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NexentaStor 5.0 Command Line Interface Reference Guide

The NexentaStor 5.0 Command Line Interface (CLI) is a collection of commands and subcommands that are specific to the NexentaStor 5.0 storage appliance. It also includes a set of UNIX-like utilities that process command output.

This reference guide provides a summary of the CLI commands. Use it in conjunction with the companion document*: NexentaStor 5.0 CLI QuickStart Configuration Guide*.

Table of Contents

Document History

Revision	Description
October, 2016	5.0.1 GA version

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Help Options

`Ctrl+C`	Returns you to the command line prompt(#).
`help`	Lists available CLI commands and UNIX-like utilities.
`man cli`	Provides an overview of the CLI commands and the general options and output flags.
`man <command>`	Displays the man page for a specific command. Use the Spacebar or arrows to move through the man page. Press `q` to return to the prompt.
`<command>`	Displays available subcommands for the specified command.
`<command> <subcommand> --help`	Provides usage information for the specified subcommand

Keyboard Shortcuts

`<partialcommand>+Tab`	Completes the command or lists commands starting with the letter or letters you entered. Use the Tab key or arrows to move through commands, and press Enter to select.
`<command>+Tab+Tab`	Displays the available subcommands and descriptions for the command. Use the Tab key or arrows to move through the subcommands, and press Enter to display the chosen subcommand.

CLI Commands

After installing and rebooting a NexentaStor appliance, you can log in as **admin** using the password you set up during the NexentaStor 5.0 installation.

Table 1 below describes the NexentaStor 5.0 commands and subcommands. The following options are available for all subcommands:

`--help`	Shows help for the command typed.
`--verbose`	Enables verbose output.
`--debug`	Prints debug information from the CLI to `stderr` (for developers).
`--raw`	Shows the value as-is, without any data reformatting.
`--json`	Shows output as a JavaScript Object Notation (JSON) object, not as a table.
`--no-header`	Hides the table header.

Table 1: NexentaStor 5.0 CLI Commands

CLI Command	Descriptions and Subcommands

acl	Configures access control lists (ACLs). NexentaStor supports native extended ACLs that are both SMB and NFS compliant. They includes commands for retrieving access control entry (ACE) information, appending an ACE to an ACL, deleting and modifying an ACE at a given position in the ACL.
	
	`acl get [-r] (all | <properties>) <filesystem>...`
	`[-i <index>...] [-I]`
	`[-s <field>]... [-S <field>]...`
	`[-O <flags>]`
	`acl list [-r] [-o <properties>]`
	`[-s <field>]... [-S <field>]...`
	`[-O <flags>]`
	`<filesystem>...`
	`acl set [-rnv] <acl-operation> <filesystem>...`

www.nexenta.com
Part Number: 3000-nxs-cliref-5.0-000009-A October 2016

CLI Command	Descriptions and Subcommands

alert	Configures alerts to notify administrators about hardware and software problems or transient conditions worth investigating (for example, CPU over-utilization). Each problem is tracked as a "case" that can be referenced with a unique UUID. You can list, repair, replace, and cancel (using the `acquit` subcommand) cases. You can view telemetry reports related to the alert.
	
	`alert acquit [-nv] <uuid>`
	`alert cases [-av] [-u <uuid>] [-c <code>] [-t <time-spec>] [-s <field>]... [-S <field>]... [-o <properties>] [-O <flags>]`
	`alert list [-u <uuid>] [-c <code>] [-T <type>] [-t <from>] [-s <field>]... [-S <field>]... [-o <properties>] [-O <flags>]`
	`alert repaired [-nv] <fmri>`
	`alert replaced [-nv] <fmri>`
	`alert reports [-o <properties>] [-O <flags>] <case-id>`

bundle	Creates, deletes, displays, and uploads support bundles to the Nexenta FTP/ FTPS server. A support bundle is an archive containing important system information such as coredumps, system configuration files, and system logs that are used by the Nexenta support team to evaluate issues. Support bundles can be managed without having the appliance up and running.
	
	`bundle cancel [-nv] <uuid>`
	`bundle create [-Fdnv]`
	`bundle delete [-Fnv] <uuid> all`
	`bundle list [-Fv] [-s <field>]... [-S <field>]... [-o <properties>] [-O <flags>]`
	`bundle upload [-kFnv] <uuid>`
	
	To query and modify FTP system parameters:
	`config list support`
	`config set <support.ftp.property>=value`
	
	By default, basic bundles are auto-forwarded to the Nexenta FTP server on a periodic basis. To disable auto-forwarding:
	`config set support.periodicBundle=false`

config	Sets, modifies, and views appliance configuration parameters. Use `config list` to query the list of parameters.
	
