

Quest® QoreStor™ 5.1.0

Command Line Reference Guide



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Legend

 **CAUTION:** A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

 **IMPORTANT, NOTE, TIP, MOBILE, or VIDEO:** An information icon indicates supporting information.

QoreStor Command Line Reference Guide
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Contents

Introduction to the Quest® QoreStor™ Command Line Reference Guide	8
About the QoreStor CLI documentation	8
Other information you may need	8
Introducing Quest® QoreStor™	11
Understanding the QoreStor CLI	12
Accessing the QoreStor CLI commands	12
QoreStor CLI commands overview	12
Managing QoreStor	14
Alerts Commands	14
alerts --show [--events] [--index <[-]number>] [--count <number>] [--all]	15
alerts --show [--alerts] [--index <[-] number>] [--count <number>] [--all]	16
alerts --show [--summary]	16
Authenticate Commands	17
authenticate --show [--users]	18
authenticate --show [--domain <domain name>]	18
authenticate --show [--login_group]	19
authenticate --join --domain <domain name> [--ou <org-unit name>] --user <user name>	19
authenticate --leave [--user <user name>] [--force]	20
authenticate --update --kerberos	21
authenticate --guestmode [--enable]	22
authenticate --guestmode [--disable]	22
authenticate --server_signing --mode <auto mandatory disabled>	23
Email_alerts Commands	24
email_alerts --clear-config	25
email_alerts --enable	25
email_alerts --disable	25
email_alerts --status	25
email_alerts --configure	26
email_alerts --test-email	26
email_alerts --help	26
OST	27
ost --show [--config] [--file_history] [--name <name>] [--active_files] [--name <name>] [--clients]	27
ost --update --opdup_encryption <none aes128 aes256>	29
ost --delete_client --name <OST Client Hostname>	29
ost --update_client --name <OST Client Hostname> --mode <auto passthrough dedupe>	30
ost --limit --speed <<num>>KBps MBps GBps default> --target <ip address hostname>	30
ost --partial_images --containerid <Container id> [--delete <Partial image path>] [--timeout <>0>]	31
ost --help	31

RDA	32
rda --show [--config] [--file_history] [--name <name>] [--active_files] [--name <name>] [--clients] [--limits]	33
rda --update --opdup_encryption <none aes128 aes256>	34
rda --delete_client --name <RDA Client Hostname>	34
rda --update_client --name <RDA Client Hostname> --mode <auto passthrough dedupe> ...	35
rda --limit --speed <<num><KBps MBps GBps> default> --target <ip address hostname> ...	35
rda --partial_images --containerid <Container id> [--delete <Partial image path>] [--timeout <0>]	36
rda --help	36
Sc_manager command	37
sc_manager status --property <path_to_sc_client.property_file>	37
sc_manager disable --property <path_to_sc_client.property_file>	38
sc_manager enable --property <path_to_sc_client.property_file>	38
Stats	39
stats --system	40
stats --cpu	41
stats --memory	41
stats --datacheck	42
stats --nfs	43
stats --cifs	44
stats --ost	45
stats --rds	46
stats --ndmp	47
stats --ndmp_completed	47
stats --iscsi [--verbose]	47
stats --fc [--iostat] [--linkstat]	48
stats --container --name <name>	51
stats --storage_group --name <name>	52
stats --replication [--name <name>]	53
stats --cleaner	54
stats --clients [--type <NFS CIFS OST RDS>]	55
stats --reset [--rds]	55
stats --seed	55
stats --help	56
Storage Group commands	57
storage_group --show [--name <name>] [--verbose]	58
storage_group --add --name <name> [--compression_mode <fast best>] [--chunk_type <Fixed Variable>]	58
storage_group --update --name <name> [--compression_mode <fast best>]	59
storage_group --encryption --name <name> [--set <ON OFF>] [--mode <static internal> <--interval <7 days to 70 years>]	59
storage_group --delete --name <name>	60
storage_group --setpassphrase --name <name>	60
storage_group --help	61
System	62
system --show [--version]	62
system --show [--storage]	62

system --show [--license] [--verbose]	63
system --show	63
system --license [--show] [--verbose] [--validate] [--file <path>] [--add] [--file <path>]	64
system --storage [--add] [--path<path>] [--show]	65
system --storage [--show]	65
system --help	65
User	66
user --show [--users] [--logins] [--verbose][--name <username>] [--roles <cifs ost rda monitor administrator secure_connect>]	67
user --add --name <user name> [--roles <cifs ost rda monitor secure_connect>] [--full_name <full name>] [--phone <phone number>] [--email_addr <e-mail address>] [--description <anything>]	67
user --update --name <user name> [--new_name <user name>] [--add_roles <cifs ost rda monitor secure_connect>] [--remove_roles <cifs ost rda monitor secure_connect>] [--full_name <full name>] [--phone <phone number>] [--email_addr <email address>] [--description <description>]	68
user --delete --name <user name>	68
user --setpassword --name <user name>	69
user --help	69
Managing QoreStor Storage Operations	71
Connection	71
connection --show [--name <name>] [--type <NFS CIFS OST RDS>] [--verbose]	72
connection --add --name <name> --type <NFS CIFS OST RDS NDMP ISCSI FC> [--clients <ip address>] [--dma <ip address>] [--initiator <IQN, ip address, hostname, or WWPN>] [--rootmap <nobody root administrator>] [--options <NFS CIFS mount export options>] [--capacity <positive decimal number>]	73
connection --update --name <name> --type <NFS CIFS OST RDS NDMP ISCSI FC> [--clients <ip address>] [--dma <ip address>] [--initiator <IQN, ip address, hostname, or WWPN>] [--target <WWPN>] [--rootmap <nobody root administrator>] [--options <NFS CIFS mount export options>] [--capacity <positive decimal number>]	73
connection --delete --name <name> --type <NFS CIFS OST RDS NDMP ISCSI FC>	74
connection --enable --name <name> --type <NFS CIFS OST RDS NDMP ISCSI FC>	74
connection --disable --name <name> --type <NFS CIFS OST RDS NDMP ISCSI FC>	74
connection --help	75
Container	76
container --show [--name <name>] [--verbose]	76
container --add --name <name> [--type <VTL>] [--tape_size <800GB 400GB 200GB 100GB 50GB 10GB>] [--is_oem <yes no>] [--group_name <name>]	77
container --update --name <name> [--no_of_drives <1 -60>]	78
container --delete --name <name> [--delete_files]	78
container --marker [--enable <Auto CommVault Networker TSM ARCserve HP_DataProtector Unix_Dump BridgeHead TiNa Acronis>] [--disable <Auto CommVault Networker TSM ARCserve HP_DataProtector Unix_Dump BridgeHead TiNa Acronis>] --name <name>	79
container --delete_files --name <name>	79
container --help	80
FC	80
fc --show [--verbose] [--target]	81
fc --sessions [--topology] [--condensed]	84

fc --help <command>	84
iSCSI	85
iscsi --show [--user]	85
iscsi --setpassword	87
iscsi --sessions	87
iscsi --help	87
NDMP	88
ndmp --show	88
ndmp --update [--port <port number>]	89
ndmp --help	89
Replication	89
replication --add --name <name> --role <source target> --peer <ip address hostname> [--peer_name <name>] [--peer_group_name <name>] [--replication_traffic <ip address hostname>] [--encryption <none aes128 aes256>] [--username <user name>]	90
replication --update --name <name> --role <source target> [--peer <ip address hostname>] [--encryption <none aes128 aes256>] [--username <user name>]	91
replication --delete --name <name> --role <source target> [--force]	92
replication --start --name <name> --role <source target>	93
replication --stop --name <name> --role <source target>	93
replication --limit --speed <<num><KBps MBps GBps> default> --target <ip address hostname>	94
replication --resync --name <name> --role <source target>	94
replication --troubleshoot --peer <ip address hostname>	94
replication --help	95
Seed	97
seed --create --op <import export> [--enc_type <aes128 aes256>] [--storage_group_name <name>]	98
seed --add_container --name <container name>	98
seed --add_device --server <server name> --volume <volume> --username <username> --domain <domain name>	98
seed --cleanup	99
seed --remove_device	99
seed --show	99
seed --start	100
seed --help	100
Schedule	101
schedule --show [--cleaner]	102
schedule --show [--replication] [--name <name>]	102
schedule --add --day <day of the week> [--cleaner] [--replication] [--start_time <hh:mm>] [--stop_time <hh:mm>]	103
schedule --delete --day <day of the week> [--cleaner] [--name <name>] [--replication]	103
schedule --help	104
VTL	105
vtl --show [--name <name>]	105
vtl --show --verbose [--name <name>]	106
vtl --update_carts --name <name> --add --no_of_tapes <number>	107
vtl --activate --name <name> [--force <yes/no>]	107
vtl --deactivate --name <name>	108

vtl --rescan --name <name> [--force <yes no>]	108
vtl --set_rw --name <name> [--id <number>]	108
vtl --show_replstate --name <name>	109
vtl --help	109
Maintaining QoreStor	111
Maintenance	111
maintenance --filesystem [--scan_status]	112
maintenance --filesystem --scan_report [verbose]	113
maintenance --filesystem [--repair_history [verbose]]	113
maintenance --filesystem [--scan_restart [verify_data verify_rda_metadata verify_metadata]]	114
maintenance --filesystem --reclaim_space	114
maintenance --filesystem --stop_reclaim_space	115
maintenance --filesystem [--clear_quarantine]	115
maintenance --filesystem [--start_scan [verify_data verify_rda_metadata verify_metadata] [--storage_group <name>]]	115
maintenance --filesystem [--stop_scan]	116
maintenance --diags --collect	116
maintenance --diags --show	117
maintenance --diags --delete <name>	117
maintenance --diags --delete_all	117
About us	119
Technical support resources	119

Introduction to the Quest® QoreStor™ Command Line Reference Guide

This guide provides detailed information for managing Quest® QoreStor™ data backup operations by using the QoreStor command line interface (CLI).

About the QoreStor CLI documentation

This document provides information about using the QoreStor command line interface (CLI) for managing your data backups, performing a variety of data storage operations, and using containers to meet your backup storage needs.

NOTE: The QoreStor CLI provides one method for managing QoreStor, with the other being the QoreStor graphical user interface (GUI). In some instances, the QoreStor CLI might provide additional features and options that are not available in the QoreStor GUI and vice versa.

Other information you may need

The following table lists the documentation available for QoreStor. The documents listed in this table are available on the Quest support website by selecting your specific QoreStor version at:

<http://support.quest.com/QoreStor>

Table 1: QoreStor documentation

Document	Description
QoreStor Installation Guide	Provides information on installation and operation requirements, supported platforms as well as procedures for installing QoreStor.
QoreStor User Guide	Provides information on configuring and using QoreStor.
QoreStor Release Notes	Provides the latest information about new features and known issues with a specific product release.

Document	Description
QoreStor Command Line Reference Guide	Provides information about managing QoreStor data backup and replication operations using the QoreStor command line interface (CLI).
QoreStor Interoperability Guide	Provides information on supported infrastructure components.
QoreStor Virtual Machine Deployment Guide	Provides information on deploying the QoreStor virtual machine on VMware ESX or Microsoft Hyper-V.
Additional whitepapers	Instructions and best practices for configuring additional Quest and third-party applications to work with QoreStor.

NOTE: Check for the latest documentation updates and release notes at <http://support.quest.com/qorestor>. Read the release notes first because they contain the most recently documented information about known issues with a specific product release.

Information on compatible products

QoreStor offers direct integration with Quest Software's NetVault® Backup and vRanger®, as well as Veritas NetBackup and Backup Exec. For more information on those products refer to the documents below.

Table 2: Quest NetVault Backup documentation

Document	Description
NetVault Backup Installation Guide	Provides information about installing and upgrading the NetVault Backup server and client software.
NetVault Backup Administration Guide	Describes how to configure and use NetVault Backup to protect your data. This document also provides information on configuring QoreStor repositories and migrating NetVault SmartDisk data to the new QoreStor repository.
NetVault Backup Release Notes	Provides the latest information about new features and known issues with a specific product release.

NOTE: See the complete NetVault Backup documentation at <https://support.quest.com/netvault-backup>.

Table 3: Quest vRanger documentation

Document	Description
vRanger Installation/Upgrade Guide	This document provides information on supported platforms, system requirements, and instructions on installing and upgrading vRanger.
vRanger User Guide	This document provides information and procedures on configuring and using vRanger to protect virtual and physical environments.

Document	Description
vRanger Release Notes	This document details the issues resolved in this release, the known issues as of this release, and the third party components in vRanger.

NOTE: See the complete vRanger documentation at <https://support.quest.com/vranger>.

Table 4: Veritas documentation

Document	Description
Veritas NetBackup	For information on Veritas NetBackup, refer to the NetBackup product documentation .
Veritas Backup Exec	For information on Veritas Backup Exec, refer to the Backup Exec product documentation .

Introducing Quest® QoreStor™

Quest® QoreStor™ is a software-defined secondary storage platform based on Quest's proven DR Appliance's resilient deduplication and replication technologies. With QoreStor, you can break free of backup appliances and accelerate backup performance, reduce storage requirements and costs, and replicate safer and faster to the cloud for data archiving, disaster recovery and business continuity.

QoreStor supports all of the major backup software applications in use today and can lower your backup storage costs to as little as \$.16/GB while reducing your total cost of ownership. QoreStor achieves these results using patented Rapid technology as well as built-in, variable block-based deduplication and compression.

Lower costs and maximize the return on your IT investment by leveraging virtually any storage hardware, virtualization platform or cloud provider. QoreStor also supports many backup software solutions — so it's not just for Quest. Simple to deploy and easy to manage, QoreStor enables you to shrink replication time, improve data security and address compliance requirements.

QoreStor helps you to:

- Reduce on-premises and cloud storage costs with industry-leading deduplication and compression.
- Accelerate backup completion with protocol accelerators and dedupe.
- Shrink replication time by transmitting only changed data.
- Improve data security and comply with FIPS 140-2.
- Maximize return on investment for existing data protection technologies.
- Lower total cost of ownership through all-inclusive licensing.

QoreStor includes the following features:

- Hardware- and software-agnostic platform
- Next-generation storage dedupe engine
- Built-in protocol accelerators
- Support for a wide variety of data backup installations and environments.

Understanding the QoreStor CLI

The QoreStor command line interface (CLI) provides the most efficient method for managing the status, data capacity, storage savings, and throughput of data containers. While some QoreStor functions can be managed through the QoreStor GUI, the CLI provides full access to all QoreStor features and functions.

Accessing the QoreStor CLI commands

This guide assumes that your QoreStor system has been deployed in the proper network location and is accessible to your workstation.

Accessing the CLI commands

To access the command line interface for QoreStor:

1. Using the terminal emulation application of your choice, connect to your QoreStor server.
2. At the system prompt, enter the username for an account with sufficient privileges. By default this is the **qsadmin** account:
 - Type `qsadmin`
 - Press **<Enter>**
3. At the password prompt, enter the password for the **qsadmin** account (the default is **St0r@ge!**):
 - Type `St0r@ge!`
 - Press **<Enter>**
4. Enter the desired command at the prompt. To view the available QoreStor CLI commands, type **help**.

QoreStor CLI commands overview

The following command groups are available in the QoreStor CLI.

For more information on each command group, run the following command:

`<command name> --help show`

Table 5: QoreStor CLI Commands Overview

Command Group	Description
<code>alerts</code>	View system events and configure email notifications, contact information, and daily reports.
<code>authenticate</code>	Configure Active Directory (AD) authentication.

Command Group	Description
connection	Configure NFS CIFS OST RDS access to a container.
container	Configure a file system to share over NFS CIFS OST RDS
maintenance	Repair the data and state of the system.
ost	Configure OST for Veritas (formerly Symantec) backup applications.
rda	Configure Rapid Data Access (RDA) for the NetVault application.
replication	Manage replication between systems.
schedule	Manage replication and cleaner schedules in the system.
stats	View statistics for system components.
storage_group	Manage and view the storage groups on a QoreStor
system	Manage and view the system configuration.
user	Enable or disable service and root accounts on the node.

Managing QoreStor

This topic introduces the QoreStor CLI commands for configuring, managing, and viewing the current status of a QoreStor server. For example, the QoreStor CLI **alerts** and **system** commands both contain options that provide administrators with the capability to configure, manage, and display the status of the a QoreStor server.

The following list of commands provide the functionality for configuring, managing, and displaying QoreStor status:

- **Alerts**
- **Email_alerts**
- **OST** (OpenStorage Technology)
- **RDA** (Rapid Data Access)
- **Stats** (statistics)
- **Storage Group**
- **System**
- **User**

Alerts Commands

This topic introduces the set of QoreStor CLI commands that enable you to perform the following tasks:

- Display system alerts and events.

Alerts Command Usage

This topic introduces the **alerts** command usage:

- **alerts --show [options]**
- **alerts --help**

i | **NOTE:** If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

alerts --show

The **alerts --show** command can be used to display system events and alerts.

