categories. With no category specified, the system groups data into all categories. To specify multiple groupby categories, separate them using a comma. For example, id, type, RPM.

-Id <String>

Requests disk capacity data for the specified disks only. For example, specify id:1,3,2. With no id specified, the system calculates physical disk capacity for all disks in the system.

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.
- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- perTime: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- perGroup: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- onlyCompareby: When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-GETime <String>

Greater than time For At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Less than time For At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Examples

```
C:\PS>Get-3PARPDCapacityReports_WSAPI -AtTime -Frequency_Hires
C:\PS>Get-3PARPDCapacityReports_WSAPI -VersusTime -Frequency_Hourly -Summary max
C:\PS>Get-3PARPDCapacityReports_WSAPI -VersusTime -Frequency_Daily -Compareby top -NoOfRecords 10 -ComparebyField totalSpaceMiB
C:\PS>Get-3PARPDCapacityReports_WSAPI -AtTime -Frequency_Hires -GETime
"2018-04-09T09:20:00+05:30" -LETime "2018-04-09T12:20:00+05:30"
```



TIP:

- To see the examples, enter `get-help Get-3PARPDCapacityReports_WSAPI -examples`.
- For more information, enter `get-help Get-3PARPDCapacityReports_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARPDCapacityReports_WSAPI -full`.
- For online help, enter `get-help Get-3PARPDCapacityReports_WSAPI -online`.

Get-3PARPDSpaceReports_WSAPI

Synopsis

Request physical disk space data reports using either Versus Time or At Time reports.

Syntax

```
Get-3PARPDSpaceReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-Frequency_Hires]]
[[[-Frequency_Hourly]] [[-Frequency_Daily]] [[-Id] <String>] [[-DiskType]
<String>] [[-RPM] <String>] [[-Groupby] <String>] [-Summary <String>] [[-
Compareby] <String>] [[-NoOfRecords] <Int32>] [[-ComparebyField] <String>]
[[[-GETime] <String>] [[-LETime] <String>] [[-WsapiConnection] <Object>]
[<CommonParameters>]
```

Description

Request physical disk space data reports using either Versus Time or At Time reports.

Parameters

-VersusTime [<SwitchParameter>]

Requests Physical disk capacity using Versus Time reports.

-AtTime [<SwitchParameter>]

Requests Physical disk capacity using At Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution)

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily

-Id <String>

Requests disk capacity data for the specified disks only. For example, specify id: 1,3,2. With no id specified, the system calculates physical disk capacity for all disks in the system.

-DiskType <String>

Specifies the disk types to query for physical disk capacity sample data. With no disktype specified, the system calculates physical disk capacity for all disk types in the system.

- FC: Fibre Channel
- NL: Near Line
- SSD: SSD

-RPM <String>

Specifies the RPM speeds to query for physical disk capacity data. With no speed indicated, the system calculates physical disk capacity data for all speeds in the system. You can specify one or multiple disk RPM speeds by separating them with a comma. For example, specify RPM: 7, 15, 150. Valid RPM values are: 7, 10, 15, 100, and 150.

-Groupby <String>

Id | cageID | cageSide | mag | diskPos | type | RPM

Groups the sample data into specified categories. With no category specified, the system groups data into all categories. To specify multiple groupby categories, separate them using a comma. For example, id, type, RPM.

-Id <String>

Requests disk capacity data for the specified disks only. For example, specify id: 1,3,2. With no id specified, the system calculates physical disk capacity for all disks in the system.

-Groupby <String>

Id | cageID | cageSide | mag | diskPos | type | RPM

Groups the sample data into specified categories. With no category specified, the system groups data into all categories. To specify multiple groupby categories, separate them using a comma (.). For example, id, type, RPM.

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.
- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- perTime: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- perGroup: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- onlyCompareby: When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-Compareby <String>

Specifies whether to display the top records or the bottom records. Choose between Top or Bottom option.

-NoOfRecords <Int32>

Specifies the number of records to return in the range of 1 to 32 (Versus Time) and 1 to 128 (At Time).

-GETime <String>

Greater than time For At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Less than time For At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Examples

```
C:\PS>Get-3PARPDspaceReports_WSAPI -AtTime -Frequency_Hires
C:\PS>Get-3PARPDspaceReports_WSAPI -VersusTime -Frequency_Hires -DiskType FC
C:\PS>Get-3PARPDspaceReports_WSAPI -VersusTime -Frequency_Hires -RPM 7
C:\PS>Get-3PARPDspaceReports_WSAPI -VersusTime -Frequency_Hires -Groupby id
C:\PS>Get-3PARPDspaceReports_WSAPI -VersusTime -Frequency_Hourly -Summary max
C:\PS>Get-3PARPDspaceReports_WSAPI -VersusTime -Frequency_Daily -Compareby top -NoOfRecords 10 -ComparebyField totalSpaceMiB
C:\PS>Get-3PARPDspaceReports_WSAPI -AtTime -Frequency_Hires -GETime
"2018-04-09T09:20:00+05:30" -LETime "2018-04-09T12:20:00+05:30"
```



TIP:

- To see the examples, enter `get-help Get-3PARPDspaceReports_WSAPI -examples`.
- For more information, enter `get-help Get-3PARPDspaceReports_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARPDspaceReports_WSAPI -full`.
- For online help, enter `get-help Get-3PARPDspaceReports_WSAPI -online`.

Get-3PARPDStatisticsReports_WSAPI

Synopsis

Physical disk statistics reports using either Versus Time or At Time reports.

Syntax

```
Get-3PARPDStatisticsReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-
Frequency_Hires]] [[-Frequency_Hourly]] [[-Frequency_Daily]] [[-Id] <String>]
[[-DiskType] <String>] [[-RPM] <String>] [[-Groupby] <String>] [[-Compareby]
<String>] [[-GETime] <String>] [[-LETime] <String>] [[-WsapiConnection]
<Object>] [<CommonParameters>]
```

Description

Physical disk capacity reports using either Versus Time or At Time reports.

Parameters

-VersusTime [<SwitchParameter>]

Requests Physical disk capacity using Versus Time reports.

-AtTime [<SwitchParameter>]

Requests Physical disk statistical using At Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution)

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily

-DiskType <String>

Specifies the disk types to query for physical disk capacity sample data. With no disktype specified, the system calculates physical disk capacity for all disk types in the system.

- FC: Fibre Channel
- NL: Near Line
- SSD: SSD

-RPM <String>

Specifies the RPM speeds to query for physical disk capacity data. With no speed indicated, the system calculates physical disk capacity data for all speeds in the system. You can specify one or multiple disk RPM speeds by separating them with a comma. For example, specify RPM: 7, 15, 150. Valid RPM values are: 7, 10, 15, 100, and 150.

-Groupby <String>

Id | cageID | cageSide | mag | diskPos | type | RPM

Groups the sample data into specified categories. With no category specified, the system groups data into all categories. To specify multiple groupby categories, separate them using a comma. For example, id, type, RPM.

-Id <String>

Requests disk capacity data for the specified disks only. For example, specify id:1,3,2. With no id specified, the system calculates physical disk capacity for all disks in the system.

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.
- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- perTime: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- perGroup: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- onlyCompareby: When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-Compareby <String>

Specifies whether to display the top records or the bottom records. Choose value between Top and Bottom.

-NoOfRecords <Int32>

Specifies the number of records to return in the range of 1 to 32 (Versus Time) and 1 to 128 (At Time).

-ComparebyField <String>

totalIOPs: Total IOPs.

-GETime <String>

Greater than time For At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Less than time For At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Examples

```
C:\PS>Get-3PARPDStatisticsReports_WSAPI -AtTime -Frequency_Hires
C:\PS>Get-3PARPDStatisticsReports_WSAPI -VersusTime -Frequency_Hires -DiskType FC
C:\PS>Get-3PARPDStatisticsReports_WSAPI -AtTime -Frequency_Hires -Summary max
C:\PS>Get-3PARPDStatisticsReports_WSAPI -VersusTime -Frequency_Daily -Compareby top -NoOfRecords 10 -ComparebyField totalSpaceMiB
C:\PS>Get-3PARPDStatisticsReports_WSAPI -AtTime -Frequency_Hires -GETime
"2018-04-09T09:20:00+05:30" -LETime "2018-04-09T12:20:00+05:30"
```

**TIP:**

- To see the examples, enter `get-help Get-3PARPDStatisticsReports_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARPDStatisticsReports_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARPDStatisticsReports_WSAPI -full`.
 - For online help, enter `get-help Get-3PARPDStatisticsReports_WSAPI -online`.
-

Get-3PARQoSStatisticalReports_WSAPI

Synopsis

Request Quality of Service (QoS) statistical data using either Versus Time or At Time reports.

Syntax

```
Get-3PARQoSStatisticalReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-Frequency_Hires]] [[-Frequency_Hourly]] [[-Frequency_Daily]] [[-VvSetName] <String>] [[-Domain] <String>] [[-All_Others]] [[-Groupby] <String>] [[-Summary] <String>] [[-Compareby] <String>] [[-NoOfRecords] <Int32>] [[-ComparebyField] <String>] [[-GETime] <String>] [[-LETime] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Request Quality of Service (QoS) statistical data using either Versus Time or At Time reports.

Parameters

-VersusTime [<SwitchParameter>]

Requests Physical disk capacity using Versus Time reports.

-AtTime [<SwitchParameter>]

Requests Physical disk capacity using At Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution)

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily

-VvSetName <String>

Retrieves QoS statistics for the specified vvset. Specify multiple vvsets using vvset_name1,vvset_name2.

-Domain <String>

Retrieves QoS statistics for the specified domain. Use the structure, domain:<domain_name>, or specify multiple domains using domain_name1,domain_name2.

-All_Others [<SwitchParameter>]

Specifies all host I/Os not regulated by any active QoS rule. Use the structure, all_others.

-Groupby <String>

Groups QoS statistical data into categories. With no groupby parameter specified, the system groups the data into all categories. You can specify one or more groupby categories by separating them with a comma. Use the structure, groupby: domain, type,name, ioLimit.

-Id <String>

Requests disk capacity data for the specified disks only. For example, specify id:1,3,2. With no id specified, the system calculates physical disk capacity for all disks in the system.

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.
- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- perTime: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- perGroup: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- onlyCompareby: When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-Compareby <String>

Specifies whether to display the top records or the bottom records. Choose either Top or Bottom option.

-NoOfRecords <Int32>

Specifies the number of records to return in the range of 1 to 32 (Versus Time) and 1 to 128 (At Time).

-ComparebyField <String>

Select one of the following:

- readIOPS: Read input/output operations per second.
- writeIOPS: Write input/output operations per second.
- totalIOPS: Total input/output operations per second.
- readKBytes: Read kilobytes.
- writeKBytes: Write kilobytes.
- totalKBytes: Total kilobytes.
- readServiceTimeMS: Read service time in milliseconds.
- writeServiceTimeMS: Write service time in milliseconds.
- totalServiceTimeMS: Total service time in milliseconds.
- readIOSizeKB: Read input/output size in kilobytes.
- writeIOSizeKB: Write input/output size in kilobytes.
- totalIOSizeKB: Total input/output size in kilobytes.
- readWaitTimeMS: Read wait time in milliseconds.

- writeWaitTimeMS: Write wait time in milliseconds.
- totalWaitTimeMS: Total wait time in milliseconds.
- IOLimit: IO limit.
- BWLimit: Bandwidth limit.
- IOGuarantee: Input/output guarantee.
- BWGuarantee: Bandwidth guarantee.
- busyPct: Busy Percentage.
- queueLength: Total queue length.
- waitQueueLength: Total wait queue length.
- IORejection: Total input/output rejection.
- latencyMS: Latency in milliseconds.
- latencyTargetMS: Latency target in milliseconds.

-GETime <String>

Generate time for At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Late time for At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Examples

```
C:\PS>Get-3PARQoSStatisticalReports_WSAPI -VersusTime -Frequency_Hires
C:\PS>Get-3PARQoSStatisticalReports_WSAPI -VersusTime -Frequency_Daily -All_Others
C:\PS>Get-3PARQoSStatisticalReports_WSAPI -VersusTime -Frequency_Hourly -Summary max
C:\PS>Get-3PARQoSStatisticalReports_WSAPI -VersusTime -Frequency_Daily -
Compareby top -NoOfRecords 10 -ComparebyField totalSpaceMiB
C:\PS>Get-3PARQoSStatisticalReports_WSAPI -AtTime -Frequency_Hires -GETime
"2018-04-09T09:20:00+05:30" -LETime "2018-04-09T12:20:00+05:30"
```

**TIP:**

- To see the examples, enter `get-help Get-3PARQoSStatisticalReports_WSAPI -examples`.
- For more information, enter `get-help Get-3PARQoSStatisticalReports_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARQoSStatisticalReports_WSAPI -full`.
- For online help, enter `get-help Get-3PARQoSStatisticalReports_WSAPI -online`.

Get-3PARPort_WSAPI

Synopsis

Get a single or list the ports in the storage system.

Syntax

```
Get-3PARPort_WSAPI [[-NSP] <String>] [[-Type] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Get a single or list the ports in the storage system.

Parameters

-NSP <String>

Gets a single or list the ports in the storage system depending upon the type.

-Type <String>

Port connection type.

HOST FC port connected to hosts or fabric.

DISK FC port connected to disks.

FREE Port is not connected to hosts or disks.

IPORT Port is in iport mode.

RCFC FC port used for Remote Copy.

PEER FC port used for data migration.

RCIP IP (Ethernet) port used for Remote Copy.

ISCSI (Ethernet) port connected to hosts.

CNA CNA port, which can be FCoE or iSCSI.

FS Ethernet File Persona ports.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

```
C:\PS>Get-3PARPort_WSAPI
```

List of all the ports in the storage system.

```
C:\PS>Get-3PARPort_WSAPI -NSP 1:1:1
```

Single port or a given port in the storage system.

```
C:\PS>Get-3PARPort_WSAPI -Type HOST
```

Single port or a given port in the storage system.



TIP:

- To see the examples, enter `get-help Get-3PARPort_WSAPI -examples`.
- For more information, enter `get-help Get-3PARPort_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARPort_WSAPI -full`.
- For online help, enter `get-help Get-3PARPort_WSAPI -online`.

Get-3PARPortDevices_WSAPI

Synopsis

Fetches a single or list of port devices in the storage system.

Syntax

```
Get-3PARPortDevices_WSAPI [-NSP] <String> [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Fetches a single or list the port devices in the storage system.

Parameters

-NSP <String>

The <n : s : p> variable identifies the node, slot, and port of the device.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

```
C:\PS>Get-3PARPortDevices_WSAPI -NSP 1:1:1
```

Fetches a list of port devices in the storage system.

```
C:\PS>Get-3PARPortDevices_WSAPI -NSP "1:1:1,0:0:0"
```

Multiple Port option, fetches a list of port devices in the storage system.

```
C:\PS>Get-3PARPort_WSAPI -Type HOST
```

Single port or a given port in the storage system.



TIP:

- To see the examples, enter `get-help Get-3PARPortDevices_WSAPI -examples`.
- For more information, enter `get-help Get-3PARPortDevices_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARPortDevices_WSAPI -full`.
- For online help, enter `get-help Get-3PARPortDevices_WSAPI -online`.

Get-3PARPortDeviceTDZ_WSAPI

Synopsis

Fetches a single or list of port devices target-driven zones.

Syntax

```
Get-3PARPortDeviceTDZ_WSAPI [[-NSP] <String>] [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Fetches a single or list of port devices target-driven zones.

Parameters

-NSP <String>

The <n : s : p> variable identifies the node, slot, and port of the device.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

```
C:\PS>Get-3PARPortDeviceTDZ_WSAPI
```

Displays a list of port device target-driven zones.

```
C:\PS>Get-3PARPortDeviceTDZ_WSAPI -NSP 0:0:0
```

Get the information of a given port device target-driven zones.



TIP:

- To see the examples, enter `get-help Get-3PARPortDeviceTDZ_WSAPI -examples`.
- For more information, enter `get-help Get-3PARPortDeviceTDZ_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARPortDeviceTDZ_WSAPI -full`.
- For online help, enter `get-help Get-3PARPortDeviceTDZ_WSAPI -online`.

Get-3PARPortStatisticsReports_WSAPI

Synopsis

Requests a port statistics report using either Versus Time or At Time reports.

Syntax

```
Get-3PARPortStatisticsReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-Frequency_Hires]] [[-Frequency_Hourly]] [[-Frequency_Daily]] [[-NSP] <String>] [[-PortType] <String>] [[-Groupby] <String>] [[-Compareby] <String>] [[-GETime] <String>] [[-LETime] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Requests a port statistics report using either Versus Time or At Time reports.

Parameters

-VersusTime [<SwitchParameter>]

Requests port statistics report using Versus Time reports.

-AtTime [<SwitchParameter>]

Requests port statistics report using Versus Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution)

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily

-NSP <String>

Requests sample data for the specified ports only using n:s:p. For example, specify port:1:0:1, 2:1:3, 6:2:1. With no portPos specified, the system calculates performance data for all ports in the system.

-PortType <String>

Requests sample data for the specified port type (see, portConnType enumeration) . With no type specified, the system calculates performance data for all port types in the system.

You can specify one or more port types by separating them with a comma (.). For example, specify type: 1, 2, 8.

Symbol Value Description:

- 1 for :- HOST: FC port connected to hosts or fabric.
- 2 for :- DISK: FC port connected to disks.
- 3 for :- FREE: Port is not connected to hosts or disks.

- 4 for :- IPORT: Port is in iport mode.
- 5 for :- RCFC: FC port used for Remote Copy.
- 6 for :- PEER: FC port used for data migration.
- 7 for :- RCIP: IP (Ethernet) port used for Remote Copy.
- 8 for :- ISCSI: iSCSI (Ethernet) port connected to hosts.
- 9 for :- CNA: CNA port, which can be FCoE or iSCSI.
- 10 for :- FS: Ethernet File Persona ports.

-Groupby <String>

node | slot | cardPort | type | speed

Groups the sample data into specified categories. With no category specified, the system groups data into all categories. To specify multiple groupby categories, separate them using a comma. For example, slot, cardPort, type.

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.
- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- perTime: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- perGroup: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- onlyCompareby: When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-Compareby <String>

Specifies whether to display the top records or the bottom records. Choose value between Top and Bottom.

-NoOfRecords <Int32>

Specifies the number of records to return in the range of 1 to 32 (Versus Time) and 1 to 128 (At Time).

-ComparebyField <String>

totalIOPs: Total IOPs.

-GETime <String>

Greater than time For At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Less than time For At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

**TIP:**

- To see the examples, enter `get-help Get-3PARPortStatisticsReports_WSAPI -examples`.
- For more information, enter `get-help Get-3PARPortStatisticsReports_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARPortStatisticsReports_WSAPI -full`.
- For online help, enter `get-help Get-3PARPortStatisticsReports_WSAPI -online`.

Get-3PARRCopyGroup_WSAPI

Synopsis

Fetches a single or all Remote Copy Groups.

Syntax

```
Get-3PARRCopyGroup_WSAPI [[-GroupName] <String>] [[-WsapiConnection]
<Object>] [<CommonParameters>]
```

Description

Fetches a single or all Remote Copy Groups.

Parameters**-GroupName <String>**

Specifies the Remote Copy Group Name.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

```
C:\PS>Get-3PARRCopyGroup_WSAPI
```

Displays a list of Groups.

```
C:\PS>Get-3PARRCopyGroup_WSAPI -GroupName XXX
```

Displays the Group for the given name.

```
C:\PS>Get-3PARRCopyGroup_WSAPI -GroupName XXX*
```

Displays a single or list of Groups matching with the words of given name.

```
C:\PS>Get-3PARRCopyGroup_WSAPI -GroupName "XXX,YYY,ZZZ"
```

Displays the Groups for the multiple given names.



TIP:

- To see the examples, enter `get-help Get-3PARRCopyGroup_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARRCopyGroup_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARRCopyGroup_WSAPI -full`.
 - For online help, enter `get-help Get-3PARRCopyGroup_WSAPI -online`.
-

Get-3PARRCopyGroupTarget_WSAPI

Synopsis

Fetches all or a single Remote Copy Group target.

Syntax

```
Get-3PARRCopyGroupTarget_WSAPI [-GroupName] <String> [[-TargetName] <String>]  
[[[-WsapiConnection] <Object>]] [<CommonParameters>]
```

Description

Fetches all or a single Remote Copy Group target.

Parameters

-GroupName <String>

Specifies the Remote Copy Group Name.

-TargetName <String>

Specifies the Target Name.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

```
C:\PS>Get-3PARRCopyGroupTarget_WSAPI
```

Displays a list of Groups target.

```
C:\PS>Get-3PARRCopyGroupTarget_WSAPI -TargetName xxx
```

Displays a given group.

**TIP:**

- To see the examples, enter `get-help Get-3PARRCopyGroupTarget_WSAPI -examples`.
- For more information, enter `get-help Get-3PARRCopyGroupTarget_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARRCopyGroupTarget_WSAPI -full`.
- For online help, enter `get-help Get-3PARRCopyGroupTarget_WSAPI -online`.

Get-3PARRCopyVolumeStatisticalReports_WSAPI

Synopsis

Request statistical data related to Remote Copy volumes using either Versus Time or At Time reports.

Syntax

```
Get-3PARRCopyVolumeStatisticalReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-Frequency_Hires]] [[-Frequency_Hourly]] [[-Frequency_Daily]] [[-vvName] <String>] [[-TargetName] <String>] [[-Mode] <String>] [[-RCopyGroup] <String>] [[-Groupby] <String>] [[-Summary] <String>] [[-Compareby] <String>] [[-NoOfRecords] <Int32>] [[-ComparebyField] <String>] [[-GETime] <String>] [[-LETime] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Request statistical data related to Remote Copy volumes using either Versus Time or At Time reports.

Parameters

-VersusTime [<SwitchParameter>]

Requests Physical disk capacity using Versus Time reports.

-AtTime [<SwitchParameter>]

Requests Physical disk capacity using At Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution)

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily

-TargetName <String>

Specify the target from which to gather Remote Copy statistics. Separate multiple target names using a comma (.).

With no target specified, the request calculates Remote Copy statistics for all targets in the system. Use the structure, `targetName:<target1>,<target2>`.

-Mode <String>

Specify the mode of the target from which to gather Remote Copy volume statistics.

- SYNC: Remote Copy group mode is synchronous.
- PERIODIC: Remote Copy group mode is periodic. Although WSAPI 1.5 and later supports PERIODIC 2, Hewlett Packard Enterprise recommends using PERIODIC 3.
- PERIODIC: Remote Copy group mode is periodic.
- ASYNC: Remote Copy group mode is asynchronous.

-RCopyGroup <String>

Specify the Remote Copy group from which to gather Remote Copy volume statistics. Separate multiple group names using a comma (,).

With no remote copy group specified, the request calculates Remote Copy volume statistics for all Remote Copy groups in the system.