	`config edit [options] [<path>]`
	`config get [-S] [-O <flags>] [all | <properties>] <path>`
	`config list [-e] [-o <properties>] [-O <flags>] [-s <field>]... [-S <field>]... [<path>]`
	`config set [options] <path> = <value> [<value>...]`
	`config set [options] <path> append <value> [<value>...]`
	`config set [options] <path> update <index> <value> [<value>...]`
	`config set [options] <path> delete <index>`
	
	The default editing mode when you run `config edit` is `vi`. To change the editing mode to `emacs`, run `option editing_mode=emacs`.

CLI Command	Descriptions and Subcommands

disk	Includes commands to modify, view, and list the disks and their health status. You can filter the display of the disk list by specifying a specific disk name or media type (HDD, SSD). An NVME device is listed as a block device (BLKDEV) of type SSD.
	
	`disk get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <disk>...`
	`disk indicators [--ok2rm=(on|off)] [--fail=(on|off)] [--ident=(on|off)] <disk>`
	`disk list [-ux] [-p <pool>] [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<disk>]...`
	`disk set <properties> <disk>`

enclosure	Displays and sets chassis properties and sensors.
	
	`enclosure get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <chassisId>...`
	`enclosure list [-s <field>]... [-S <field>]... [-o <properties>] [-O <flags>] [<chassisId>]...`
	`enclosure sensor [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] <chassisId>`
	`enclosure set <properties> <chassisId>`

fcinitiator	Manages Fibre Channel (FC) initiator ports.
	
	`fcinitiator create [-n name] [-l node] <physPort>`
	`fcinitiator destroy <initiator>`
	`fcinitiator get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <initiator>...`
	`fcinitiator list [-o <properties>] [-s <field>]... [-S <field>]... [-O flags] [<initiator>]...`
	
	By default, the FC ports are in `initiator` mode. To change the default mode to `target`, use the command below:
	`# config set system.fcDefaultPortMode=target`

fctarget	Manages Fibre Channel (FC) target ports.
	
	`fctarget get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <target>...`
	`fctarget list [-o <properties>] [-s <field>]... [-S <field>]... [-O flags]`

CLI Command	Descriptions and Subcommands
	[<target>]... fctarget offline <target> fctarget online <target>
filesystem	A filesystem is a manageable storage unit that enables you to organize and share your data over the network. After creating a storage pool, you can create up to 16 levels of nested filesystems within the pool. Commands to create, destroy, rename, reset, mount, and unmount filesystems are also included. filesystem create [-pnv] [-o <properties>] <filesystem> filesystem destroy [-rRfnv] <filesystem> filesystem get [-r] (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] [<filesystem>...] filesystem list [-r] [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<filesystem>]... filesystem mount [-Onv] [-m <mount-point] <filesystem> filesystem mount Without any argument to the filesystem mount command, the mounted file systems and mount points are displayed. filesystem rename [-pnv] <filesystem> <new-filesystem> filesystem reset [-rnv] (all | <properties>) <filesystem>... filesystem set-owner [-nv] <filesystem> <user:group> filesystem set [-rnv] <properties> <filesystem>... filesystem unmount [-fnv] <filesystem> Use the compressionMode property to set the compression value (default is lz4) for your filesystem. Configure the wbcache property to YES to enable the Write Back Cache feature to increase IOPS and lower latency on SSD devices.
group	Consolidates subcommands to list, create, and delete user groups. group create [-nvh] <name> group delete [-nyvh] <name> group list [-O <flags>] [<name>]...
hacluster	Includes subcommands for managing high-availability (HA) clustered nodes. hacluster add-disk-heartbeat [-nyv] <first-node> <second-node> <service> <disk> hacluster add-net-heartbeat [-nyv] <first-node> <first-ip> <second-node> <second-ip> hacluster check-vip <vip> hacluster create [-fnv] [-d <description>] [-H <heartbeats>] <nodes> <cluster> hacluster delete-heartbeat [-nyv] <id> hacluster destroy [-nyv] <cluster> hacluster find-nodes hacluster find-pools hacluster reset [-nyv] <cluster> hacluster status

CLI Command	Descriptions and Subcommands

haservice	Includes subcommands for managing the HA services in a clustered setup.
	