Usage

```
alerts --show [--events] [--index <[-]number>] [--count <number>] [--all]
              [--alerts] [--index <[-]number>] [--count <number>] [--all]
              [--summary]

--events      Display events.
--alerts      Display alerts.--index      Starting index to display / -num
recent events to skip.
--count       Count of alerts or events to display.
--all         Display all events / alerts.
--summary     Displays total number of alert messages.
```

For more detailed usage information, see:

- [authenticate --show \[--users\]](#)
- [authenticate --show \[--domain <domain name>\]](#)
- [authenticate --show \[--login_group\]](#)

alerts --show [--events] [--index <[-]number>] [--count <number>] [--all]

Description

Displays the current list of system events.

i | **NOTE:** The default is to display the 30 most recent events (this example is intentionally brief). The count and index options can also be used to filter the list of events (**alerts --show --events --count <number>**).

Syntax

```
alerts --show --events
```

Result

```
alerts --show --events
Index  Severity  Time                Event Message
188    INFO     2018-06-07 18:07:28  Successfully authenticated User admin.
187    INFO     2018-06-07 18:03:54  Optimization initialized on container "NVBU1".
186    INFO     2018-06-07 18:03:54  Container "NVBU1" is configured to access over
RDS by the following clients: * ('*' means access for everyone).
185    INFO     2018-06-07 18:03:54  Container "NVBU1" created successfully.
184    INFO     2018-06-07 18:02:34  Successfully authenticated User admin.
```

alerts --show [--alerts] [--index <[-] number>] [--count <number>] [--all]

Description

Displays the current list of QoreStor alerts.

i | **NOTE:** By default, all QoreStor alerts are displayed.

Syntax

```
alerts --show --alerts
```

Result

alerts --show [--summary]

Description

Displays a summary list of QoreStor alerts.

Syntax

```
alerts --show --summary
```

Result

```
Total alert messages:      5
Total event messages:     42
Last event index:         42
```

alerts --help

Description

Displays the listing of alerts and related options for using the QoreStor CLI.

Syntax

```
alerts --help
```

Result

Usage:

```
alerts --show [--events] [--index <[-]number>] [--count <number>] [--all]
           [--alerts] [--index <[-]number>] [--count <number>] [--all]
           [--summary]
```

```
alerts --help
```



```
alerts <command> <command-arguments>
<command> can be one of:
    --show          Displays system alerts and events.
```

For command-specific help, please type `alerts --help <command>`
For example:

```
alerts --help show
```

Authenticate Commands

This topic introduces the set of QoreStor CLI commands that let you configure QoreStor so it can authenticate with the Microsoft Windows Active Directory Services (ADS).

For information about specific authenticate commands, see [Authenticate Command Usage](#).

Authenticate Command Usage

This topic introduces the **authenticate** command usage:

- **authenticate --show [options]**
- **authenticate --join [options]**
- **authenticate --leave [options]**
- **authenticate --update --kerberos**
- **authenticate --guestmode [options]**
- **authenticate --server_signing --mode <auto|mandatory|disabled|show>**
- **authenticate --help**

i | **NOTE:** If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

authenticate --show

The **authenticate --show** command can be used to display the current ADS domain configuration, authorized local CIFS users, and CIFS server signing settings.

Usage

```
authenticate --show [--users]
                  [--domain <domain name>]
                  [--server_signing]

    --users          Lists all local CIFS users.
    --domain         Lists time and IP/hostname information for the DC.
    --server_signing Display current CIFS Server signing settings.
```

For more detailed usage information, see:

- `authenticate --show [--users]`
- `authenticate --show [--domain <domain name>]`
- `authenticate --show [--login_group]`

authenticate --show [--users]

Description

Displays the current status of the Microsoft Active Directory Service (ADS) domain, or if it is not joined, it can display the status of any authorized local CIFS user. For more information, see the `authenticate --show [--domain <domain name>]`.

i | **NOTE:** If this command is entered, but the QoreStor has not joined the ADS to any domain, the following message is displayed.

This system has not joined any domain.

Syntax

```
authenticate --show
```

Result

```
Domain: ads.storage.local
```

If you have joined the ADS to a designated domain and you want to see the authorized users, enter the `authenticate --show --users` command to display the current status:

```
authenticate --show --users
administrator2
administrator
```

authenticate --show [--domain <domain name>]

Description

Displays the current status of the Active Directory Services (ADS) domain to which the QoreStor is joined.

i | **NOTE:** If you have not joined the QoreStor to an ADS domain, use the QoreStor CLI `authenticate --join --domain` command. For more information, see `authenticate --join --domain <domain name> [--ou <org-unit name>] --user <user name>`.

Syntax

```
authenticate --show --domain acme-ad.acme.local
```

Result

```
Domain Name           : acme-ad.acme.local
Domain Controller Time : 2012-10-19 12:13:40 PDT
System Time           : 2012-10-19 12:13:40 PDT
Time Skew              : 0 secs
```

```
Domain Controller Name      : test-ad-2008r2.acme-ad.acme.local
Domain Controller Address   : 10.20.20.4
```

authenticate --show [--login_group]

Description

Displays the currently enabled and authenticated login group on a Microsoft Active Directory Services domain.

Syntax

```
authenticate --show --login_group
```

Result

```
Login group: acmeADS\Domain Admins
```

authenticate --join

The **authenticate --join** command can be used to join an ADS domain

Usage

```
authenticate --join --domain <domain name>
                  [--ou <org-unit name>]
                  --user <user name>
```

```
--domain  Name of ADS domain to join.
--ou      Name of the organizational unit to join.
--user    Name of ADS user with permissions to join the domain.
```

For more detailed usage information, see:

- [authenticate --join --domain <domain name> \[--ou <org-unit name>\] --user <user name>](#)

authenticate --join --domain <domain name> [--ou <org-unit name>] --user <user name>

Description

Joins the QoreStor to an Active Directory Services (ADS) domain when you specify the ADS domain name and a valid user (administrator) for that domain.

- i** **NOTE:** When attempting to join the ADS domain, the administrator password is required for that domain to ensure that the join operation is successful. Supported domain names are limited to 64 characters in length and can only consist of a combination of A-Z, a-z, 0-9, and two special characters: a dash (-) and a period (.).
- i** **NOTE:** If you had previously joined the QoreStor to an ADS domain before running Restore Manager (RM), after it completes you must manually rejoin the desired ADS domain using the `authenticate --join` command.

Syntax

```
authenticate --join --domain ads.storage.local --user administrator
```

Result

```
Enter password for administrator@ads.storage.local:
Successfully joined domain ads.storage.local
Disabling NTP service... done.
Updated Windows Access Server Configuration.
Updated Kerberos configuration.
Updated machine password.
Updated DNS.
Restarting Windows Access Server... done.
```

i **NOTE:** The `--ou` command is optional and allows for defining a specific organizational group in the ADS that requires its own administrative access rights (such as an executive management or finance group). In case of multiple organizational groups, use the following format:
"`<topLevelOU/middleLevelOU/LowerLevelOU/TargetOU>`"

authenticate --leave

The **authenticate --leave** command can be used to leave an ADS domain

Usage

```
authenticate --leave [--user <user name>]
                        [--force]
```

`--user` Name of ADS user with permissions to leave the domain.
`--force` Leave the domain without informing ADS.

For more detailed usage information, see:

- `authenticate --leave [--user <user name>] [--force]`

authenticate --leave [--user <user name>] [--force]

Description

Enables a QoreStor to leave a Microsoft Active Directory Services (ADS) domain when you provide a valid administrator password.

Syntax

```
authenticate --leave --user administrator
```

Result

```
Enter password for administrator@ads.storage.local:
Successfully left domain ads.storage.local.
Updated Windows Access Server configuration.
```

```
Updated Kerberos configuration
Restarting Windows Access Server... done.
Enabling NTP service... done.
```

i | **NOTE:** The `--force` command is optional and allows the QoreStor to leave the ADS domain when communication between the system and the ADS domain is lost and the `--leave` operation is pending or in progress.

authenticate --update

The **authenticate --update** command can be used to update a current ADS configuration

Usage

```
authenticate --update --kerberos

--kerberos    Updates kerberos configuration.
```

For more detailed usage information, see:

- [authenticate --update --kerberos](#)

authenticate --update --kerberos

Description

Updates a Microsoft Active Directory Service (ADS) Kerberos configuration (Kerberos is a computer network authentication protocol).

Syntax

```
authenticate --update --kerberos
```

Result

```
Updated kerberos configuration.
```

authenticate--guestmode

The **authenticate --guestmode** command configures all CIFS shares for guest-only access by enabling or disabling this capability.

Usage

```
authenticate --guestmode [--enable]
                        [--disable]

--enable    Enable only guest access CIFS shares.
--disable   Disable only guest access for CIFS shares.
```

For more detailed usage information, see:

- `authenticate --guestmode [--enable]`
- `authenticate --guestmode [--disable]`

authenticate --guestmode [--enable]

Description

Configures all CIFS shares for guest-only access.

Syntax

```
authenticate --guestmode --enable
```

Result

Restarting Windows Access Server... done.

i **NOTE:** If you attempt to enable guestmode for all CIFS shares when the QoreStor is already joined to an ADS domain by (using the QoreStor CLI `authenticate --guestmode --enable` command), the following error message displays: *This node is already joined to domain <domainname>. Please leave the domain before enabling the guest-only mode.*

authenticate --guestmode [--disable]

Description

Disables all CIFS shares as guest-only access.

Syntax

```
authenticate --guestmode --disable
```

Result

Restarting Windows Access Server... done.

i **NOTE:** If you attempt to enable guestmode for all CIFS shares when the QoreStor is already joined to an ADS domain (using the QoreStor CLI `authenticate --guestmode --enable` command), the following error message displays: *This node is already joined to domain <domainname>. Please leave the domain before enabling the guest-only mode.*

authenticate --server_signing

The **authenticate --server_signing** command configures the server signing for Common Internet File System (CIFS) on a QoreStor. This is a security provision based on Server Message Block (SMB) signing, a form of packet authentication. After CIFS-based users are authenticated, SMB signing adds a digital signature to each packet that is transferred between client and server. These digital signatures verify that the identity of the server matches the credentials expected by the client, and vice versa. By verifying that every packet that is received comes from an authenticated source, these digital signatures ensure the integrity of the communications.

Usage

```
authenticate --server_signing --mode <auto|mandatory|disabled>
```

For more detailed usage information, see:

- `authenticate --join --domain <domain name> [--ou <org-unit name>] --user <user name>`

authenticate --server_signing --mode <auto | mandatory | disabled>

Description

Configures the server signing for Common Internet File System (CIFS) on a QoreStor.

The QoreStor CLI `--server_signing --mode` command has the following arguments:

- **auto** — Configures authentication via server signing to be automatically performed.
- **mandatory** — Configures authentication via server signing as mandatory, or the connection will be dropped.
- **disabled** — Disables authentication via server signing so that no connections are accepted.

Syntax

```
authenticate --server_signing --mode auto
```

Result

Successfully added server signing to auto.

authenticate --help

Description

Displays the list of all authenticate-related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
authenticate --help
```

Result

Usage:

```
authenticate --show [--users]
                  [--domain <domain name>]
                  [--login_group]
```

```
authenticate --join --domain <domain name>
                  [--ou <org-unit name>]
                  --user <user name>
```

```

authenticate --leave [--user <user name>]
                        [--force]

authenticate --update --kerberos

authenticate --guestmode [--enable]
                        [--disable]

authenticate --server_signing --mode <auto|mandatory|disabled|show>

authenticate --help

authenticate <command> <command-arguments>
<command> can be one of:
--show                Displays current ADS domain, authorized local CIFS users, and login
group.
--join                Joins an ADS domain.
--leave               Leaves an ADS domain.
--update              Updates ADS configuration.
--guestmode           Configures all CIFS shares for guest only access.
--server_signing      Configures server signing for CIFS.

For command-specific help, please type authenticate --help <command>
For example:
    authenticate --help show

```

Email_alerts Commands

This topic introduces the set of QoreStor CLI commands that enable you to perform the following tasks:

- Configure the Alert email service.
- Enable and/or disable email alerts notification.
- Test your email configuration.

Email_alerts command usage

This topic introduces the **alerts** command usage:

- **email_alerts --clear-config**
- **email_alerts --enable**
- **email_alerts --disable**
- **email_alerts --status**
- **email_alerts --configure**
- **email_alerts --test-email**
- **email_alerts --help**

email_alerts --clear-config

Removes the stored alert email configuration.

Syntax

```
email_alerts --clear-config
```

Result

The current configuration will be cleared.

email_alerts --enable

Enables the QoreStor Alert email service.

i | **NOTE:** The Alert email service must be configured before it can be enabled. Refer to [email_alerts --configure](#) for more information.

Syntax

```
email_alerts --enable
```

Result

Service enabled successfully.

email_alerts --disable

Disables the QoreStor Alert email service.

Syntax

```
email_alerts --disable
```

Result

Service disabled successfully.

email_alerts --status

Returns the status of the email_alerts service.

Syntax

```
email_alerts --status
```

Result

Service is not running.

email_alerts --configure

Provides interactive prompts to configure email relay, sender name and email address, recipients, CC recipients, and BCC recipients.

Syntax

```
email_alerts --configure
```

Result

```
qsadmin@esc-vm-qsspl > email_alerts --configure
Please enter the SMTP Relay FQDN or IP address:
Please enter the sender's email address:
Please enter the sender's name: QS Admin
Please enter the list of recipient email addresses:
Please enter the list of email addresses to be CC'ed:
Please enter the list of email addresses to be BCC'ed:
```

email_alerts --test-email

Sends a test email to validate your configuration.

Syntax

```
email_alerts --test-email
```

Result

```
Success: Test email sent.
```

email_alerts --help

Description

Displays the listing of **email_alerts** options for using the QoreStor CLI.

Syntax

```
email_alerts --help
```

Result

```
Usage:
    email_alerts --clear-config | --enable | --disable | --status | --configure |
    --test-email | --help
```

```
email_alerts <command>
```

<command> can be one of:

--clear-config	removes the stored alert email configuration
--enable	enables the QoreStor Alert Email service

<code>--disable</code>	disables the QoreStor Alert Email service
<code>--status</code>	checks that QoreStor Alert Email service is running
<code>--configure</code>	interactive prompts to configure email relay, sender name and email address, recipients, CC recipients, and BCC recipients
<code>--test-email</code>	send a test email

For command-specific help, please type `email_alerts --help <command>`

For example:

```
email_alerts --help show
```

OST

This topic introduces the set of OpenStorage Technology-related QoreStor CLI commands that enable you to perform the following tasks:

- Display command-specific information
- Delete the OST client
- Update the attributes of the OST client
- Limit the bandwidth consumed by OST
- List or clean up partial images

OST Command Usage

This topic introduces the **ost** command usage:

- **ost --show [options]**
- **ost --update --opdup_encryption [options]**
- **ost --delete_client [options]**
- **ost --update_client [options]**
- **ost --limit --speed --target [options]**
- **ost --partial_images --containerid [options] --delete [Partial image path] --timeout <number of seconds>**
- **ost --help**

i | **NOTE:** If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

ost --show [--config] [--file_history] [--name <name>] [--active_files] [--name <name>] [--clients]

Description

Displays the current OpenStorage Technology (OST) configuration information for QoreStor. Parameters are described as follows:

- **config** — Displays OST configuration.
- **file_history** — Display(s) history of last 10 OST optimized duplication image file(s).
- **name** — OST container name.
- **active_files** — Display(s) current OST image files being replicated.
- **name** — OST container name.
- **clients** — Displays OST clients.

Syntax

```
ost --show
```

Result

```
OST Login Entry User      : backup_user
OST OPDUP Encryption     : Not Enabled
```

i | **NOTE:** To display other types of OST configuration information, substitute the `--file_history`, `--name <name>`, or `--clients` options in the QoreStor CLI command.

Other Examples

Display the last 10 replicated files that were processed via the DMA optimized duplication process for an OST container (in this example, the container is “ost.”) by running the following:

```
ost --show --file_history --name ost
```

Data replication history:

File	Throughput	Peer	IP	Replicated At:	Peer	ID	Savings	Bytes	Encryption
/1481068800/w1	1075139KiB/s	10.250.240.232	10	2016-12-07 07:58:19	None	100.00%	107374182400	Bytes	

Display the OST clients, by running the command: **ost --show --clients**

OST Client(s)	IP Address	Type	Plugin	OS	Backup
Software	Last Access	Connection(s)	Mode		
sekhar-w12-h58	10.250.213.14	OST	4.0.273.0	Windows Server 2012 64-bit	
NetBackup 7.702.16	--	0		Dedupe	

i | **NOTE:** The displayed output when using the QoreStor CLI **ost --show --clients** command could indicate a fourth type of mode value. Depending upon the client, this value would normally display **Auto**, **Dedupe**, **Passthrough**, or **Default**. However, you could potentially display a mode value of **Mixed**, which indicates that you had changed the mode using the QoreStor CLI while the client is still connected.

i | **NOTE:** Be aware that the mode for clients that were connected to the OST media server before configuration changes might be different that what is shown in the displayed output when using the QoreStor CLI **ost --show --clients** command. The configuration changes will be updated and reflect any future connections.

To verify the current state of an OST client, you can check these two sources:

- QoreStor CLI, using the `ost --show --clients` command
- QoreStor GUI, displaying the System Configuration page

These sources display information about the connected and configured clients. For example, when a system is connected to multiple times, these sources show the number of connections to that client and the mode. You can also change the mode from dedupe to the other supported modes. When this is done the displayed mode will change, but any active connections will remain. There are essentially two possible modes: **Dedupe** and **Passthrough**. To verify the current mode of an OST client, you can check these two sources of client statistics:

- QoreStor CLI, using the `stats --container --name` command
- QoreStor GUI, displaying the **System Configuration** page

In the **Storage Groups** page, click **Container Details** under the corresponding storage group to display the **Client Statistics** table. If the Network Savings level in this table displays some savings and the displayed Bytes Ingested value is different from the displayed Bytes Transferred, this indicates that the OST clients are working in the **Dedupe** mode. If not, this indicates that the OST containers are working in the **Passthrough** mode.

`ost --update --opdup_encryption <none | aes128 | aes256>`

Description

Sets the type of encryption that will be used by OST initiated opdup replication.

Syntax