-Groupby <String>

Group Remote Copy statistical data into categories. With no groupby parameter specified, the system groups the data into all categories.

Separate multiple groups with a comma (,). Use the structure, groupby:volumeName,volumeSetName,domain,targetName,mode,remoteCopyGroup,remoteCopyGroupRole,node,slot,cardPort,portType.

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.
- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- perTime: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- perGroup: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- onlyCompareby: When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-Compareby <String>

Specifies whether to display the top records or the bottom records. Choose either Top or Bottom option.

-NoOfRecords <Int32>

Specifies the number of records to return in the range of 1 to 32 (Versus Time) and 1 to 128 (At Time).

-ComparebyField <String>

Select one of the following:

- readIOLocal: Local read input/output operations per second.
- writeIOLocal: Local write input/output operations per second.
- IOLocal: Local total input/output operations per second.
- readKBytesLocal: Local read kilobytes.
- writeKBytesLocal: Local write kilobytes.
- KBytesLocal: Local total kilobytes.
- readServiceTimeMSLocal: Local read service time in milliseconds.
- writeServiceTimeMSLocal: Local write service time in milliseconds.
- ServiceTimeMSLocal: Local total service time in milliseconds.
- readIOSizeKBLocal: Local read IO size in kilobytes.
- writeIOSizeKBLocal: Local write IO size in kilobytes.
- IOSizeKBLocal: Local total IO size in kilobytes.
- busyPctLocal: Local busy Percentage.
- queueLengthLocal: Local queue length.
- readIORemote: Remote read input/output operations per second.
- writeIORemote: Remote write input/output operations per second.
- IORemote: Remote total input/output operations per second.
- readKBytesRemote: Remote read kilobytes.
- writeKBytesRemote: Remote write kilobytes.
- KBytesRemote: Remote total kilobytes.
- readServiceTimeMSRemote: Remote read service time in milliseconds.
- writeServiceTimeMSRemote: Remote write service time in milliseconds.
- ServiceTimeMSRemote: Remote total service time in milliseconds.
- readIOSizeKBRemote: Remote read IO size in kilobytes.
- writeIOSizeKBRemote: Remote write IO size in kilobytes.
- IOSizeKBRemote: Remote total IO size in kilobytes.
- busyPctRemote: Remote busy Percentage.
- queueLengthRemote: Remote queue length.
- RPO: Recovery point objective.

-GETime <String>

Greater than time For At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Less than time For At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Examples

```
PS C:\>Get-3PARRCopyVolumeStatisticalReports_WSAPI -AtTime -Frequency_Hires
PS C:\>Get-3PARRCopyVolumeStatisticalReports_WSAPI -VersusTime -Frequency_Hires -vvName "xxx,xxx"
PS C:\>Get-3PARRCopyVolumeStatisticalReports_WSAPI -VersusTime -Frequency_Hires -Groupby "domain,targetName"
PS C:\>Get-3PARRCopyVolumeStatisticalReports_WSAPI -AtTime -Frequency_Hires -
GETime "2018-04-09T09:20:00+05:30" -LETime "2018-04-09T12:20:00+05:30"
```



TIP:

- To see the examples, enter `get-help Get-3PARRCopyVolumeStatisticalReports_WSAPI -examples`.
- For more information, enter `get-help Get-3PARRCopyVolumeStatisticalReports_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARRCopyVolumeStatisticalReports_WSAPI -full`.
- For online help, enter `get-help Get-3PARRCopyVolumeStatisticalReports_WSAPI -online`.

Get-3PARRCStatisticalReports_WSAPI

Synopsis

Request Remote Copy statistical data using either Versus Time or At Time reports.

Syntax

```
Get-3PARRCStatisticalReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-
Frequency_Hires]] [[-Frequency_Hourly]] [[-Frequency_Daily]] [[-TargetName]
<String>] [[-NSP] <String>] [[-Groupby]<String>] [[-Summary] <String>] [[-
Compareby] <String>] [[-NoOfRecords] <Int32>] [[-ComparebyField] <String>]
[[-GETime] <String>] [[-LETime] <String>] [[-WsapiConnection] <Object>]
[<CommonParameters>]
```

Description

Request Remote Copy statistical data using either Versus Time or At Time reports.

Parameters

-VersusTime [<SwitchParameter>]

Requests Physical disk capacity using Versus Time reports.

-AtTime [<SwitchParameter>]

Requests Physical disk capacity using At Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution)

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily

-TargetName <String>

Specify the target from which to gather Remote Copy statistics. Separate multiple target names using a comma (.).

With no target specified, the request calculates Remote Copy statistics for all targets in the system. Use the structure, targetName:<target1>,<target2>.

-NSP <String>

Specify the port from which to gather Remote Copy statistics. Separate multiple port positions with a comma (.).

Use the structure, <n:s:p>, <n:s:p>.

With no port specified, the request calculates Remote Copy statistics for all ports in the system.

-Groupby <String>

Group Remote Copy statistical data into categories. With no groupby parameter specified, the system groups the data into all categories.

Separate multiple groups with a comma (.). Use the structure, groupby:targetName,linkId,linkAddr,node,slotPort,cardPort

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.
- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- **perTime:** When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- **perGroup:** When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- **onlyCompareby:** When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-Compareby <String>

Specifies whether to display the top records or the bottom records. Choose either Top or Bottom option.

-NoOfRecords <Int32>

Specifies the number of records to return in the range of 1 to 32 (Versus Time) and 1 to 128 (At Time).

-ComparebyField <String>

Select one of the following:

- **kbs:** Kilobytes.
- **kbps:** Kilobytes per second.
- **hbttms:** Round trip time for a heartbeat message on the link.
- **targetName:** Name of the Remote Copy target created with creatercopytarget.
- **linkId:** ID of the Remote Copy target created with creatercopytarget.
- **linkAddr:** Address (IP or FC) of the Remote Copy target created with creatercopytarget.
- **node:** Node number for the port used by a Remote Copy link.
- **slotPort:** PCI slot number for the port used by a Remote Copy link.
- **cardPort:** Port number for the port used by a Remote Copy link.

-GETime <String>

Greater than time For At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Less than time For At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Examples

```
C:\PS>Get-3PARRCStatisticalReports_WSAPI -AtTime -Frequency_Hires
C:\PS>Get-3PARRCStatisticalReports_WSAPI -AtTime -Frequency_Hires -NSP x:x:x
C:\PS>Get-3PARRCStatisticalReports_WSAPI -AtTime -Frequency_Hires -Groupby "targetName,linkId"
C:\PS>Get-3PARRCStatisticalReports_WSAPI -AtTime -Frequency_Hires -Compareby top -NoOfRecords 10 -ComparebyField totalSpaceMiB
C:\PS>Get-3PARRCStatisticalReports_WSAPI -AtTime -Frequency_Hires -GETime
"2018-04-09T09:20:00+05:30" -LETime "2018-04-09T12:20:00+05:30"
```



TIP:

- To see the examples, enter `get-help Get-3PARRCStatisticalReports_WSAPI -examples`.
- For more information, enter `get-help Get-3PARRCStatisticalReports_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARRCStatisticalReports_WSAPI -full`.
- For online help, enter `get-help Get-3PARRCStatisticalReports_WSAPI -online`.

Get-3PARRCopyGroupVV_WSAPI

Synopsis

Fetches all or a single Remote Copy Group volume.

Syntax

```
Get-3PARRCopyGroupVV_WSAPI [-GroupName] <String> [[-VolumeName] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Fetches all or a single Remote Copy Group volume.

Parameters

-GroupName <String>

Specifies the Remote Copy Group name.

-VolumeName <String>

Specifies the Remote Copy volume name.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Examples

```
C:\PS>Get-3PARRCopyGroupVV_WSAPI -GroupName asRCgroup
```

Displays a list of Remote Copy Group volumes.

```
C:\PS>Get-3PARRCopyGroupVV_WSAPI -VolumeName xxx
```

Displays a given group volume.



TIP:

- To see the examples, enter `get-help Get-3PARRCopyGroupVV_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARRCopyGroupVV_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARRCopyGroupVV_WSAPI -full`.
 - For online help, enter `get-help Get-3PARRCopyGroupVV_WSAPI -online`.
-

Get-3PARRCopyInfo_WSAPI

Synopsis

Fetches overall Remote Copy information.

Syntax

```
Get-3PARRCopyInfo_WSAPI [[-TaskID] <String>] [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Fetches overall Remote Copy information.

Parameters

-TaskID <String>

Specifies the Task ID.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARRCopyInfo_WSAPI
```

Fetches overall Remote Copy information.



TIP:

- To see the examples, enter `get-help Get-3PARRCopyInfo_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARRCopyInfo_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARRCopyInfo_WSAPI -full`.
 - For online help, enter `get-help Get-3PARRCopyInfo_WSAPI -online`.
-

Get-3PARRCopyLink_WSAPI

Synopsis

Fetches all or a single Remote Copy link.

Syntax

```
Get-3PARRCopyLink_WSAPI [[-LinkName] <String>] [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Fetches all or a single Remote Copy link.

Parameters

-LinkName <String>

Specifies the link name.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARRCopyLink_WSAPI
```

Displays a list of the Remote Copy links.

```
C:\PS>Get-3PARRCopyLink_WSAPI -LinkName xxx
```

Displays a single Remote Copy link.



TIP:

- To see the examples, enter `get-help Get-3PARRCopyLink_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARRCopyLink_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARRCopyLink_WSAPI -full`.
 - For online help, enter `get-help Get-3PARRCopyLink_WSAPI -online`.
-

Get-3PARRCopyTarget_WSAPI

Synopsis

Fetches all or a single overall Remote Copy target.

Syntax

```
Get-3PARRCopyTarget_WSAPI [[-TargetName] <String>] [[-WsapiConnection]  
<Object>] [<CommonParameters>]
```

Description

Fetches all or a single overall Remote Copy target.

Parameters

-TargetName <String>

Specifies the name of the Remote Copy target.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARRCopyTarget_WSAPI
```

Displays all the Remote Copy targets.



TIP:

- To see the examples, enter `get-help Get-3PARRCopyTarget_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARRCopyTarget_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARRCopyTarget_WSAPI -full`.
 - For online help, enter `get-help Get-3PARRCopyTarget_WSAPI -online`.
-

Get-3PARRoles_WSAPI

Synopsis

Fetches all or a single WSAPI role information.

Syntax

```
Get-3PARRoles_WSAPI [[-RoleName] <String>] [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Fetches all or a single WSAPI role information.

Parameters

-RoleName <String>

Specifies the name of the WSAPI role.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

```
C:\PS>Get-3PARRoles_WSAPI
```

Displays all the information of WSAPI roles.

```
C:\PS>Get-3PARRoles_WSAPI
```

Displays a single WSAPI role information.



TIP:

- To see the examples, enter `get-help Get-3PARRoles_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARRoles_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARRoles_WSAPI -full`.
 - For online help, enter `get-help Get-3PARRoles_WSAPI -online`.
-

Get-3PARSystem_WSAPI

Synopsis

Retrieves the information about the array.

Syntax

```
Get-3PARSystem_WSAPI [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Retrieves the information about the array.

Parameters

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

```
C:\PS>Get-3PARSystem_WSAPI
```

Displays the information of the array.



TIP:

- To see the examples, enter `get-help Get-3PARSystem_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARSystem_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARSystem_WSAPI -full`.
 - For online help, enter `get-help Get-3PARSystem_WSAPI -online`.
-

Get-3PARTask_WSAPI

Synopsis

Retrieves the status of all or a given task.

Syntax

```
Get-3PARTask_WSAPI [[-TaskID] <String>] [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Retrieves the status of all or a given task.

Parameters

-TaskID <String>

Specifies the ID of a task.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

```
C:\PS>Get-3PARTask_WSAPI
```

Displays the status of all the tasks.

```
C:\PS>Get-3PARTask_WSAPI -TaskID 101
```

Displays the status of a given task.



TIP:

- To see the examples, enter `get-help Get-3PARTask_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARTask_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARTask_WSAPI -full`.
 - For online help, enter `get-help Get-3PARTask_WSAPI -online`.
-

Get-3PARUsers_WSAPI

Synopsis

Displays all or a single WSAPI users information.

Syntax

```
Get-3PARUsers_WSAPI [[-UserName] <String>] [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Displays all or a single WSAPI users information.

Parameters

-UserName <String>

Specifies the name of the user.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARUsers_WSAPI
```

Displays all the user information.

```
C:\PS>Get-3PARUsers_WSAPI -UserName XYZ
```

Displays a single WSAPI users information.



TIP:

- To see the examples, enter `get-help Get-3PARUsers_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARUsers_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARUsers_WSAPI -full`.
 - For online help, enter `get-help Get-3PARUsers_WSAPI -online`.
-

Get-3PARVersion_WSAPI

Synopsis

Fetches the version information.

Syntax

```
Get-3PARVersion_WSAPI [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Fetches the version information.

Parameters

-UserName <String>

Specifies the name of the user.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARVersion_WSAPI
```

Displays the version information.

**TIP:**

- To see the examples, enter `get-help Get-3PARVersion_WSAPI -examples`.
- For more information, enter `get-help Get-3PARVersion_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARVersion_WSAPI -full`.
- For online help, enter `get-help Get-3PARVersion_WSAPI -online`.

Get-3PARVFS_WSAPI

Synopsis

Fetches all or a single Virtual File Servers.

Syntax

```
Get-3PARVFS_WSAPI [[-VFSID] <Int32>] [[-VFSName] <String>] [[-FPGName] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Fetches all or a single Virtual File Servers.

Parameters**-VFSID <Int32>**

Specifies the Virtual File Server id.

-VFSName <String>

Specifies the Virtual File Servers name.

-FPGName <String>

Specifies the File Provisioning Groups name.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

```
C:\PS>Get-3PARVFS_WSAPI
```

Displays the list of Virtual File Servers.

```
C:\PS>Get-3PARVFS_WSAPI -VFSID xxx
```

Displays a single Virtual File Server.

**TIP:**

- To see the examples, enter `get-help Get-3PARVFS_WSAPI -examples`.
- For more information, enter `get-help Get-3PARVFS_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARVFS_WSAPI -full`.
- For online help, enter `get-help Get-3PARVFS_WSAPI -online`.

Get-3PARVLun_WSAPI

Synopsis

Fetches a single or list of VLuns.

Syntax

```
Get-3PARVLun_WSAPI [[-VolumeName] <String>] [[-LUNID] <Int32>] [[-HostName] <String>] [[-NSP] <String>] [[-WsapiConnection] <Object>] [  
<CommonParameters>]
```

Description

Fetches a single or list of VLuns.

Parameters

-VolumeName <String>

Specifies name of the volume to be exported.

-LUNID <Int32>

Specifies the LUN ID.

-HostName <String>

Specifies the name of the host to which the volume is to be exported. For VLUN of port type, the value is empty.

-NSP <String>

The <n : s: p> variable identifies the node, slot, and port of the device.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Examples

```
C:\PS>Get-3PARVLun_WSAPI
```

Displays a list of VLuns.

```
C:\PS>Get-3PARVVSet_WSAPI -VVSetName MyvvSet
```

Displays the information of given virtual volume set.

```
C:\PS>Get-3PARVVSet_WSAPI -Members Myvv
```

Displays the information of virtual volume Set that contain MyHost as Member.

```
C:\PS>Get-3PARVVSet_WSAPI -Members "Myvv,Myvv1,Myvv2"
```

```
C:\PS>Get-3PARVVSet_WSAPI -Id 10
```

Filter virtual volume set with Id.

```
C:\PS>Get-3PARVVSet_WSAPI -Uuid 10
```

Filter virtual volume set with uuid.

```
C:\PS>Get-3PARVVSet_WSAPI -Members "Myvv,Myvv1,Myvv2" -Id 10 -Uuid 10
```



TIP:

- To see the examples, enter `get-help Get-3PARVVSet_WSAPI -examples`.
- For more information, enter `get-help Get-3PARVVSet_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARVVSet_WSAPI -full`.
- For online help, enter `get-help Get-3PARVVSet_WSAPI -online`.

Get-3PARVLUNStatisticsReports_WSAPI

Synopsis

Requests the VLUN statistics data using either Versus Time or At Time reports.

Syntax

```
Get-3PARVLUNStatisticsReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-Frequency_Hires]] [[-Frequency_Hourly]] [[-Frequency_Daily]] [[-VlunId] <String>] [[-VvName] <String>] [[-HostName] <String>] [[-VvSetName] <String>] [[-HostSetName] <String>] [[-NSP] <String>] [[-Groupby] <String>] [[-Compareby] <String>] [[-GETime] <String>] [[-LETime] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Requests the VLUN statistics data using either Versus Time or At Time reports.

Parameters

-VersusTime [**<SwitchParameter>**]

Request VLUNstatistics data using Versus Time reports.

-AtTime [**<SwitchParameter>**]

Requests the VLUN statistics data using At Time reports.

-Frequency_Hires [**<SwitchParameter>**]

As part of the report identifier, you must specify one `<samplefreq>` parameter. The `<samplefreq>` parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution)

-Frequency_Hourly [**<SwitchParameter>**]

As part of the report identifier, you must specify one `<samplefreq>` parameter. The `<samplefreq>` parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily

-VlunId <String>

Requests data for the specified VLUNs only. For example, specify lun: 1,2,4. With no lun specified, the system calculates performance data for all VLUNs in the system.

-VvName <String>

Retrieves data for the specified volume or volumeset only. Specify the volumeset as volumeName:set:<vvset_name>. With no volumeName specified, the system calculates VLUN performance data for all the VLUNs in the system.

-HostName <String>

Retrieves data for the specified host or hostset only. Specify the hostset as hostname:set:<hostset_name>. With no hostname specified, the system calculates VLUN performance data for all the hosts in the system.

-VvSetName <String>

Specify the VV set name.

-HostSetName <String>

Specify the Host Set Name.

-NSP <String>

Retrieves data for the specified ports. For example, specify portPos: 1:0:1, 2:1:3, 6:2:1. With no portPos specified, the system calculates VLUN performance data for all ports in the system.

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.
- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- perTime: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- perGroup: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- onlyCompareby: When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-Compareby <String>

Specifies whether to display the top records or the bottom records. Choose either Top or Bottom option.

-NoOfRecords <Int32>

Specifies the number of records to return in the range of 1 to 32 (Versus Time) and 1 to 128 (At Time).

-ComparebyField <String>

totalIOPs: Total IOPs.

-GETime <String>

Greater than time For At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Less than time For At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

**TIP:**

- To see the examples, enter `get-help Get-3PARVLUNStatisticsReports_WSAPI -examples`.
- For more information, enter `get-help Get-3PARVLUNStatisticsReports_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARVLUNStatisticsReports_WSAPI -full`.
- For online help, enter `get-help Get-3PARVLUNStatisticsReports_WSAPI -online`.

Get-3PARVLunUsingFilters_WSAPI

Synopsis

Fetches the VLUNs using filters.

Syntax

```
Get-3PARVLunUsingFilters_WSAPI [[-VolumeWWN] <String>] [[-RemoteName]
<String>] [[-VolumeName] <String>] [[-HostName] <String>] [[-Serial]
<String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Fetches the VLUNs using filters. Available filters for VLUN queries are:

- volumeWWN
- remoteName

- volumeName
- hostname
- serial

Parameters

-VolumeWWN <String>

Specifies the value of <VolumeWWN> is the WWN of the exported volume.

-RemoteName <String>

Specifies the <RemoteName> value is the host WWN or an iSCSI pathname.

-VolumeName <String>

Specifies the Volume name.

-HostName <String>

Specifies the host name.

-Serial <String>

Fetches a volume using a serial number.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARVLunUsingFilters_WSAPI -VolumeWWN "xxx"
```

```
C:\PS>Get-3PARVLunUsingFilters_WSAPI -VolumeWWN "xxx,yyy,zzz"
```

```
C:\PS>Get-3PARVLunUsingFilters_WSAPI -RemoteName "xxx"
```

```
C:\PS>Get-3PARVLunUsingFilters_WSAPI -RemoteName "xxx,yyy,zzz"
```

```
C:\PS>Get-3PARVLunUsingFilters_WSAPI -RemoteName "xxx" -VolumeWWN "xxx"
```

Supporting single or multiple values using ",".

```
C:\PS>Get-3PARVLunUsingFilters_WSAPI -RemoteName "xxx" -VolumeWWN "xxx" -VolumeName "xxx"
```

Supporting single or multiple values using ",".

```
C:\PS>Get-3PARVLunUsingFilters_WSAPI -RemoteName "xxx" -VolumeWWN "xxx" -VolumeName "xxx" -HostName "xxx"
```

Supporting single or multiple values using ",".

```
C:\PS>Get-3PARVLunUsingFilters_WSAPI -RemoteName "xxx" -VolumeWWN "xxx" -VolumeName "xxx" -HostName "xxx" -Serial "xxx"
```

Supporting single or multiple values using ",".

**TIP:**

- To see the examples, enter `get-help Get-3PARHostWithFilter_WSAPI -examples`.
- For more information, enter `get-help Get-3PARHostWithFilter_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARHostWithFilter_WSAPI -full`.
- For online help, enter `get-help Get-3PARHostWithFilter_WSAPI -online`.

Get-3PARVV_WSAPI

Synopsis

Fetches a single or list of virtual volumes.

Syntax

```
Get-3PARVV_WSAPI [[-VVName] <String>] [[-WWN] <String>] [[-UserCPG] <String>]
[[-SnapCPG] <String>] [[-CopyOf] <String>] [[-ProvisioningType] <String>] [[-
WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Fetches a single or list of virtual volumes.

Parameters

-VVName <String>

Specifies name of the volume.

-WWN <String>

Querying volumes with Single or multiple WWNs.

-UserCPG <String>

Specifies the user CPG Name.

-SnapCPG <String>

Specifies the Snp CPG name.

-CopyOf <String>

Querying volume copies it required name of the vv to copy.

-ProvisioningType <String>

Querying volume with Provisioning Type.

- FULL:
 - FPVV, with no snapshot space or with statically allocated snapshot space.
 - A commonly provisioned VV with fully provisioned user space and snapshot space associated with the snapCPG property.
- TPVV:

- TPVV, with base volume space allocated from the user space associated with the userCPG property.
- Old-style, thinly provisioned VV (created on a 2.2.4 release or earlier).

Both the base VV and snapshot data are allocated from the snapshot space associated with userCPG.