	`haservice add-pool [-nv] <service> <pool> <guid>`
	`haservice add-vip [-nfv] <service> <vip> <address> <nics>`
	`haservice create [-evnf] [-d <description>]`
	`[-m <node>] [-r <timeout>] [-i <delay>]`
	`[-g <guid>] [-N <nodes>] [-V <vips>] <pool>`
	`haservice delete-pool [-nyv] <service> <pool>`
	`haservice delete-vip [-nv] <service> <vip>`
	`haservice destroy [-nyv] <service>`
	`haservice failover [-ynvs] <from-node> <to-node>`
	`haservice list [<service>...]`
	`haservice mark [-nv] <service> <node>`
	`haservice move [-snv] <service> <node>`
	`haservice repair [-nv] <service> <node>`
	`haservice set-mode [-amnv] <service> <node>`
	`haservice start [-nv] <service> <node>`
	`haservice status [<service>...]`
	`haservice stop [-nv] <service>`
	`haservice update-vip [-nv] [-a <address>] [-N <nics>]`
	`<service> <vip>`
	
	To list, enable, or disable the HA system feature:
	`svc list ha`
	`svc enable ha`
	`svc disable ha`
	
	To query ALUA settings:
	`svc get -o alua ha`

hostgroup	Creates, deletes and lists iSCSI initiator groups.
	
	`hostgroup add <hostgroup> <host>`
	`hostgroup create <hostgroup> [<host>]...`
	`hostgroup destroy <hostgroup>`
	`hostgroup list [-s <field>]... [-S <field>]...`
	`[-O flags]`
	`[<hostgroup>]...`
	`hostgroup remove <hostgroup> <host>`

hpr	Creates, deletes, and schedules high performance replication (HPR) services for data protection.
	
	`hpr clear [-nv] <name>`
	
	`hpr create [-nrv] [--description=<desc>]`
	`[--ignore-properties=<names>]`
	`[--replace-properties=<property=value>]`
	`[--max-buffer-size=<value>]`
	`[--throttle=<value>]`
	`<type> <source> <destination> <name>`
	
	`hpr destroy [-fnv] [--source-snapshots]`
	`[--destination-snapshots][--destination]`
	`<name>`
	`hpr disable [-fnv] <name>`
	`hpr enable [-nv] <name>`
	`hpr flip [-nv] <name>`

CLI Command	Descriptions and Subcommands
	hpr get (all | <properties>) [-s <field>]... [-S <field>]… [-O <flags>] <name>... hpr list [-s <field>]... [-S <field>]... [-o <properties>] [-O <flags>] hpr password-set [-nv] [--password=<str>] hpr recover [-nv] <name> hpr schedule-add [-nv] <service-name> <cron> <keep-source> <keep-destination> [<schedule-name>] hpr schedule-disable [-nv] <service-name> <schedule-name> hpr schedule-enable [-nv] <service-name> <schedule-name> hpr schedule-remove [-nv] <service-name> <schedule-name> hpr schedule-rename [-nv] <service-name> <schedule-name> <new-name> hpr schedules [-s <field>]... [-S <field>]... [-o <properties>] <service-name> hpr schedule-set [-nv] <properties> <service-name> <schedule-name> hpr set [-nv] <properties> <name> hpr snaplist-claim [-nv] <service-name> <schedule-name> <snaplist-id> hpr snaplist-delete [-nv] <service-name> <snaplist-id> hpr snaplist-find [-s <field>]... [-S <field>]... [-O <flags>] <service-name> hpr snapshots [-s <field>]... [-S <field>]... [-o <properties>] [-O <flags>]<name> hpr start [-nv] [--properties=<settings>] <name> hpr stop [-nv] <name> The replication data address must be configured on both the primary and secondary appliances, whether they are single nodes or members of a cluster. To configure the data replication address, use this command: `config set <hpr.dataAddress>=<IP address>`
idmap	Configures and manages the Native Identity Mapping service. This service uses name-based identity mapping, which establishes name equivalence between Windows users and groups with their counterparts in the UNIX name service. These mappings persist across reboots. idmap create [-gudnvh] <name> <identity> idmap delete [-nyv] <identity> idmap list [-O <flags>] [<identity>...] To list, enable, or disable the IDMAP service: svc list idmap svc enable idmap svc disable idmap To enable IDMU: svc set directorybasedmapping=idmu idmap
inventory	Consolidates commands for browsing storage hardware components such as processors, host bus adapters, memory, network interface cards, IPMI sensors, and tape devices.