```
ost --update --opdup_encryption aes128
```

Result

```
OST OPDUP encryption updated to  aes128
```

`ost --delete_client --name <OST Client Hostname>`

Description

This command deletes the OST client and any edits that have been made to its default values. The next time a connection is established between the client and the QoreStor server, the default OST connection settings will be used. Deleting an OST client using this CLI command does not affect data already written to QoreStor.

Syntax

```
ost --delete_client --name acme-99
```

Result

```
Successfully deleted OST client acme-99.
```

ost --update_client --name <OST Client Hostname> --mode <auto | passthrough | dedupe>

Description

Updates the attributes of an OST client (OST client name and mode). The OST client modes are **auto**, **passthrough**, and **dedupe**. However, the OST client operating mode depends upon how it is configured in QoreStor.

- **Auto** — Auto mode in QoreStor functions the same as Dedupe mode.
- **Passthrough** — The OST client passes all data to QoreStor for dedupe processing. This is also known as “server-side dedupe”.
- **Dedupe** — The OST client processes hashing on the data. This is also known as “source-side dedupe” and is the default mode. Source-side depuplication is resource intensive. On machines with less than four cores, or on 32-bit machines, performance may be reduced.

Syntax

```
ost --update_client --name acme-81 --mode dedupe
```

i **NOTE:** You may be able to force writes for OST clients running in the **Passthrough** mode using the QoreStor CLI mode **--dedupe** command. The change in OST client mode is effective on the next backup operation when you are using Veritas NetBackup. (If you are using Veritas Backup Exec, you will need to restart this service for it to recognize that a new mode has been configured.)

Result

```
OST client updated successfully.
```

ost --limit --speed <<num><KBps|MBps|GBps|default> --target <ip address|hostname>

Description

Limits the bandwidth consumed by OST (OpenStorage Technology) for a system you define by IP address or hostname (**--target**), by which you define the speed in kilobytes/second (KBps), megabytes/second (MBps), gigabytes/second (GBps), or an unlimited bandwidth (default).

Syntax

```
ost --limit --speed 10mbps --target acmesys-49
```

Result

```
Successfully updated OST bandwidth limit for acmesys-49 to 10 MBps.  
Changing traffic control policies ... done.
```

ost --partial_images --containerid <Container id> [--delete <Partial image path>] [--timeout <> 0>]

Description

Lists or cleans up partial images.

- **Container id** — ID of container.
- **Partial image path** — OST partial image path to delete.
- **Timeout** — Maximum timeout (in seconds) to list partial images.

Syntax

```
ost --partial_images --containerid 6
```

Results

```
Image Name: K12
Image Date: 1481535029
Image Policy: DPA
Image Path: /1481500800/K12
Image Size: 251821817856
Image Status: 0
```

ost --help

Description

Displays the list of OpenStorage Technology (OST) ost-related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
ost --help
```

Result

Usage:

```
ost --show [--config]
           [--file_history] [--name <name>]
           [--active_files] [--name <name>]
           [--clients]

ost --update --opdup_encryption <none | aes128 | aes256>

ost --delete_client --name <OST Client Hostname>

ost --update_client --name <OST Client Hostname>
      --mode <auto|passthrough|dedupe>

ost --limit --speed <<num>>KBps|MBps|GBps> | default>
```

```

--target <ip address | hostname>

ost --partial_images --containerid <Container id>
    [--delete <Partial image path>]
    [--timeout <> 0>]

ost --help

ost <command> <command-arguments>
<command> can be one of:
    --show                Displays command specific information.
    --update              Updates the OST settings.
    --delete_client       Deletes the OST client.
    --update_client       Updates attributes of the OST client.
    --limit               Delete existing bandwidth rules for all ports and set new thr
limits for OST replication over WAN.
    --partial_images      List or cleanup partial images.

```

RDA

The set of **RDA** commands have the following functions:

- Displays command specific information.
- Deletes the Rapid Data Access (RDA) client.
- Updates attributes of a Rapid Data Access (RDA) client.
- Limits bandwidth consumed by Rapid Data Access (RDA) when replicating over a WAN link.
- Lists or cleans up partial images.

RDA Command Usage

The following commands are run for **RDA**:

- **rda --show**
- **rda --update**
- **rda --delete_client**
- **rda --update_client**
- **rda --limit**
- **rda --partial_images**

rda --show [--config] [--file_history] [--name <name>] [--active_files] [--name <name>] [--clients] [--limits]

Description

The command displays the RDA-specific configurations.

Syntax

```
rda --show      [--config]
                [--file_history] [--name <name>]
                [--active_files] [--name <name>]
                [--clients]
```

```
--config          Displays RDA configuration.
--file_history    Display(s) history of last 10 RDA optimized
deduplication image files.

--name            RDA container name.
--active_files    Display(s) current active RDA image files being
replicated
replicated.

--name            RDA container name.
--clients         Displays RDA clients.
```

For example, to show the RDA clients, run the command: `rda --show --clients`

Results

RDA Client (s)	IP Addr	T	Plugin	OS	Backup Software	Last Access	Connection(s)	Mode
qorestor_1	10.230.36.58	RDS	4.1.0.224	Windows Server 2012 64-bit	NetVault	Jun 7 10:50:32	2	Default

- NOTE:** The displayed output when using the `rda --show --clients` command indicates a fourth type of mode value. Depending upon the client, this value equals Auto, Dedupe, Passthrough, or Mixed. Mixed indicates that you changed the mode while the client is still connected.
- NOTE:** The mode for clients that are connected to the RDA media server before configuration changes might be different than what is displayed when using the `rda --show --clients` command. The configuration changes are updated to reflect any future connections.

To verify the current state of an RDA client, you can check the two sources:

- QoreStor CLI, using the `rda --show --clients` command
- QoreStor GUI, displaying the Clients page

These sources display information about the connected and configured clients. When a system is connected multiple times, these sources show the number of connections to that client and the mode. You can also change the mode from **dedupe** to the other supported modes. When this is done the displayed mode changes, but any active connections remains. There are essentially two possible modes: **Dedupe** and **Passthrough**. To verify the current mode of an RDA client, you can check the two sources of client statistics:

- QoreStor CLI, using the `stats --container --name` command
- QoreStor GUI, displaying the Container Statistics page

In the Container Statistics page, click the Client Statistics tab (under Connection Type: RDS) to display the Client Statistics table. If the Network Savings level in this table displays some savings and the displayed Bytes Ingested value is different from the displayed Bytes Transferred, it indicates that the RDA clients are working in the **Dedupe** mode. If not, it indicates that the RDA containers are working in the **Passthrough** mode.

rda --update --opdup_encryption <none | aes128 | aes256>

Description

Sets the type of encryption that will be used by RDA initiated opdup replication.

Syntax

```
rda --update --opdup_encryption aes128
```

Result

```
RDS OPDUP encryption updated to aes128
```

rda --delete_client --name <RDA Client Hostname>

Description

The command deletes the Rapid Data Access (RDA) client and any edits that were made to its default values. The next time a connection is established between the client and the QoreStor, the default RDA connection settings will be used. Deleting an RDA client using this CLI command does not affect data already written to the QoreStor.

Syntax

```
rda --delete_client --name <RDA Client Hostname>

--name      Host name
```

For example, to delete the client TEST-W2K8-02, run the command:

```
rda --delete_client --name TEST-W2K8-02
```

Result

Rapid Data Access (RDA) client TEST-W2K8-02 deleted successfully.

rda --update_client --name <RDA Client Hostname> --mode <auto| passthrough| dedupe>

Description

The command updates the attributes of a Rapid Data Access (RDA) client. The RDA client modes are **auto**, **passthrough**, and **dedupe**. If a RDA client has four or more CPU cores, it is considered to be dedupe-capable. However, the RDA client operating mode depends upon how it is configured in the QoreStor. For details, see [ost --update_client --name <OST Client Hostname> --mode <auto|passthrough|dedupe>](#).

Syntax

```
rda --update_client --name <RDA Client Hostname> --mode <auto|passthrough|dedupe>
```

```
--name      Hostname of client
--mode      RDA modes (auto, dedupe, passthrough)
```

For example, to update the client mode as passthrough for the **BabuK-W2K8-02** client, run the command: `rda --update_client --name BabuK-W2K8-02 --mode passthrough`

Result

Rapid Data Access (RDA) client BabuK-W2K8-02 with mode Pass-through added successfully.

/p>

rda --limit --speed <<num><KBps| MBps|GBps>|default> --target <ip address|hostname>

Description

The command limits the bandwidth consumed by RDA when replicating over a WAN link.

Syntax

```
rda --limit --speed 4 GBps --target testbackup
```

Result

Successfully updated bandwidth limit for testbackup to 4 GBps.

rda --partial_images --containerid <Container id> [--delete <Partial image path>] [--timeout <> 0>]

Description

Lists or cleans up partial images.

- **Container id** — ID of container.
- **Partial image path** — RDA partial image path to delete.
- **Timeout** — Maximum timeout (in seconds) to list partial images.

Syntax

```
rda --partial_images --containerid container1
```

Results

```
Image Name: rda_SOAK-MAX_DR4300-20_100M_soakw78_20160916053405-seed273481828
Image Date: 00
Image Policy: RDA
Image Path: /0000000000/rda_SOAK-MAX_DR4300-20_100M_soakw78_20160916053405-
seed273481828
Image Size: 104857600
Image Status: 0
```

rda --help

Description

Displays the list of RDA-related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
rda --help
```

Result

```
rda --show [--config]
           [--file_history] [--name <name>]
           [--active_files] [--name <name>]
           [--clients]
           [--limits]

rda --delete_client --name <RDA Client Hostname>

rda --update_client --name <RDA Client Hostname> --mode <auto|passthrough|dedupe>

rda --limit --speed <<num><KBps|MBps|GBps> | default> --target <ip address |
hostname>

rda --partial_images --containerid <Container id> [--delete <Partial image path>] [--
```

```
timeout <> 0>]
```

```
rda --help
```

```
rda <command> <command-arguments>
```

<command> can be one of:

--show	Displays command specific information.
--delete_client	Deletes the Rapid Data Access (RDA) client.
--update_client	Updates attributes of a Rapid Data Access (RDA) client.
--limit	Delete existing bandwidth rules for all ports and set new thr
limits for RDA replication over WAN.	
--partial_images	Lists or cleans up partial images.

For command-specific help, please type `rda --help <command>`

eg:

```
rda --help show
```

Sc_manager command

The **sc_manager** command have the following functions:

- Displays the current status of Secure Connect.
- Enables Secure Connect
- Disables Secure Connect

Sc_manager Command Usage

The following commands are run for **sc_manager**:

- **sc_manager --status**
- **sc_manager --disable**
- **sc_manager --enable**

sc_manager status --property <path_to_sc_client.property_file>

i | **NOTE:** The **sc_manager** command must be run using the **root** account.

Description

Displays the Secure Connect status for the machine on which the command is run.

Syntax

If run from the directory containing the `sc_client.property` file:

```
sc_manager status
```

If run from a different directory:

```
/opt/qorestor/bin/sc_manager status --property <path_to_sc_client.property_file>
```

Result

```
SecureConnect.enabled = true
```

sc_manager disable --property <path_to_sc_client.property_file>

i | **NOTE:** The **sc_manager** command must be run using the **root** account.

Description

Disables Secure Connect for the machine on which the command is run.

Syntax

If run from the directory containing the `sc_client.property` file:

```
sc_manager disable
```

If run from a different directory:

```
/opt/qorestor/bin/sc_manager disable--property <path_to_sc_client.property_file>
```

Result

```
SecureConnect.enabled = false
```

sc_manager enable --property <path_to_sc_client.property_file>

Description

Enables Secure Connect for the machine on which the command is run.

Syntax

If run from the directory containing the `sc_client.property` file:

```
sc_manager enable
```

If run from a different directory:

```
/opt/qorestor/bin/sc_manager enable--property <path_to_sc_client.property_file>
```

Result

```
SecureConnect.enabled = true
```

Stats

This set of QoreStor CLI commands let you display the current statistics for a QoreStor in the following categories:

- All containers (cumulative): **--system**
- CPU: **--cpu**
- Memory: **--memory**
- Online data verification: **--datacheck**
- NFS: **--nfs**
- CIFS: **--cifs**
- OST media server: **--ost**
- RDS media server **--rds**
- NDMP: **--ndmp**
- Completed NDMP sessions: **--ndmp_completed**
- iSCSI: **--iscsi [--verbose]**
- Fibre channel: **--fc [--iostat] [--linkstat]**
- A specific container: **--container --name**
- Storage group: **--storage_group --name <name>**
- Replication: **--replication**
- Cleaner: **--cleaner**
- Clients: **--clients [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC>]**
- Seeding: **--seed**
- Help: **--help**

In addition, this QoreStor CLI command also allows you to reset the following statistic types:

- RDS **--reset --rds**
- Data Check: **--reset --datacheck**

Stats Command Usage

This topic introduces the **stats** command usage:

- **stats --system**
- **stats --cpu**
- **stats --memory**
- **stats --nfs**

- **stats --cifs**
- **stats --ost**
- **stats --rds**
- **stats --container --name**
- **stats --storage_group --name**
- **stats --replication [options]**
- **stats --cleaner**
- **stats --clients [options]**
- **stats --reset [options]**
- **stats --help**

i | **NOTE:** If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

stats --system

Description

Displays the current cumulative system statistics for all of the configured containers on a QoreStor.

Syntax

```
stats --system
```

Result

```
stats --system
Capacity Used           : 0.0 GiB
Capacity Used in GB     : 0.000
Capacity Free           : 949.0 GiB
Capacity Free in GB     : 1018.945
Metadata Used           : 64.0 GiB
Metadata Used in GB     : 68.724
Total Capacity          : 5118.0 GiB
Total Capacity in GB    : 5495.419
Licensed Capacity       : 0.0 GiB
Licensed Capacity in GB : 0.000
Read Throughput         : 0.00 MiB/s
Write Throughput        : 0.00 MiB/s
Current Files           : 0
Current Bytes           : 0
Post Dedupe Bytes       : 0
Post Compression Bytes  : 0
Post Encryption Bytes   : 0
Post Encryption Bytes in GiB : 0.0 GiB
Cleaner Status          : Done
Compression Status      : Done
```



```
Total Inodes           : 0
Bytes decrypted        : 0
Dedupe Savings         : 0.00 %
Compression Savings    : 0.00 %
Total Savings          : 0.00 %
```

stats --cpu

Description

Displays the current cumulative CPU statistics for a QoreStor.

Syntax

```
stats --cpu
```

Result

```
13:00:00 up 9 days, 19:24,  2 users,  load average: 1.12, 1.20, 1.18
Cpu(s):  1.4%us,  2.3%sy,  4.0%ni, 99.3%id,  0.0%wa, 0.0%hi,  0.0%si,  0.0%st
```

stats --memory

Description

Displays the current memory statistics in kilobytes (kB) for a QoreStor.

Syntax

```
stats --memory
```

Result

```
MemTotal           : 32425580 kB
MemFree            : 12015828 kB
Buffers            : 46186022 kB
Cached             : 17788860 kB
SwapCached         : 0 kB
Active             : 18802964 kB
Inactive           : 1054936 kB
HighTotal          : 0 kB
HighFree           : 0 kB
LowTotal           : 32425580 kB
LowFree            : 12015828 kB
SwapTotal          : 25165812 kB
SwapFree           : 25165812 kB
Dirty              : 860 kB
Writeback          : 0 kB
AnonPages          : 17617000 kB
Mapped             : 585304 kB
```

```

Slab : 270200 kB
PageTables : 46228 kB
NFS_Unstable : 0 kB
Bounce : 0 kB
CommitLimit : 55970112 kB
Committed_AS : 20335148 kB
VmallocTotal : 34359738367 kB
VmallocUsed : 393184 kB
VmallocChunk : 34359343591 kB
HugePages_Total : 0
HugePages_Free : 0
HugePages_Rsvd : 0
Hugepagesize : 2048 kB

```

stats --datacheck

Description

Displays the current set of datacheck statistics on a QoreStor.

The Progress field in the statistics can indicate one of three values:

- **Waiting:** Data Check is in this state because another operation is now running.
- **Running:** Data Check is in this state when running the scans.
- **Idle:** Data Check is in this state waiting for the next opportunity to run the Data Check scans.

The following example shows the status of active QoreStor operations in response to the stats --datacheck command on a QoreStor when Data Check is enabled.

Syntax

```
stats --datacheck
```

Result

```

Data Check : Enabled - namespace,blockmap,throttle:75%
Progress : Idle
Active Writes : No
Active System Operations : No
Total Detected Errors : 0
Last Complete Namespace Scan : 2012-02-02 17:48:18
Last Complete Blockmap Scan : 2012-02-02 16:33:08
Namespace Scans Completed : 183
Namespace Scan Entries : 6
Namespace Scan Errors : 0
Namespace Scan Start Time : 2012-02-02 17:43:08
Namespace Scan Progress : 100.00%
Blockmap Scans Completed : 8
Blockmap Scan Entries : 3
Blockmap Scan Errors : 0
Blockmap Scan Start Time : 2012-02-02 16:33:06
Blockmap Scan Progress : 100.00%

```

Other Examples

This example shows the output from the `stats --datacheck` command used on a QoreStor when Data Check is disabled.