- SNP: The VV is a snapshot (Type vcopy) with space provisioned from the base volume snapshot space.
- PEER: Remote volume admitted into the local storage system.
- UNKNOWN: Unknown.
- TDVV: The volume is a deduplicated volume.
- DDS: A system maintained deduplication storage volume shared by TDVV volumes in a CPG.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

```
C:\PS>Get-3PARVV_WSAPI
```

Display the list of virtual volumes.

```
C:\PS>Get-3PARVV_WSAPI -VVName MyVV
```

Displays the detail of given virtual volumes.

```
C:\PS>Get-3PARVV_WSAPI -WWN XYZ
```

Querying volumes with single WWN.

```
C:\PS>Get-3PARVV_WSAPI -WWN "XYZ,XYZ1,XYZ2,XYZ3"
```

Querying volumes with multiple WWNs.

```
C:\PS>Get-3PARVV_WSAPI -WWN "XYZ,XYZ1,XYZ2,XYZ3" -UserCPG ABC
```

Querying volumes with multiple filters.

```
C:\PS>Get-3PARVV_WSAPI -WWN "XYZ" -SnapCPG ABC
```

Querying volumes with multiple filters.

```
C:\PS>Get-3PARVV_WSAPI -WWN "XYZ" -CopyOf MyVV
```

Querying volumes with multiple filters.

```
C:\PS>Get-3PARVV_WSAPI -ProvisioningType FULL
```

Querying volumes with Provisioning Type FULL.

**TIP:**

```
C:\PS>Get-3PARVV_WSAPI -ProvisioningType TPVV
```

Querying volumes with Provisioning Type TPVV.

- To see the examples, enter `get-help Get-3PARVV_WSAPI -examples`.
- For more information, enter `get-help Get-3PARVV_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARVV_WSAPI -full`.
- For online help, enter `get-help Get-3PARVV_WSAPI -online`.

Get-3PARVVSet_WSAPI

Synopsis

Fetches a single or list of virtual volume sets.

Syntax

```
Get-3PARVVSet_WSAPI [[-VVSetName] <String>] [[-Members] <String>] [[-Id] <String>] [[-Uuid] <String>] [[-WsapiConnection] <Object>] [  
<CommonParameters>]
```

Description

Fetches a single or list of virtual volume sets.

Parameters

-VVSetName <String>

Specifies name of the virtual volume sets.

-Members <String>

Specifies a name of the virtual volume.

-Id <String>

Specifies id of the virtual volume set.

-Uuid <String>

Specifies uuid of the virtual volume set.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Examples

```
C:\PS>Get-3PARVVSet_WSAPI
```

Displays a list of virtual volume Set.

```
C:\PS>Get-3PARVLun_WSAPI -VolumeName xxx -LUNID x -HostName xxx
```


**TIP:**

- To see the examples, enter `get-help Get-3PARVLun_WSAPI -examples`.
- For more information, enter `get-help Get-3PARVLun_WSAPI -detailed`.
- For technical information, enter `get-help Get-3PARVLun_WSAPI -full`.
- For online help, enter `get-help Get-3PARVLun_WSAPI -online`.

Get-3parVVSpaceDistribution_WSAPI

Synopsis

Displays the volume space distribution for all and for a specific virtual volume among CPGs.

Syntax

```
Get-3parVVSpaceDistribution_WSAPI [[-VVName] <String>] [[-WsapiConnection]
<Object>] [<CommonParameters>]
```

Description

Displays the volume space distribution for all and for a specific virtual volume among CPGs.

Parameters

-VVName <String>

Specifies either a single virtual volume name or a volume set name (start with set: to use a volume set name o, for example set: vvset1).

If you use a volume set name, the system displays the space distribution for all volumes in that volume set.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

```
C:\PS>Get-3parVVSpaceDistribution_WSAPI
```

Displays the volume space distribution for all virtual volumes among CPGs.

```
C:\PS>Get-3parVVSpaceDistribution_WSAPI -VVName XYZ
```

Displays the space distribution for a specific virtual volume or a volume set.

**TIP:**

- To see the examples, enter `get-help Get-3parVVSpaceDistribution_WSAPI -examples`.
- For more information, enter `get-help Get-3parVVSpaceDistribution_WSAPI -detailed`.
- For technical information, enter `get-help Get-3parVVSpaceDistribution_WSAPI -full`.
- For online help, enter `get-help Get-3parVVSpaceDistribution_WSAPI -online`.

Get-3PARVVSpaceReports_WSAPI

Synopsis

Requests a volume space data using either Versus Time or At Time reports.

Syntax

```
Get-3PARVVSpaceReports_WSAPI [[-VersusTime]] [[-AtTime]] [[-Frequency_Hires]]
[[[-Frequency_Hourly]] [[-Frequency_Daily]] [[-VvName] <String>] [[-VvSetName]
<String>] [[-UserCPG]<String>] [[-SnapCPG] <String>] [[-ProvType] <String>]
[[[-Groupby] <String>] [[-Compareby] <String>] [[-GETime] <String>] [[-LETime]
<String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Requests a volume space data using either Versus Time or At Time reports.

Parameters

-VersusTime [<SwitchParameter>]

Requests volume space data using Versus Time reports.

-AtTime [<SwitchParameter>]

Requests volume space data using At Time reports.

-Frequency_Hires [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hires-based on 5 minutes (high resolution)

-Frequency_Hourly [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: hourly

-Frequency_Daily [<SwitchParameter>]

As part of the report identifier, you must specify one <samplefreq> parameter. The <samplefreq> parameter indicates how often to generate the performance sample data. You may specify only one. Option is: daily

-VvName <String>

Requests volume space sample data for the specified volume (vv_name) or volume set (vvset_name) only. Specify vvset as name:set:<vvset_name>. With no name specified, the system calculates volume space data for all volumes in the system.

-VvSetName <String>

Requests volume space sample data for the specified volume (vv_name) or volume set (vvset_name) only.

-UserCPG <String>

Retrieves volume space data for the specified userCPG volumes only. With no userCPG specified, the system calculates space data for all volumes in the system.

-SnapCPG <String>

Retrieves space data for the specified snapCPG volumes only. With no snapCPG specified, the system calculates space data for all volumes in the system.

-ProvType <String>

Retrieves space data for volumes that match the specified. With no Provtype specified, the system calculates space data for all volumes in the system.

-Summary <String>

Provide at least one of the mandatory field names, and use a comma (,) to separate multiple fields.

Mandatory:

- min: Displays the minimum for each metric.
- max: Displays the maximum for each metric.
- avg: Displays the average for each metric.
- pct: Displays the percentile for each metric where pct is any floating number from 0 to 100. Separate multiple pct with a comma (,).

Optional:

- perTime: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perTime field name to compute summaries. Default value set to one.
- perGroup: When requesting data across multiple points in time (vstime), using multiple object groupings (groupby), use the perGroup field name to compute summaries per object grouping. By default, one summary computed across all records.
- onlyCompareby: When using the compareby field to request data limited to certain object groupings, use this field name to compute summaries using only that reduced set of object groupings. By defaults, computes summaries from all records and ignores the limitation of the compareby option.

-NoOfRecords <Int32>

Specifies the number of records to return in the range of 1 to 32 (Versus Time) and 1 to 128 (At Time).

-Compareby <String>

Specifies whether to display the top records or the bottom records. Choose either Top or Bottom option.

-ComparebyField <String>

Select one of the following:

- totalSpaceUsedMiB: Total used space in MiB.
- userSpaceUsedMiB: Used user space in MiB.

- snapshotSpaceUsedMiB: Used snapshot space in MiB.
- userSpaceFreeMiB: Free user space in MiB.
- snapshotSpaceFreeMiB: Free snapshot space in MiB.
- compaction: Compaction ratio.
- compression: Compression ratio.

-GETime <String>

Greater than time For At Time query expressions, you can use the sampleTime parameter.

-LETime <String>

Less than time For At Time query expressions, you can use the sampleTime parameter.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Examples

```
C:\PS>Get-3PARVVSpaceReports_WSAPI -AtTime -Frequency_Hires
C:\PS>Get-3PARVVSpaceReports_WSAPI -VersusTime -Frequency_Hires -SnapCPG assnpcpg
C:\PS>Get-3PARVVSpaceReports_WSAPI -VersusTime -Frequency_Hires -Groupby "id,name"
C:\PS>Get-3PARVVSpaceReports_WSAPI -VersusTime -Frequency_Daily -Compareby top -NoOfRecords 10 -ComparebyField totalSpaceMiB
C:\PS>Get-3PARVVSpaceReports_WSAPI -AtTime -Frequency_Hires -GETime
"2018-04-09T09:20:00+05:30" -LETime "2018-04-09T12:20:00+05:30"
```



TIP:

- To see the examples, enter `get-help Get-3PARVVSpaceReports_WSAPI -examples`.
 - For more information, enter `get-help Get-3PARVVSpaceReports_WSAPI -detailed`.
 - For technical information, enter `get-help Get-3PARVVSpaceReports_WSAPI -full`.
 - For online help, enter `get-help Get-3PARVVSpaceReports_WSAPI -online`.
-

Get-3PARWSAPIConfigInfo

Synopsis

Fetches WSAPI configuration information.

Syntax

```
Get-3PARWSAPIConfigInfo [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Fetches WSAPI configuration information.

Parameters

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Get-3PARWSAPIConfigInfo
```



TIP:

- To see the examples, enter `get-help Get-3PARWSAPIConfigInfo -examples`.
- For more information, enter `get-help Get-3PARWSAPIConfigInfo -detailed`.
- For technical information, enter `get-help Get-3PARWSAPIConfigInfo -full`.
- For online help, enter `get-help Get-3PARWSAPIConfigInfo -online`.

Group-3PARFilePersonaQuota_WSAPI

Synopsis

Archives a File Persona quota.

Syntax

```
Group-3PARFilePersonaQuota_WSAPI [-QuotaArchiveParameter] <String> [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Archives a File Persona quota.

Parameters

-QuotaArchiveParameter <String>

Specifies a VFS UUID.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Group-3PARFilePersonaQuota_WSAPI
```

**TIP:**

- To see the examples, enter `get-help Group-3PARFilePersonaQuota_WSAPI -examples`.
- For more information, enter `get-help Group-3PARFilePersonaQuota_WSAPI -detailed`.
- For technical information, enter `get-help Group-3PARFilePersonaQuota_WSAPI -full`.
- For online help, enter `get-help Group-3PARFilePersonaQuota_WSAPI -online`.

Move cmdlets

Move-3PARVirtualCopy_WSAPI

Synopsis

Promotes the changes from a virtual copy back onto the base volume, hence overwriting the base volume with the virtual copy.

Syntax

```
Move-3PARVirtualCopy_WSAPI [-VirtualCopyName] <String> [[-Online]] [[-Priority] <String>] [[-AllowRemoteCopyParent]] [[-WsapiConnection] <Object>] [  
<CommonParameters>]
```

Description

Promotes the changes from a virtual copy back onto the base volume, hence overwriting the base volume with the virtual copy.

Parameters**-VirtualCopyName <String>**

Specifies the name of the virtual copy to be promoted.

-Online [<SwitchParameter>]

Enables (true) or disables (false) executing the promote operation on an online volume. The default setting is false.

-Priority <String>

Specifies the task priority as:

- HIGH: High priority.
- MED: Medium priority.
- LOW: Low priority.

-AllowRemoteCopyParent [<SwitchParameter>]

Allows the promote operation to proceed even if the RW parent volume is in a Remote Copy volume group, if that group has not been started. If the Remote Copy group has been started, this command fails.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Move-3PARVirtualCopy_WSAPI
```



TIP:

- To see the examples, enter `get-help Move-3PARVirtualCopy_WSAPI -examples`.
- For more information, enter `get-help Move-3PARVirtualCopy_WSAPI -detailed`.
- For technical information, enter `get-help Move-3PARVirtualCopy_WSAPI -full`.
- For online help, enter `get-help Move-3PARVirtualCopy_WSAPI -online`.

Move-3PARVVSetVirtualCopy_WSAPI

Synopsis

Promotes the changes from a VV set virtual copy back onto the base volume, hence overwriting the base volume with the virtual copy.

Syntax

```
Move-3PARVVSetVirtualCopy_WSAPI [-VVSetName] <String> [[-Online]] [[-Priority] <String>] [[-AllowRemoteCopyParent]] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Promotes the changes from a VV set virtual copy back onto the base volume, hence overwriting the base volume with the virtual copy.

Parameters

-VVSetName <String>

Specifies the name of the VV set virtual copy to be promoted.

-Online [<SwitchParameter>]

Enables (true) or disables (false) executing the promote operation on an online volume. The default setting is false.

-Priority <String>

Specifies the task priority:

- HIGH: High priority.
- MED: Medium priority.
- LOW: Low priority.

-AllowRemoteCopyParent [<SwitchParameter>]

Allows the promote operation to proceed even if the RW parent volume is in a Remote Copy volume group, if that group has not been started. If the Remote Copy group has been started, this command fails.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Move-3PARVVSetVirtualCopy_WSAPI
```

**TIP:**

- To see the examples, enter `get-help Move-3PARVVSetVirtualCopy_WSAPI -examples`.
- For more information, enter `get-help Move-3PARVVSetVirtualCopy_WSAPI -detailed`.
- For technical information, enter `get-help Move-3PARVVSetVirtualCopy_WSAPI -full`.
- For online help, enter `get-help Move-3PARVVSetVirtualCopy_WSAPI -online`.

New cmdlets

New-3PARCpg_WSAPI

Synopsis

Creates a Common Provisioning Group (CPG).

Syntax

```
New-3PARCpg_WSAPI [-CPGName] <String> [[-Domain] <String>] [[-Template]
<String>] [[-GrowthIncrementMiB] <Int32>] [[-GrowthLimitMiB] <Int32>] [[-
UsedLDWarningAlertMiB] <Int32>] [[-RAIDType] <String>] [[-SetSize] <Int32>]
[[[-HA] <String>] [[-Chunklets] <String>] [[-NodeList] <String>] [[-SlotList]
<String>] [[-PortList] <String>] [[-CageList] <String>] [[-MagList] <String>]
[[[-DiskPosList] <String>] [[-DiskList] <String>] [[-
TotalChunkletsGreaterThan] <Int32>] [[-TotalChunkletsLessThan] <Int32>] [[-
FreeChunkletsGreaterThan] <Int32>] [[-FreeChunkletsLessThan] <Int32>] [[-
DiskType] <String>] [[-Rpm] <Int32>] [[-WsapiConnection] <Object>]
[<CommonParameters>]
```

Description

Creates a Common Provisioning Group (CPG).

Parameters**-CPGName <String>**

Specifies the name of the CPG.

-Template <String>

Specifies the name of the template from which the CPG is created.

-GrowthIncrementMiB <Int32>

Specifies the growth increment, in MiB, the amount of logical disk storage created on each auto-grow operation.

-GrowthLimitMiB <Int32>

Specifies that the autogrow operation is limited to the specified storage amount, in MiB, that sets the growth limit.

-UsedLDWarningAlertMiB <Int32>

Specifies that the threshold of used logical disk space, in MiB, when exceeded results in a warning alert.

-RAIDType <String>

Specifies the RAID type for logical disk:

R0 RAID level 0

R1 RAID level 1

R5 RAID level 5

R6 RAID level 6

-SetSize <Int32>

Specifies the set size in the number of chunklets.

-HA <String>

Specifies that the layout must support the failure of one port pair, one cage, or one magazine.

PORT Support failure of a port.

CAGE Support failure of a drive cage.

MAG Support failure of a drive magazine.

-Chunklets <String>

FIRST Lowest numbered available chunklets, where transfer rate is the fastest.

LAST Highest numbered available chunklets, where transfer rate is the slowest.

-NodeList <String>

Specifies one or more nodes. Nodes are identified by one or more integers. Multiple nodes are separated with a single comma (1,2,3).

A range of nodes is separated with a hyphen (0-7). The primary path of the disks must be on the specified node number.

-SlotList <String>

Specifies one or more PCI slots. Slots are identified by one or more integers. Multiple slots are separated with a single comma (1,2,3).

A range of slots is separated with a hyphen (0-7). The primary path of the disks must be on the specified PCI slot numbers.

-PortList <String>

Specifies one or more ports. Ports are identified by one or more integers. Multiple ports are separated with a single comma (1,2,3).

A range of ports is separated with a hyphen (0-4). The primary path of the disks must be on one or more specified port numbers.

-CageList <String>

Specifies one or more drive cages. Drive cages are identified by one or more integers. Multiple drive cages are separated with a single comma (1,2,3).

A range of drive cages is separated with a hyphen (0- 3). The specified drive cage(s) must contain disks.

-MagList <String>

Specifies one or more drive magazines. Drive magazines are identified by one or more integers. Multiple drive magazines are separated with a single comma (1,2,3).

A range of drive magazines is separated with a hyphen (0-7). One or more specified magazines must contain disks.

-DiskPosList <String>

Specifies one or more disk positions within a drive magazine. Disk positions are identified by one or more integers. Multiple disk positions are separated with a single comma (1,2,3).

A range of disk positions is separated with a hyphen (0-3). One or more specified portions must contain disks.

-DiskList <String>

Specifies one or more physical disks. Disks are identified by one or more integers. Multiple disks are separated with a single comma (1,2,3).

A range of disks is separated with a hyphen (0-3). Disks must match one or more specified IDs.

-TotalChunkletsGreaterThanOrEqualTo <Int32>

Specifies that physical disks with total chunklets greater than the number specified be selected.

-TotalChunkletsLessThan <Int32>

Specifies that physical disks with total chunklets less than the number specified be selected.

-FreeChunkletsGreaterThanOrEqualTo <Int32>

Specifies that physical disks with free chunklets less than the number specified be selected.

-FreeChunkletsLessThan <Int32>

Specifies that physical disks with free chunklets greater than the number specified be selected.

-DiskType <String>

Specifies that physical disks must have the specified device type.

FC Fibre Channel

NL Near Line

SSD SSD

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARCpg_WSAPI -CPGName XYZ
C:\PS>New-3PARCpg_WSAPI -CPGName "MyCPG" -Domain Chef_Test
C:\PS>New-3PARCpg_WSAPI -CPGName "MyCPG" -Domain Chef_Test -Template Test_Temp
C:\PS>New-3PARCpg_WSAPI -CPGName "MyCPG" -Domain Chef_Test -Template Test_Temp -GrowthIncrementMiB 100
C:\PS>New-3PARCpg_WSAPI -CPGName "MyCPG" -Domain Chef_Test -RAIDType R0
```



TIP:

- To see the examples, enter `get-help New-3PARCpg_WSAPI -examples`.
- For more information, enter `get-help New-3PARCpg_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARCpg_WSAPI -full`.
- For online help, enter `get-help New-3PARCpg_WSAPI -online`.

New-3PARFilePersonaQuota_WSAPI

Synopsis

Creates File Persona quota.

Syntax

```
New-3PARFilePersonaQuota_WSAPI [-Name] <String> [-Type] <String> [-VFS]
<String> [-FPG] <String> [[-SoftBlockMiB] <Int32>] [[-HardBlockMiB] <Int32>]
[[[-SoftFileLimit] <Int32>] [[-HardFileLimit] <Int32>] [[-WsapiConnection]
<Object>] [<CommonParameters>]
```

Description

Creates File Persona quota.

Parameters

-Name <String>

Specifies the name of the object that the File Persona quotas to be created for.

-Type <String>

Type of File Persona to be created:

user: user quota type.

group: group quota type.

fstore: fstore quota type.

-VFS <String>

VFS name associated with the File Persona quota.

-FPG <String>

Name of the FPG hosting the VFS.

-SoftBlockMiB <Int32>

Soft capacity storage quota.

-HardBlockMiB <Int32>

Hard capacity storage quota.

-SoftFileLimit <Int32>

Specifies the soft limit for the number of stored files.

-HardFileLimit <Int32>

Specifies the hard limit for the number of stored files.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARFilePersonaQuota_WSAPI
```

**TIP:**

- To see the examples, enter `get-help New-3PARFilePersonaQuota_WSAPI -examples`.
- For more information, enter `get-help New-3PARFilePersonaQuota_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARFilePersonaQuota_WSAPI -full`.
- For online help, enter `get-help New-3PARFilePersonaQuota_WSAPI -online`.

New-3PARFileShares_WSAPI

Synopsis

Creates a File Share.

Syntax

```
New-3PARFileShares_WSAPI [-FSName] <String> [[-NFS]] [[-SMB]] [-VFS] <String>
[[[-ShareDirectory] <String>] [[-FStore] <String>] [[-FPG] <String>] [[-
Comment] <String>] [[-Enables_SSL]] [[-Disables_SSL]] [[-ObjurlPath]
<String>] [[-NFSOptions] <String>] [[-NFSClientlist] <String[]>] [[-SmbABE]]
[[[-SmbAllowedIPs] <String[]>] [[-SmbDeniedIPs] <String[]>] [[-
SmbContinuosAvailability]] [[-SmbCache] <String>] [[-FtpShareIPs] <String[]>]
[[[-FtpOptions] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates a File Share..

Parameters**-FSName <String>**

Specifies the name of the File Share you want to create.

-NFS [<SwitchParameter>]

File Share of type NFS.

-SMB [<SwitchParameter>]

File Share of type SMB.

-VFS <String>

Specifies the name of the VFS under which to create the File Share. If it does not exist, the system creates it.

-ShareDirectory <String>

Specifies the directory path to the File Share. Requires fstore.

-FStore <String>

Specifies the name of the File Store in which to create the File Share.

-FPG <String>

Specifies the nName of FPG in which to create the File Share.

-Comment <String>

Specifies any additional information about the File Share.

-Enables_SSL [<SwitchParameter>]

Enables (true) SSL. Valid for OBJ and FTP File Share types only.

-Disables_SSL [<SwitchParameter>]

Disables (false) SSL. Valid for OBJ and FTP File Share types only.

-ObjurlPath <String>

URL that clients will use to access the share. Valid for OBJ File Share type only.

-NFSOptions <String>

Valid for NFS File Share type only. Specifies options to use when creating the share. Supports standard NFS export options except no_subtree_check. With no options specified, automatically sets the default options.

-NFSClientlist <String[]>

Valid for NFS File Share type only. Specifies the clients that can access the share. Specify the NFS client using any of the following:

- Full name (sys1.hp.com)
- Name with a wildcard (*.hp.com)
- IP address (use a comma to separate IP addresses).

With no list specified, defaults to match everything.

-SmbABE [<SwitchParameter>]

Valid for SMB File Share only.

Enables (true) or disables (false) Access Based Enumeration (ABE). ABE specifies that users can see only the files and directories to which they have been allowed access on the shares.

-SmbAllowedIPs <String[]>

List of client IP addresses that are allowed access to the share. Valid for SMB File Share type only.

-SmbDeniedIPs <String[]>

List of client IP addresses that are not allowed access to the share. Valid for SMB File Share type only.

-SmbContinuousAvailability [<SwitchParameter>]

Enables (true) or disables (false) SMB3 continuous availability features for the share. Defaults to true. Valid for SMB File Share type only.

-SmbCache <String>

Specifies client-side caching for offline files. Valid for SMB File Share type only.

-FtpShareIPs <String[]>

Lists the IP addresses assigned to the FTP share. Valid only for FTP File Share type.

-FtpOptions <String>

Specifies the configuration options for the FTP share.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARFileShares_WSAPI
```

**TIP:**

- To see the examples, enter `get-help New-3PARFileShares_WSAPI -examples`.
 - For more information, enter `get-help New-3PARFileShares_WSAPI -detailed`.
 - For technical information, enter `get-help New-3PARFileShares_WSAPI -full`.
 - For online help, enter `get-help New-3PARFileShares_WSAPI -online`.
-

New-3PARFileStore_WSAPI

Synopsis

Creates File Store.