CLI Command	Descriptions and Subcommands

	`inventory cpu [-o <properties>] [-s <field>]... [-S <field>]...[-O <flags>] [<chipId>]...`
	`inventory hba [-o <properties>] [-s <field>]... [-S <field>]...[-O <flags>] [<adapterId>]...`
	`inventory memory [-o <properties>] [-s <field>]... [-S <field>]...[-O <flags>]`
	`inventory nic [-o <properties>] [-s <field>]... [-S <field>]...[-O <flags>] [<name>]...`
	`inventory sensor [-o <properties>] [-s <field>]... [-S <field>]...[-O <flags>] [<sesNodeId>]...`
	`inventory tape-device [-o <properties>] [-s <field>]... [-S <field>]...[-O <flags>] [<name>]...`

ip	Manages the network IP addresses.
	
	`ip create [-nv] static <name> <address>`
	`ip create [-nv] addrconf <name>`
	`ip create [-nv] dhcp <name>`
	`ip destroy [-nv] <name>`
	`ip list [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<name>]...`
	`ip refresh [-nv] <name>`

ipmp	Manages the IP network multipathing (IPMP) groups and its members.
	
	`ipmp add-member <name> <link>`
	`ipmp create <name>`
	`ipmp del-member <name> <link>`
	`ipmp destroy [-nv] <name>`
	`ipmp list [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<name>]...`

iscsiauth	Use these subcommands to add, list, set, and delete CHAP-based authentication service to an iSCSI initiator.
	
	`iscsiauth add <name> <chapuser> <chapsecret>`
	`iscsiauth list [-f] [-o <properties>] [-s <field>]... [-S <field>]... [-O flags] [<initiator>]...`
	`iscsiauth remove <initiator>`
	`iscsiauth set <properties> <initiator>...`
	
	To list, enable, or disable the iSCSI target service:
	`svc list iscsit`
	`svc enable iscsit`
	`svc disable iscsit`

iscsitarget	Use these subcommands to create and manage iSCSI targets.
	
	`iscsitarget create [options]<portals>`
	`iscsitarget destroy <target>`

CLI Command	Descriptions and Subcommands

	`iscsitarget get [-f] (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <target>...`
	
	`iscsitarget list [-f] [-o <properties>] [-s <field>]... [-S <field>]... [-O flags] [<target>]...`
	`iscsitarget set <properties> <target>...`

journal	Use these subcommands to list and view NexentaStor installation logs.
	
	`journal list [-e] [-o <properties>] [-O <flags>] [-s <field>]... [-S <field>]...`
	`journal show [-a] <name>`
	`journal tail [-c NUM] [-f] <name>`

license	Activates the use of the NexentaStor 5.0.x software using an activation token from Nexenta and lists the license terms.
	
	`license activate [options] KEY`
	`license show [options]`
	
	Optional license activations available for these features: Fibre channel support, High Availability(HA), Continuous Replication, and allFlash.

link	The `link` command is intended to create, delete, list, and modify system links and their properties. A link can be a physical link, an aggregation link, a VLAN link, or a VNIC link. The subcommand `link set` enables a user to set properties for any link type. However, to create or destroy a specific link type, use the appropriate command specific to that type. For example, use `link assign vlan` to create a VLAN link.
	
	`link assign vlan [-nv] <name> <vid> <link>...`
	`link create aggr [-nv] [-P <policy>] [-L <mode>] [-T <timer>] [-u <mac>] <name> <link>...`
	`link create vlan [-nv] <name> <vid> <link>`
	`link destroy [-nv] <link>`
	`link get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <link>...`
	`link list [aggr|vlan|vnic] [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<link>]...`
	`link reset <properties> <link>... [options]`
	`link set [-nvt] <properties> <link>...`

logicalunit	Configures LUN(s) created over the storage volumes.
	