```
stats --datacheck
```

```
Online Data Verification      : Disabled
Progress                     : Disabled
Active Writes                 : No
Active System Operations     : No
Total Detected Errors        : 0
Last Complete Namespace Scan : 2012-01-24 15:50:10
Last Complete Blockmap Scan  : 2012-01-24 15:55:59
```

stats --nfs

Description

Displays the current NFS statistics for a QoreStor.

Syntax

```
stats --nfs
```

Result

NFS Per Op Statistics

Procedure	Calls	Avg (us)	Max (us)	Errors
NULL	94	277	4172	0
GETATTR	52552	19946	19905631	0
SETATTR	1031	629602	166232015	0
LOOKUP	2227	18897	1918992	1673
ACCESS	26221	543	416780	0
READLINK	0	0	0	0
READ	5302595	240217	856398852	1
WRITE	12872	188647	6853027	0
CREATE	1031	917970	23587115	0
MKDIR	0	0	0	0
SYMLINK	0	0	0	0
MKNOD	0	0	0	0
REMOVE	44996	155136	6458023	0
RMDIR	0	0	0	0
RENAME	0	0	0	0
LINK	0	0	0	0
READDIR	0	0	0	0
READDIRPLUS	85566	30674	28308673	0
FSSTAT	30	321247	1133437	0
FSINFO	104	55279	2402344	0
PATHCONF	52	30217	1466732	0

COMMIT	1031	102190	5506293	0
XWRITE	676364	0	0	0

stats --cifs

Description

Displays the current CIFS statistics for a QoreStor.

Syntax

```
stats --cifs
```

Result

CIFS Per Op Statistics

Procedure	Calls	Avg (us)	Max (us)	Errors
CONNECT	240	536311	1545946	0
DISCONNECT	214	1979	13127	0
CREATE	271	147101	1170580	0
OPEN	0	0	0	0
CLOSE	0	0	0	0
PREAD	1223941	6167	856679104	0
IOV_PREAD	0	0	0	0
PWRITE	4629174	26376	529148935	0
IOV_PWRITE	0	0	0	0
FTRUNCATE	0	0	0	0
LSTAT	0	0	0	0
FCNTL	0	0	0	0
CANCEL	0	0	0	0
FSTAT	548246	325	7495992	0
FSTAT_BY_PATH	0	0	0	0
REaddir	5064	106833	13550728	0
OPENDIR	2478	160	3671	0
OPENDIR_BY_PATH	0	0	0	0
CLOSEDIR	2477	22	1434	0
MKDIR	0	0	0	0
MKDIR_BY_PATH	0	0	0	0
REMOVE	0	0	0	0
REMOVE_BY_PATH	18026	90875	4900538	0
RENAME	0	0	0	0
RENAME_BY_PATH	0	0	0	0
RMDIR	0	0	0	0
RMDIR_BY_PATH	0	0	0	0
FCHMOD	0	0	0	0
FCHMOD_BY_PATH	0	0	0	0
FCHOWN	0	0	0	0
FCHOWN_BY_PATH	0	0	0	0
FSYNC	226	16257	561552	0
STATVFS	0	0	0	0

STATVFS_BY_PATH	0	0	0	0
UTIME	0	0	0	0
UTIME_BY_PATH	0	0	0	0
MKFIFO	0	0	0	0
MKNOD	0	0	0	0
READLINK	0	0	0	0
READLINK_BY_PATH	0	0	0	0
LINK	0	0	0	0
LINK_BY_PATH	0	0	0	0
SYMLINK	0	0	0	0
SYMLINK_BY_PATH	0	0	0	0
FLOCK	0	0	0	0
SETXATTR	271	87332	565006	0
SETXATTR_BY_PATH	512	95902	896865	0
GETXATTR	922	21916	687777	0
GETXATTR_BY_PATH	354219	18363	3902905	0
LISTXATTR	676	25103	551572	0
LISTXATTR_BY_PATH	261591	9222	4276854	0
REMOVEXATTR	0	0	0	0
REMOVEXATTR_BY_PATH	0	0	0	0
FD_FROM_PATH	610645	1609	856224591	0
GET_REAL_FILENAME	1358	17105	860143	0
XWRITE	0	0	0	0

CIFS I/O Statistics

Procedure	Avg(bytes)	Max(bytes)	Min(bytes)

READ	52429	61440	61440
WRITE	65536	65536	65536
XWRITE	0	0	0

stats --ost

Description

Displays the current OpenStorage Technology (OST) statistics categories for a QoreStor.

Syntax

```
stats --ost
```

Result

OST Server Statistics

Procedure	Calls	Avg(us)	Max(us)	Errors

GET_AUTH	2	0	0	0
OPEN_SERVER	2	0	0	0
CLOSE_SERVER	1	0	0	0
CREATE_FILE	0	0	0	0

OPEN_FILE	9871	0	28	0
CLOSE_FILE	9871	0	27	0
UNLINK_FILE	0	0	0	0
WRITE_FILE	6	0	0	0
READ_FILE	19676	0	0	0
REPLICATE_FILE	0	0	0	0
LIST_LSU	2	0	0	0
OPENDIR	0	0	0	0
CLOSEDIR	0	0	0	0
READDIR	0	0	0	0
SET_LSU_INFO	0	0	0	0
GET_LSU_INFO	3279	0	22	0
REPL_SVR_SETUP	0	0	0	0
GET_IMAGE_INFO	0	0	0	0
MKDIR	0	0	0	0
RMDIR	0	0	0	0
RENAME	0	0	0	0
ACCESS	9906	0	0	0
TRUNCATE	0	0	0	0
GETSCID	9871	0	0	0
READDIR_PLUS	0	0	0	0

stats --rds

Description

Displays statistics for RDS server.

Syntax

```
stats --rds
```

Result

RDS Server Statistics				
Procedure	Calls	Avg (us)	Max (us)	Errors

GET_AUTH	2	0	0	0
OPEN_SERVER	2	0	0	0
CLOSE_SERVER	1	0	0	0
CREATE_FILE	0	0	0	0
OPEN_FILE	9901	0	28	0
CLOSE_FILE	9901	0	27	0
UNLINK_FILE	0	0	0	0
WRITE_FILE	6	0	0	0
READ_FILE	19736	0	0	0
REPLICATE_FILE	0	0	0	0
LIST_LSU	2	0	0	0
OPENDIR	0	0	0	0
CLOSEDIR	0	0	0	0
READDIR	0	0	0	0

SET_LSU_INFO	0	0	0	0
GET_LSU_INFO	3289	0	22	0
REPL_SVR_SETUP	0	0	0	0
GET_IMAGE_INFO	0	0	0	0
MKDIR	0	0	0	0
RMDIR	0	0	0	0
RENAME	0	0	0	0
ACCESS	9936	0	0	0
TRUNCATE	0	0	0	0
GETSCID	9901	0	0	0
REaddir_PLUS	0	0	0	0

stats --ndmp

Description

Displays statistics for current NDMP sessions for a QoreStor.

Syntax

```
stats --ndmp
```

Result

Bytes Written	Bytes Read
3632267264	0

stats --ndmp_completed

Description

Displays statistics for completed NDMP sessions for a QoreStor.

Syntax

```
stats --ndmp_completed
```

Result

Bytes Written	Bytes Read
1247953038336	2253404205

stats --iscsi [--verbose]

Description

This command displays statistics for iSCSI sessions on the current QoreStor system. The **--verbose** option provides detailed session information for the cartridges in the VTL.

Syntax

```
stats --iscsi --verbose
```

Result

```
# stats - iscsi
```

Bytes Written	Bytes Read
1247953038336	2253404205

```
# stats -iscsi -verbose
```

```
Container: vtl-1
```

TGT	LUN	Model	SID	Read [bytes	cmds]	Write[bytes	cmds]	Errs
1	1	L700		3	34367	435		0
0	1							
1	2	ULT3580-TD4	3	125487488328	638396		176	12 177
1	3	ULT3580-TD4	3		72052	101		44 3
166								
1	4	ULT3580-TD4	3		72032	100		44 3
165								
1	5	ULT3580-TD4	3		72032	100		44 3
165								
1	6	ULT3580-TD4	3		6176	90		0
0	158							
1	7	ULT3580-TD4	3		72032	100		44 3
165								
1	8	ULT3580-TD4	3		72032	100		44 3
165								
1	9	ULT3580-TD4	3		468220	212	601296470516	3058393 158
1	10	ULT3580-TD4	3	601299559400	3058553		352	24 171
1	11	ULT3580-TD4	3		72032	100		44 3
165								

stats --fc [--iostat] [--linkstat]

Description

This command displays statistics for Fibre Channel (FC) sessions on the current QoreStor system. You can specify the following parameters with this command:

- **iostat** — returns input/output statistics, such as bytes read
- **linkstats** — provides statistics like frames received/sent, loss of sync, loss of signal, and link failures.

Syntax

```
stats --fc
```

Result

```
Target port: 50:00:65:b6:33:63:14:88
```

```
Link Failure: 1
Loss Of Sync: 0
Loss Of Signal: 0
Primitive Sequence Protocol Error: 0
```


Invalid Transmission Word: 0
Invalid CRC: 0
NOS Received: 1
Rx Frames: 295069
Tx Frames: 590099

Bytes Written	Bytes Read
0	51678208

Initiator: 10:00:00:90:fa:a0:ae:0a	
Bytes Written	Bytes Read
0	24576

Initiator: 50:0a:09:80:00:88:a7:71	
Bytes Written	Bytes Read
0	1900544

Initiator: 50:0a:09:80:06:8d:9a:40	
Bytes Written	Bytes Read
0	1900544

Initiator: c0:03:ff:bd:1d:69:00:48	
Bytes Written	Bytes Read
0	47851520

Target port: 50:00:65:b6:33:63:14:89

Link Failure: 3
Loss Of Sync: 0
Loss Of Signal: 0
Primitive Sequence Protocol Error: 0
Invalid Transmission Word: 63
Invalid CRC: 0
NOS Received: 2
Rx Frames: 555628
Tx Frames: 1111214

Bytes Written	Bytes Read
0	96420864

Initiator: 10:00:00:90:fa:cf:49:5e	
Bytes Written	Bytes Read
0	0

Initiator: c0:03:ff:bd:1d:69:00:54	
Bytes Written	Bytes Read
0	734208

Initiator: c0:03:ff:bd:1d:69:00:58

Bytes Written	Bytes Read
0	94950400

Initiator: c0:03:ff:bd:1d:69:00:60

Bytes Written	Bytes Read
0	734208

stats --fc --iostat

Target port: 50:00:65:b8:14:26:78:78

Bytes Written	Bytes Read
138577053696	3776857088

Initiator: 20:01:00:0e:1e:d0:79:f8

Bytes Written	Bytes Read
138577053696	3776857088

Target port: 50:00:65:b8:14:26:78:79

Bytes Written	Bytes Read
0	0

stats --fc --linkstat

Target port: 50:00:65:b8:14:26:78:78

Link Failure: 4
Loss Of Sync: 3
Loss Of Signal: 3
Primitive Sequence Protocol Error: 0
Invalid Transmission Word: 0
Invalid CRC: 0
NOS Received: 4
Rx Frames: 70594737
Tx Frames: 7700330
Abort Task Set: 0
Clear Task Set: 0
Clear ACA: 0
LUN Reset: 0
Target Reset: 0

ABTS : 0

Target port: 50:00:65:b8:14:26:78:79

Link Failure: 0
Loss Of Sync: 0
Loss Of Signal: 0
Primitive Sequence Protocol Error: 0

```

Invalid Transmission Word: 0
Invalid CRC: 0
NOS Received: 0
Rx Frames: 0
Tx Frames: 0
Abort Task Set: 0
Clear Task Set: 0
Clear ACA: 0
LUN Reset: 0
Target Reset: 0

ABTS : 0

```

stats --container --name <name>

Description

Displays the current statistics for a specific container in a QoreStor that you define by name using the QoreStor CLI `--name <name>` command.

Syntax

```
stats --container --name backupsys-60_replicate
```

Result

```

stats --container --name BE20
Container Name                : BE20
Container ID                  : 5
Total Inodes                  : 126
Read Throughput               : 0.00 MiB/s
Write Throughput              : 0.00 MiB/s
Current Files                  : 124
Current Bytes                  : 4399356192256
Cleaner Status                 : Done
OST connection Used Capacity  : 4097.0 GiB
OST Inbound Images Duplicated : 0
OST Inbound Bytes Processed    : 0 (0.00 GiB)
OST Inbound Bytes Duplicated   : 0 (0.00 GiB)
OST Inbound Bytes Transferred  : 0 (0.00 GiB)
OST Inbound Bytes Decrypted    : 0 (0.00 GiB)
OST Inbound Bytes Synthesized  : 0 (0.00 GiB)
OST Inbound Network Savings    : 0.00 %
OST Inbound Extent Errors      : 0
OST Inbound Duplication Errors : 0
OST Outbound Images Duplicated : 0
OST Outbound Bytes Processed    : 0 (0.00 GiB)
OST Outbound Bytes Duplicated   : 0 (0.00 GiB)
OST Outbound Bytes Transferred  : 0 (0.00 GiB)
OST Outbound Bytes Encrypted    : 0 (0.00 GiB)
OST Outbound Network Savings    : 0.00 %

```

OST Outbound Extent Errors	: 0
OST Outbound Duplication Errors	: 0
OST Outbound Timeout Errors	: 0
OST Outbound Network Errors	: 0
OST Bytes Synthesized	: 0
OST Images Synthesized	: 0
OST Images Included From	: 0
OST Synthesized Errors	: 0
OST Images Ingested	: 124
OST Images Complete	: 123
OST Images Partial	: 1
OST Images Incomplete	: 0
OST Used Capacity	: 4399357306368 (4097.22 GiB)
OST Image Ingest Errors	: 0
OST Bytes Ingested	: 4399638100992 (4097.48 GiB)
OST Images Read	: 1857
OST Image Read Errors	: 0
OST Bytes Restored	: 3454077443072 (3216.86 GiB)
OST Bytes Transferred	: 780888456800 (727.26 GiB)
OST Network Savings	: 82.25 %

stats --storage_group --name <name>

Description

This command displays statistics for a specific storage group as referenced by the --name <name> command option.

Syntax

```
stats --storage_group --name DefaultGroup
```

Result

Storage_group ID	: 0
Capacity Used	: 380.4 GiB
Capacity Used in GB	: 408.425
Capacity Free	: 3572.8 GiB
Capacity Free in GB	: 3836.313
Total Inodes	: 810
Read Throughput	: 0.00 MiB/s
Write Throughput	: 0.00 MiB/s
Current Files	: 682
Current Bytes	: 1351703380026
Post Dedupe Bytes	: 408536589100
Post Compression Bytes	: 408424845453
Post Encryption Bytes	: 0
Post Encryption Bytes in GiB	: 0.0 GiB
Bytes decrypted	: 0
Cleaner Status	: Pending
Compression Status	: Done
Encryption Status	: Disabled

```
Dedupe Savings           : 69.78 %
Compression Savings      : 0.03 %
Total Savings            : 69.78 %
```

stats --replication [--name <name>]

Description

Displays the current replication statistics for all containers in a QoreStor or for a specific container in a QoreStor that you define using the QoreStor CLI `--name <name>` command.

Syntax

```
stats --replication --name backup-acme-60_replicate
```

Result

```
Container Name           : backup_acme-60_1234567
Replication Target Container : backup
Replication Target System  : 10.25.19.16
Peer Status               : Stopped
Replication State          : INSYNC
Schedule Status           : Outside window (starts in 0 days 10 hours 6 min 0 sec)
Replication Average Throughput : 4154 KiB/s
Replication Maximum Throughput : 15710 KiB/s
Network Average Throughput  : 3759 KiB/s
Network Maximum Throughput  : 14999 KiB/s
Network Bytes Sent         : 154.45 MiB
Network Savings            : 56.60 %
Last INSYNC Time           : 2012-06-20 09:11:42
Estimated Time To Sync     : 0 days 7 hours 3 minutes 19 seconds
```

Data replication history