Syntax

```
New-3PARFileStore_WSAPI [-FSName] <String> [-VFS] <String> [-FPG] <String>
[[-NTFS]] [[-LEGACY]] [[-SupressSecOpErr]] [[-Comment] <String>] [[-
WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates File Store.

Parameters

-FSName <String>

Specifies the name of the File Store you want to create (max 255 characters).

-VFS <String>

Specifies the name of the VFS under which to create the File Store. If it does not exist, the system creates it.

-FPG <String>

Specifies the name of the FPG in which to create the File Store.

-NTFS [<SwitchParameter>]

Specifies that the File Store security mode is NTFS.

-LEGACY [<SwitchParameter>]

Specifies that the File Store security mode is legacy.

-SupressSecOpErr [<SwitchParameter>]

Enables or disables the security operations error suppression for File Stores in NTFS security mode. By default, this option is set to false. This option cannot be used in LEGACY security mode.

-Comment <String>

Specifies any additional information about the File Store.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARFileStore_WSAPI
```



TIP:

- To see the examples, enter `get-help New-3PARFileStore_WSAPI -examples`.
- For more information, enter `get-help New-3PARFileStore_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARFileStore_WSAPI_WSAPI -full`.
- For online help, enter `get-help New-3PARFileStore_WSAPI -online`.

New-3PARFileStoreSnapshot_WSAPI

Synopsis

Creates File Store snapshot.

Syntax

```
New-3PARFileStoreSnapshot_WSAPI [-TAG] <String> [-FStore] <String> [-VFS] <String> [[-RetainCount] <Int32>] [-FPG] <String> [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates File Store snapshot.

Parameters

-TAG <String>

The suffix appends the time stamp of a snapshot creation to form the snapshot name (<timestamp>_<tag>), using ISO8601 date and time format. This option truncates the tags that are more than 255 characters.

-FStore <String>

Specifies the name of the File Store for which you are creating a snapshot.

-VFS <String>

Specifies the name of the VFS to which the File Store belongs.

-NTFS [<SwitchParameter>]

Specifies that the File Store security mode is NTFS.

-RetainCount <Int32>

Specifies the number of snapshots to retain for the File Store, in the range of 1 to 1024. Snapshots that are more than the specified count are deleted, beginning with the oldest snapshot.

If the tag for the specified retainCount exceeds the count value, the oldest snapshot is deleted before the new snapshot is created.

If the creation of the new snapshot fails, the deleted snapshot is not restored.

-FPG <String>

Specifies the name of the FPG to which the VFS belongs.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARFileStoreSnapshot_WSAPI
```



TIP:

- To see the examples, enter `get-help New-3PARFileStoreSnapshot_WSAPI -examples`.
 - For more information, enter `get-help New-3PARFileStoreSnapshot_WSAPI -detailed`.
 - For technical information, enter `get-help New-3PARFileStoreSnapshot_WSAPI -full`.
 - For online help, enter `get-help New-3PARFileStoreSnapshot_WSAPI -online`.
-

New-3PARFlashCache_WSAPI

Synopsis

Creates a Flash Cache.

Syntax

```
New-3PARFlashCache_WSAPI [[-SizeGiB] <Int32>] [[-Mode] <Int32>] [[-RAIDType] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates a Flash Cache.

Parameters

-SizeGiB <Int32>

Specifies the node pair size of the Flash Cache on the system.

-Mode <Int32>

Simulator: 1 Real: 2 (default)

-RAIDType <String>

Specifies the Raid type of the logical disks for the flash cache. When unspecified, storage system chooses the default (R0 Level0 or R1 Level1).

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARFlashCache_WSAPI
```



TIP:

- To see the examples, enter `get-help New-3PARFlashCache_WSAPI -examples`.
- For more information, enter `get-help New-3PARFlashCache_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARFlashCache_WSAPI -full`.
- For online help, enter `get-help New-3PARFlashCache_WSAPI -online`.

New-3PARFPG_WSAPI

Synopsis

Creates a File Provisioning Group (FPG).

Syntax

```
New-3PARFPG_WSAPI [-FPGName] <String> [-CPGName] <String> [[-SizeTiB] <Int32>] [[-FPVV] <Boolean>] [[-TDVV] <Boolean>] [[-NodeId] <Int32>] [[-Comment] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates a File Provisioning Group (FPG).

Parameters

-FPGName <String>

Specifies the name of the FPG. The maximum allowed characters are 22.

-CPGName <String>

Specifies the name of the CPG on which to create the FPG.

-SizeTiB <Int32>

Specifies the size of the FPG in Tera byte.

-FPVV <Boolean>

Enables (true) or disables (false) FPG volume creation with the FPVV volume. By defaults, this option is set to false that creates the FPG with the TPVV volume.

-TDVV <Boolean>

Enables (true) or disables (false) FPG volume creation with the FPVV volume. By defaults, this option is set to false that creates the FPG with the TPVV volume.

-NodeId <Int32>

Binds the created FPG to the specified node.

-Comment <String>

Specifies any additional information up to 511 characters for the FPG.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARFPG_WSAPI -PFGName "MyFPG" -CPGName "MyCPG" -SizeTiB 12
```

Creates a File Provisioning Group (FGP) with the size in Tera byte.



TIP:

- To see the examples, enter `get-help New-3PARFPG_WSAPI -examples`.
 - For more information, enter `get-help New-3PARFPG_WSAPI -detailed`.
 - For technical information, enter `get-help New-3PARFPG_WSAPI -full`.
 - For online help, enter `get-help New-3PARFPG_WSAPI -online`.
-

New-3PARHost_WSAPI

Synopsis

Creates a new host.

Syntax

```
New-3PARHost_WSAPI [-HostName] <String> [[-Domain] <String>] [[-FCWWN] <String>] [[-ForceTearDown] <Boolean>] [[-ISCSINames] <String>] [[-Location]
```

```
<String>] [[-IPAddr] <String>] [[-OS] <String>] [[-Model] <String>] [[-Contact] <String>] [[-Comment] <String>] [[-Persona] <String>] [[-Port] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates a new host.

Any user with Super or Edit role, or any role granted host_create permission, can perform this operation. Creating of requires access to all domains.

Parameters

-HostName <String>

Specifies the host name that is required for creating a host.

-Domain <String>

Creates the host in the specified domain, or in the default domain, if unspecified.

-FCWWN <String>

Sets WWNs for the host.

-ForceTearDown <Boolean>

If the value is set to true, forces tear down of low-priority VLUN exports.

-iSCSINames <String>

Set one or more iSCSI names for the host.

-Location <String>

Specifies the location of the host.

-IPAddr <String>

Specifies the IP address of the host.

-OS <String>

Specifies the operating system running on the host.

-Model <String>

Specifies the model of the host.

-Contact <String>

Specifies the contact of the host owner.

-Comment <String>

Specifies the additional information for the host.

-Persona <String>

Uses the default persona "GENERIC_ALUA" unless you specify from any one of the following host persona:

- GENERIC
- GENERIC_ALUA
- GENERIC_LEGACY
- HPUX_LEGACY

- AIX_LEGACY
- EGENERA
- ONTAP_LEGACY
- VMWARE
- OPENVMS
- HPUX
- WindowsServer
- AIX_ALUA

-Port <String>

Specifies the desired relationship between the array ports and the host for target-driven zoning. Use this option only when the Smart SAN license is installed.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARHost_WSAPI -HostName MyHost
```

Creates a new host.

```
C:\PS>New-3PARHost_WSAPI -HostName MyHost -Domain MyDoamin
```

Creates MyHost host in the MyDoamin domain.

```
C:\PS>New-3PARHost_WSAPI -HostName MyHost -Domain MyDoamin -FCWWN XYZ
```

Creates MyHost host in the MyDoamin domain with WWN XYZ.

```
C:\PS>New-3PARHost_WSAPI -HostName MyHost -Domain MyDoamin -FCWWN XYZ -Persona GENERIC_ALUA
```



TIP:

- To see the examples, enter `get-help New-3PARHost_WSAPI -examples`.
- For more information, enter `get-help New-3PARHost_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARHost_WSAPI -full`.
- For online help, enter `get-help New-3PARHost_WSAPI -online`.

New-3PARHostSet_WSAPI

Synopsis

Creates a host Set.

Syntax

```
New-3PARHostSet_WSAPI [-HostSetName] <String> [[-Comment] <String>] [[-Domain] <String>] [[-SetMembers] <String>] [[-WsapiConnection] <Object>] [  
<CommonParameters>]
```

Description

Creates a host Set.

Any user with the Super or Edit role can create a host set. Any role granted `hostset_set` permission can add the hosts to a host set. You can add hosts to a host set using a glob-style pattern. A glob-style pattern is not supported when removing hosts from sets. For additional information about glob-style patterns, see *Glob-Style Patterns* in the *HPE 3PAR Command Line Interface Reference*.

Parameters

-HostSetName <String>

Specifies the name of the host set to be created.

-Comment <String>

Specifies the comment for the host set.

-Domain <String>

Specifies the size of the FPG in Tera byte.

-SetMembers <String>

Specifies the host to be added to the set. The existence of the host will not be checked.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARHostSet_WSAPI -HostSetName MyHostSet
```

Creates a host Set with name MyHostSet.

```
C:\PS>New-3PARHostSet_WSAPI -HostSetName MyHostSet -Comment "this Is Test Set" -Domain MyDomain
```

Creates a host Set with name MyHostSet.

```
C:\PS>New-3PARHostSet_WSAPI -HostSetName MyHostSet -Comment "this Is Test Set" -Domain MyDomain -SetMembers MyHost
```

Creates a host Set with name MyHostSet with Set Members MyHost.



TIP:

- To see the examples, enter `get-help New-3PARHostSet_WSAPI -examples`.
- For more information, enter `get-help New-3PARHostSet_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARHostSet_WSAPI -full`.
- For online help, enter `get-help New-3PARHostSet_WSAPI -online`.

New-3PARISCSIVlan_WSAPI

Synopsis

Creates a VLAN on an iSCSI port.

Syntax

```
New-3PARISCSIVlan_WSAPI [-NSP] <String> [-IPAddress] <String> [-Netmask]
<String> [-VlanTag] <Int32> [[-WsapiConnection] <Object>]
[<CommonParameters>]
```

Description

Creates a VLAN on an iSCSI port.

Parameters

-NSP <String>

Specifies the <n:s:p> parameters identifies the port you want to configure.

-IPAddress <String>

Creates the iSCSI port IP address.

-Netmask <String>

Set the Netmask for Ethernet

-ForceTearDown <Boolean>

If the value is set to true, forces tear down of low-priority VLUN exports.

-ISCSINames <String>

Set one or more iSCSI names for the host.

-VlanTag <Int32>

Specifies the VLAN tag.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARISCSIVlan_WSAPI -NSP 1:1:1 -IPAddress x.x.x.x -Netmask xx -VlanTag xx
```



TIP:

- To see the examples, enter `get-help New-3PARISCSIVlan_WSAPI -examples`.
 - For more information, enter `get-help New-3PARISCSIVlan_WSAPI -detailed`.
 - For technical information, enter `get-help New-3PARISCSIVlan_WSAPI -full`.
 - For online help, enter `get-help New-3PARISCSIVlan_WSAPI -online`.
-

New-3PARRCopyGroup_WSAPI

Synopsis

Creates a Remote Copy group.

Syntax

```
New-3PARRCopyGroup_WSAPI [-RcgName] <String> [[-Domain] <String>] [-TargetName] <String> [-Mode] <String> [[-UserCPG] <String>] [[-SnapCPG] <String>] [[-LocalUserCPG] <String>] [[-LocalSnapCPG] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates a Remote Copy group.

Parameters

-RcgName <String>

Specifies the name of the Remote Copy group to create.

-Domain <String>

Specifies the domain in which to create the Remote Copy group.

-TargetName <String>

Specifies the target name associated with the Remote Copy group to be created.

-Mode <String>

Specifies the volume group mode.

- SYNC: Remote Copy group mode is synchronous.
- PERIODIC: Remote Copy group mode is periodic. Although WSAPI 1.5 and later supports PERIODIC 2, Hewlett Packard Enterprise recommends using PERIODIC 3.
- ASYNC: Remote Copy group mode is asynchronous.

-UserCPG <String>

Specifies the user CPG used for auto created target volumes (required if you specify localUserCPG. Otherwise, this parameter is optional).

-SnapCPG <String>

Specifies the snap CPG used for auto created target volumes (required if you specify localUserCPG. Otherwise, this parameter is optional).

-LocalUserCPG <String>

PG used for auto created volumes (required if you specify localUserCPG. Otherwise, this parameter is optional).

-LocalSnapCPG <String>

Specifies the local snap CPG used for auto created volumes (required if you specify localUserCPG. Otherwise, this parameter is optional).

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARRCopyGroup_WSAPI
```



TIP:

- To see the examples, enter `get-help New-3PARRCopyGroup_WSAPI -examples`.
- For more information, enter `get-help New-3PARRCopyGroup_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARRCopyGroup_WSAPI -full`.
- For online help, enter `get-help New-3PARRCopyGroup_WSAPI -online`.

New-3PARRCopyTarget_WSAPI

Synopsis

Creates a Remote Copy target.

Syntax

```
New-3PARRCopyTarget_WSAPI [-TargetName] <String> [[-IP]] [[-FC]] [[-NodeWWN] <String>] [[-PortPos] <String>] [[-Link] <String>] [[-Disabled]] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates a Remote Copy target.

Parameters

-TargetName <String>

Specifies the name of the target definition to create, up to 24 characters.

-IP [<SwitchParameter>]

IP: IP Target Type

-FC [<SwitchParameter>]

FC: FC Target Type

-NodeWWN <String>

Specifies the WWN of the node on system2.

-PortPos <String>

Specifies the port information of system1 (n:s:p) for Remote Copy.

-Link <String>

Specifies the link for system2. If the linkProtocolType, is IP, specifies an IP address for the corresponding port on system2. If the linkProtocolType is FC, specify the WWN of the peer port on system2.

-Disabled [<SwitchParameter>]

Enable (true) or disable (false) the creation of the target in disabled mode.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARRCopyTarget_WSAPI
```

```
C:\PS>New-3PARRCopyTarget_WSAPI -TargetName xxx -IP
```

```
C:\PS>New-3PARRCopyTarget_WSAPI -TargetName xxx -NodeWWN xxx -FC
```



TIP:

- To see the examples, enter `get-help New-3PARRCopyTarget_WSAPI-examples`.
- For more information, enter `get-help New-3PARRCopyTarget_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARRCopyTarget_WSAPI -full`.
- For online help, enter `get-help New-3PARRCopyTarget_WSAPI -online`.

New-3PARSnapRCGroupVV_WSAPI

Synopsis

Creates the coordinated snapshots across all Remote Copy group volumes.

Syntax

```
New-3PARSnapRCGroupVV_WSAPI [-GroupName] <String> [[-VolumeName] <String>] [-NewVvNmae] <String> [[-Comment] <String>] [[-ExpirationHous] <Int32>] [[-RetentionHours] <Int32>] [[-SkipBlock]] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates the coordinated snapshots across all Remote Copy group volumes.

Parameters

-GroupName <String>

Specifies Group Name.

-VolumeName <String>

Specifies the name of the volume to be captured (not the name of the new snapshot volume).

-Comment <String>

Specifies any additional information up to 511 characters for the volume.

-ExpirationHous <Int32>

Specifies the relative time from the current time when volume expires. Positive integer and in the range of 1 - 43,800 hours (1825 days).

-RetentionHours <Int32>

Specifies the amount of time, relative to the current time, that the volume is retained. Positive integer in the range of 1 - 43,800 hours (1825 days).

-SkipBlock [<SwitchParameter>]

Enables (true) or disables (false) whether the storage system blocks host I/O to the parent virtual volume during the creation of a read-only snapshot.

By default, this parameter is set to false.

-Disabled [<SwitchParameter>]

Enable (true) or disable (false) the creation of the target in disabled mode.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARSnapRCGroupVV_Wsapi
C:\PS>New-3PARSnapRCGroupVV_Wsapi -GroupName xxx -NewVvNmae xxx -Comment "Hello"
C:\PS>New-3PARSnapRCGroupVV_Wsapi -GroupName xxx -NewVvNmae xxx -VolumeName Test -Comment "Hello"
C:\PS>New-3PARSnapRCGroupVV_Wsapi -GroupName xxx -NewVvNmae xxx -Comment "Hello" -RetentionHours 1
C:\PS>New-3PARSnapRCGroupVV_Wsapi -GroupName xxx -NewVvNmae xxx -Comment "Hello" -VolumeName Test -RetentionHours 1
```

**TIP:**

- To see the examples, enter `get-help New-3PARSnapRCGroupVV_Wsapi-examples`.
- For more information, enter `get-help New-3PARSnapRCGroupVV_Wsapi-detailed`.
- For technical information, enter `get-help New-3PARSnapRCGroupVV_Wsapi-full`.
- For online help, enter `get-help New-3PARSnapRCGroupVV_Wsapi-online`.

New-3PARVFS_Wsapi

Synopsis

Creates the Virtual File Servers.

Syntax

```
New-3PARVFS_Wsapi [-VFSName] <String> [[-PolicyId] <String>] [[-FPG_IPInfo]
<String>] [[-VFS] <String>] [[-IPAddr] <String>] [[-Netmask] <String>] [[-
NetworkName] <String>] [[-VlanTag] <Int32>] [[-CPG] <String>] [[-FPG]
<String>] [[-SizeTiB] <Int32>] [[-TDVV]] [[-FPVV]] [[-NodeId] <Int32>] [[-
Comment] <String>] [[-BlockGraceTimeSec] <Int32>] [[-
```

```
InodeGraceTimeSec]<Int32>] [[-NoCertificate]] [[-SnapshotQuotaEnabled]] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates the Virtual File Servers.

Parameters

-VFSName <String>

Specifies the name of the VFS to be created.

-PolicyId <String>

Specifies the Policy ID associated with the network configuration.

-FPG_IPInfo <String>

Specifies FPG to which VFS belongs.

-VFS <String>

Specifies the VFS where the network is configured.

-IPAddr <String>

Specifies the IP address.

-Netmask <String>

Specifies the network configuration name.

-VlanTag <Int32>

Specifies the VFS network configuration VLAN ID.

-CPG <String>

Specifies the CPG in which to create the FPG.

-FPG <String>

Specifies the name of an existing FPG in which to create the VFS.

-SizeTiB <Int32>

Specifies the size of the FPG you want to create. Required when using the **-CPG** option.

-TDVV [<SwitchParameter>]

Enables (true) or disables false creation of the FPG with tdvv volumes. Defaults to false which creates the FPG with the default volume type (tpvv).

-FPVV [<SwitchParameter>]

Enables (true) or disables false creation of the FPG with fpvv volumes. Defaults to false which creates the FPG with the default volume type (tpvv).

-NodeId <Int32>

Specifies the Node ID to which to assign the FPG. Always use with cpg member.

-Comment <String>

Specifies any additional comments while creating the VFS.

-BlockGraceTimeSec <Int32>

Specifies the Block grace time in seconds for quotas within the VFS.

-InodeGraceTimeSec <Int32>

Specifies the inode grace time in seconds for quotas within the VFS.

-NoCertificate [<SwitchParameter>]

- True: Does not create a self signed certificate associated with the VFS
- False: Creates a self signed certificate associated with the VFS and this is the default value.

-SnapshotQuotaEnabled [<SwitchParameter>]

Enables (true) or disables (false) the quota accounting flag for snapshots at VFS level.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARVFS_WSAPI
```

**TIP:**

- To see the examples, enter `get-help New-3PARVFS_WSAPI -examples`.
 - For more information, enter `get-help New-3PARVFS_WSAPI -detailed`.
 - For technical information, enter `get-help New-3PARVFS_WSAPI -full`.
 - For online help, enter `get-help New-3PARVFS_WSAPI -online`.
-

New-3PARVLun_WSAPI

Synopsis

Creates a VLUN.

Syntax

```
New-3PARVLun_WSAPI [-VolumeName] <String> [-LUNID] <Int32> [-HostName]
<String> [[-NSP] <String>] [[-NoVcn] <Boolean>] [[-WsapiConnection] <Object>]
[<CommonParameters>]
```

Description

Creates a VLUN.

Any user with Super or Edit role, or any role granted vlun_create permission, can perform this operation.

Parameters**-VolumeName <String>**

Specifies the name of the volume or VV set to export.

-LUNID <Int32>

Specifies the LUN ID.

-HostName <String>

Specifies the name of the host or host set to which the volume or VV set is to be exported.

-NSP <String>

Specifies the system port of VLUN exported to. It includes node number, slot number, and card port number.