	`logicalunit get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <volume>...`
	`logicalunit list [-o <properties>] [-s <field>]... [-S <field>]...`

CLI Command	Descriptions and Subcommands
	[-O flags] [<volume>]... logicalunit set <properties> <volume>...
lunmapping	LUN mapping allows you to open particular LUNs to specific initiators and hide them from other initiators. You can use target and initiator groups to manage the access to specific volumes. In the simplest configuration, all initiators can see all targets. lunmapping create [options] <volume> <target-group> <host-group> lunmapping destroy -u <id> lunmapping destroy [options] <volume> <target-group> <host-group> lunmapping get [-g <groups>] (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <volume>... lunmapping list [-a] [-g <groups>] [-o <properties>] [-s <field>]... [-S <field>]... [-O flags] [<volume>]...
ndmpauth	Provides subcommands to manage authentication for NDMP (Network Data Management Protocol). Configuring access credentials with ndmp allows a backup server/software to talk to the NDMP server running on NexentaStor. It performs backups of data stored on NexentaStor using the NDMP protocol. Two authentication mechanisms are supported: cleartext and cram-md5. Username and password must be configured. ndmpauth disable [-nv] <auth-type> ndmpauth enable [-nv] <auth-type> <username> [--password=pass] ndmpauth list [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<auth-type>] To query and set NDMP service parameters: svc get ndmp svc set <NDMP property>=<value> ndmp To list, enable, and disable NDMP service: svc list/enable/disable ndmp
net	Provides subcommands for managing network settings for hosts, DNS servers, and netmasks. net create host [-nv] <address> <hostname> [<alias>]... net create dns [-nv] <address> net create netmask [-nv] <network> <mask> net destroy host [-nv] <address> net destroy dns [-nv] <address> net destroy netmask [-nv] <network> net list host [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<address>]... net list dns [-o <properties>] [-s <field>]...

Part Number: 3000-nxs-cliref-5.0-000009-A October 2016

CLI Command	Descriptions and Subcommands
	[-S <field>]... [-O <flags>] [<nameserver>]... net list netmask [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<network>]...
nfs	Provides subcommands that make local file systems available for mounting by remote clients. It supports the NFS protocol and configures and unshares existing shares. nfs get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <filesystem>... nfs list [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<filesystem>]... nfs set [-nv] <properties> <filesystem>... nfs share [-nv] [-o <properties>] <filesystem> nfs unshare [-nv] <filesystem> To query and set NFS system parameters: svc get nfs svc set <NFS property>=<value> nfs To list, enable, and disable the NFS service: svc list/enable/disable nfs
pool	Includes subcommands to list available (imported and active) storage pools and display pool-specific attributes, health status, space usage, virtual device topology, and device lists. You can add, destroy, offline, and online pools. There are also subcommands to start and stop the scrub (for consistency checking) and to trigger the trim kernel feature (to free up unused space). pool add [-fnv] <pool> <vdev>... pool attach [-fnv] <pool> <disk> <new-disk> pool clear [-Rnv] <pool> [<disk>]... pool create-auto [-fnvq] <redundancy> <pool> -M<maxdevices> [-c <vdev-size>] [-t <media-type>] [-s <disk-size>] [-r <rpm>] [-N] [-e <enclosures>] [-R altroot] [-o <properties>] [--config-output=<flags>] pool create [-fnv] [-R altroot] [-o <properties>] <pool> <vdev>... pool destroy [-fnv] <pool> pool detach [-nv] <pool> <disk> pool export [-fnv] <pool> pool get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <pool>... pool import [-fnvD] [-s paths] [-c <cache-file>] [-R altroot] [-o <properties>] <pool> [<new-name>] pool import [-nvD] [-s paths] [-c <cache-file>] pool import Without any argument, pool import provides the list of exported pools that can be imported. pool list [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>][<pool>]…