```
File : /vargen/source/Office_Docs/Email/Outlook/3244.flate, 44.70%, 88773 bytes, 1305
KB/s, replicated at : 2012-06-19 11:47:03
```

```
File : /vargen/source/status/DEV/August11/dev-status.doc, 100.00%, 86200 bytes, 4310
KB/s, replicated at : 2012-06-19 11:47:03
```

```
File : /vargen/source/MKT/whitepaper/eng/324.tar.gz, 0.00%, 5182 bytes, 259 KB/s,
replicated at : 2012-06-19 11:47:03
```

```
File : /vargen/source/acctspay/status/Sept11/3242.tar.gz, 65.23%, 94616 bytes, 1456
KB/s, replicated at : 2012-06-19 11:47:03
```

```
File : /vargen/source/revenue/Q311/interna/324.xls, 0.00%, 5152 bytes, 286 KB/s,
replicated at : 2012-06-19 11:47:03
```

```
File : /vargen/source/projects/Q411/europe/3244.tar.gz, 62.94%, 8828 bytes, 1193 KB/s,
replicated at : 2012-06-19 11:47:03
```

stats --cleaner

The **stats --cleaner** command displays the current running cleaner progress and the amount of time taken to complete its latest full pass. The Cleaner is an asynchronous process in the QoreStor that reclaims disk storage space by reclaiming space that previously contained unreferenced datastore files.

Syntax

```
stats --cleaner
```

Result

```
Last Run:
Last Files Processed      : 0
Last Bytes Processed     : 0
Last Bytes Reclaimed     : 0
Last Start Time          : 11/30/16 01:57:32
Last End Time            : 11/30/16 01:57:37
Time To Completion(s)    : 5.00
```

```
Current Run:
Start Time                : 11/30/16 02:00:37
Files Processed           : 100
Bytes Processed           : 37748736000
Bytes Reclaimed           : 15281899829
Phase 1 Start Time        : 11/30/16 02:00:38
Phase 1 Records Processed : 0
Phase 1 End Time          : 11/30/16 02:00:38
Phase 2 Start Time        : 11/30/16 02:00:38
Phase 2 Records Processed : 1172436
Phase 2 End Time          : 11/30/16 02:00:39
Phase 3 Start Time        : 11/30/16 02:00:39
Phase 3 Records Processed : 1600
Phase 3 End Time          : 11/30/16 02:00:47
Phase 4 Start Time        : 11/30/16 02:00:51
Phase 4 Records Processed : 1637
Phase 4 End Time          : 11/30/16 02:00:51
Phase 5 Start Time        : 11/30/16 02:00:51
Phase 5 Records Processed : 0
Phase 5 End Time          : 11/30/16 02:00:51
```

```
Last Completed Run:
Last Completed Start Time : 11/30/16 01:50:15
Last Completed End Time   : 11/30/16 01:50:30
Last Completion time(s)   : 15.00
```

```
Cleaner Pending Work:
Estimated Logical Bytes Left : 3130982400
```

stats --clients [--type <NFS|CIFS|OST|RDS>]

Description

Displays the current clients that are configured on the QoreStor.

To filter the list of clients to display a specific client type on a QoreStor, use the QoreStor CLI **--type** command option.

i | **NOTE:** For OST clients, the value under **Connections** is **0** (zero) when the connection is configured (but it is not in use), and **1** when the connection is in use.

Syntax

```
stats --clients
```

Result

```
No OST client(s) are connected.
```

```
RDS Client(s)
Type      Plugin      OS
Access    Connection(s) Mode
BabuK-W2K8-02
RDS       2.1.201    Windows Server 2008 R2 NetVault 9.20 Build 12 Aug 13 07:53:26
1 Passthrough R720xd-Netvault
RDS       --         --
--         0 Default
```

stats --reset [--rds]

Description

Resets the current RDS statistics for a QoreStor. The following example shows --rds; to reset another statistic type, just replace that option type in the QoreStor CLI command.

Syntax

```
stats --reset --rds
```

Result

```
RDS Protocol message statistics are reset successfully.
```

stats --seed

Description

Use to monitor the seeding progress.

Syntax

```
stats --seed
```

Result

Seeding Source Stats:

```
Seed state:                SEED_STARTED
Seed status:               FINISHED
Seed device mount:         /mnt/.__seed_device
Blockmaps read:            12
Seeding Dictionary updates: 1065
Streams read:              196042
Comp bytes read:           5959925818
Streams committed:         196042
Streams deduped:           141245
DS's committed:            475
Total bytes processed:      10401873920
Total bytes deduped:        4441947702
Total inline bytes:         400
Total orig bytes committed: 5959925818
Total comp bytes committed: 5959925818
Device orig bytes committed: 5959925818
Device comp bytes committed: 5959925818
Logical Avg Throughput:     0.000 KB/s
Logical Max Throughput:     2462955.935 KB/s
Physical Avg Throughput:    0.000 KB/s
Physical Max Throughput:    151010.166 KB/s
Estimated time to sync:     0 days 0 hours 0 minutes 0 seconds
```

```
.....
.....
.....
```

stats --help

Description

Displays the list of all stats-related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
stats --help
```

Result

Usage:

```
stats --system
stats --cpu
stats --memory
stats --datacheck
stats --nfs
stats --cifs
stats --ost
stats --rds
```



```
stats --ndmp
stats --ndmp_completed
stats --iscsi [--verbose]
stats --fc [--iostat] [--linkstat]
stats --container --name <name>
stats --storage_group --name <name>
stats --replication [--verbose] --name <name>
stats --cleaner
stats --clients [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC>]
stats --reset [--rds] [--datacheck]
stats --seed
stats --help
```

stats <command> <command-arguments>

<command> can be one of:

--system	Displays cumulative statistics for all containers.
--cpu	Displays CPU statistics.
--memory	Displays statistics for memory.
--datacheck	Displays statistics for online data verification.
--nfs	Displays statistics for NFS.
--cifs	Displays statistics for CIFS.
--ost	Displays statistics for OST.
--rds	Displays statistics for RDS server.
--ndmp	Displays statistics for current NDMP sessions.
--ndmp_completed	Displays statistics for completed NDMP sessions.
--iscsi	Displays statistics for iSCSI sessions.
--fc	Displays statistics for FC sessions.
--container	Displays statistics for a specific container.
--storage_group	Displays statistics for a specific storage_group.
--replication	Displays statistics for replication.
--cleaner	Displays statistics for cleaner.
--clients	Displays client information.
--reset	Resets statistics.
--seed	Seeding statistics.

For command-specific help, please type stats --help <command>

eg:

```
stats --help system
```

Storage Group commands

This set of QoreStor CLI commands let you manage the storage groups on a QoreStor, enabling you to perform tasks, such as adding or deleting a storage group, updating a storage group, updating encryption settings, updating compression settings, and setting a passphrase.

Storage Group Command Usage

This topic introduces the **storage_group** command usage:

- `storage_group --show`
- `storage_group --add --name`
- `storage_group --update --name`
- `storage_group --encryption --name`
- `storage_group --delete --name`
- `storage_group --setpassphrase --name`
- `storage_group --help`

i | **NOTE:** If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

`storage_group --show [--name <name>] [--verbose]`

Description

Displays the current list of storage groups on the QoreStor. If you specify the `--name` option, you can view details of a specific storage group. The `--verbose` option displays more details.

Syntax

```
storage_group --show --name DefaultGroup --verbose
```

Result

```
Storage_group Entry ID      : 0
Storage_group Name         : DefaultGroup
Storage_group Compression Type : Fast
Storage_group Encryption Set : Off
Storage_group Encryption Mode : Off
Storage_group Rotate Period  : 0
Storage_group Passphrase set : No
Storage_group Created On     : Thu Nov 17 00:40:14 2016 PST
Storage_group Created Bld    : 62141
DefaultGroup's Containers
-----
backup
vtl-iscsi
```

`storage_group --add --name <name> [--compression_mode <fast|best>] [--chunk_type <Fixed|Variable>]`

Description

Adds a new storage group to the QoreStor with the name specified by the `--name` command option.

i | **NOTE:** When adding a name, valid values for the name are (a-z, A-Z, 0-9, '_', and '_')



NOTE: Do not change the **chunk_type** parameter from the default setting unless directed to do so by Quest Support.

You can also set the compression mode for the storage group as fast or best, described as follows:

- **Fast** — Results in shorter backup time, but with less space savings.
- **Best** — Provides the highest space savings, but with a longer backup time.

Syntax

```
storage_group --add --name StorageGroup_1 --compression_mode best
```

Result

```
Storage Group "StorageGroup_1" created successfully.
```

storage_group --update --name <name> [--compression_mode <fast|best>]

Description

Allows you to modify the compression mode for the specified storage group. The compression mode for the storage group can be set as fast or best, described as follows:

- **Fast** — Results in shorter backup time, but with less space savings.
- **Best** — Provides the highest space savings, but with a longer backup time.

Syntax

```
storage_group --update --name StorageGroup_1 --compression_mode fast
```

Result

```
Storage Group "StorageGroup_1" updated successfully.
```

storage_group --encryption --name <name> [--set <ON | OFF>] [--mode <static|internal> <--interval <7 days to 70 years>]

Description

Allows you to set the encryption level for a specified storage group on the QoreStor. You turn encryption on or off by using the --set ON or --set OFF command options. The --mode option sets the mode of key lifecycle management as one of the following:

- **static**—A global, fixed key is used to encrypt all data.
- **internal**—Content encryption keys are generated and rotated on a specified period of days.

If you select Internal as the mode of key management, you need to set the --interval option, which specifies the number of days for key rotation when a new key is to be generated.

- i** | **NOTE:** In Internal mode there is a maximum limit of 1023 keys. The key rotation period is set to 30 days by default when the passphrase is set and/or encryption is turned on. You can later change the key rotation period from 7 days to 70 years for internal mode.
- i** | **NOTE:** After encryption is enabled, all of the data that is backed up is encrypted and is kept encrypted until it is expired and cleaned by the system cleaner. Note that encryption is an irreversible process.
- i** | **NOTE:** Due to export regulations, the encryption at rest feature is not available in certain markets, and, therefore, may not be available in your locale.

Syntax

```
storage_group --encryption --name StorageGroup_1 --set ON --mode internal --interval 120
```

Result

Storage Group "StorageGroup_1" updated successfully.

storage_group --delete --name <name>

Description

Deletes the specified storage group from the QoreStor.

- i** | **NOTE:** Before a storage group can be deleted, all of the containers inside the storage group must first be deleted.

Syntax

```
storage_group --delete --name StorageGroup_1
```

Result

Storage Group "StorageGroup_1" has been deleted.

storage_group --setpassphrase --name <name>

Description

Sets the passphrase for the specified storage group to be used to encrypt content encryption keys. (The passphrase string can take up to 255 characters. And, alphanumeric and special characters can be entered as part of the passphrase string.) This command will prompt you to enter and confirm a passphrase. This command also requires a filesystem server restart.

- i** | **NOTE:** It is mandatory to define a passphrase to enable encryption for a storage group. If the passphrase is compromised or lost, the administrator should change it immediately so that the content encryption keys do not become vulnerable.

Syntax

```
storage_group --setpassphrase --name StorageGroup_1
```

Result

Storage Group "StorageGroup_1" updated successfully.
Passphrase updated successfully.

storage_group --help

Description

Displays the list of all storage_group-related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
storage_group --help
```

Result

Usage:

```
storage_group --show [--name <name>]
                        [--verbose]
```

```
storage_group --add --name <name>
                        [--compression_mode <fast|best>]
```

```
storage_group --update --name <name>
                        [--compression_mode <fast|best>]
```

```
storage_group --encryption --name <name>
                        [--set <ON|OFF>]
                        [--mode <static | internal>]
                        [--interval <7 days to 70 years>]
```

```
storage_group --delete --name <name>
```

```
storage_group --setpassphrase --name <name>
```

```
storage_group --help
```

```
storage_group <command> <command-arguments>
```

command can be one of:

--show	Displays the current list of storage_group.
--add	Adds a new storage_group.
--update	updates a storage_group.
--encryption	updates encryption settings of a storage_group.
--delete	Deletes an existing storage_group.
--setpassphrase	sets passphrase to a storage_group.

For command-specific help, please type storage_group --help <command>
eg:

```
storage_group --help show
```

System

This QoreStor CLI command and its options allow you to perform the a variety of system-related tasks, including the following:

- Displaying the current system configuration
- Displaying and updating your QoreStor license configuration.
- Adding additional storage paths to QoreStor.

System Command Usage

This topic introduces the **system** command usage:

- **system --show [options]**
- **system --license [options]**
- **system --storage [options]**
- **system --help**

i | **NOTE:** If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

system --show [--version]

Description

Displays the currently installed version of the QoreStor software, and the date and time in which it was installed.

Syntax

```
system --show --version
```

Result

```
Version          : 5.0.0
Build            : 155
```

system --show [--storage]

Description

Displays the Path, Total Storage, Available Storage, and Status for your QoreStor server.

Syntax

```
system --show --storage
```

Result

```
system --show --storage
ENCLs      Path                      Total (GB)    Available (GB)  Status
ENCL_0     /home/qorestor/ocaroot  9252         9252            On
```

system --show [--license] [--verbose]

Description

Displays the summary license status (using the `system --show --license` command) or the detailed license status (using the `system --show --license --verbose` command) for the current data storage expansion shelves (enclosures) installed in a QoreStor. For more information on validating or adding licenses for data storage expansion shelves, see [system --license \[--validate\] \[--add\]](#).

Syntax

```
system --show --license
```

Result

ID	Description	Status
1	1 Storage Enclosure	1TB QoreStor license Enabled

NOTE: To display a more detailed license status, use the following QoreStor CLI command:

```
system --show --license --verbose
Feature ID           : 1
Description          : 1TB
QORESTOR license Status : Enabled
License ID           : 126-798-350
Start Date           : Wed Jul 18 05:41:20 2018
End Date              : N/A
Is Eval               : Yes
In Use                : Yes
```

system --show

Description

Displays the current configuration of the QoreStor server, including the system ID, QoreStor version, repository location, metadata location, and system state.

Syntax

```
system --show
```

Result

```
system --show
System Name           : qorestor_1
Current Time          : Thu Jun  7 09:42:08 2018 MST
System ID             :
400A7AC39A684DFCA68F07705D99677E
Product Name          : QORESTOR
Version               : 5.0.0
Build                 : 156
Repository location   : /ocaroot/ocaroot
Metadata location     : /ocaroot/qs_metadata
Dictionary type        : Demo
System State          : Operational Mode
Reason                : Filesystem is fully
operational for I/O.
Configuration Server   : RUNNING Jun  6 03:04:23
Filesystem Server      : RUNNING Jun  6 03:04:24
Health Monitor         : RUNNING Jun  6 03:04:20
Filesystem Checker     : STOPPED
SecureConnect Server   : RUNNING Jun  6 03:04:23
QoreStor UI            : RUNNING Jun  6 03:04:24
```

system --license [--show] [--verbose] [--validate] [--file <path>] [--add] [--file <path>]

Description

QoreStor installs with a 1 TB trial license. If you have purchased a perpetual license, you can install it using the **system --license** command, as described below.

When you have downloaded your license file, you will need to copy it to the QoreStor server before installing the license. In the examples below <path> is used to represent the directory that contains the license file.

Syntax

```
system --license --validate --file <path>
```

Result

License file is valid and can be installed.

To add a validated license for a QoreStor server, use the following QoreStor CLI command:

```
system --license --add --file <path>
License file has successfully installed.
```


system --storage [--add] [--path<path>] [--show]

Description

Adds the volume at the specified path to the QoreStor server.

Syntax

```
system --storage [--add] [--path <path>]
```

Result

system --storage [--show]

Description

QoreStor installs with a 1 TB trial license. If you have purchased a perpetual license, you can install it using the **system --license** command, as described below.

When you have downloaded your license file, you will need to copy it to the QoreStor server before installing the license. In the examples below <path> is used to represent the directory that contains the license file.

Syntax

```
system --storage [--show]
```

Result

ENCLs	Path	Total (GiB)	Available (GiB)	Licensed (GiB)
ENCL_0	/ocaroot/ocaroot	599	598	599

system --help

Description

Displays the list of all system-related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
system --help
```

Result

Usage:

```
system --show
    [--storage]
    [--license] [--verbose]
    [--version]

system --license
```

```

        [--show] [--verbose]
        [--validate] [--file <path>]
        [--add] [--file <path>]

system --storage [--add] [--path <path>]
        [--show]

system --help

system <command> <command-arguments>
<command> can be one of:
        --show                Displays command specific information.
        --license             Installs the license on the machine.

```

For command-specific help, please type `system --help <command>`
eg:
`system --help show`

User

This topic introduces the QoreStor CLI commands that allow you to manage user accounts by enabling or disabling user accounts, adding and updating users, setting passwords, deleting users, and displaying the list of current active user accounts logged in to a QoreStor.