-NoVcn <Boolean>

Specifies that a VCN not be issued after export (-novcn). Default value is false.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARVLun_WSAPI -VolumeName xxx -LUNID x -HostName xxx
```

**TIP:**

- To see the examples, enter `get-help New-3PARVLun_WSAPI -examples`.
- For more information, enter `get-help New-3PARVLun_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARVLun_WSAPI -full`.
- For online help, enter `get-help New-3PARVLun_WSAPI -online`.

New-3PARVV_WSAPI

Synopsis

Creates a virtual volume.

Syntax

```
New-3PARVV_WSAPI [-VVName] <String> [-CpgName] <String> [-SizeMiB] <Int32>
[[-Id] <Int32>] [[-Comment] <String>] [[-StaleSS] <Boolean>] [[-OneHost]
<Boolean>] [[-ZeroDetect] <Boolean>] [[-System] <Boolean>] [[-Caching]
<Boolean>] [[-Fsvc] <Boolean>] [[-HostDIF] <String>] [[-SnapCPG] <String>]
[[-SsSpcAllocWarningPct] <Int32>] [[-SsSpcAllocLimitPct] <Int32>] [[-TPVV]
<Boolean>] [[-TDVV] <Boolean>] [[-UsrSpcAllocWarningPct] <Int32>] [[-
UsrSpcAllocLimitPct] <Int32>] [[-ExpirationHours] <Int32>] [[-RetentionHours]
<Int32>] [[-Compression] <Boolean>] [[-WsapiConnection] <Object>]
[<CommonParameters>]
```

Description

Creates a virtual volume.

Parameters

-VVName <String>

Specifies the name of the Volume Name.

-CpgName <String>

Specifies the Volume CPG.

-SizeMiB <Int32>

Specifies the volume size.

-Id <Int32>

Specifies the ID of the volume. If not specified, the next available ID is chosen.

-Comment <String>

Specifies additional information about the volume.

-StaleSS <Boolean>

- True-Stale snapshots. If there is no space for a copy-on- write operation, the snapshot can go stale but the host write proceeds without an error.
- False-No stale snapshots. If there is no space for a copy-on-write operation, the host write fails.

-ZeroDetect <Boolean>

- True: Indicates that the storage system scans for zeros in the incoming write data.
- False: Indicates that the storage system does not scan for zeros in the incoming write data.

-System <Boolean>

- True: Special volume used by the system.
- False: Normal user volume.

-Caching <Boolean>

This is a read-only policy and cannot be set.

- True: Indicates that the storage system is enabled for write caching, read caching, and read ahead for the volume.
- False: Indicates that the storage system is disabled for write caching, read caching, and read ahead for the volume.

-Fsvc <Boolean>

This is a read-only policy and cannot be set.

- True: Indicates that File Service uses this volume.
- False: Indicates that File Services do not use this volume.

-HostDIF <String>

Specifies the tType of host-based DIF policy,

3PAR_HOST_DIF is for 3PAR host-based DIF supported, STD_HOST_DIF is for Standard SCSI host-based DIF supported, and NO_HOST_DIF is for Volume does not support host-based DIF.

-SnapCPG <String>

Specifies the name of the CPG from which the snapshot space will be allocated.

-SsSpcAllocWarningPct <Int32>

Sets a snapshot space allocation limit. The snapshot space of the volume is prevented from growing beyond the indicated percentage of the volume size.

-TPVV <Boolean>

Create thin volume.

-UsrSpcAllocLimitPct <Int32>

Space allocation limit.

-ExpirationHours <Int32>

Specifies the relative time (from the current time) that the volume expires. Value is a positive integer with a range of 1-43,800 hours (1825 days).

-RetentionHours <Int32>

Specifies the amount of time relative to the current time that the volume is retained. Value is a positive integer with a range of 1- 43,800 hours (1825 days).

-Compression <Boolean>

Enables (true) or disables (false) creating thin provisioned volumes with compression. Defaults to false (create volume without compression).

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARVV_Wsapi
C:\PS>New-3PARVV_Wsapi -VvName xxx -CpgName xxx -SizeMiB 10
C:\PS>New-3PARVV_Wsapi -VvName xxx -CpgName xxx -SizeMiB 10 -Id 1010
C:\PS>New-3PARVV_Wsapi -VvName xxx -CpgName xxx -SizeMiB 10 -Comment "This is test vv"
C:\PS>New-3PARVV_Wsapi -VvName xxx -CpgName xxx -SizeMiB 10 -OneHost $true
C:\PS>New-3PARVV_Wsapi -VvName xxx -CpgName xxx -SizeMiB 10 -Caching $true
C:\PS>New-3PARVV_Wsapi -VvName xxx -CpgName xxx -SizeMiB 10 -HostDIF NO_HOST_DIF
```

**TIP:**

- To see the examples, enter `get-help New-3PARVV_Wsapi -examples`.
 - For more information, enter `get-help New-3PARVV_Wsapi -detailed`.
 - For technical information, enter `get-help New-3PARVV_Wsapi -full`.
 - For online help, enter `get-help New-3PARVV_Wsapi -online`.
-

New-3PARVVLstGroupSnapshot_WSAPI

Synopsis

Creates a group snapshot of a virtual volumes list.

Syntax

```
New-3PARVVLstGroupSnapshot_WSAPI [-VolumeName] <String> [-SnapshotName]
<String> [[-SnapshotId] <Int32>] [[-SnapshotWWN] <String>] [[-ReadWrite]
<Boolean>] [[-Comment] <String>] [[-ReadOnly] <Boolean>] [[-Match] <Boolean>]
[[[-ExpirationHours] <Int32>] [[-RetentionHours] <Int32>] [[-SkipBlock]
<Boolean>] [[-AddToSet] <String>] [[-WsapiConnection] <Object>]
[<CommonParameters>]
```

Description

Creates a group snapshot of a virtual volumes list.

Parameters

-VolumeName <String>

Specifies the name of the volume being copied.

-SnapshotName <String>

If not specified, the system generates the snapshot name.

-SnapshotId <Int32>

Specifies the ID of the snapShot volume. If not specified, the system chooses an ID.

-SnapshotWWN <String>

Specifies the WWN of the snapshot Virtual Volume. With no snapshotWWNspecified, a WWN is chosen automatically.

-ReadWrite <Boolean>

This is an optional parameter.

- A True setting applies read-write status to the snapshot.
- A False setting applies read-only status to the snapshot.
- Overrides the read-only snapshots and the match settings for the snapshot.

-Match <Boolean>

By default, all snapshots are created read-write. Specifies the creation of snapshots that match the read-only or read-write setting of parent. Do not combine the readOnly and match options.

-ExpirationHours <Int32>

Specifies the time relative to the current time that the copied volumes expire. Value is a positive integer with a range of 1-43,800 hours (1825 days).

-RetentionHours <Int32>

Specifies the time relative to the current time that the copied volumes are retained. Value is a positive integer with a range of 1-43,800 hours (1825 days).

-SkipBlock <Boolean>

Occurs if the host IO is blocked while the snapshot is being created.

-AddToSet <String>

The name of the volume set to which the system adds your created snapshots. If the volume set does not exist, it will be created.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARVVLstGroupSnapshot_WSAPI  
  
C:\PS>New-3PARVVLstGroupSnapshot_WSAPI -VolumeName xyz -SnapshotName  
asSnpvv -SnapshotId 10 -SnapshotWWN 60002AC0000000000101142300018F8D -  
ReadWrite $true -Comment Hello -ReadOnly $true  
-Match $true -ExpirationHours 10 -RetentionHours 10 -SkipBlock $true
```



TIP:

- To see the examples, enter `get-help New-3PARVVLstGroupSnapshot_WSAPI -examples`.
- For more information, enter `get-help New-3PARVVLstGroupSnapshot_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARVVLstGroupSnapshot_WSAPI -full`.
- For online help, enter `get-help New-3PARVVLstGroupSnapshot_WSAPI -online`.

New-3PARVVPPhysicalCopy_WSAPI

Synopsis

Creates a physical copy of a volume.

Syntax

```
New-3PARVVPPhysicalCopy_WSAPI [-VolumeName] <String> [-DestVolume] <String>  
[[[-DestCPG] <String>] [[-Online]] [[-WWN] <String>] [[-TPVV]] [[-TDVV]] [[-  
SnapCPG] <String>] [[-SkipZero]] [[-Compression]] [[-SaveSnapshot]] [[-  
Priority] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates a physical copy of a volume.

Parameters

-VolumeName <String>

Specifies the name of the volume to copy.

-DestVolume <String>

Specifies the destination volume.

-DestCPG <String>

Specifies the destination CPG for an online copy.

-Online [<SwitchParameter>]

Enables (true) or disables (false) whether to perform the physical copy online. Defaults to false.

-WWN <String>

Specifies the WWN of the online copy virtual volume.

-TPVV [<SwitchParameter>]

Enables (true) or disables (false) whether the online copy is a TPVV. Defaults to false. Tpvv and tdvv cannot be set to true at the same time.

-TDVV [<SwitchParameter>]

Enables (true) or disables (false) whether the online copy is a TDVV. Defaults to false. Tpvv and tdvv cannot be set to true at the same time.

-SnapCPG <String>

Specifies the snapshot CPG for an online copy.

-SkipZero [<SwitchParameter>]

Enables (true) or disables (false) copying only allocated portions of the source VV from a thin provisioned source. Use only on a newly created destination, or if the destination was reinitialized to zero. Does not overwrite pre-existing data on the destination VV to match the source VV unless the same offset is allocated in the source.

-Compression [<SwitchParameter>]

For online copy only. Enables (true) or disables (false) compression of the created volume. Only tpvv or tdvv are compressed. Default value set to false.

-SaveSnapshot [<SwitchParameter>]

Enables (true) or disables (false) saving the snapshot of the source volume after completing the copy of the volume. Default value set to false

-Priority <String>

Does not apply to online copy.

- HIGH: High priority
- MED: Medium priority
- LOW: Low priority

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARVVPhysicalCopy_WSAPI
C:\PS>New-3PARVVPhysicalCopy_WSAPI -VolumeName xyz -DestVolume Test1
C:\PS>New-3PARVVPhysicalCopy_WSAPI -VolumeName xyz -DestVolume Test -DestCPG as_cpg
C:\PS>New-3PARVVPhysicalCopy_WSAPI -VolumeName xyz -DestVolume Test -Online
C:\PS>New-3PARVVPhysicalCopy_WSAPI -VolumeName xyz -DestVolume Test -WWN "xxx"
C:\PS>New-3PARVVPhysicalCopy_WSAPI -VolumeName xyz -DestVolume Test -SnapCPG as_cpg
C:\PS>New-3PARVVPhysicalCopy_WSAPI -VolumeName xyz -DestVolume Test -Compression
```



TIP:

- To see the examples, enter `get-help New-3PARVVPhysicalCopy_WSAPI -examples`.
- For more information, enter `get-help New-3PARVVPhysicalCopy_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARVVPhysicalCopy_WSAPI -full`.
- For online help, enter `get-help New-3PARVVPhysicalCopy_WSAPI -online`.

New-3PARVVSet_WSAPI

Synopsis

Creates a new virtual volume set.

Syntax

```
New-3PARVVSet_WSAPI [-VVSetName] <String> [[-Comment] <String>] [[-Domain]
<String>] [[-SetMembers] <String>] [[-WsapiConnection] <Object>]
[<CommonParameters>]
```

Description

Creates a new virtual volume set.

Any user with the Super or Edit role can create a host set. Any role granted `hostset_set` permission can add hosts to a host set. You can add hosts to a host set using a glob-style pattern. A glob-style pattern is not supported when removing hosts from sets.

For additional information about glob-style patterns, see "Glob-Style Patterns" in the HPE 3PAR Command Line Interface Reference.

Parameters

-VVSetName <String>

Specifies the name of the virtual volume set to be created.

-Comment <String>

Comment for the virtual volume set.

-Domain <String>

Specifies the domain in which the virtual volume set will be created.

-SetMembers <String>

Specifies the virtual volume to be added to the set. The existence of the list is not be checked.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARVVSet_WSAPI -VVSetName MyVVSet
```

Creates a new virtual volume Set with name MyVVSet.

```
C:\PS>New-3PARVVSet_WSAPI -VVSetName MyVVSet -Comment "this Is Test Set" -Domain MyDomain
```

Creates a new virtual volume Set with name MyVVSet.

```
C:\PS>New-3PARVVSet_WSAPI -VVSetName MyVVSet -Comment "this Is Test Set" -Domain MyDomain -SetMembers MyHost
```

Creates a new virtual volume Set with name MyVVSet with Set Members MyHost.



TIP:

- To see the examples, enter `get-help New-3PARVVSet_WSAPI -examples`.
- For more information, enter `get-help New-3PARVVSet_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARVVSet_WSAPI -full`.
- For online help, enter `get-help New-3PARVVSet_WSAPI -online`.

New-3PARVVSetPhysicalCopy_WSAPI

Synopsis

Creates a VV-set snapshot.

Syntax

```
New-3PARVVSetPhysicalCopy_WSAPI [-VolumeSetName] <String> [-DestVolume]
<String> [[-SaveSnapshot] <Boolean>] [[-Priority] <String>] [[-
WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates a VV-set snapshot.

Any user with the Super or Edit role or any role granted sv_create permission (for snapshots) can create a VV-set snapshot.

Parameters

-VolumeSetName <String>

Specifies the name of the VV set to copy.

-DestVolume <String>

Specifies the destination volume set.

-SaveSnapshot <Boolean>

Enables (true) or disables (false) whether to save the source volume snapshot after completing VV set copy.

-Priority <String>

Specifies the task priority.

- HIGH: High priority
- MED: Medium priority
- LOW: Low priority

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARVVSetPhysicalCopy_WSAPI
```

```
C:\PS>New-3PARVVSetPhysicalCopy_WSAPI -VolumeSetName Test_delete -DestVolume PERF_AIX38
```

**TIP:**

- To see the examples, enter `get-help New-3PARVVSetPhysicalCopy_WSAPI -examples`.
- For more information, enter `get-help New-3PARVVSetPhysicalCopy_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARVVSetPhysicalCopy_WSAPI -full`.
- For online help, enter `get-help New-3PARVVSetPhysicalCopy_WSAPI -online`.

New-3PARVVSetSnapshot_WSAPI

Synopsis

Creates a VV-set snapshot.

Syntax

```
New-3PARVVSetSnapshot_WSAPI [-VolumeSetName] <String> [[-SnpVVName] <String>]
[[[-ID] <Int32>] [[-Comment] <String>] [[-readOnly]] [[-ExpirationHours]
<Int32>] [[-RetentionHours] <Int32>] [[-AddToSet] <String>] [[-
WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates a VV-set snapshot.

Any user with the Super or Edit role or any role granted sv_create permission (for snapshots) can create a VV-set snapshot.

Parameters

-VolumeSetName <String>

Specifies the name of the VV set to copy.

-SnpVVName <String>

Specifies a snapshot volume name up to 31 characters in length.

For a snapshot of a volume set, use name patterns that are used to form the snapshot volume name. See, VV Name Patterns in the *HPE 3PAR Command Line Interface Reference*, available from the HPE Storage Information Library.

-ID <Int32>

Specifies the ID of the snapshot. If not specified, the system chooses the next available ID.

Not applicable for VV-set snapshot creation.

-Comment <String>

Specifies any additional information up to 511 characters for the volume.

-readOnly [<SwitchParameter>]

- True: Specifies that the copied volume is read-only.
- False: The volume is read/write and this value is the default value.

-ExpirationHours <Int32>

Specifies the relative time from the current time that the volume expires. Value is a positive integer and in the range of 1-43,800 hours, or 1825 days.

-RetentionHours <Int32>

Specifies the relative time from the current time that the volume will expire. Value is a positive integer and in the range of 1-43,800 hours, or 1825 days.

-AddToSet <String>

Specifies the name of the volume set to which the system adds your created snapshots. If the volume set does not exist, it will be created.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARVVSetSnapshot_WSAPI
```

```
C:\PS>New-3PARVVSetSnapshot_WSAPI -VolumeSetName Test_delete -SnpVVName  
PERF_AIX38 -ID 110 -Comment Hello -readOnly -ExpirationHours 1 -  
RetentionHours 1
```

**TIP:**

- To see the examples, enter `get-help New-3PARVVSetSnapshot_WSAPI -examples`.
- For more information, enter `get-help New-3PARVVSetSnapshot_WSAPI -detailed`.
- For technical information, enter `get-help New-3PARVVSetSnapshot_WSAPI -full`.
- For online help, enter `get-help New-3PARVVSetSnapshot_WSAPI -online`.

New-3PARVVSnapshot_WSAPI

Synopsis

Creates a volume snapshot.

Syntax

```
New-3PARVVSnapshot_WSAPI [-VolumeName] <String> [-snpVVName] <String> [[-ID]
<Int32>] [[-Comment] <String>] [[-ReadOnly] <Boolean>] [[-ExpirationHours]
<Int32>] [[-RetentionHours] <Int32>] [[-AddToSet] <String>] [[-
WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Creates a volume snapshot.

Parameters

-VolumeName <String>

Specifies the name of the volume from which you want to copy.

-snpVVName <String>

Specifies a snapshot volume name up to 31 characters in length.

For a snapshot of a volume set, use name patterns that are used to form the snapshot volume name. See, VV Name Patterns in the *HPE 3PAR Command Line Interface Reference*, available from the HPE Storage Information Library.

-ID <Int32>

Specifies the ID of the snapshot. If not specified, the system chooses the next available ID.

Not applicable for VV-set snapshot creation.

-Comment <String>

Specifies any additional information up to 511 characters for the volume.

-readOnly [<SwitchParameter>]

- True: Specifies that the copied volume is read-only.
- False: The volume is read/write and this value is the default value.

-ExpirationHours <Int32>

Specifies the relative time from the current time that the volume expires. Value is a positive integer and in the range of 1-43,800 hours, or 1825 days.

-RetentionHours <Int32>

Specifies the relative time from the current time that the volume will expire. Value is a positive integer and in the range of 1-43,800 hours, or 1825 days.

-AddToSet <String>

Specifies the name of the volume set to which the system adds your created snapshots. If the volume set does not exist, it will be created.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARVVSnapshott_Wsapi -VolumeName xxx -snpVVName snpvv1
C:\PS>New-3PARVVSnapshott_Wsapi -VolumeName xxx -snpVVName snpvv1 -ID 11
C:\PS>New-3PARVVSnapshott_Wsapi -VolumeName xxx -snpVVName snpvv1 -ID 11 -Comment hello -ReadOnly $true
C:\PS>New-3PARVVSnapshott_Wsapi -VolumeName xxx -snpVVName snpvv1 -ID 11 -Comment hello -ReadOnly $true -ExpirationHours 10
```

**TIP:**

- To see the examples, enter `get-help New-3PARVVSnapshott_Wsapi -examples`.
- For more information, enter `get-help New-3PARVVSnapshott_Wsapi -detailed`.
- For technical information, enter `get-help New-3PARVVSnapshott_Wsapi -full`.
- For online help, enter `get-help New-3PARVVSnapshott_Wsapi -online`.

New-3PARWSAPIConnection

Synopsis

Creates a WSAPI session key.

Syntax

```
New-3PARWSAPIConnection [-SANIPAddress] <String> [-SANUserName] <String> [[-SANPassword] <String>] [<CommonParameters>]
```

Description

To use Web Services, you must create a session key. Use the same username and password that you use to access the 3PAR storage server through the 3PAR CLI or the 3PAR MC. Creating this authorization allows you to complete the same operations using WSAPI as you would the CLI or MC.

Any user with the Super or Edit role or any role granted sv_create permission (for snapshots) can create a VV-set snapshot.

Parameters**-SANIPAddress <String>**

Specifies the IP address.

-SessionType

Specifies the type of session the credential supports. By default, the parameter is set to REGULAR if not specified.

- REGULAR: Creates a credential for a regular WSAPI HTTP request, such as POST/GET/DELETE/PUT. An attempt to use this credential with an SSE request returns an error message.
- EVENT: Creates a credential for an event notification use only. An attempt to use this credential for regular WSAPI HTTP requests returns an error message.

-SANUserName <String>

Specifies the SAN user name.

-SANPassword <String>

Specifies the SAN password for the user name.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>New-3PARWSAPIConnection -SANIPAddress 10.10.10.10 -SANUserName XYZ -SANPassword XYZ@123
```

Creates a session key.



TIP:

- To see the examples, enter `get-help New-3PARWSAPIConnection -examples`.
- For more information, enter `get-help New-3PARWSAPIConnection -detailed`.
- For technical information, enter `get-help New-3PARWSAPIConnection -full`.
- For online help, enter `get-help New-3PARWSAPIConnection -online`.

Open-3PARSSE_WSAPI

Synopsis

Establishes a communication channel for Server-Sent Event (SSE).

Syntax

```
Open-3PARSSE_WSAPI [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Establishes a communication channel for Server-Sent Event (SSE).

Parameters

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Open-3PARSSE_WSAPI
```

Creates a session key.



TIP:

- To see the examples, enter `get-help Open-3PARSSE_WSAPI -examples`.
- For more information, enter `get-help Open-3PARSSE_WSAPI -detailed`.
- For technical information, enter `get-help Open-3PARSSE_WSAPI -full`.
- For online help, enter `get-help Open-3PARSSE_WSAPI -online`.

Remove cmdlets

Remove-3PARCpg_WSAPI

Synopsis

Removes a Common Provision Group (CPG).

Syntax

```
Remove-3PARCpg_WSAPI [-CPGName] <String> [[-WsapiConnection] <Object>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Description

Removes a CommonProvisionGroup (CPG).

This operation requires access to all domains, as well as Super, or Edit roles, or any role granted `cpg_remove` permission.

Parameters

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

-CPGName <String>

Specifies name of the CPG.

-WhatIf [<SwitchParameter>]

Checks if any process is running.

-Confirm [<SwitchParameter>]

Confirms before removing CPG.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARCpg_WSAPI -CPGName MyCPG
```

Removes a Common Provision Group(CPG) "MyCPG"..



TIP:

- To see the examples, enter `get-help Remove-3PARCpg_WSAPI -examples`.
- For more information, enter `get-help Remove-3PARCpg_WSAPI -detailed`.
- For technical information, enter `get-help Remove-3PARCpg_WSAPI -full`.
- For online help, enter `get-help Remove-3PARCpg_WSAPI -online`.

Remove-3PARFilePersonaQuota_WSAPI

Synopsis

Removes File Persona quota.

Syntax

```
Remove-3PARFilePersonaQuota_WSAPI [-ID] <String> [[-WsapiConnection]  
<Object>] [<CommonParameters>]
```

Description

Removes File Persona quota.

Parameters

-ID <String>

Specifies the unique ID of the File Persona you want to delete.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARFilePersonaQuota_WSAPI
```

Creates a session key.

**TIP:**

- To see the examples, enter `get-help Remove-3PARFilePersonaQuota_WSAPI -examples`.
- For more information, enter `get-help Remove-3PARFilePersonaQuota_WSAPI -detailed`.
- For technical information, enter `get-help Remove-3PARFilePersonaQuota_WSAPI -full`.
- For online help, enter `get-help Remove-3PARFilePersonaQuota_WSAPI -online`.

Remove-3PARFileShare_WSAPI

Synopsis

Removes the File Share.

Syntax

```
Remove-3PARFileShare_WSAPI [-ID] <String> [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Removes the File Share.

Parameters

-ID <String>

Specifies the File Share ID that contains the unique identifier of the File Share you want to remove.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARFileShare_WSAPI
```

Creates a session key.

**TIP:**

- To see the examples, enter `get-help Remove-3PARFileShare_WSAPI -examples`.
 - For more information, enter `get-help Remove-3PARFileShare_WSAPI -detailed`.
 - For technical information, enter `get-help Remove-3PARFileShare_WSAPI -full`.
 - For online help, enter `get-help Remove-3PARFileShare_WSAPI -online`.
-

Remove-3PARFileStore_WSAPI

Synopsis

Removes File Store.

Syntax

```
Remove-3PARFileStore_WSAPI [-FStoreID] <String> [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Removes File Store.

Parameters

-FStoreID <String>

Specifies File Store ID.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARFileStore_WSAPI
```

Creates a session key.



TIP:

- To see the examples, enter `get-help Remove-3PARFileStore_WSAPI -examples`.
 - For more information, enter `get-help Remove-3PARFileStore_WSAPI -detailed`.
 - For technical information, enter `get-help Remove-3PARFileStore_WSAPI -full`.
 - For online help, enter `get-help Remove-3PARFileStore_WSAPI -online`.
-

Remove-3PARFileStoreSnapshot_WSAPI

Synopsis

Removes File Store snapshot.