CLI Command	Descriptions and Subcommands
	pool offline [-tnv] <pool> <disk> pool online [-env] <pool> <disk> pool remove [-nv] <pool> <disk> pool replace [-fnv] <pool> <disk> <new-disk> pool set [-nv] <properties> <pool>... pool start-scrub <pool> pool start-trim [-r rate]<pool> pool status [-xvd] [-O <flags>] [<pool>]... pool stop-scrub <pool> pool stop-trim <pool> To create a schedule for a pool scrub: pool set scrubSchedule="<cron expression>" <pool name>. To create a schedule for a pool trim: pool set trimSchedule="<cron expression>" <pool name>.
profile	A profile is a collection of pre-set kernel settings and pool tunable values that can be applied to a NexentaStor appliance to optimize performance in several SSD configurations. The default profile applies to hybrid and all-disk appliances. The allFlash profile is sufficient for all basic all-SSD configurations and optimized for all-flash reference architectures. For profile changes to take effect, a system reboot is needed. profile activate [options] <name> profile show [options] [<name>]...
publisher	Manages the location of NexentaStor software components. This information is used during software upgrades. publisher create [-nv] <publisher> <location> publisher destroy [-nv] <publisher> publisher list [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<publisher>]...
route	Provides subcommands for managing network routes. route create [-nv] <destination> <gateway> route destroy [-nv] <destination> <gateway> route list [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<destination>]...
security	Includes subcommands to switch security mode and manage trusted credentials for inter-host connections. security certificate [--generate] security connection-add [options] <peer> security connection-delete [options] <peer> security connection-list [-s <field>]... [-S <field>]... [-o <properties>] [-O <flags>]
smb	Makes local file systems available for mounting by remote clients. It supports the SMB protocol, configures and unshares existing shares, and configures memberships in groups. SMB versions 1.0, 2.1(default), and 3.0 are supported.

CLI Command	Descriptions and Subcommands
	smb add-member [-nv] <user> <group> smb get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <filesystem>... smb join domain [-nv] <username> [--password=pass]<DOMAINNAME> smb join workgroup [-nv] <WORKGROUPNAME> smb list [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<filesystem>]... smb remove-member [-nyv] <user> <group> smb set [-nv] <properties> <filesystem>... smb share [-nv] [-o <properties>] <filesystem> smb show-group [-O <flags>] [<group>...] smb status [-O <flags>] smb unshare [-nv] <filesystem> To query and set SMB system parameters: svc get smb svc set <SMB property>=<value> SMB To list, enable, and disable the SMB service: svc list/enable/disable smb
snapping	Creates and schedules dataset snapshot jobs for specified datasets. A dataset can be a file system, volume group, or a volume. All datasets that are part of the same job must reside in the same storage pool. snapping create [-nrv] [--description=<desc>] [--cron=<period> --keep=<n>] <dataset> [<name>] snapping destroy [-nv] <name> snapping disable [-nv] <name> snapping enable [-nv] <name> snapping get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <name>... snapping list [-s <field>]... [-S <field>]... [-o <properties>] [-O <flags>] snapping run [-nv] <name> snapping schedule-add [-nv] <service-name> <cron> <keep> [<schedule-name>] snapping schedule-remove [-nv] <name> <schedule-name> snapping schedule-set [-nv] <properties> <name><schedule-name> snapping schedules [-s <field>]... [-S <field>]... [-o <properties>] [-O <flags>] <service-name> snapping set [-nv] <properties> <name> snapping snaplist-claim [-nv] <service-name> <schedule-name> <snaplist-id> snapping snaplist-delete [-nv] <service-name> <snaplist-id> snapping snaplist-find [-s <field>]... [-S <field>]... [-O <flags>] <service-name> snapping snapshots [-s <field>]... [-S <field>]... [-o <properties>] [-O <flags>] <dataset>

CLI Command	Descriptions and Subcommands

snapshot	Consolidates commands to manually manage snapshots of a given dataset (a file system, volume, or volume group) or its nested datasets. For scheduled snapshot jobs, see `snapping` commands. Using the subcommands below, you can create a snapshot, clone from the snapshot, promote a cloned dataset to no longer be dependent on its original snapshot, and roll back a dataset to a particular snapshot.
	
	Use the `snapshot hold` and `snapshot holds` subcommands to create a hold on any dataset snapshot and list all the holds, respectively. A hold on a snapshot prevents it from being destroyed. Attempts to destroy a snapshot with a hold returns an ERROR. To release the hold on the snapshot, use the `snapshot release` subcommand listed below.
	