User Command Usage

This topic introduces the **user** command usage:

- **user --show [options]**
- **user --add --name [options]**
- **user --update --name [options]**
- **user --delete --name**
- **user --setpassword --name**
- **user --help**

i | **NOTE:** If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

user --show [--users] [--logins] [--verbose][--name <username>] [--roles <cifs|ost|rda|monitor|administrator|secure_connect>]

Description

Displays the current status of the service and root user accounts (using the **user --show --users** command), and also displays the login types and login times on a QoreStor (using the **user --show --logins** command).

Syntax

```
user --show --users
```

Result

```
Service Account      : Disabled
Root Account        : Enabled

User Name            : backup_user
User Roles           : OST,RDA

User Name            : admin
User Roles           : administrator
```

Other Examples

Displays the current status of login attempts on a QoreStor.

```
user --show --logins
User Name      Terminal   Login Time
root           pts/1      Oct 24 10:51 (10.15.13.4)
root           pts/2      Oct 23 20:41 (10.18.0.1)
root           pts/3      Oct 23 20:41 (10.15.0.13)
root           pts/5      Oct 24 09:35 (10.20.21.6)
administrator  pts/6      Oct 24 12:32 (acme13.storage.local)
root           pts/7      Oct 24 12:24 (10.18.11.12)
```

user --add --name <user name> [--roles <cifs|ost|rda|monitor|secure_connect> [--full_name <full name>] [--phone <phone number>] [--email_addr <e-mail address>] [--description <anything>]

Description

Adds a user account with the specified username.

Syntax

```
user --add --name Test_User
```

Result

```
Enter new password:
Re-type password:
User "Test_User" created successfully.
```

```
user --update --name <user name> [--new_name <user
name>] [--add_roles <cifs|ost|rda|monitor|secure_connect>] [--
remove_roles <cifs|ost|rda|monitor|secure_connect>] [--full_
name <full name>] [--phone <phone number>] [--email_addr
<email address>] [--description <description>]
```

Description

Updates a specified user account. You can update the username, add roles to or remove roles from the account, add information such as full name, phone number, email address, or description.

Syntax

```
user --update --name Test_User --new_name Test_User2 --add_roles monitor
```

Result

```
Successfully updated User Test_User.
```

Other Examples

The example below adds the **secure_connect** role to a user account

Syntax

```
user --update --name test1 --add_roles secure_connect
```

Result

```
Successfully updated User test1.
```

user --delete --name <user name>

Description

Deletes the specified user account.

Syntax

```
user --delete --name Test_User2
```

Result

```
User "Test_User2" has been deleted.
```

user --setpassword --name <user name>

Description

Sets a password for the specified user account.

Syntax

```
user --setpassword --name Test_User2
```

Result

```
Enter new password:
Re-type password:
Successfully updated User Test_User2.
```

user --help

Description

Displays the list of all user-related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
user --help
```

Result

```
Usage:
    user --show [--users]
                        [--logins]
                        [--verbose]
                        [--name <user name>]
                        [--roles <cifs|ost|rda|monitor|administrator|secure_connect>]

    user --add --name <user name>
                        [--roles <cifs|ost|rda|monitor|secure_connect>]
                        [--full_name <full name>]
                        [--phone <phone number>]
                        [--email_addr <email address (e.g., name@company.com)>]
                        [--description <anything>]

    user --update --name <user name>
                        [--new_name <user name>]
                        [--add_roles <cifs|ost|rda|monitor|secure_connect>]
                        [--remove_roles <cifs|ost|rda|monitor|secure_connect>]
                        [--full_name <full name>]
                        [--phone <phone number>]
                        [--email_addr <email address (e.g., name@company.com)>]
                        [--description <anything>]

    user --delete --name <user name>
```

```
user --setpassword --name <user name>
```

```
user --help
```

```
user <command> <command-arguments>
```

<command> can be one of:

--show	Displays command specific information.
--add	adds a user account.
--update	updates a user account.
--delete	delete a user account.
--setpassword	sets password to a user account.

For command-specific help, please type `user --help <command>`

For example:

```
user --help show
```

Managing QoreStor Storage Operations

This topic introduces the QoreStor CLI commands that you can use for configuring and managing QoreStor backup operations and scheduling when to run Replication and disk Cleaner operations.

The QoreStor CLI commands that provide these capabilities are grouped into the following categories:

- **Connection:** configuring/managing connections to storage containers
- **Container:** configuring/managing storage and replication relationships
- **Replication:** configuring/managing replication operations
- **Seeding:** managing seeding import and export
- **Schedule:** configuring/managing the Replication and Cleaner schedules for QoreStor

Connection

This topic introduces the set of QoreStor CLI commands that allow you to manage, configure, and display connection-related settings for containers on a QoreStor server. For more information, see [Container Command Usage](#).

Connection Command Usage

This topic introduces the connection command usage:

- `connection --show [options]`
- `connection --add --name [options]`
- `connection --update [options]`
- `connection --delete [options]`
- `connection --enable [options]`

- **connection --disable [options]**
- **connection --help**

i | **NOTE:** If you specify a command without supplying the expected value or option, you are prompted to provide the correct value or option.

connection --show [--name <name>] [--type <NFS|CIFS|OST|RDS>] [--verbose]

Description

Displays the status of all existing container connections on a QoreStor .

--show - Displays the current connections on a container.

Usage:

```
connection --show [--name <name>]
                [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC>]
                [--verbose]

--name          Name of container.
--type          Type of sharing (NFS|CIFS|OST|RDS|NDMP|ISCSI|FC) .
--verbose       Show further details.
```

i | **NOTE:** In addition to displaying the current status of an existing container connection, this command also verifies if an existing container connection is disabled (by listing its status as offline).

Syntax

```
connection --show
```

Result

Container Name	Connection Type
Target	RDS
avc	RDS

Other Examples

Display the complete status of all existing container connections by using the **--verbose** command on a QoreStor (this example only shows a partial display of the total output):

```
Container Entry ID      : 1
Container Name          : NV_QS1
RDS connection Entry ID : 1
RDS connection Quota    : Unlimited
RDS connection Used Capacity : 257.0 GiB
RDS connection Enabled  : Yes
RDS connection status   : Available
```


connection --add --name <name> --type <NFS|CIFS|OST|RDS|NDMP|ISCSI|FC> [--clients <ip address>] [--dma <ip address>] [--initiator <IQN, ip address, hostname, or WWPN>] [--rootmap <nobody | root | administrator>] [--options <NFS|CIFS mount export options>] [--capacity <positive decimal number>]

Description

Adds a new connection to a container.

Syntax

```
connection --add --name ost2 --type ost --capacity 10
```

Result

```
Successfully added connection entry.  
OST connection Quota           : 10  
OST connection Enabled         : Yes
```

connection --update --name <name> --type <NFS | CIFS | OST | RDS | NDMP | ISCSI | FC> [--clients <ip address>] [--dma <ip address>] [--initiator <IQN, ip address, hostname, or WWPN>] [--target <WWPN>] [--rootmap <nobody | root | administrator>] [--options <NFS | CIFS mount export options>] [--capacity <positive decimal number>]

Description

Updates or modifies the connection values on an existing container connection on a QoreStor. The **--capacity** command option lets you specify a positive decimal number to represent the capacity size (in Gigabytes (GB)) of an OST container.

i | **NOTE:** OST container connections are unlimited by default, and RDS type container connections only support unlimited capacity.

Syntax

```
connection --update --name OST_QS1 --type OST --capacity 200
```

Result

```
Successfully updated connection entry.  
OST connection Quota           : 200 GiB  
OST connection Used Capacity   : 0.0 GiB  
OST connection Enabled         : Yes
```

connection --delete --name <name> --type <NFS | CIFS | OST | RDS | NDMP | ISCSI | FC>

Description

Deletes an existing container connection type on a QoreStor.

Syntax

```
connection --delete --name dataStorage3 --type OST
```

```
connection --delete --name NV_QA1 --type RDS
```

Result

Successfully deleted connection entry.

connection --enable --name <name> --type <NFS | CIFS | OST | RDS | NDMP | ISCSI | FC>

Description

Enables an existing container connection type (OST or RDS) that was disabled on a QoreStor.

Syntax

```
connection --enable --name dataStorage3 --type RDS
```

Result

Successfully updated connection entry.

```
RDS connection Quota           : Unlimited
RDS connection Used Capacity   : 257.0 GiB
RDS connection Enabled         : Yes
```

connection --disable --name <name> --type <NFS | CIFS | OST | RDS | NDMP | ISCSI | FC>

Description

Disables an existing container connection type (OST or RDS) on a QoreStor.

Syntax

```
connection --disable --name acme3 --type ost
```

Result

Successfully updated connection entry.

```
OST connection Quota           : Unlimited
```

```
OST connection Used Capacity    : 5.0 GB
OST connection Enabled          : No
```

connection --help

Description

Displays the listing of user and related options that you can use as a reference when using the QoreStor CLI.

Syntax

```
connection --help
```

Results

Usage:

```
connection --show [--name <name>]
                  [--type <NFS | CIFS | OST | RDS | NDMP | ISCSI | FC>]
                  [--verbose]
```

```
connection --add --name <name>
                  --type <NFS | CIFS | OST | RDS | NDMP | ISCSI | FC>
                  [--clients <ip address>]
                  [--dma <ip address>]
                  [--initiator <IQN, ip address, hostname, or WWPN>]
                  [--target <WWPN>]
                  [--rootmap <nobody | root | administrator>]
                  [--options <NFS | CIFS mount export options>]
                  [--capacity <Positive decimal number>]
```

```
connection --update --name <name>
                  --type <NFS | CIFS | OST | RDS | NDMP | ISCSI | FC>
                  [--clients <ip address>]
                  [--dma <ip address>]
                  [--initiator <IQN, ip address, hostname, or WWPN>]
                  [--target <WWPN>]
                  [--rootmap <nobody | root | administrator>]
                  [--options <NFS | CIFS mount export options>]
                  [--capacity <Positive decimal number>]
```

```
connection --delete --name <name>
                  --type <NFS | CIFS | OST | RDS | NDMP | ISCSI | FC>
                  [--clients <ip address>]
```

```
connection --enable --name <name>
                  --type <NFS | CIFS | OST | RDS | NDMP | ISCSI | FC>
```

```
connection --disable --name <name>
                  --type <NFS | CIFS | OST | RDS | NDMP | ISCSI | FC>
```

```
connection --help
```

```
connection <command> <command-arguments>
<command> can be one of:--show      Displays the current connections on a container.
--add      Adds a new connection to a container.
--update    Updates an existing connection.
--delete    Deletes an existing connection.
--enable    Enables access to a container through a connection.
--disable   Disables access to a container through a connection.
For command-specific help, please type connection --help <command>
eg:
connection --help show
```

Container

This topic introduces the set of QoreStor CLI commands that allow you to perform the following tasks:

- Display the status of all current containers (summary or detail)
- Create (and name) new containers
- Delete existing containers

Container Command Usage

This topic introduces the **container** command usage:

- **container --show [options]**
- **container --add --name [options]**
- **container --update [options]**
- **container --delete --name [options]**
- **container --marker --name <name> [--enable options] [--disable options]**
- **container --delete_files --name <name>**
- **container --help**

i | **NOTE:** If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

container --show [--name <name>] [--verbose]

Displays the summary status of an existing container in a QoreStor that you specify using the **container --show --name** command.

Syntax

```
container --show --name vRanger_Fast
```

Result

```
container --show --name vRanger_Fast
Container's Group ID           : 4
Container's Group Name        : vRanger_PTY
Container Name                 : vRanger_Fast
Container Path                 : /containers/vRanger_Fast
Container Marker               : None
RDS connection Quota          : Unlimited
RDS connection Used Capacity  : 10.0 GiB
RDS connection Enabled        : Yes
RDS connection status         : Available
```

Other Examples

Displays the detailed status of an existing container that you specify by name using the **container --show --name --verbose** command:

```
Container Entry ID           : 1
Container's Group ID         : 0
Container's Group Name       : DefaultGroup
Container Name               : NV_QS1
Container Path               : /containers/NV_QS1
Container Marker             : None
Container Created On         : Fri Apr 20 06:09:46 2018
Container Created Ver        :
Container Created Bld        : 174
RDS connection Entry ID     : 1
RDS connection Quota        : Unlimited
RDS connection Used Capacity : 257.0 GiB
RDS connection Enabled      : Yes
RDS connection status       : Available
```

container --add --name <name> [--type <VTL>] [--tape_size <800GB|400GB|200GB|100GB|50GB|10GB>] [--is_oem <yes|no>] [--group_name <name>]

Description

Creates and names a new container in QoreStor.

i | **NOTE:** If a storage group name is not provided, the container will be placed in Default Group.

i | **NOTE:** Container names and storage group names cannot exceed 32 characters in length. Container names cannot start with a number, and the /, #, and @ special characters are not allowed. Valid values for the container and storage group name are [a-z, A-Z, 0-9, and '_'].

Syntax

```
container --add --name acme99
```

Result

Container "acme99" created successfully.

container --update --name <name> [--no_of_drives <1 -60>]

Description

Updates the specified container.

Syntax

```
container --update --name
```

Result

The FC service will be restarted for this change to take effect, Do you want to continue? (yes/no) [n]? y
Successfully updated Container FC1's number of drives as 32.

container --delete --name <name> [--delete_files]

Description

Deletes the files and the existing container on which the files reside in a QoreStor when using the --name option with --delete_files command.

Syntax

```
container --delete --name acme4 --delete_files
```

Result

WARNING: All the data in the container acme4 will be deleted!

Do you want to continue? (yes/no) [n]? y
Please enter the administrator password:
Container "weasel_ost" marked for deletion. Please run "maintenance --filesystem --reclaim_space" to recover the storage space.

i | **NOTE:** Be aware that it may take a fair amount of time for the QoreStor file and container deletion processes to complete and update the system status. For details on deleting the files within an OST container, see [container --delete_files --name <name>](#).

```
container --marker [--enable <Auto | CommVault | Networker |  
TSM | ARCserve | HP_DataProtector | Unix_Dump |  
BridgeHeadTiNa|Acronis>] [--disable <Auto | CommVault |  
Networker | TSM | ARCserve | HP_DataProtector | Unix_Dump  
| BridgeHead|TiNa|Acronis>] --name <name>
```

Description

Enables or disables a marker type or an automatic marker setting type (Auto) on an existing container in the QoreStor. To enable or disable the automatic marker setting type on an existing container, substitute Auto in place of a specific marker type (for example, Networker in the CLI command).

Syntax

```
container --marker --enable networker --name acme99
```

Result

Marker updated successfully.

Other Examples

Disables a Networker marker on an existing container in the QoreStor:

```
container --marker --disable networker --name acme99  
Marker updated successfully.
```

container --delete_files --name <name>

Description

Deletes only the data files on an existing Rapid Data Access containers (OST/RDS type containers) in a QoreStor (and leaves the container intact).

Syntax

```
container --delete_files --name acme99
```

Result

Error: Connection needs to be disabled first.

i **NOTE:** This command is only supported on OST/RDA connection type containers and the connection to the container must be disabled before you can delete its files. For details, see [connection --disable --name <name> --type <NFS | CIFS | OST | RDS | NDMP | ISCSI | FC>](#). To delete the files and the existing OST container on which the files resides, see [container --delete --name <name> \[--delete_files\]](#).

container --help

Description

Displays the list of container-related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
container --help
```

Result

Usage:

```
container --show [--name <name>][--verbose]
```

```
container --add --name <name> [--type <VTL>][--tape_size  
<800GB|400GB|200GB|100GB|50GB|10GB>] [--is_oem <yes|no>] [--group_name <name>]
```

```
container --delete --name <name> [--delete_files]
```

```
container --marker [--enable <Auto|CommVault|Networker |TSM|ARCserve|HP_  
DataProtector|Unix_Dump|BridgeHead|TiNa|Acronis>]  
[--disable <Auto | CommVault|Networker| TSM|ARCserve|HP_DataProtector|Unix_  
Dump|BridgeHead|TiNa|Acronis>]  
--name <name>
```

```
container --delete_files --name <name>
```

```
container --help
```

```
container <command> <command-arguments>
```

<command> can be one of:

```
--show           Displays the current list of containers.  
--add            Adds a new container.  
--delete         Deletes an existing container.  
--marker         Enables/Disables marker for an existing container.  
--delete_files   Deletes the files in the container.
```

For command-specific help, please type `container --help <command>`

For example:

```
container --help show
```

FC

The **fc** commands allow you to manage Fibre Channel (FC) connections when you are using virtual tape library (VTL) containers.

FC Command Usage

This topic introduces the QoreStor CLI commands that allow you to manage Fibre Channel connections when you are using virtual tape library (VTL) containers. These commands include:

- **fc --show**
- **fc --sessions**
- **fc --help**

fc --show [--verbose] [--target]

Description

This command displays Fibre Channel information in the current QoreStor.