Syntax

```
Remove-3PARFileStoreSnapshot_WSAPI [-ID] <String> [[-WsapiConnection]  
<Object>] [<CommonParameters>]
```

Description

Removes File Store snapshot.

Parameters

-ID <String>

Specifies File Store snapshot ID.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARFileStoreSnapshot_WSAPI
```



TIP:

- To see the examples, enter `get-help Remove-3PARFileStoreSnapshot_WSAPI -examples`.
 - For more information, enter `get-help Remove-3PARFileStoreSnapshot_WSAPI -detailed`.
 - For technical information, enter `get-help Remove-3PARFileStoreSnapshot_WSAPI -full`.
 - For online help, enter `get-help Remove-3PARFileStoreSnapshot_WSAPI -online`.
-

Remove-3PARFlashCache_WSAPI

Synopsis

Removes Flash Cache.

Syntax

```
Remove-3PARFlashCache_WSAPI [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Removes Flash Cache.

Parameters

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARFlashCache_WSAPI
```



TIP:

- To see the examples, enter `get-help Remove-3PARFlashCache_WSAPI -examples`.
 - For more information, enter `get-help Remove-3PARFlashCache_WSAPI -detailed`.
 - For technical information, enter `get-help Remove-3PARFlashCache_WSAPI -full`.
 - For online help, enter `get-help Remove-3PARFlashCache_WSAPI -online`.
-

Remove-3PARFPG_WSAPI

Synopsis

Removes a File Provisioning Group.

Syntax

```
Remove-3PARFPG_WSAPI [-FPGId] <String> [[-WsapiConnection] <Object>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Description

Removes a File Provisioning Group.

Parameters

-FPGId <String>

Specifies the File Provisioning Group UUID to be removed.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARFPG_WSAPI -FPGId 123
```



TIP:

- To see the examples, enter `get-help Remove-3PARFPG_WSAPI -examples`.
 - For more information, enter `get-help Remove-3PARFPG_WSAPI -detailed`.
 - For technical information, enter `get-help Remove-3PARFPG_WSAPI -full`.
 - For online help, enter `get-help Remove-3PARFPG_WSAPI -online`.
-

Remove-3PARHost_WSAPI

Synopsis

Removes a host.

Syntax

```
Remove-3PARHost_WSAPI [-HostName] <String> [[-WsapiConnection] <Object>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Description

Removes a host.

Any user with Super or Edit role, or any role granted host_remove permission, can perform this operation. You must have access to all the domains.

Parameters

-HostName <String>

Specifies the name of Host to be removed.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARFPG_WSAPI -FPGId 123
```



TIP:

- To see the examples, enter `get-help Remove-3PARFPG_WSAPI -examples`.
 - For more information, enter `get-help Remove-3PARFPG_WSAPI -detailed`.
 - For technical information, enter `get-help Remove-3PARFPG_WSAPI -full`.
 - For online help, enter `get-help Remove-3PARFPG_WSAPI -online`.
-

Remove-3PARHostSet_WSAPI

Synopsis

Removes a host set.

Syntax

```
Remove-3PARHostSet_WSAPI [-HostSetName] <String> [[-WsapiConnection] <Object>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Description

Removes a host set.

Any user with Super or Edit role, or any role granted host_remove permission, can perform this operation. You must have access to all the domains.

Parameters

-HostSetName <String>

Specifies the name of host set to be removed.

-WhatIf [<SwitchParameter>]

Checks if any other process is in progress.

-Confirm [<SwitchParameter>]

Confirms before removing a host set.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARHostSet_WSAPI -HostSetName MyHostSet
```



TIP:

- To see the examples, enter `get-help Remove-3PARHostSet_WSAPI -examples`.
 - For more information, enter `get-help Remove-3PARHostSet_WSAPI -detailed`.
 - For technical information, enter `get-help Remove-3PARHostSet_WSAPI -full`.
 - For online help, enter `get-help Remove-3PARHostSet_WSAPI -online`.
-

Remove-3PARISCSIVlan_WSAPI

Synopsis

Removes an iSCSI port VLAN.

Syntax

```
Remove-3PARISCSIVlan_WSAPI [-NSP] <String> [-VlanTag] <Int32> [[-WsapiConnection] <Object>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Description

Removes an iSCSI port VLAN.

Parameters

-NSP <String>

Specifies <n:s:p> parameter identifies the port you want to configure.

-VlanTag <Int32>

Specifies the VLAN tag.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARISCSIVlan_WSAPI -NSP 1:1:1 -VlanTag 1
```

Removes an iSCSI port VLAN.

**TIP:**

- To see the examples, enter `get-help Remove-3PARISCSIVlan_WSAPI -examples`.
 - For more information, enter `get-help Remove-3PARISCSIVlan_WSAPI -detailed`.
 - For technical information, enter `get-help Remove-3PARISCSIVlan_WSAPI -full`.
 - For online help, enter `get-help Remove-3PARISCSIVlan_WSAPI -online`.
-

Remove-3PARRCopyGroup_WSAPI

Synopsis

Removes a Remote Copy group.

Syntax

```
Remove-3PARRCopyGroup_WSAPI [-GroupName] <String> [[-KeepSnap] <Boolean>] [[-WsapiConnection] <Object>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Description

Removes a Remote Copy group.

Parameters**-GroupName <String>**

Specifies the Group Name to be removed.

-KeepSnap <Boolean>

Removes a Remote Copy group with the option of retaining the local volume resynchronization snapshot. This parameter uses one of the following, case-sensitive values:

- `keepSnap=true`
- `keepSnap=false`

-WhatIf [<SwitchParameter>]

Checks if any other process is in progress.

-Confirm [<SwitchParameter>]

Confirms before removing a remote copy group.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARRCopyGroup_WSAPI -GroupName xxx
```

```
C:\PS>Remove-3PARRCopyGroup_WSAPI -GroupName xxx -KeepSnap $true
```

```
C:\PS>Remove-3PARRCopyGroup_WSAPI -GroupName xxx -KeepSnap $false
```



TIP:

- To see the examples, enter `get-help Remove-3PARRCopyGroup_WSAPI -examples`.
- For more information, enter `get-help Remove-3PARRCopyGroup_WSAPI -detailed`.
- For technical information, enter `get-help Remove-3PARRCopyGroup_WSAPI -full`.
- For online help, enter `get-help Remove-3PARRCopyGroup_WSAPI -online`.

Remove-3PARTargetFromRCopyGroup_WSAPI

Synopsis

Removes a target from a Remote Copy group.

Syntax

```
Remove-3PARTargetFromRCopyGroup_WSAPI [-GroupName] <String> [-TargetName] <String> [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Removes a target from a Remote Copy group.

Parameters

-GroupName <String>

Specifies the Remote Copy group Name to be removed.

-TargetName <String>

Specifies the target name to be removed

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARTargetFromRCopyGroup_WSAPI
```



TIP:

- To see the examples, enter `get-help Remove-3PARTargetFromRCopyGroup_WSAPI -examples`.
- For more information, enter `get-help Remove-3PARTargetFromRCopyGroup_WSAPI -detailed`.
- For technical information, enter `get-help Remove-3PARTargetFromRCopyGroup_WSAPI -full`.
- For online help, enter `get-help Remove-3PARTargetFromRCopyGroup_WSAPI -online`.

Remove-3PARVFS_WSAPI

Synopsis

Removes a Virtual File Servers.

Syntax

```
Remove-3PARVFS_WSAPI [-VFSID] <Int32> [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Removes a Virtual File Servers.

Parameters

-VFSID <Int32>

Specifies Virtual File Servers ID.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARVFS_WSAPI -VFSID 1
```

**TIP:**

- To see the examples, enter `get-help Remove-3PARVFS_WSAPI-examples`.
- For more information, enter `get-help Remove-3PARVFS_WSAPI -detailed`.
- For technical information, enter `get-help Remove-3PARVFS_WSAPI -full`.
- For online help, enter `get-help Remove-3PARVFS_WSAPI -online`.

Remove-3PARVLun_WSAPI

Synopsis

Removes a VLUN.

Syntax

```
Remove-3PARVLun_WSAPI [-VolumeName] <String> [-LUNID] <Int32> [-HostName]  
<String> [[-NSP] <String>] [[-WsapiConnection] <Object>] [-WhatIf] [-Confirm]  
[<CommonParameters>]
```

Description

Removes a VLUN.

Any user with the Super or Edit role, or any role granted with the `vlun_remove` right, can perform this operation.

Parameters

-VolumeName <String>

Specifies the name of the volume or VV set to be exported.

The VV set should be in set: `<volumeset_name>` format.

-LUNID <Int32>

Specifies the LUN ID.

-HostName <String>

Name of the host or host set to which the volume or VV set is to be exported. For VLUN of port type, the value is empty.

The host set should be in set: `<hostset_name>` format. This parameter is required if volume is exported to host or host set, or to both the host or host set and port.

-WhatIf [<SwitchParameter>]

Checks if another process is in progress.

-Confirm [<SwitchParameter>]

Confirms before removing a VLUN.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARVLun_WSAPI -VolumeName xxx -LUNID xx -HostName xxx
```

```
C:\PS>Remove-3PARVLun_WSAPI -VolumeName xxx -LUNID xx -HostName xxx -NSP x:x:x
```



TIP:

- To see the examples, enter `get-help Remove-3PARVLun_WSAPI -examples`.
- For more information, enter `get-help Remove-3PARVLun_WSAPI -detailed`.
- For technical information, enter `get-help Remove-3PARVLun_WSAPI -full`.
- For online help, enter `get-help Remove-3PARVLun_WSAPI -online`.

Remove-3PARVV_WSAPI

Synopsis

Deletes the virtual volumes.

Syntax

```
Remove-3PARVV_WSAPI [-VVName] <String> [[-WsapiConnection] <Object>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Description

Deletes the virtual volumes.

Parameters

-VVName <String>

Specifies the name of the volume to be removed.

-WhatIf [<SwitchParameter>]

-Confirm [<SwitchParameter>]

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARVV_WSAPI -VVName MyVV
```

**TIP:**

- To see the examples, enter `get-help Remove-3PARVV_WSAPI -examples`.
- For more information, enter `get-help Remove-3PARVV_WSAPI -detailed`.
- For technical information, enter `get-help Remove-3PARVV_WSAPI -full`.
- For online help, enter `get-help Remove-3PARVV_WSAPI -online`.

Remove-3PARVVFFromRCopyGroup_WSAPI

Synopsis

Dismisses a volume from a Remote Copy group.

Syntax

```
Remove-3PARVVFFromRCopyGroup_WSAPI [-GroupName] <String> [-VolumeName]
<String> [[-KeepSnap] <Boolean>] [[-RemoveSecondaryVolume] <Boolean>] [[-
WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Dismisses a volume from a Remote Copy group.

Parameters

-GroupName <String>

Specifies the Remote Copy group Name.

-VolumeName <String>

Specifies the name of the existing virtual volume to be admitted to an existing Remote Copy group.

-KeepSnap <Boolean>

Enables (true) or disables (false) retention of the local volume resynchronization snapshot. By default, set to false. Do not use with RemoveSecondaryVolume.

-RemoveSecondaryVolume <Boolean>

Enables (true) or disables (false) deletion of the remote volume on the secondary array from the system. Defaults to false. Do not use with KeepSnap.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARVVFFromRCopyGroup_WSAPI
```

**TIP:**

- To see the examples, enter `get-help Remove-3PARVVFromRCopyGroup_WSAPI -examples`.
- For more information, enter `get-help Remove-3PARVVFromRCopyGroup_WSAPI -detailed`.
- For technical information, enter `get-help Remove-3PARVVFromRCopyGroup_WSAPI -full`.
- For online help, enter `get-help Remove-3PARVVFromRCopyGroup_WSAPI -online`.

Remove-3PARVVSet_WSAPI

Synopsis

Removes a virtual volume set.

Syntax

```
Remove-3PARVVSet_WSAPI [-VVSetName] <String> [[-WsapiConnection] <Object>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Description

Removes a virtual volume set.

Any user with Super or Edit role, or any role granted `host_remove` permission, can perform this operation. You must have access to all the domains.

Parameters

-VVSetName <String>

Specifies the name of virtual volume set to be removed.

-WhatIf [<SwitchParameter>]

Checks if another process is in progress.

-Confirm [<SwitchParameter>]

Confirms before removing a virtual volume set.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Remove-3PARVVSet_WSAPI -VVSetName MyvvSet
```


**TIP:**

- To see the examples, enter `get-help Remove-3PARVVSet_WSAPI -examples`.
- For more information, enter `get-help Remove-3PARVVSet_WSAPI -detailed`.
- For technical information, enter `get-help Remove-3PARVVSet_WSAPI -full`.
- For online help, enter `get-help Remove-3PARVVSet_WSAPI -online`.

Reset-3PARISCSIPort_WSAPI

Synopsis

Resets an iSCSI port configuration

Syntax

```
Reset-3PARISCSIPort_WSAPI [-NSP] <String> [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Resets an iSCSI port configuration

Parameters**-NSP <String>**

Specifies the <n:s:p> parameter that identifies the port you want to configure.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Reset-3PARISCSIPort_WSAPI -NSP 1:1:1
```

**TIP:**

- To see the examples, enter `get-help Reset-3PARISCSIPort_WSAPI -examples`.
- For more information, enter `get-help Reset-3PARISCSIPort_WSAPI -detailed`.
- For technical information, enter `get-help Reset-3PARISCSIPort_WSAPI -full`.
- For online help, enter `get-help Reset-3PARISCSIPort_WSAPI -online`.

Reset-3PARPhysicalCopy_WSAPI

Synopsis

Re-synchronizes a physical copy to its parent volume.

Syntax

```
Reset-3PARPhysicalCopy_WSAPI [-VolumeName] <String> [[-WsapiConnection]
<Object>] [<CommonParameters>]
```

Description

Re-synchronizes a physical copy to its parent volume.

Parameters

-VolumeSetName <String>

Specifies the name of the destination volume you want to resynchronize.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Reset-3PARPhysicalCopy_WSAPI -VolumeName xxx
```

Re-synchronizes a physical copy to its parent volume.



TIP:

- To see the examples, enter `get-help Reset-3PARPhysicalCopy_WSAPI -examples`.
 - For more information, enter `get-help Reset-3PARPhysicalCopy_WSAPI -detailed`.
 - For technical information, enter `get-help Reset-3PARPhysicalCopy_WSAPI -full`.
 - For online help, enter `get-help Reset-3PARPhysicalCopy_WSAPI -online`.
-

Reset-3PARVVSetPhysicalCopy_WSAPI

Synopsis

Resynchronizes a VV set physical copy.

Syntax

```
Reset-3PARVVSetPhysicalCopy_WSAPI [-VolumeSetName] <String> [[-Priority]
<String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Resynchronizes a VV set physical copy.

Parameters

-VolumeSetName <String>

Specifies the name of the destination VV set to resynchronize.

-Priority <String>

Specifies the priority of the task.

- HIGH: indicates high priority.
- MED: Indicates medium priority.
- LOW: Indicates low priority.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Reset-3PARVVSetPhysicalCopy_WSAPI -VolumeSetName xyz
```

```
C:\PS>Reset-3PARVVSetPhysicalCopy_WSAPI -VolumeSetName xxx -Priority HIGH
```



TIP:

- To see the examples, enter `get-help Reset-3PARVVSetPhysicalCopy_WSAPI -examples`.
- For more information, enter `get-help Reset-3PARVVSetPhysicalCopy_WSAPI -detailed`.
- For technical information, enter `get-help Reset-3PARVVSetPhysicalCopy_WSAPI -full`.
- For online help, enter `get-help Reset-3PARVVSetPhysicalCopy_WSAPI -online`.

Resize-Grow3PARVV_WSAPI

Synopsis

Increases the size of a virtual volume.

Syntax

```
Resize-Grow3PARVV_WSAPI [-VVName] <String> [-SizeMiB] <Int32> [[-  
WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Increases the size of a virtual volume.

Parameters

-VVName <String>

Specifies the name of the volume to be grown.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Resize-Grow3PARVV_WSAPI -VVName MyVV -SizeMiB 256
```

Increases the size of a virtual volume MyVV to 256.



TIP:

- To see the examples, enter `get-help Resize-Grow3PARVV_WSAPI -examples`.
- For more information, enter `get-help Resize-Grow3PARVV_WSAPI -detailed`.
- For technical information, enter `get-help Resize-Grow3PARVV_WSAPI -full`.
- For online help, enter `get-help Resize-Grow3PARVV_WSAPI -online`.

Restore-3PARRCopyGroup_WSAPI

Synopsis

Recovers a Remote Copy group.

Syntax

```
Restore-3PARRCopyGroup_WSAPI [-GroupName] <String> [[-TargetName] <String>]  
[[[-SkipStart]] [[-SkipSync]] [[-DiscardNewData]] [[-SkipPromote]] [[-  
NoSnapshot]] [[-StopGroups]] [[-LocalGroupsDirection]] [[-WsapiConnection]  
<Object>] [<CommonParameters>]
```

Description

Recovers a Remote Copy group.

Parameters

-GroupName <String>

Specifies the Remote Copy group Name.

-TargetName <String>

Specifies the target name associated with this group on which you want to perform the disaster recovery operation. If the group has multiple targets, the target must be specified.

-SkipStart [<SwitchParameter>]

If set to true, groups are not started after role reversal is completed. Valid for only FAILOVER, RECOVER, and RESTORE operations.

The default value set to false.

-SkipSync [<SwitchParameter>]

If set to true, the groups are not synchronized after role reversal is completed. Valid for FAILOVER, RECOVER, and RESTORE operations only.

The default setting is false.

-DiscardNewData [<SwitchParameter>]

If set to true and the group has multiple targets, do not check other targets of the group to see if newer data should be pushed from them. Valid for FAILOVER operation only.

The default setting is false.

-SkipPromote [<SwitchParameter>]

If set to true, the snapshots of the groups that are switched from secondary to primary are not promoted to the base volume. Valid for FAILOVER and REVERSE operations only.

The default setting is false.

-NoSnapshot [<SwitchParameter>]

If set to true, the snapshots are not taken of the groups that are switched from secondary to primary. Valid for FAILOVER, REVERSE, and RESTORE operations.

The default setting is false.

-StopGroups [<SwitchParameter>]

If set to true, the groups are stopped before performing the reverse operation. Valid for REVERSE operation only.

The default setting is false.

-LocalGroupsDirection [<SwitchParameter>]

If set to true, the group's direction is changed only on the system where the operation is run. Valid for REVERSE operation only.

The default setting is false.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Recovering a Remote Copy group
```

```
C:\PS>Reset-3PARPhysicalCopy_Wsapi -VolumeName xxx
```

Re-synchronizing a physical copy to its parent volume.

**TIP:**

- To see the examples, enter `get-help Restore-3PARRCopyGroup_Wsapi -examples`.
 - For more information, enter `get-help Restore-3PARRCopyGroup_Wsapi -detailed`.
 - For technical information, enter `get-help Restore-3PARRCopyGroup_Wsapi -full`.
 - For online help, enter `get-help Restore-3PARRCopyGroup_Wsapi -online`.
-

Restore-3PARFilePersonaQuota_Wsapi

Synopsis

Restores a File Persona quota.

Syntax

```
Restore-3PARFilePersonaQuota_WSAPI [-VFSUUID] <String> [[-ArchivedPath]
<String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Restores a File Persona quota.

Parameters

-VFSUUID <String>

Specifies the VFS UUID.

-ArchivedPath <String>

Specifies the path to the archived file from which the file persona quotas are to be restored.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Restore-3PARFilePersonaQuota_WSAPI
```



TIP:

- To see the examples, enter `get-help Restore-3PARFilePersonaQuota_WSAPI -examples`.
 - For more information, enter `get-help Restore-3PARFilePersonaQuota_WSAPI -detailed`.
 - For technical information, enter `get-help Restore-3PARFilePersonaQuota_WSAPI -full`.
 - For online help, enter `get-help Restore-3PARFilePersonaQuota_WSAPI -online`.
-

Set-3PARFlashCache_WSAPI

Synopsis

Sets Flash Cache policy.

Syntax

```
Set-3PARFlashCache_WSAPI [[-Enable]] [[-Disable]] [[-WsapiConnection]
<Object>] [<CommonParameters>]
```

Description

Sets Flash Cache policy.

Parameters

-Enable [<SwitchParameter>]

Enable Flash Cache policy.

-Disable [<SwitchParameter>]

Disable Flash Cache policy.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Set-3PARFlashCache_WSAPI -Enable
```

Enable flash cache policy.

```
C:\PS>Set-3PARFlashCache_WSAPI -Disable
```

Disable flash cache policy.



TIP:

- To see the examples, enter `get-help Set-3PARFlashCache_WSAPI -examples`.
 - For more information, enter `get-help Set-3PARFlashCache_WSAPI -detailed`.
 - For technical information, enter `get-help Set-3PARFlashCache_WSAPI -full`.
 - For online help, enter `get-help Set-3PARFlashCache_WSAPI -online`.
-

Set-3PARISCSIPort_WSAPI

Synopsis

Configures iSCSI ports.

Syntax

```
Set-3PARISCSIPort_WSAPI [-NSP] <String> [[-IPAddr] <String>] [[-Netmask] <String>] [[-Gateway] <String>] [[-MTU] <Int32>] [[-ISNSPort] <Int32>] [[-ISNSAddr] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Configures iSCSI ports.

Parameters

-NSP <String>

Specifies the <n:s:p> parameter that identifies the port you want to configure.

-IPAdr <String>

Specifies the Port IP address.

-Netmask <String>

Specifies the netmask for Ethernet.

-Gateway <String>

Specifies the Gateway IP address.

-MTU <Int32>

Specifies the MTU size in bytes.

-ISNSPort <Int32>

Specifies the TCP port number for the iSNS server.

-ISNSAddr <String>

Specifies the iSNS server IP address.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Set-3PARISCSIPort_WSAPI -NSP 1:2:3 -IPAdr 1.1.1.1 -Netmask xxx -Gateway xxx -MTU xx -ISNSPort xxx -ISNSAddr xxx
```

Configure iSCSI ports for given NSP.



TIP:

- To see the examples, enter `get-help Set-3PARISCSIPort_WSAPI -examples`.
- For more information, enter `get-help Set-3PARISCSIPort_WSAPI -detailed`.
- For technical information, enter `get-help Set-3PARISCSIPort_WSAPI -full`.
- For online help, enter `get-help Set-3PARISCSIPort_WSAPI -online`.

Set-3PARISCSIVlan_WSAPI

Synopsis

Configures VLAN on an iSCSI port.

Syntax

```
Set-3PARISCSIVlan_WSAPI [-NSP] <String> [-VlanTag] <Int32> [[-IPAdr] <String>] [[-Netmask] <String>] [[-Gateway] <String>] [[-MTU] <Int32>] [[-STGT] <Int32>] [[-ISNSPort] <Int32>][[-ISNSAddr] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```


Description

Configures VLAN on an iSCSI port.