	`snapshot clone [-pnv] [-o <properties>] <snapshot><clone>`
	`snapshot create [-rnv] [-o <properties>] <snapshot>`
	`snapshot destroy [-rRfnv] <snapshot>`
	`snapshot destroy [-rdnv] <snapshot>`
	`snapshot get [-r] (all | <properties>)`
	`[-s <field>]... [-S <field>]...`
	`[-O <flags>]`
	`<snapshot>...`
	`snapshot hold [-rnv] <tag> <snapshot>...`
	`snapshot holds [-r] [-o <properties>]`
	`[-s <field>]... [-S <field>]...`
	`[-O <flags>]`
	`<snapshot>...`
	`snapshot list [-r] [-o <properties>]`
	`[-s <field>]... [-S <field>]...`
	`[-O <flags>]`
	`[<snapshot>]...`
	`snapshot promote [-nv] <dataset>`
	`snapshot release [-rnv] <tag> <snapshot>...`
	`snapshot rename [-rnv] <snapshot> <new-snapshot>`
	`snapshot reset [-rnv] (all | <properties>) <snapshot>...`
	`snapshot rollback [-rdDfnv] <snapshot>`
	`snapshot set [-rnv] <properties> <snapshot>...`

software	Activates, deletes, and upgrades specific NexentaStor software versions.
	
	`software activate [-nv] <version>`
	`software destroy [-nv] <version>`
	`software list [-O <flags>] [-s <field>]... [-S <field>]...`
	`[-o <properties>] [<name>...]`
	`software upgrade [--force-be-creation] [-nv]`
	`software version [-O <flags>]`

svc	Provides subcommands for enabling, disabling, and checking the status of services. It does not configure the service properties. Available services such as `ha, idmap, iscsit, ndmp, nfs, ntp, smb, snmp, stmf,` and `vscan.`
	
	`svc clear <service>`
	`svc disable <service>`
	`svc enable <service>` For example: `svc enable SNMP`
	`svc get [-d] [-o <properties>] [-O <flags>] <service>`
	`svc list [-x] [-o <properties>]`
	`[-s <field>]... [-S <field>]... [-O <flags>]`

CLI Command	Descriptions and Subcommands
	[<service>]... svc refresh <service> svc restart <service> svc set <properties> <service> To list and modify SMTP (email) system properties: config list smtp config set <SMTP.property>=<value> To list and modify FTP system properties: config list support.ftp config set <support.ftp.property>=<value>
system	Enables the administrator to query appliance information such as ISO version, memory utilization, swap status, total number of system alerts. It also provides a way to run an SMTP test. system status [options] system smtp-test [options] To list and modify SMTP system properties: config list smtp config set <SMTP.property>=<value>
targetgroup	Use these subcommands to create and manage iSCSI target groups and add or remove iSCSI targets in a target group. targetgroup add <targetgroup> <target> -h | --help targetgroup create [options] <name> [<target>]... targetgroup destroy <targetgroup> targetgroup list [-f] [-o <properties>] [-s <field>]... [-S <field>]... [-O flags] [<targetgroup>]... targetgroup remove <targetgroup> <target> -h | --help
user	Consolidates commands to list, create, delete, and modify system users. user create [-nvh] [-p <password>] [-g <group>] [-c <comment>] <login> user delete [-nyvh] <login> user list [-h] [-O <flags>] [<login>...] user passwd [-nvh] [-p <password>] <login> **Note**: Passwords should be at least 9 characters long and contain at least 3 of the following classes of characters: lowercase, uppercase, numeric, and special (for example: !, @, #,$, %, ^). Passwords should not be based on English dictionary or slang words, nor English first names or surnames.
volume	Configures volumes that represent block devices. A volume is basically a LUN that is remotely accessible through the iSCSI and FC protocols. They must be configured to be a member of a volume group below the pool. The subcommands allow you to list, create, destroy and rename volumes. volume create [-pnv] [-o <properties>] [-b <blocksize>]

Part Number: 3000-nxs-cliref-5.0-000009-A October 2016

CLI Command	Descriptions and Subcommands
	<volume> <size> volume destroy [-rRnv] <volume> volume get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>]<volume>... volume list [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<volume>]... volume rename [-pnv] <volume> <new-volume> volume reset [-nv] (all | <properties>) <volume>... volume set [-nv] <properties> <volume>... Use the `compressionMode` property to set the compression value (default is lz4) for your volume.
volumegroup	Configures volume groups that are used to group volumes with the same characteristics. These subcommands let you create, destroy, list, rename, and configure volume groups. volumegroup create [-nv] [-o <properties>] [-b <blocksize>] <volumegroup> volumegroup destroy [-rRnv] <volumegroup> volumegroup get (all | <properties>) [-s <field>]... [-S <field>]... [-O <flags>] <volumegroup>... volumegroup list [-o <properties>] [-s <field>]... [-S <field>]... [-O <flags>] [<volumegroup>]... volumegroup rename [-nv] <volumegroup> <new-volumegroup> volumegroup reset [-nv] (all | <properties>) <volumegroup>... volumegroup set [-nv] <properties> <volumegroup>... Use the `compressionMode` property to set the compression value (default is lz4) for your volume group.
vscan	Consolidates subcommands for displaying, creating, modifying, or removing virus scan engines. Scan engines are third-party applications on external hosts that perform the actual virus scanning operation on files. Multiple scan engines can be configured for use by the vscan service. The default port used is 1344 and should be excluded from firewall blocks. Note that in order to manage properties of the vscan service, the general `svc` CLI command should be used to enable/disable the vscan service first. vscan create [-nv] <engine> vscan destroy [-nv] <engine> vscan get (all | <properties>) [-s <properties>]... [-S <properties>]... [-O <flags>] [<engine>...] vscan list [-o <properties>] [-s property]... [-S property]... [-O flags] [<engine>]... vscan get [-nv] <properties> <engine>