Syntax

```
fc --show --verbose
fc --show --target
```

Result

For **fc --show --verbose**:

Target port: Slot 6 Port 0

```
Port WWN: 50:00:65:b8:36:69:96:00
Node WWN: 50:00:65:b8:36:69:90:00
Symbolic node name: "Dell Inc.: Dell DR4300"
Card description: QLogic QLE2662 Dual Port FC16 HBA
Firmware version: 8.01.02
Port state: Online
Port type: NPort (fabric via point-to-point)
Port speed: 16 Gbit

Port Enabled: Yes
```

```
Container: test2
  LUN: 1
    Type: Media changer (L700)
    Backing store path: /dev/sg76
  LUN: 2
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg36
  LUN: 3
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg37
  LUN: 4
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg38
```

```
LUN: 5
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg39
LUN: 6
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg40
LUN: 7
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg41
LUN: 8
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg42
LUN: 9
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg43
LUN: 10
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg44
LUN: 11
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg45
```

```
Initiators:
    21:00:00:24:ff:76:58:66
```

Target port: Slot 6 Port 1

```
Port WWN: 50:00:65:b8:36:69:96:01
Node WWN: 50:00:65:b8:36:69:90:00
Symbolic node name: "Dell Inc.: Dell DR4300"
Card description: QLogic QLE2662 Dual Port FC16 HBA
Firmware version: 8.01.02
Port state: Online
Port type: NPort (fabric via point-to-point)
Port speed: 16 Gbit

Port Enabled: Yes
```

```
Container: test2
    LUN: 1
        Type: Media changer (L700)
        Backing store path: /dev/sg76
    LUN: 2
        Type: Magnetic tape (ULT3580-TD4)
        Backing store path: /dev/sg36
    LUN: 3
        Type: Magnetic tape (ULT3580-TD4)
        Backing store path: /dev/sg37
    LUN: 4
        Type: Magnetic tape (ULT3580-TD4)
        Backing store path: /dev/sg38
```

```

LUN: 5
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg39
LUN: 6
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg40
LUN: 7
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg41
LUN: 8
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg42
LUN: 9
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg43
LUN: 10
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg44
LUN: 11
    Type: Magnetic tape (ULT3580-TD4)
    Backing store path: /dev/sg45

Initiators:
    21:00:00:24:ff:76:58:66

```

For `fc--show --target:`

Target port: Slot 6 Port 0

```

Port WWN: 50:00:65:b6:33:63:14:88
Node WWN: 50:00:65:b6:33:63:14:80
Symbolic node name: "Dell Inc.: Dell DR4300"
Card description: QLogic QLE2662 Dual Port FC16 HBA
Firmware version: 8.01.02
Port state: Online
Port type: NPort (fabric via point-to-point)
Port speed: 16 Gbit

Port Enabled: Yes

```

Target port: Slot 6 Port 1

```

Port WWN: 50:00:65:b6:33:63:14:89
Node WWN: 50:00:65:b6:33:63:14:80
Symbolic node name: "Dell Inc.: Dell DR4300"
Card description: QLogic QLE2662 Dual Port FC16 HBA
Firmware version: 8.01.02
Port state: Online
Port type: NPort (fabric via point-to-point)
Port speed: 16 Gbit

Port Enabled: Yes

```

fc --sessions [--topology] [--condensed]

Description

This command displays the current Fibre Channel sessions in the current QoreStor system.

Syntax

```
fc --sessions --topology
```

```
fc --sessions --condensed
```

Result

For fc --sessions --topology:

```
Target port: 50:00:65:b6:33:63:14:88
```

```
Initiators connected:
```

```
10:00:00:90:fa:a0:ae:0a
```

```
50:0a:09:80:00:88:a7:71
```

```
50:0a:09:80:06:8d:9a:40
```

```
c0:03:ff:bd:1d:69:00:48
```

```
Target port: 50:00:65:b6:33:63:14:89
```

```
Initiators connected:
```

```
10:00:00:90:fa:cf:49:5e
```

```
c0:03:ff:bd:1d:69:00:54
```

```
c0:03:ff:bd:1d:69:00:58
```

```
c0:03:ff:bd:1d:69:00:60
```

For fc --sessions --condensed:

```
Initiators connected.
```

```
10:00:00:90:fa:a0:ae:0a
```

```
50:0a:09:80:00:88:a7:71
```

```
50:0a:09:80:06:8d:9a:40
```

```
c0:03:ff:bd:1d:69:00:48
```

```
10:00:00:90:fa:cf:49:5e
```

```
c0:03:ff:bd:1d:69:00:54
```

```
c0:03:ff:bd:1d:69:00:58
```

```
c0:03:ff:bd:1d:69:00:60
```

fc --help <command>

Description

This command displays the command-specific help for the **fc** commands.

Syntax

```
fc --help
```

Result

Usage:

```
fc --show [--verbose]
    [--target]

fc --sessions [--topology]
    [--condensed]

fc --help

fc <command> <command-arguments>
command can be one of:
    --show          Displays command specific information.
    --sessions      Show FC sessions
```

For command-specific help, please type `fc --help <command>`
eg:
`fc --help show`

iSCSI

The iSCSI commands allow you to manage iSCSI connections when you are using virtual tape library (VTL) containers.

iSCSI Command Usage

This topic introduces the QoreStor CLI commands that allow you to manage iSCSI connections when you are using virtual tape library (VTL) containers. These commands include:

- **iscsi --show**
- **iscsi --setpassword**
- **iscsi --sessions**
- **iscsi --help**

iscsi --show [--user]

Description

This command displays iSCSI information including the iSCSI CHAP user name in the current QoreStor system.

Syntax

```
iscsi --show --user
```

Result

```
user : iscsi_user
```

Syntax

```
iscsi --show
```

Result

```
Target 1 :
  System information:
    Driver: iscsi
    State: ready
  I_T nexus information:
  LUN information:
    LUN: 0
      Type: controller (Controller)
      Backing store path: None
    LUN: 1
      Type: passthrough (L700)
      Backing store path: /dev/sg12
    LUN: 2
      Type: passthrough ( ULT3580-TD4)
      Backing store path: /dev/sg2
    LUN: 3
      Type: passthrough ( ULT3580-TD4)
      Backing store path: /dev/sg8
    LUN: 4
      Type: passthrough ( ULT3580-TD4)
      Backing store path: /dev/sg11
    LUN: 5
      Type: passthrough ( ULT3580-TD4)
      Backing store path: /dev/sg4
    LUN: 6
      Type: passthrough ( ULT3580-TD4)
      Backing store path: /dev/sg5
    LUN: 7
      Type: passthrough ( ULT3580-TD4)
      Backing store path: /dev/sg6
    LUN: 8
      Type: passthrough ( ULT3580-TD4)
      Backing store path: /dev/sg10
    LUN: 9
      Type: passthrough ( ULT3580-TD4)
      Backing store path: /dev/sg3
    LUN: 10
      Type: passthrough ( ULT3580-TD4)
      Backing store path: /dev/sg9
    LUN: 11
      Type: passthrough ( ULT3580-TD4)
      Backing store path: /dev/sg7
  Account information:
    iscsi_user
  Target 1 ACL information:          10.250.249.221
administrator@satyan-vm1 >
```

iscsi --setpassword

Description

This command sets the password for the iSCSI CHAP user.

Syntax

```
iscsi --setpassword
```

Result

```
WARNING: All existing iSCSI sessions will be terminated!
Do you want to continue? (yes/no) [n]? yes
Enter new CHAP password:
Re-type CHAP password:
administrator@test-vm1 >
```

iscsi --sessions

Description

This command displays the current iSCSI sessions in the current DR system.

Syntax

```
iscsi --sessions
```

Result

```
iSCSI client(s) information:
Container: test_vtl
Target IQN:
Initiators Connected: iqn.1991-05.com.microsoft:win-t16n70kqii4.testad.test.local
```

iscsi --help

Description

Displays the list of iSCSI-related command options that can be used as a reference when using the QoreStor CLI.

Syntax

```
iscsi --help
```

Result

```
Usage:
    iscsi --show [--user]
```

```
iscsi --setpassword
iscsi --sessions
iscsi --help
```

```
iscsi <command> <command-arguments>
```

<command> can be one of:

--show	Displays command specific information.
--setpassword	Set CHAP password
--sessions	Show iSCSI sessions

For command-specific help, please type `iscsi --help <command>`

eg:

```
iscsi --help show
```

NDMP

The NDMP commands allow you to manage NDMP connections when you are using virtual tape library (VTL) containers.

NDMP Command Usage

This topic introduces the QoreStor CLI commands that allow you to manage NDMP connections when you are using virtual tape library (VTL) containers. These commands include:

- **ndmp --show**
- **ndmp --update [options]**
- **ndmp --help**

ndmp --show

Description

This command displays the NDMP username and port number being used in the current QoreStor system.

Syntax

```
ndmp --show
```

Result

```
# ndmp --show
NDMP User: ndmp_user
NDMP Port: 10000
```


ndmp --update [--port <port number>]

Description

This command allows you to update and set the port number of the NDMP server. (The default port is 10000.)

Syntax

```
ndmp --update [--port <port number>]
```

Result

```
WARNING: Updating NDMP port involves restarting NDMP services.
Do you want to continue (yes/no) [n]? y
Successfully updated NDMP to use port 10001.
Restarting NDMP service ... done.
```

ndmp --help

Description

Displays the list of NDMP-related command options that can be used as a reference when using the QoreStor CLI.

Syntax

```
ndmp --help
```

Result

Usage:

```
ndmp --show
ndmp --update [--port <number>]
ndmp --help
```

```
ndmp <command> <command-arguments>
```

<command> can be one of:

--show	Displays command specific information.
--update	Updates NDMP port (default port is 10000).

For command-specific help, please type `ndmp --help <command>`

eg:

```
ndmp --help show
```

Replication

To allow QoreStor replication operations, ensure that TCP ports 9904, 9911, 9915, and 9916 are enabled. For more information about supported ports for the QoreStor, see the *QoreStor Administrator Guide*.

The Replication QoreStor CLI command and its options allow you to manage the status of all current replication relationships and tasks on a system by:

- Displaying the current replication process status information
- Creating and defining new replication links or relationships to containers
- Deleting specific replication links
- Starting and stopping the replication process between source and target containers
- Limiting the bandwidth consumed during replication
- Resynchronizing replication between source and target containers
- Troubleshooting replication connection issues

i | **NOTE:** You can set a replication schedule for daily replication operations. For details, see [schedule --add --day <day of the week> \[--start_time <hh:mm>\] \[--stop_time <hh:mm>\] \[--cleaner\] \[--replication\]](#).

Replication Command Usage

This topic introduces the **replication** command usage:

- **replication --show [options]**
- **replication --add --name --role --peer [options]**
- **replication --update --name --role --peer [options]**
- **replication --delete --name --role [options]**
- **replication --start --name --role [options]**
- **replication --stop --name --role [options]**
- **replication --limit --speed --target [options]**
- **replication --resync --name --role [options]**
- **replication --troubleshoot --peer**
- **replication --help**

i | **NOTE:** If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

```
replication --add --name <name> --role <source | target> --
peer <ip address | hostname> [--peer_name <name>] [--peer_
group_name <name>] [--replication_traffic <ip address |
hostname>] [--encryption <none | aes128 | aes256>] [--
username <user name>]
```

Description

Adds a new replication link to a container on the QoreStor, for which you need to define its name, role, peer IP address/hostname, peer name, peer group name, user name on the peer system, and encryption level to apply. The peer group name is the name of the remote container's group to replicate to/from, and this parameter is applicable only if a remote container is not present.

There are three options for encryption:

- none,
- aes128 (Advanced Encryption Standard) which uses 128-bit cryptographic keys
- aes256 (using 256-bit AES cryptographic keys).

If the username is a domain login (for example, domain\username), ensure that backslash characters and spaces are either escaped or in quotes.

i **NOTE:** Make sure that the data container you intend to replicate already exists. If it does not, the following error message displays: *Error: Container <container_name> does not exist.*

Syntax

```
replication --add --name backup --role source --peer 10.250.240.192 --encryption  
aes128
```

Result

```
Enter password for administrator@10.250.240.192:  
Replication entry created successfully.  
Replication Container           : backup  
Replication Role                : Source  
Replication Target              : 10.250.240.192  
Replication Target IP          : 10.250.240.192  
Replication Target Mgmt Name    : 10.250.240.192  
Replication Target Mgmt IP     : 10.250.240.192  
Replication Local Data Name     : QS2K-01  
Replication Local Data IP      : 10.250.208.232  
Replication Target Container    : backup  
Replication Enabled             : Yes  
Replication Compression Enabled: Yes  
Replication Encryption          : AES 128-bit
```

i **NOTE:** To verify that you have successfully added a replication link to the QoreStor (or to view the current status of existing containers), see [replication --show](#).

replication --update --name <name> --role <source | target> [--peer <ip address | hostname>] [--encryption <none | aes128 | aes256>] [--username <user name>]

Description

Updates an existing replication link to a container in a QoreStor and allows you to change the corresponding role, peer IP address or host name, the encryption being used, and user name based on the QoreStor CLI command options you specify.

Syntax

```
replication --update --name backup --role source --peer 10.25.19.5
```

Result

i **NOTE:** If you attempt to update a container that already has replication enabled, this displays the following message:

```
Replication on backup is enabled and cannot be updated, please stop it first.
```

When replication is enabled on the container, you must first disable it before you can update it. To disable replication on a container, enter the QoreStor CLI **replication --stop** command and define the container name and role:

```
replication --stop --name <name> --role <source | target>
```

i **NOTE:** For more information about disabling replication, see [replication --stop --name <name> --role <source | target>](#).

Disables replication on a container:

```
replication --stop --name backup --role source
Replication configuration updated successfully.
Replication Container      : backup
Replication Role           : Source
Replication Target System  : acme-85
Replication Target System IP : 10.25.192.5
Replication Target Container : acme85-S2
Replication Enabled        : No
Replication Compression Enabled : Yes
Replication Encryption     : AES 128-bit
```

replication --delete --name <name> --role <source | target> [--force]

Description

Deletes an existing replication link to a container in a QoreStor.

i **NOTE:** It is recommended that the replication be in an INSYNC state for this operation. If replication is not in an INSYNC state, this operation can potentially take a much longer time to execute.

Syntax

```
replication --delete --name acme-59-replica --role target
```

If you attempt to delete a container that already has replication enabled, this displays the following message:

```
Replication on acme-59-replica is enabled and cannot be deleted, please stop it first.
```

i **NOTE:** If the replication state of the link is enabled, you must use the **replication --stop** command to disable replication before you can delete the replication link. For more information, see [replication --stop --name <name> --role <source | target>](#).

Deletes the existing replication link to a container.

```
replication --delete --name acme-59-replica --role source
```

Result

Successfully deleted replication entry.

i **NOTE:** The QoreStor CLI **--force** command is optional, and this command allows you to force the deletion of an existing replication link (such as when communications between the source and target are not working). Before using the **--force** option, replication must be stopped with the **replication --stop** command. For more information, see [replication --stop --name <name> --role <source | target>](#)

replication --start --name <name> --role <source | target>

Description

Starts the replication process on an existing replication link to a container in a QoreStor.

Syntax

```
replication --start --name container2_replica --role target
```

Result

```
Replication configuration updated successfully.
Replication Container      : container2_replica
Replication Role           : Source
Replication Target System  : acme-85
Replication Target System IP : 10.20.22.20
Replication Target Container : acme85-S2
Replication Enabled        : Yes
Replication Compression Enabled : Yes
Replication Encryption     : AES 128-bit
```

replication --stop --name <name> --role <source | target>

Description

Stops the replication process on an existing replication link to a container in a QoreStor.

Syntax

```
replication --stop --name acme-59_replicate --role source
```

Result

```
Replication configuration updated successfully.
Replication Container      : acme59
Replication Role           : Source
Replication Target System  : acme-85
Replication Target System IP : 10.20.22.20
Replication Target Container : acme85-S2
Replication Enabled        : No
Replication Compression Enabled : Yes
Replication Encryption     : AES 128-bit
```

replication --limit --speed <<num><KBps | MBps | GBps> | default> --target <ip address | hostname>

Description

Limits the bandwidth used during replication by defining a bandwidth limit using any of the following settings:

- Kilobytes/second (KBps)
- Megabytes/second (MBps)
- Gigabytes/second (GBps)
- Unlimited bandwidth (this is the default setting); minimum allowed bandwidth setting is 192 KBps

i **IMPORTANT:** Bandwidth rules for all ports will be deleted. New rules will be applied by QoreStor with this command.

Syntax

```
replication --limit --speed 10gbps --target acme-60
```

Result

```
Successfully updated replication limit for acme-60 to 10 GBps.  
Changing traffic control policies ... done.
```

replication --resync --name <name> --role <source | target>

Description

Resynchronizes the replication process between a source and target container in a replication relationship on a QoreStor.

i **IMPORTANT:** This command should only be used in an emergency situation with the help of Quest Support. Do not mistake this command as an ability to start a replication sync outside of the schedule window.

If your intention is to start a replication outside of the window, you can either delete the schedule, or add a temporary replication window to the current schedule and delete it when the systems are in sync.

Syntax

```
replication --resync --name dataStorage3 --role source
```

Result

```
Successfully initiated replication resync on container dataStorage3.
```

replication --troubleshoot --peer <ip address | hostname>

Description

Troubleshoots the replication connections between a source and target container on a QoreStor.