Parameters

-NSP <String>

The <n:s:p> parameter identifies the port that you want to configure.

-VlanTag <Int32>

Specifies the VLAN tag.

-IPAdr <String>

Specifies the port IP address.

-Netmask <String>

Specifies netmask for the Ethernet.

-Gateway <String>

Specifies the Gateway IP address.

-MTU <Int32>

Specifies the MTU size in bytes.

-STGT <Int32>

Sends targets group tag of the iSCSI target.

-ISNSPort <Int32>

Specifies the TCP port number for the iSNS server.

-ISNSAddr <String>

Specifies iSNS server IP address.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Set-3PARISCSIVlan_Wsapi -NSP 1:2:3 -IPAdr 1.1.1.1 -Netmask xxx -Gateway xxx -MTU xx -STGT xx -ISNSPort xxx -ISNSAddr xxx
```



TIP:

- To see the examples, enter `get-help Set-3PARISCSIVlan_Wsapi -examples`.
- For more information, enter `get-help Set-3PARISCSIVlan_Wsapi -detailed`.
- For technical information, enter `get-help Set-3PARISCSIVlan_Wsapi -full`.
- For online help, enter `get-help Set-3PARISCSIVlan_Wsapi -online`.

Set-3PARVVSetFlashCachePolicy_Wsapi

Synopsis

Sets a VV-set Flash Cache policy.

Syntax

```
Set-3PARVVSetFlashCachePolicy_WSAPI [-VvSet] <String> [[-Enable]] [[-Disable]] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Sets a VV-set Flash Cache policy.

Parameters

-VvSet <String>

Specifies the name of the VV-set to Set Flash Cache policy.

-Enable [<SwitchParameter>]

Enables VV-set Flash Cache policy.

-Disable [<SwitchParameter>]

Disables VV-set Flash Cache policy.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Set-3PARVVSetFlashCachePolicy_WSAPI
```



TIP:

- To see the examples, enter `get-help Set-3PARVVSetFlashCachePolicy_WSAPI -examples`.
 - For more information, enter `get-help Set-3PARVVSetFlashCachePolicy_WSAPI -detailed`.
 - For technical information, enter `get-help Set-3PARVVSetFlashCachePolicy_WSAPI -full`.
 - For online help, enter `get-help Set-3PARVVSetFlashCachePolicy_WSAPI -online`.
-

Start-3PARRCopyGroup_WSAPI

Synopsis

Starts a Remote Copy group.

Syntax

```
Start-3PARRCopyGroup_WSAPI [-GroupName] <String> [[-SkipInitialSync]] [[-TargetName] <String>] [[-VolumeName] <String>] [[-SnapshotName] <String>] [[-WsapiConnection] <Object>]
```

Description

Starts a Remote Copy group.

Parameters

-GroupName <String>

Specifies the Group Name.

-SkipInitialSync [<SwitchParameter>]

If the value is true, the volume skips the initial synchronization and sets the volumes to a synchronized state.

The default value is set to false.

-TargetName <String>

Specifies the target name associated with this group.

-VolumeName <String>

Specifies the volume name.

-SnapshotName <String>

Specifies the snapshot name.

Specify all the volumes in the group. While specifying the pair, the starting snapshot is optional.

When not used, the system performs a full resynchronization of the volume.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Start-3PARRCopyGroup_Wsapi
```



TIP:

- To see the examples, enter `get-help Start-3PARRCopyGroup_Wsapi -examples`.
 - For more information, enter `get-help Start-3PARRCopyGroup_Wsapi -detailed`.
 - For technical information, enter `get-help Start-3PARRCopyGroup_Wsapi -full`.
 - For online help, enter `get-help Start-3PARRCopyGroup_Wsapi -online`.
-

Stop cmdlets

Stop-3PAROngoingTask

Synopsis

Cancels the ongoing task.

Syntax

```
Stop-3PAROngoingTask [-TaskID] <String> [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Cancels the ongoing task.

Parameters

-TaskID <String>

Specifies the task ID.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Stop-3PAROngoingTask
```

```
C:\PS>Stop-3PAROngoingTask -TaskID 1
```



TIP:

- To see the examples, enter `get-help Stop-3PAROngoingTask -examples`.
- For more information, enter `get-help Stop-3PAROngoingTask -detailed`.
- For technical information, enter `get-help Stop-3PAROngoingTask -full`.
- For online help, enter `get-help Stop-3PAROngoingTask -online`.

Stop-3PARPhysicalCopy_WSAPI

Synopsis

Stops a physical copy of given volume.

Syntax

```
Stop-3PARPhysicalCopy_WSAPI [-VolumeName] <String> [[-WsapiConnection]  
<Object>] [<CommonParameters>]
```

Description

Stops a physical copy of given volume

Parameters

-VolumeName <String>

Specifies the name of the destination volume you want to resynchronize.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Stop-3PARPhysicalCopy_WSAPI -VolumeName xxx
```

Stop a physical copy of given volume.



TIP:

- To see the examples, enter `get-help Stop-3PARPhysicalCopy_WSAPI -examples`.
- For more information, enter `get-help Stop-3PARPhysicalCopy_WSAPI -detailed`.
- For technical information, enter `get-help Stop-3PARPhysicalCopy_WSAPI -full`.
- For online help, enter `get-help Stop-3PARPhysicalCopy_WSAPI -online`.

Stop-3PARRCopyGroup_WSAPI

Synopsis

Stops a Remote Copy group.

Syntax

```
Stop-3PARRCopyGroup_WSAPI [-GroupName] <String> [[-NoSnapshot]] [[-TargetName] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Stops a Remote Copy group.

Parameters

-GroupName <String>

Specifies the group Name.

-NoSnapshot [<SwitchParameter>]

If the value set to true, this option turns off the creation of snapshots in synchronous and periodic modes, and deletes the current synchronization snapshots.

The default setting is false.

-TargetName <String>

Specifies the target name associated with this group.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Stop-3PARRCopyGroup_WSAPI -GroupName xxx
```

Stop a Remote Copy group.

```
C:\PS>Stop-3PARRCopyGroup_WSAPI -GroupName xxx -TargetName xxx
```

```
C:\PS>Stop-3PARRCopyGroup_WSAPI -GroupName xxx -NoSnapshot
```



TIP:

- To see the examples, enter `get-help Stop-3PARRCopyGroup_WSAPI -examples`.
- For more information, enter `get-help Stop-3PARRCopyGroup_WSAPI -detailed`.
- For technical information, enter `get-help Stop-3PARRCopyGroup_WSAPI -full`.
- For online help, enter `get-help Stop-3PARRCopyGroup_WSAPI -online`.

Stop-3PARVVSetPhysicalCopy_WSAPI

Synopsis

Stops VV set physical copy.

Syntax

```
Stop-3PARVVSetPhysicalCopy_WSAPI [-VolumeSetName] <String> [[-Priority] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Stops VV set physical copy.

Parameters

-VolumeName <String>

Specifies the name of the destination VV set to resynchronize.

-Priority <String>

Specifies the priority of the task.

- HIGH: Indicates high priority.
- MED: Indicates medium priority.
- LOW: Indicates low priority.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Stop-3PARVVSetPhysicalCopy_WSAPI -VolumeSetName xxx -Priority HIGH
```

Stop a physical copy of given volume.



TIP:

- To see the examples, enter `get-help Stop-3PARVVSetPhysicalCopy_WSAPI -examples`.
- For more information, enter `get-help Stop-3PARVVSetPhysicalCopy_WSAPI -detailed`.
- For technical information, enter `get-help Stop-3PARVVSetPhysicalCopy_WSAPI -full`.
- For online help, enter `get-help Stop-3PARVVSetPhysicalCopy_WSAPI -online`.

Sync-3PARRCopyGroup_WSAPI

Synopsis

Synchronizes a Remote Copy group.

Syntax

```
Sync-3PARRCopyGroup_WSAPI [-GroupName] <String> [[-NoResyncSnapshot]] [[-TargetName] <String>] [[-FullSync]] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Synchronizes a Remote Copy group.

Parameters

-GroupName <String>

Specifies the Group Name

-NoResyncSnapshot [<SwitchParameter>]

Enables (true) or disables (false) saving the resynchronization snapshot. Applicable only to Remote Copy groups in asynchronous periodic mode.

Default value is set to false.

-TargetName <String>

Specifies the target name associated with this group.

-FullSync [<SwitchParameter>]

Enables (true) or disables (false) forcing a full synchronization of the Remote Copy group, even if the volumes are already synchronized.

Applies only to volume groups in synchronous mode, and can be used to resynchronize volumes that have become inconsistent.

Default value is set to false.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Sync-3PARRCopyGroup_WSAPI -GroupName xxx
```

Synchronize a Remote Copy group.

```
C:\PS>Sync-3PARRCopyGroup_WSAPI -GroupName xxx -NoResyncSnapshot
```

```
C:\PS>Sync-3PARRCopyGroup_WSAPI -GroupName xxx -TargetName xxx
```

```
C:\PS>Sync-3PARRCopyGroup_WSAPI -GroupName xxx -TargetName xxx -NoResyncSnapshot
```

```
C:\PS>Sync-3PARRCopyGroup_WSAPI -GroupName xxx -FullSync
```

```
C:\PS>Sync-3PARRCopyGroup_WSAPI -GroupName xxx -TargetName xxx -NoResyncSnapshot -FullSync
```



TIP:

- To see the examples, enter `get-help Sync-3PARRCopyGroup_WSAPI -examples`.
- For more information, enter `get-help Sync-3PARRCopyGroup_WSAPI -detailed`.
- For technical information, enter `get-help Sync-3PARRCopyGroup_WSAPI -full`.
- For online help, enter `get-help Sync-3PARRCopyGroup_WSAPI -online`.

Update cmdlet

Update-3PARCpg_WSAPI

Synopsis

Updates a Common Provisioning Group (CPG).

Syntax

```
Update-3PARCpg_WSAPI [-CPGName] <String> [[-NewName] <String>] [[-DisableAutoGrow] <Boolean>] [[-RmGrowthLimit] <Boolean>] [[-RmWarningAlert] <Boolean>] [[-RAIDType] <String>] [[-SetSize] <Int32>] [[-HA] <String>] [[-Chunklets] <String>] [[-NodeList] <String>] [[-SlotList] <String>] [[-PortList] <String>] [[-CageList] <String>] [[-MagList] <String>] [[-DiskPosList] <String>] [[-DiskList] <String>] [[-TotalChunkletsGreaterThan] <Int32>] [[-TotalChunkletsLessThan] <Int32>] [[-FreeChunkletsGreaterThan] <Int32>] [[-FreeChunkletsLessThan] <Int32>] [[-DiskType] <Int32>] [[-Rpm] <Int32>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```


Description

Updates a Common Provisioning Group (CPG).

This operation requires access to all domains, and requires Super, Service, or Edit roles, or any role granted `cpg_set` permission.

Parameters

-CPGName <String>

Specifies CPG name.

-NewName <String>

Specifies the new name of the CPG.

-DisableAutoGrow <Boolean>

Enables (false) or disables (true) CPG auto grow. By default, the value is to false.

-RmGrowthLimit <Boolean>

Enables (false) or disables (true) warning limit enforcement. By default, the value is to false.

-RAIDType <String>

Specifies the type of the RAID type.

- R0 RAID indicates level 0.
- R1 RAID indicates level 1.
- R5 RAID indicates level 5.
- R6 RAID indicates level 6.

-SetSize <Int32>

Specifies the set size in the number of chunklets.

-HA <String>

Specifies that the layout must support the failure of one port pair, one cage, or one magazine.

- PORT Support failure of a port.
- CAGE Support failure of a drive cage.
- MAG Support failure of a drive magazine.

-Chunklets <String>

FIRST Lowest numbered available chunklets, where transfer rate is the fastest.

LAST Highest numbered available chunklets, where transfer rate is the slowest.

-NodeList <String>

Specifies one or more nodes. Nodes are identified by one or more integers. Multiple nodes are separated with a single comma (1,2,3).

A range of nodes is separated with a hyphen (0-7). The primary path of the disks must be on the specified node number.

-SlotList <String>

Specifies one or more PCI slots. Slots are identified by one or more integers. Multiple slots are separated with a comma (1,2,3).

A range of slots is separated with a hyphen (0-7). The primary path of the disks must be on the specified PCI slot numbers.

-PortList <String>

Specifies one or more ports. Ports are identified by one or more integers. Multiple ports are separated with a single comma (1,2,3).

A range of ports is separated with a hyphen (0-4). The primary path of the disks must be on one or more specified port numbers.

-CageList <String>

Specifies one or more drive cages. Drive cages are identified by one or more integers. Multiple drive cages are separated with a single comma (1,2,3).

A range of drive cages is separated with a hyphen (0- 3). One or more specified drive cages must contain disks.

-MagList <String>

Specifies one or more drive magazines. Drive magazines are identified by one or more integers. Multiple drive magazines are separated with a single comma (1,2,3).

A range of drive magazines is separated with a hyphen (0-7). One or more specified magazines must contain disks.

-DiskPosList <String>

Specifies one or more disk positions within a drive magazine. Disk positions are identified by one or more integers. Multiple disk positions are separated with a single comma.

A range of disk positions is separated with a hyphen (0-3). One or more specified portions must contain disks.

-DiskList <String>

Specifies one or more physical disks. Disks are identified by one or more integers. Multiple disks are separated with a single comma (1,2,3).

A range of disks is separated with a hyphen (0-3). Disks must match one or more specified IDs.

-TotalChunkletsGreaterThan <Int32>

Specifies that physical disks with total chunklets greater than the number specified be selected.

-TotalChunkletsLessThan <Int32>

Specifies that physical disks with total chunklets less than the number specified be selected.

-DiskType <Int32>

Specifies that physical disks that must have the specified device type.

- FC indicates Fibre Channel.
- NL indicates Near Line.
- SSD indicates SSD.

-Rpm <Int32>

Disks must be of the specified speed.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARCpg_WSAPI
C:\PS>Update-3PARCpg_WSAPI -CPGName ascpkg -NewName as_cpg
C:\PS>Update-3PARCpg_WSAPI -CPGName xxx -RAIDType R1
C:\PS>Update-3PARCpg_WSAPI -CPGName xxx -DisableAutoGrow $true
C:\PS>Update-3PARCpg_WSAPI -CPGName xxx -SetSize 10
C:\PS>Update-3PARCpg_WSAPI -CPGName xxx -HA PORT
C:\PS>Update-3PARCpg_WSAPI -CPGName xxx -Chunklets FIRST
C:\PS>Update-3PARCpg_WSAPI -CPGName xxx -NodeList 0
```



TIP:

- To see the examples, enter `get-help Update-3PARCpg_WSAPI -examples`.
- For more information, enter `get-help Update-3PARCpg_WSAPI -detailed`.
- For technical information, enter `get-help Update-3PARCpg_WSAPI -full`.
- For online help, enter `get-help Update-3PARCpg_WSAPI -online`.

Update-3PARFilePersonaQuota_WSAPI

Synopsis

Updates the File Persona quota information.

Syntax

```
Update-3PARFilePersonaQuota_WSAPI [-ID] <String> [[-SoftFileLimit] <Int32>]
[[-RMSoftFileLimit] <Int32>] [[-HardFileLimit] <Int32>] [[-RMHardFileLimit]
<Int32>] [[-SoftBlockMiB] <Int32>] [[-RMSoftBlockMiB] <Int32>] [[-
HardBlockMiB] <Int32>] [[-RMHardBlockMiB] <Int32>] [[-WsapiConnection]
<Object>] [<CommonParameters>]
```

Description

Updates the File Persona quota information.

Parameters

-ID <String>

Specifies the unique ID of the File Persona you want to modify.

-SoftFileLimit <Int32>

Specifies the soft limit for the number of stored files.

-RMSoftFileLimit <Int32>

Resets softFileLimit.

- True resets softFileLimit value to 0.
- False and softFileLimit is set to 0, then changes are ignored.
- False and softFileLimit is a positive value, then sets to that limit.

-HardFileLimit <Int32>

Specifies the hard limit for the number of stored files.

-RMHardFileLimit <Int32>

Resets hardFileLimit.

- True resets hardFileLimit value to 0.
- False and hardFileLimit is set to 0, then changes are ignored.
- False and hardFileLimit is a positive value, then sets to that limit.

-SoftBlockMiB <Int32>

Specifies Soft capacity storage quota.

-RMSoftBlockMiB <Int32>

Resets softBlockMiB.

- True resets hardBlockMiB value to 0.
- False and hardBlockMiB is set to 0, then changes are ignored.
- False and hardBlockMiB is a positive value, then sets to that limit.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARFilePersonaQuota_WSAPI
```

**TIP:**

- To see the examples, enter `get-help Update-3PARFilePersonaQuota_WSAPI -examples`.
- For more information, enter `get-help Update-3PARFilePersonaQuota_WSAPI -detailed`.
- For technical information, enter `get-help Update-3PARFilePersonaQuota_WSAPI -full`.
- For online help, enter `get-help Update-3PARFilePersonaQuota_WSAPI -online`.

Update-3PARFileStore_WSAPI

Synopsis

Updates File Store.

Syntax

```
Update-3PARFileStore_WSAPI [-FStoreID] <String> [[-Comment] <String>] [[-NTFS]] [[-LEGACY]] [[-SupressSecOpErr]] [[-WsapiConnection] <Object>] [  
<CommonParameters>]
```

Description

Updates File Store.

Parameters

-FStoreID <String>

Specifies the File Stores ID.

-Comment <String>

Specifies any additional information about the File Store.

-NTFS [<SwitchParameter>]

Specifies the File Store security mode is NTFS.

-LEGACY [<SwitchParameter>]

Specifies the File Store security mode is legacy.

-SupressSecOpErr [<SwitchParameter>]

Enables or disables the security operations error suppression for File Stores in NTFS security mode. Defaults to false. Cannot be used in LEGACY security mode.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: `Verbose`, `Debug`, `ErrorAction`, `ErrorVariable`, `WarningAction`, `WarningVariable`, `OutBuffer`, `PipelineVariable`, and `OutVariable`. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARFileStore_WSAPI
```

Stop a physical copy of given volume.



TIP:

- To see the examples, enter `get-help Update-3PARFileStore_WSAPI -examples`.
- For more information, enter `get-help Update-3PARFileStore_WSAPI -detailed`.
- For technical information, enter `get-help Update-3PARFileStore_WSAPI -full`.
- For online help, enter `get-help Update-3PARFileStore_WSAPI -online`.

Update-3PARHost_WSAPI

Synopsis

Updates a host.

Syntax

```
Update-3PARHost_WSAPI [-HostName] <String> [[-ChapName] <String>] [[-ChapOperationMode] <Int32>] [[-ChapRemoveTargetOnly]] [[-ChapSecret] <String>] [[-ChapSecretHex]] [[-ChapOperation] <String>] [[-Descriptors] <String>] [[-FCWWN] <String>] [[-ForcePathRemoval]] [[-iSCSINames] <String>] [[-NewName] <String>] [[-PathOperation] <String>] [[-Persona] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Updates a host.

Parameters

-HostName <String>

Specifies the name of the host to update.

-ChapName <String>

Specifies the chap name.

-ChapOperationMode <Int32>

Specifies the initiator or target.

-ChapRemoveTargetOnly [<SwitchParameter>]

If true, then removes target chap only.

-ChapSecretHex [<SwitchParameter>]

If true, then chapSecret is treated as Hex.

-ChapOperation <String>

Add or remove.

- INITIATOR: Set the initiator CHAP authentication information on the host.
- TARGET: Set the target CHAP authentication information on the host.

-Descriptors <String>

Specifies the description of the host.

-FCWWN <String>

One or more WWN to set for the host.

-ForcePathRemoval [<SwitchParameter>]

If true, remove WWN(s) or iSCSI(s) even if there are VLUNs that are exported to the host.

-iSCSINames <String>

Specifies one or more iSCSI names to set for the host.

-NewName <String>

Specifies new name of the host.

-PathOperation <String>

If adding, adds the WWN or iSCSI name to the existing host.

If removing, removes the WWN or iSCSI names from the existing host.

- ADD: Add host chap or path.
- REMOVE: Remove host chap or path.

-Persona <String>

Specifies the ID of the persona to modify the host's persona to:

- GENERIC
- GENERIC_ALUA
- GENERIC_LEGACY
- HPUX_LEGACY
- AIX_LEGACY
- EGENERA
- ONTAP_LEGACY
- VMWARE
- OPENVMS
- HPUX
- WindowsServer
- AIX_ALUA

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARHost_WSAPI
C:\PS>Update-3PARHost_WSAPI -HostName MyHost
C:\PS>Update-3PARHost_WSAPI -HostName MyHost -ChapName TestHostAS
C:\PS>Update-3PARHost_WSAPI -HostName MyHost -ChapOperationMode 1
```



TIP:

- To see the examples, enter `get-help Update-3PARHost_WSAPI -examples`.
 - For more information, enter `get-help Update-3PARHost_WSAPI -detailed`.
 - For technical information, enter `get-help Update-3PARHost_WSAPI -full`.
 - For online help, enter `get-help Update-3PARHost_WSAPI -online`.
-

Update-3PARHostSet_WSAPI

Synopsis

Updates an existing host set.

Syntax

```
Update-3PARHostSet_WSAPI [-HostSetName] <String> [[-AddMember]] [[-RemoveMember]] [[-ResyncPhysicalCopy]] [[-StopPhysicalCopy]] [[-PromoteVirtualCopy]] [[-StopPromoteVirtualCopy]] [[-NewName] <String>] [[-Comment] <String>] [[-Members] <String>] [[-Priority] <String>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Updates an existing host set.

Any user with the Super or Edit role can modify a host set. Any role granted `hostset_set` permission can add a host to the host set or remove a host from the host set.

Parameters

-HostSetName <String>

Specifies the existing host name.

-AddMember [<SwitchParameter>]

Adds a member to the VV set.

-RemoveMember [<SwitchParameter>]

Removes a member from the VV set.

-ResyncPhysicalCopy [<SwitchParameter>]

Resynchronize the physical copy to its VV set.

-StopPhysicalCopy [<SwitchParameter>]

Stops the physical copy.

-PromoteVirtualCopy [<SwitchParameter>]

Promotes the virtual copies in a VV set.

-StopPromoteVirtualCopy [<SwitchParameter>]

Stops to promote the virtual copy operations in a VV set.

-NewName <String>

Specifies new name of the set.

-Comment <String>

Adds a comment for the VV set or host set.

To remove the comment, use "".

-Members <String>

The volume or host to be added to or removed from the set.