Part Number: 3000-nxs-cliref-5.0-000009-A October 2016

CLI Command	Descriptions and Subcommands

	To designate the IP address of the 3rd party vscan engine:
	`vscan set host=<IP address`
	
	To query and set VSCAN system parameters:
	`svc get vscan`
	`svc set <VSCAN property>=<value> vscan`
	
	To list, enable, and disable the VSCAN service:
	`svc list/enable/disable vscan`
	
	To designate the filesystem that needs to be scanned:
	`filesystem set vscan=yes <file system>`

UNIX-Like Utilities

Table 2: NexentaStor 5.0 Utilities

UNIX-Like Utility	Description
clear	Clears the screen. The `clear` command takes no arguments.
dmesg	Writes kernel messages that are directed to the screen as the computer boots.
expr	Refers to mathematical and scientific uses of the term `expr`ession. Here, you would use `expr`, followed by the arguments it should evaluate, such as `expr 5%3` to calculate 5 divided by 3.
fmdump	Displays fault management status and information. Short for fault management dump.
grep	Searches a file for lines matching a regular expression.
head	Reads the first few lines of any text input and writes them to standard output. By default, the display screen is the standard output.
help	Lists the NexentaStor CLI commands and UNIX-like utilities.
host	Performs DNS lookups and is normally used to convert host names to IP addresses and vice- versa.
iostat	Reports terminal, disk, CPU utilization, and tape I/O activity,
json	Fast command-line tool for working with JSON content from the command line,
ldapclient	Initializes LDAP client machine or output an LDAP client profile in LDIF format.
mail	Reads or sends email to users.
man	Accesses man pages to help understand the purpose and usage of various commands.
messages	Displays system log messages.
more	Displays the contents of a text file on the terminal.
mt	Sends commands to a magnetic tape drive for backups.
mtx	Controls single or multi-drive SCSI media changers such as tape changers, autoloaders, tape libraries, or optical media jukeboxes.
nawk	Parses specific kinds of information from output, including the `getline` function.
netstat	Displays network status, including incoming and outgoing network connections, routing tables, network interface information, and protocol statistics.
option	Sets or shows CLI options.
ping	Contacts a remote host to see if it responds.
poweroff	Shuts down the computer.

Part Number: 3000-nxs-cliref-5.0-000009-A October 2016

UNIX-Like Utility	Description
reboot	Shuts down and restarts the computer.
sed	Processes files in batch mode.
sleep	Suspends program operation for a specified period of time.
sort	Sorts text files.
su	Allows switching of user to execute commands with the privileges of another user account.
tail	Displays the last few lines of a file.
traceroute	Identifies the route data packets takes from their origin to the destination host.
uname	Prints information about the current system on the standard output.
uptime	Displays how long a system has been up and running since its last reboot.
vmstat	Reports information about processes, memory, paging, block IO, traps, and CPU activity.
wc	Displays line count, word count, byte count, and character count in a file.
xargs	Builds and executes command lines from standard output.

Additional Resources

For additional information, refer to the documents listed in Table 3 below and posted at https://nexenta.com/products/downloads/nexentastor.

Table 3: NexentaStor 5.0 Reference Documents

Documents
Installation QuickStart Guide
CLI QuickStart Configuration Guide
High Availability (HA) Admin Guide
REST API QuickStart Guide
NexentaStor 5.0 vCenter Plugin QuickStart Guide
NexentaStor 5.0 VVOL Admin Guide
Product Guide