-Priority <String>

Specifies the priority of the task as high, medium, or low.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARHostSet_Wsapi -HostSetName xxx -RemoveMember -Members as-Host4
C:\PS>Update-3PARHostSet_Wsapi -HostSetName xxx -AddMember -Members as-Host4
C:\PS>Update-3PARHostSet_Wsapi -HostSetName xxx -ResyncPhysicalCopy
C:\PS>Update-3PARHostSet_Wsapi -HostSetName xxx -StopPromoteVirtualCopy
C:\PS>Update-3PARHostSet_Wsapi -HostSetName xxx -ResyncPhysicalCopy -Priority high
```

**TIP:**

- To see the examples, enter `get-help Update-3PARHostSet_Wsapi -examples`.
- For more information, enter `get-help Update-3PARHostSet_Wsapi -detailed`.
- For technical information, enter `get-help Update-3PARHostSet_Wsapi -full`.
- For online help, enter `get-help Update-3PARHostSet_Wsapi -online`.

Update-3PARRCopyGroup_Wsapi

Synopsis

Modifies a Remote Copy group.

Syntax

```
Update-3PARRCopyGroup_WSAPI [-GroupName] <String> [[-LocalUserCPG] <String>]
[[[-LocalSnapCPG] <String>] [[-TargetName] <String>] [[-RemoteUserCPG]
<String>] [[-RemoteSnapCPG] <String>] [[-SyncPeriod] <Int32>] [[-
RmSyncPeriod] <Int32>] [[-Mode] <String>] [[-SnapFrequency] <Int32>] [[-
RmSnapFrequency] <Int32>] [[-AutoRecover] <Int32>] [[-OverPeriodAlert]
<Int32>] [[-AutoFailover] <Int32>] [[-PathManagement] <Int32>] [[-
MultiTargetPeerPersistence] <Int32>] [[-WsapiConnection] <Object>]
[<CommonParameters>]
```

Description

Modifies a Remote Copy group.

Parameters

-GroupName <String>

Specifies Remote Copy group to update.

-LocalUserCPG <String>

Specifies the local user CPG for use by auto-created volumes.

Specify together with: localSnapCPG, remoteUserCPG, and remoteSnapCPG.

-LocalSnapCPG <String>

Specifies the local snap CPG for use by autocreated volumes.

Specify together with: localSnapCPG, remoteUserCPG, and remoteSnapCPG.

-TargetName <String>

Specifies the target name associated with the created Remote Copy group.

-RemoteUserCPG <String>

Specifies the snap CPG on the target for use by auto-created volumes.

-RemoteSnapCPG <String>

Specifies the snap CPG on the target for use by auto-created volumes.

-SyncPeriod <Int32>

Specifies periodic synchronization of asynchronous periodic Remote Copy groups to the <period_value>. Range is 300-31622400 seconds (1year).

-RmSyncPeriod <Int32>

Enables (true) or disables (false) resetting the syncPeriod time to 0 (zero). If false, and the syncPeriod value is positive, the synchronization period is set.

-Mode <String>

Specifies the volume group mode.

- SYNC: Remote Copy group mode is synchronous.
- PERIODIC: Remote Copy group mode is periodic. Although WSAPI 1.5 and later supports PERIODIC 2, Hewlett Packard Enterprise recommends using PERIODIC 3.
- PERIODIC: Remote Copy group mode is periodic.
- ASYNC: Remote Copy group mode is asynchronous.

-SnapFrequency <Int32>

Async mode only.

Specifies the interval in seconds at which Remote Copy takes coordinated snapshots. Range is 300-31622400 seconds (one year).

-RmSnapFrequency <Int32>

Enables (true) or disables (false) resetting the snapFrequency time to 0 (zero). If false, and the snapFrequency value is positive, set the snapFrequency value.

-AutoRecover <Int32>

If the Remote Copy is stopped as a result of links going down, the Remote Copy group can be automatically restarted after the links come back up.

-OverPeriodAlert <Int32>

If synchronization of an asynchronous periodic Remote Copy group takes longer to complete than its synchronization period, an alert is generated.

-AutoFailover <Int32>

Automatic failover on a Remote Copy group.

-PathManagement <Int32>

Automatic failover on a Remote Copy group.

-MultiTargetPeerPersistence <Int32>

Specifies that the group is participating in a Multitarget Peer Persistence configuration. The group must have two targets, one of which must be synchronous.

The synchronous group target also requires pathManagement and autoFailover policy settings.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARRCopyGroup_WSAPI -GroupName xxx -SyncPeriod 301 -Mode ASYNC
```

**TIP:**

- To see the examples, enter `get-help Update-3PARRCopyGroup_WSAPI -examples`.
- For more information, enter `get-help Update-3PARRCopyGroup_WSAPI -detailed`.
- For technical information, enter `get-help Update-3PARRCopyGroup_WSAPI -full`.
- For online help, enter `get-help Update-3PARRCopyGroup_WSAPI -online`.

Update-3PARRCopyGroupTarget_WSAPI

Synopsis

Modifies a Remote Copy group target.

Syntax

```
Update-3PARRCopyGroupTarget_WSAPI [-GroupName] <String> [-TargetName]
<String> [[-SnapFrequency] <Int32>] [[-RmSnapFrequency] <Int32>] [[-
SyncPeriod] <Int32>] [[-RmSyncPeriod] <Int32>] [[-Mode] <String>] [[-
AutoRecover] <Int32>] [[-OverPeriodAlert] <Int32>] [[-AutoFailover] <Int32>]
[[PathManagement] <Int32>] [[MultiTargetPeerPersistence] <Int32>] [[-
WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Modifies a Remote Copy group target.

Parameters

-GroupName <String>

Specifies Remote Copy group name.

-TargetName <String>

Specifies the target Name

-SnapFrequency <Int32>

Specifies the interval in seconds at which Remote Copy takes coordinated snapshots. Range is 300-31622400 seconds (one year). Applicable only for Async mode.

-RmSnapFrequency <Int32>

Enables (true) or disables (false) the snapFrequency interval. If false, and the snapFrequency value is positive, then the snapFrequency value is set.

-SyncPeriod <Int32>

Specifies that asynchronous periodic mode groups should be periodically synchronized to the <period_value>. Range is 300 -31622400 secs (1yr).

-RmSyncPeriod <Int32>

Enables (true) or disables (false) resetting the syncPeriod time to 0 (zero). If false, and the syncPeriod value is positive, the synchronization period is set.

-Mode <String>

Specifies the volume group mode.

- SYNC: Remote Copy group mode is synchronous.
- PERIODIC: Remote Copy group mode is periodic. Although WSAPI 1.5 and later supports PERIODIC 2, Hewlett Packard Enterprise recommends using PERIODIC 3.
- PERIODIC: Remote Copy group mode is periodic.
- ASYNC: Remote Copy group mode is asynchronous.

-AutoRecover <Int32>

If the Remote Copy is stopped as a result of links going down, the Remote Copy group can be automatically restarted after the links come back up.

-OverPeriodAlert <Int32>

If synchronization of an asynchronous periodic Remote Copy group takes longer to complete than its synchronization period, an alert is generated.

-AutoFailover <Int32>

Automatic failover on a Remote Copy group.

-PathManagement <Int32>

Automatic failover on a Remote Copy group.

-MultiTargetPeerPersistence <Int32>

Specifies that the group is participating in a Multitarget Peer Persistence configuration. The group must have two targets, one of which must be synchronous.

The synchronous group target also requires pathManagement and autoFailover policy settings.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARRCopyGroupTarget_WSAPI -GroupName xxx -TargetName xxx -Mode SYNC
```

**TIP:**

- To see the examples, enter `get-help Update-3PARRCopyGroupTarget_WSAPI -examples`.
- For more information, enter `get-help Update-3PARRCopyGroupTarget_WSAPI -detailed`.
- For technical information, enter `get-help Update-3PARRCopyGroupTarget_WSAPI -full`.
- For online help, enter `get-help Update-3PARRCopyGroupTarget_WSAPI -online`.

Update-3PARRCopyTarget_WSAPI

Synopsis

Modifies a Remote Copy group target.

Syntax

```
Update-3PARRCopyTarget_WSAPI [-TargetName] <String> [[-MirrorConfig]] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Modifies a Remote Copy group target.

Parameters**-TargetName <String>**

Specifies the name of the Remote Copy target you want to modify.

-MirrorConfig [<SwitchParameter>]

Enables (true) or disables (false) the duplication of configurations involving the specified target.

By default, the value is set to true.

Use false value to allow recovery from an unusual error condition only, and only after consulting your Hewlett Packard Enterprise representative.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARCopyTarget_WSAPI -TargetName xxx
```



TIP:

- To see the examples, enter `get-help Update-3PARCopyTarget_WSAPI -examples`.
 - For more information, enter `get-help Update-3PARCopyTarget_WSAPI -detailed`.
 - For technical information, enter `get-help Update-3PARCopyTarget_WSAPI -full`.
 - For online help, enter `get-help Update-3PARCopyTarget_WSAPI -online`.
-

Update-3PARSystem_WSAPI

Synopsis

Updates storage system parameters.

Syntax

```
Update-3PARSystem_WSAPI [[-RemoteSyslog] <Boolean>] [[-RemoteSyslogHost] <String>] [[-RemoteSyslogSecurityHost] <String>] [[-PortFailoverEnabled] <Boolean>] [[-FailoverMatchedSet] <Boolean>] [[-DisableDedup] <Boolean>] [[-DisableCompr] <Boolean>] [[-OverProvRatioLimit] <Int32>] [[-OverProvRatioWarning] <Int32>] [[-AllowR5OnNLDrives] <Boolean>] [[-AllowR5OnFCDrives] <Boolean>] [[-ComplianceOfficerApproval] <Boolean>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Updates storage system parameters.

Parameters

-RemoteSyslog <Boolean>

Enable (true) or disable (false) sending events to a remote system as syslog messages.

-RemoteSyslogHost <String>

Specifies the IP address of the systems to which events are sent as syslog messages.

-RemoteSyslogSecurityHost <String>

Sets the hostname or IP address, and optionally the port, of the remote syslog servers to which security events are sent as syslog messages.

-PortFailoverEnabled <Boolean>

Enables (true) or disables (false) the automatic failover of target ports to their designated partner ports.

-FailoverMatchedSet <Boolean>

Enables (true) or disables (false) the automatic failover of matched-set VLUNs during a persistent port failover. This option does not affect host-see VLUNs, which are always failed over.

-DisableDedup <Boolean>

Enables or disables new write requests to TDVVs serviced by the system to be deduplicated.

- True: Disables deduplication.
- False: Enables deduplication

-DisableCompr <Boolean>

Enable or disable the compression of all new write requests to the compressed VVs serviced by the system.

- True: The new writes are not compressed.
- False: The new writes are compressed.

-OverProvRatioLimit <Int32>

The system, device types, and all CPGs are limited to the specified overprovisioning ratio.

-OverProvRatioWarning <Int32>

An overprovisioning ratio, which when exceeded by the system, a device type, or a CPG, results in a warning alert.

-AllowR5OnNLDrives <Boolean>

Enables (true) or disables (false) support for RAID-5 on NL drives.

-AllowR5OnFCDrives <Boolean>

Enables (true) or disables (false) support for RAID-5 on FC drives.

-ComplianceOfficerApproval <Boolean>

Enable (true) or disable (false) compliance officer approval mode.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARSystem_WSAPI
C:\PS>Update-3PARSystem_WSAPI -RemoteSyslog $true
C:\PS>Update-3PARSystem_WSAPI -remoteSyslogHost "0.0.0.0"
C:\PS>Update-3PARSystem_WSAPI -PortFailoverEnabled $true
C:\PS>Update-3PARSystem_WSAPI -DisableDedup $true
C:\PS>Update-3PARSystem_WSAPI -OverProvRatioLimit 3
C:\PS>Update-3PARSystem_WSAPI -AllowR5OnFCDrives $true
```



TIP:

- To see the examples, enter `get-help Update-3PARSystem_WSAPI -examples`.
 - For more information, enter `get-help Update-3PARSystem_WSAPI -detailed`.
 - For technical information, enter `get-help Update-3PARSystem_WSAPI -full`.
 - For online help, enter `get-help Update-3PARSystem_WSAPI -online`.
-

Update-3PARVV_WSAPI

Synopsis

Updates a virtual volume.

Syntax

```
Update-3PARVV_WSAPI [-VVName] <String> [[-NewName] <String>] [[-Comment]
<String>] [[-WWN] <String>] [[-ExpirationHours] <Int32>] [[-RetentionHours]
<Int32>] [[-StaleSS] <Nullable`1>] [[-OneHost] <Nullable`1>] [[-ZeroDetect]
<Nullable`1>] [[-System] <Nullable`1>] [[-Caching] <Nullable`1>] [[-Fsvc]
<Nullable`1>] [[-HostDIF] <String>] [[-SnapCPG] <String>] [[-
SsSpcAllocWarningPct] <Int32>] [[-SsSpcAllocLimitPct] <Int32>] [[-UserCPG]
<String>] [[-UsrSpcAllocWarningPct] <Int32>] [[-UsrSpcAllocLimitPct] <Int32>]
[[[-RmSsSpcAllocWarning]<Boolean>] [[-RmUsrSpcAllocWarning] <Boolean>] [[-
RmExpTime] <Boolean>] [[-RmSsSpcAllocLimit] <Boolean>] [[-RmUsrSpcAllocLimit]
<Boolean>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Updates a virtual volume.

Parameters

-VVName <String>

Specifies the name of the volume being modified.

-NewName <String>

Specifies new volume name.

-Comment <String>

Add information about the volume.

-WWN <String>

Specifies changing the WWN of the virtual volume a new WWN.

If the value of WWN is auto, the system automatically chooses the WWN based on the system serial number, the volume ID, and the wrap counter.

-ExpirationHours <Int32>

Specifies the relative time (from the current time) that the volume expires. Value is a positive integer with a range of 1-43,800 hours (1825 days).

-RetentionHours <Int32>

Specifies the amount of time relative to the current time that the volume is retained. Value is a positive integer with a range of 1- 43,800 hours (1825 days).

-StaleSS <Nullable`1>

- True: Stale snapshots. If there is no space for a copy-on- write operation, the snapshot can go stale but the host write proceeds without an error.
- False: No stale snapshots. If there is no space for a copy-on-write operation, the host write fails.

-OneHost <Nullable`1>

- True: Indicates that a volume is constrained to export to one host or one host cluster.
- False: Indicates a volume exported to multiple hosts for use by a cluster-aware application, or when port presents VLUNs are used.

-ZeroDetect <Nullable`1>

- True: Indicates that the storage system scans for zeros in the incoming write data.
- False: Indicates that the storage system does not scan for zeros in the incoming write data.

-System <Nullable`1>

- True: Special volume used by the system.
- False: Normal user volume.

-Caching <Nullable`1>

This is a read-only policy and cannot be set.

- True: Indicates that the storage system is enabled for write caching, read caching, and read ahead for the volume.
- False: Indicates that the storage system is disabled for write caching, read caching, and read ahead for the volume.

-Fsvc <Nullable`1>

This is a read-only policy and cannot be set.

- True: Indicates that File Services use this volume.
- False: Indicates that File Services do not use this volume.

-HostDIF <String>

Type of host-based DIF policy, 3PAR_HOST_DIF is for 3PAR host-based DIF supported, STD_HOST_DIF is for Standard SCSI host-based DIF supported, and NO_HOST_DIF is for Volume does not support host-based DIF.

-SnapCPG <String>

Specifies the name of the CPG from which the snapshot space will be allocated.

-SsSpcAllocWarningPct <Int32>

Enables a snapshot space allocation warning. A warning alert is generated when the reserved snapshot space of the volume exceeds the indicated percentage of the volume size.

-SsSpcAllocLimitPct <Int32>

Sets a snapshot space allocation limit. The snapshot space of the volume is prevented from growing beyond the indicated percentage of the volume size.

-UserCPG <String>

Specifies user CPG name.

-UsrSpcAllocWarningPct <Int32>

Creates fully provisioned volume.

-UsrSpcAllocLimitPct <Int32>

Specifies space allocation limit.

-RmSsSpcAllocWarning <Boolean>

Enables (false) or disables (true) removing the snapshot space allocation warning.

If false, and warning value is a positive number, then set the value.

-RmUsrSpcAllocWarning <Boolean>

Enables (false) or disables (true) removing the user space allocation warning. If false, and warning value is a positive number, then set the value.

-RmExpTime <Boolean>

Enables (false) or disables (true) resetting the expiration time. If false, and expiration time value is a positive number, then set the value.

-RmSsSpcAllocLimit <Boolean>

Enables (false) or disables (true) removing the snapshot space allocation limit. If false, and limit value is 0, the set value is ignored. If false, and limit value is a positive number, then set the value.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARVV_WSAPI -VVName xxx -NewName zzz
C:\PS>Update-3PARVV_WSAPI -VVName xxx -ExpirationHours 2
C:\PS>Update-3PARVV_WSAPI -VVName xxx -OneHost $true
C:\PS>Update-3PARVV_WSAPI -VVName xxx -SnapCPG xxx
```

**TIP:**

- To see the examples, enter `get-help Update-3PARVV_WSAPI -examples`.
- For more information, enter `get-help Update-3PARVV_WSAPI -detailed`.
- For technical information, enter `get-help Update-3PARVV_WSAPI -full`.
- For online help, enter `get-help Update-3PARVV_WSAPI -online`.

Update-3PARVVOrVVSets_WSAPI

Synopsis

Updates virtual copies or VV-sets.

Syntax

```
Update-3PARVVOrVVSets_WSAPI [-VolumeSnapshotList] <String> [[-ReadOnly]
<Boolean>] [[-WsapiConnection] <Object>] [<CommonParameters>]
```

Description

Updates virtual copies or VV-sets.

Parameters

-VolumeSnapshotList <String>

Enable (true) or disable (false) sending events to a remote system as syslog messages.

-ReadOnly <Boolean>

Modifies read and write properties of a VV set.

-WsapiConnection <Object>

WSAPI Connection object created with `New-3PARWSAPIConnection`.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see `about_CommonParameters` (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARVVOrVVSets_WSAPI -VolumeSnapshotList "xxx,yyy,zzz"
```

Updates virtual copies or VV-sets.

```
C:\PS>Update-3PARVVOrVVSets_WSAPI -VolumeSnapshotList "xxx,yyy,zzz" -ReadOnly $true/$false
```

Updates virtual copies or VV-sets.

**TIP:**

- To see the examples, enter `get-help Update-3PARVVOOrVVSets_WSAPI -examples`.
- For more information, enter `get-help Update-3PARVVOOrVVSets_WSAPI -detailed`.
- For technical information, enter `get-help Update-3PARVVOOrVVSets_WSAPI -full`.
- For online help, enter `get-help Update-3PARVVOOrVVSets_WSAPI -online`.

Update-3PARVVSet_WSAPI

Synopsis

Updates an existing virtual volume set.

Syntax

```
Update-3PARVVSet_WSAPI [-VVSetName] <String> [[-AddMember]] [[-RemoveMember]]  
[[[-ResyncPhysicalCopy]] [[-StopPhysicalCopy]] [[-PromoteVirtualCopy]] [[-  
StopPromoteVirtualCopy]] [[-NewName] <String>] [[-Comment] <String>] [[-  
Members] <String>] [[-Priority] <String>] [[-WsapiConnection] <Object>]  
[<CommonParameters>]
```

Description

Updates an existing virtual volume set.

Any user with the Super or Edit role can modify a host set. Any role granted `hostset_set` permission can add a host to the host set or remove a host from the host set.

Parameters

-VVSetName <String>

Specifies existing virtual volume name.

-AddMember [<SwitchParameter>]

Adds a member to the virtual volume set.

-RemoveMember [<SwitchParameter>]

Removes a member from the virtual volume set.

-ResyncPhysicalCopy [<SwitchParameter>]

Resynchronize the physical copy to its virtual volume set.

-StopPhysicalCopy [<SwitchParameter>]

Stops the physical copy.

-PromoteVirtualCopy [<SwitchParameter>]

Promotes virtual copies in a virtual volume set.

-StopPromoteVirtualCopy [<SwitchParameter>]

Stops promoting virtual copy operations in a virtual volume set.

-NewName <String>

Specifies new name of the virtual volume set.

-Comment <String>

Adds a comment to the virtual volume set or host set.

To remove the comment, use "".

-Members <String>

The volume to be added to or removed from the virtual volume set.

-Priority <String>

- 1: Indicates high priority.
- 2: Indicates medium priority.
- 3: Indicates low priority.

-WsapiConnection <Object>

WSAPI Connection object created with New-3PARWSAPIConnection.

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<http://go.microsoft.com/fwlink/?LinkID=113216>).

Example

```
C:\PS>Update-3PARVVSet_WSAPI
C:\PS>Update-3PARVVSet_WSAPI -VVSetName xxx -RemoveMember -Members testvv3.0
C:\PS>Update-3PARVVSet_WSAPI -VVSetName xxx -AddMember -Members testvv3.0
C:\PS>Update-3PARVVSet_WSAPI -VVSetName xxx -StopPhysicalCopy
C:\PS>Update-3PARVVSet_WSAPI -VVSetName xxx -ResyncPhysicalCopy -Priority medium
```

**TIP:**

- To see the examples, enter `get-help Update-3PARVVSet_WSAPI -examples`.
- For more information, enter `get-help Update-3PARVVSet_WSAPI -detailed`.
- For technical information, enter `get-help Update-3PARVVSet_WSAPI -full`.
- For online help, enter `get-help Update-3PARVVSet_WSAPI -online`.

Support and other resources

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:
<http://www.hpe.com/assistance>
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:
<http://www.hpe.com/support/hpesc>

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.

- To download product updates:

Hewlett Packard Enterprise Support Center

www.hpe.com/support/hpesc

Hewlett Packard Enterprise Support Center: Software downloads

www.hpe.com/support/downloads

Software Depot

www.hpe.com/support/softwaredepot

- To subscribe to eNewsletters and alerts:
www.hpe.com/support/e-updates
- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:
www.hpe.com/support/AccessToSupportMaterials

! **IMPORTANT:** Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website:

<http://www.hpe.com/support/selfrepair>

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

Remote support and Proactive Care information

HPE Get Connected

www.hpe.com/services/getconnected

HPE Proactive Care services

www.hpe.com/services/proactivecare

HPE Proactive Care service: Supported products list

www.hpe.com/services/proactivecaresupportedproducts

HPE Proactive Care advanced service: Supported products list

www.hpe.com/services/proactivecareadvancedsupportedproducts

Proactive Care customer information

Proactive Care central

www.hpe.com/services/proactivecarecentral

Proactive Care service activation

www.hpe.com/services/proactivecarecentralgetstarted

Warranty information

To view the warranty information for your product, see the links provided below:

HPE ProLiant and IA-32 Servers and Options

www.hpe.com/support/ProLiantServers-Warranties

HPE Enterprise and Cloudline Servers

www.hpe.com/support/EnterpriseServers-Warranties

HPE Storage Products

www.hpe.com/support/Storage-Warranties

HPE Networking Products

www.hpe.com/support/Networking-Warranties

Regulatory information

To view the regulatory information for your product, view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise Support Center:

www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

www.hpe.com/info/reach

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

www.hpe.com/info/ecodata

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

www.hpe.com/info/environment

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (**docsfeedback@hpe.com**). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.