NOTE: This command only reports 9915 and 9916 as succeeding against a replication peer that has native Qorestor or DR Series replication configured to another system. If the peer is not currently using any replication ports, 9915 and 9916 will report as connection refused.

Syntax

```
replication --troubleshoot --peer 10.25.19.5
```

Result

The following examples shows both successful and unsuccessful replication connection attempts:

```
Testing connection to port 9904... Connected!
Testing connection to port 9911... Connected!
Testing connection to port 9915... Connected!
Testing connection to port 9916... Connected!
Replication troubleshooting completed successfully - Connection to all ports is OK!
```

```
replication --troubleshoot --peer acme-205
Testing connection to port 9904... Connected!
Testing connection to port 9911... Connected!
Testing connection to port 9915...
Unable to connect to socket - Connection refused
Could not connect to acme-205 on port 9915 - (Connection refused)
Testing connection to port 9916...
Unable to connect to socket - Connection refused
Could not connect to acme-205 on port 9916 - (Connection refused)
```

replication --help

Description

Displays the list of all replication-related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
replication --help
```

Result

Usage:

```
replication --show [--name <name>]
                  [--role <source | target>]
                  [--verbose]
                  [--limits]

replication --add --name <name>
                  --role <source | target>
                  --peer <ip address | hostname>
                  [--peer_name <name>]
                  [--peer_group_name <name>]
                  [--replication_traffic <ip address | hostname>]
```

```

        [--encryption <none | aes128 | aes256>]
        [--username <user name>]

replication --update --name <name>
        --role <source | target>
        [--peer <ip address | hostname>]
        [--replication_traffic <ip address | hostname>]
        [--encryption <none | aes128 | aes256>]
        [--username <name>]

replication --delete --name <name>
        --role <source | target>
        --force]

replication --start --name <name>
        --role <source | target>

replication --stop --name <name>
        --role <source | target>

replication --limit --speed <<num><KBps|MBps|GBps>|default>
        --target <ip address | hostname>

replication --resync --name <name>
        --role <source | target>

replication --troubleshoot --peer <ip address | hostname>

replication --help

replication <command> <command-arguments>
<command> can be one of:
    --show          Displays command specific information.
    --add           Adds a replication link to a container.
    --update        Updates a replication link to a container.
    --delete        Deletes a replication link from a container.
    --start         Starts replication.
    --stop          Stops replication.
    --limit         Delete existing bandwidth rules for all ports and sets new
throttling limits.
    --resync        Initiates a replication re-sync.
    --troubleshoot  Troubleshoots replication connection.

For command-specific help, please type replication --help <command>

For example:

    replication --help show

```


Seed

The QoreStor seed operations allow for exporting data on the source to a portable seed device to then import the seed data to a primary target, and, if required, a secondary target as well. Replication seeding is an alternative to using network bandwidth for the initial re-synchronization of the source and target(s). After the target(s) are seeded, continuous replication can be started, which will keep the target(s) up to date by sending only unique data.

The QoreStor CLI seed commands support the following operations:

- Create a job to perform seeding export or import.
- Delete an existing seeding export or import job.
- Specify containers for seeding export.
- Remove a container which is already added for seeding export.
- Add a device to be used for seeding.
- Remove a device which is already added for seeding.
- Start seeding process (export/import).
- Stop running seeding process (export/import).
- Start cleaner to process seed ZL logs on target.

i NOTE: The seeding device must be a CIFS share: a USB device connected to a Windows or Linux system and shared for import as a CIFS-mounted folder.

i NOTE: The following scenarios are not supported for seeding:

- Import AND export from one share/device cannot occur at the same time.
- Import from one share/device cannot be completed from multiple locations at the same time.
- Export to a mount point can be completed only from one seed job. Multiple seed export jobs cannot send data to a single mount point.

Seed Command Usage

This topic introduces the **seed** command usage:

- **seed --create --op <options> [--enc_type <options>] [--storage_group_name <name>]**
- **seed --delete**
- **seed --add_container --name <container name>**
- **seed --remove_container --name <container name>**
- **seed --add_device --server <server name> --volume <volume> --username <user name> --domain <domain name>**
- **seed --remove_device**
- **seed --start**
- **seed --stop**
- **seed --show**

- `seed --cleanup`
- `seed --help`

`seed --create --op <import | export> [--enc_type <aes128 | aes256>] [--storage_group_name <name>]`

Description

Creates a seed export job of type import or export on the source QoreStor or DR. The command will prompt for a password, and this password will be requested on the target to import the data. The command allows you to specify the type of encryption that will be used to encrypt the data on the seed device. The default value is aes256. The default value for storage group name is DefaultGroup.

Syntax

```
seed --create --op export --enc_type aes256 --storage_group_name cust1
```

Result

```
Enter password for seed export:
Re-enter password for seed export:
Successfully created seed job details.
```

`seed --add_container --name <container name>`

Description

Adds the container(s) that you want to seed. A new invocation of `seed --add_container` command needs to be executed for every container that you want to seed.

Syntax

```
seed --add_container --name acme-container1
```

Result

```
Successfully added seed container.
```

`seed --add_device --server <server name> --volume <volume> --username <username> --domain <domain name>`

Description

Adds a target device to the job. This is a USB device, which is CIFS shared from a Windows or Linux system.

i **NOTE:** During seeding import, when a device is added to be used as target device, it can be used only for one job. To use it for another job, you need to delete all the seeding contents from the device. You can create separate folders on this device and can use each folder for a job.

Syntax

```
seed --add_device --server 10.250.224.81 --volume seed-device --username administrator  
--domain testad.acme.local
```

Result

```
Enter password for administrator@10.250.224.81:  
Successfully added seed device.
```

seed --cleanup

Description

Starts the cleaner to remove data not referenced on the target.

i **NOTE:** You should run the seeding cleaner only when the system is idle and no ingests or replications tasks are in progress. When the seeding cleaner is run during replication, for example, there is a chance of missing data during the seeding process. However, this data will eventually be sent during resync.

Syntax

```
seed --cleanup
```

Result

```
Successfully added seed ZL logs to cleaner queue
```

seed --remove_device

Description

Remove the target device. This is an important step without which stats and other information will not be saved on the target device.

Syntax

```
seed --remove_device
```

Result

```
Successfully deleted device details
```

seed --show

Description

Used to show the configured seed job.

Syntax

```
seed --show
```

Result

```
Device info
=====
Server           :10.250.224.81
Volume           :seed-device
Username         :administrator
Domain           :testad.acme.local

Job info
=====
Operation        :Export
Status           :Started
Container        :acme-container1
Encryption type  :aes256
```

seed --start

Description

Starts the seeding job. You will be prompted to add additional devices if a single device does not have enough space.

Syntax

```
seed --start
```

Result

Successfully started seed job.

seed --help

Description

Displays the list of all seed command related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
seed --help
```

Result

```
Usage:
  seed --create --op <import|export>
    [--enc_type <aes128 | aes256>]
    [--storage_group_name <name>]

  seed --delete
  seed --add_container --name <container name>
```

```

seed --remove_container --name <container name>

seed --add_device --server <server name>
    --volume <volume>
    --username <user name>
    [--domain <domain name>]

seed --remove_device
seed --start
seed --stop
seed --show
seed --cleanup
seed --help

seed <command> <command-arguments>
command can be one of:
    --create          Create a job to perform seeding export or import.
    --delete          Delete an existing seeding export or import job.
    --add_container   Add a container to be used for seeding export.
    --remove_container Remove a container which is already added for seeding
export.
    --add_device      Add a device to be used for seeding.
    --remove_device   Remove a device which is already added for seeding.
    --start           Start seeding process(export/import).
    --stop            Stop running seeding process(export/import).
    --show            Show registered device, job for seeding.
    --cleanup         Start cleaner to process seed ZL logs on target.

For command-specific help, please type seed --help <command>
eg:
    seed --help create

```

Schedule

A schedule is the means by which you set aside specific daily time periods for performing disk space reclamation or replication operations. Disk reclamation operations recover unused disk space from QoreStor containers in which files were deleted; replication operations are the process by which the key data is saved only once from multiple devices to minimize excessive or redundant storage of the same data.

This set of QoreStor CLI commands allow you to perform the following tasks on a system:

- Display existing scheduled Replication and Cleaner (disk space recovery) operations
- Create new schedules for Replication and Cleaner operations
- Delete existing scheduled Replication and Cleaner operations

Schedule Command Usage

This topic introduces the **schedule** command usage:

- **schedule --show [--cleaner] [--replication] [--name]**
- **schedule --add --day <Day of the week (Sunday|Monday...)> [options]**
- **schedule --delete --day <Day of the week (Sunday|Monday...)> [options]**
- **schedule --help**

i | **NOTE:** If you specify a command without supplying the expected value or option, you will be prompted to provide the correct value or option.

schedule --show [--cleaner]

Description

Displays any existing Cleaner schedule.

Syntax

```
schedule --show --cleaner
```

Result

Cleaner Schedule:

	Start	Stop
Sunday	05:00	06:00
Monday	05:00	06:00
Tuesday	05:00	06:00
Wednesday	05:00	06:00
Thursday	05:00	06:00
Friday	05:00	06:00
Saturday	05:00	06:00

schedule --show [--replication] [--name <name>]

Description

Displays any existing replication schedule for a QoreStor. If you do not specify a name parameter, the replication schedules for all containers are returned.

Syntax

```
schedule --show --replication --name acme55-cont1
```

Result

Replication Schedule:

	Start	Stop
Sunday	22:00	05:00

Monday	22:00	05:00
Tuesday	22:00	05:00
Wednesday	22:00	05:00
Thursday	22:00	05:00
Friday	22:00	05:00
Saturday	22:00	05:00

schedule --add --day <day of the week> [--cleaner] [--replication] [--start_time <hh:mm>] [-- stop_time <hh:mm>]

Description

Creates a new Cleaner or Replication schedule for a QoreStor instance.

i **NOTE:** Without any Cleaner schedule set, the QoreStor Cleaner process automatically starts within two minutes after it detects that no data ingest operation or other system operation activity is present. So, if your QoreStor runs intermittent or inconsistent ingest or readback, or replication operations, there is no need to set a Cleaner schedule (it will automatically run during periods of low or non-activity). However, if your system runs regular and consistent ingest or readback you should create a Cleaner schedule that runs only during a known period of low or non-activity (for example, on a day or time period sufficient to complete this process). If your system does not meet either of these cases, you can still manually run the Cleaner. For more information, see [maintenance --filesystem --reclaim_space](#).

Syntax

```
schedule --add --day Sunday --start_time 06:00 --stop_time 22:00 --cleaner
```

i **NOTE:** Set a corresponding stop time for every start time in each Cleaner (or Replication) schedule you create. The following example shows setting up a Cleaner schedule for the remainder of the week (Monday through Saturday).

i **NOTE:** Do not select 00:00 for a start time or stop time endpoint for midnight when setting Cleaner or Replication schedules (instead, use either the 23:55 or 00:05 value).

Result

Successfully updated Cleaner schedule.

i **NOTE:** To create a Replication schedule (use the QoreStor CLI **--replication** command), and the same process shown here to schedule the start and stop times for a Replication schedule. This lets you schedule start and stop times for each day in the week in which you want the Replication process to run.

schedule --delete --day <day of the week> [--cleaner] [--name <name>] [--replication]

Description

Deletes a day in an existing Cleaner or Replication schedule for a QoreStor instance. The **--name** option is only applicable for replication and not for the cleaner. You can use it to specify a container.



NOTE: To delete days from either an existing Cleaner or Replication schedule, specify the day in the week and the schedule type.

Syntax

```
schedule --delete --day Sunday --cleaner --name Container1
```

Result

Successfully updated Cleaner schedule.

schedule --help

Description

Displays the list of schedule-related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
schedule --help
```

Result

Usage:

```
schedule --show [--cleaner]
              [--replication]
              [--name<name>]
```

```
schedule --add --day <Day of the week (Sunday|Monday...)>
              [--cleaner]
              [--replication]
              [--start_time <HH:MM>]
              [--stop_time <HH:MM>]
              [--name]
```

```
schedule --delete --day <Day of the week (Sunday|Monday...)>
              [--cleaner]
              [--name <name>]
              [--replication]
```

```
schedule --help
```

```
schedule <command> <command-arguments>
```

<command> can be one of:

```
--show      Displays command specific information.
--add       Adds a schedule for cleaner (use on source DR).
--delete    Deletes a cleaner schedule (use on source DR).
```

For command-specific help, please type `schedule --help <command>`

eg:

```
schedule --help show
```


VTL

The VTL commands allow you to manage the virtual tape library (VTL) containers you have created for your system, including the ability to create additional tapes for your libraries, set drives to read/write, or activate and deactivate replica VTLs.

VTL Command Usage

This topic introduces the QoreStor CLI commands that allow you to manage the virtual tape library (VTL) containers you have created for your system, which include:

- **vtl --show [options]**
- **vtl --update_carts [options]**
- **vtl --activate --name [options]**
- **vtl --deactivate --name**
- **vtl --rescan --name [options]**
- **vtl --set_rw [options]**
- **vtl --show_replstate --name**
- **vtl --help**

vtl --show [--name <name>]

Description

This command allows you to see the status of a specified virtual tape library (VTL). It displays detailed information about VTL, such as media type, vendor, model, generic device information, serial number, library size, and tape status information. The first example below shows the result information for Container vtl1 of type VTL with an NDMP connection. The second example shows Container iscsi-vtl1 of type VTL with an iSCSI connection.

Syntax

```
vtl --show [--name <name>]
```

Result

Type	Vendor	Model	Serial	Info	ID
medi	DELL	DR_L700	81BL3T_00	10 10GB	10
tape	IBM	ULT3580-TD4	81BL3T_01	Not loaded	11
tape	IBM	ULT3580-TD4	81BL3T_02	Not loaded	12
tape	IBM	ULT3580-TD4	81BL3T_03	Not loaded	13

tape	IBM	ULT3580-TD4	81BL3T_04	Not loaded	14
tape	IBM	ULT3580-TD4	81BL3T_05	Not loaded	15
tape	IBM	ULT3580-TD4	81BL3T_06	Not loaded	16
tape	IBM	ULT3580-TD4	81BL3T_07	Not loaded	17
tape	IBM	ULT3580-TD4	81BL3T_08	Not loaded	18
tape	IBM	ULT3580-TD4	81BL3T_09	Not loaded	19
tape	IBM	ULT3580-TD4	81BL3T_10	Not loaded	20

Type	Vendor	Model	Serial	Info	ID
medi	DELL	DR_L700	NQ9VL5_00	110 100GB	30
tape	IBM	ULT3580-TD4	NQ9VL5_01	Not loaded	31
tape	IBM	ULT3580-TD4	NQ9VL5_02	Not loaded	32
tape	IBM	ULT3580-TD4	NQ9VL5_03	Not loaded	33
tape	IBM	ULT3580-TD4	NQ9VL5_04	Not loaded	34
tape	IBM	ULT3580-TD4	NQ9VL5_05	Not loaded	35
tape	IBM	ULT3580-TD4	NQ9VL5_06	Not loaded	36
tape	IBM	ULT3580-TD4	NQ9VL5_07	Not loaded	37
tape	IBM	ULT3580-TD4	NQ9VL5_08	Not loaded	38
tape	IBM	ULT3580-TD4	NQ9VL5_09	Not loaded	39
tape	IBM	ULT3580-TD4	NQ9VL5_10	Not loaded	40

vtl --show --verbose [--name <name>]

Description

Displays detailed information about the specified virtual tape library (VTL).

Syntax

```
vtl --show --verbose
```

Result

Type	Vendor	Model	Serial	Info	ID
medi	DELL	DR_L700	NQ9VL5_00	110 100GB	30
tape	IBM	ULT3580-TD4	NQ9VL5_01	Not loaded	31
tape	IBM	ULT3580-TD4	NQ9VL5_02	Not loaded	32
tape	IBM	ULT3580-TD4	NQ9VL5_03	Not loaded	33
tape	IBM	ULT3580-TD4	NQ9VL5_04	Not loaded	34
tape	IBM	ULT3580-TD4	NQ9VL5_05	Not loaded	35
tape	IBM	ULT3580-TD4	NQ9VL5_06	Not loaded	36
tape	IBM	ULT3580-TD4	NQ9VL5_07	Not loaded	37
tape	IBM	ULT3580-TD4	NQ9VL5_08	Not loaded	38
tape	IBM	ULT3580-TD4	NQ9VL5_09	Not loaded	39

tape	IBM	ULT3580-TD4	NQ9VL5_10	Not loaded	40
------	-----	-------------	-----------	------------	----

Cartridges available in library:

```
NQ9VL5001 NQ9VL5002 NQ9VL5003 NQ9VL5004 NQ9VL5005 NQ9VL5006 NQ9VL5007 NQ9VL5008
NQ9VL5009 NQ9VL500A NQ9VL500B NQ9VL500C NQ9VL500D NQ9VL500E NQ9VL500F NQ9VL500G
NQ9VL500H NQ9VL500I NQ9VL500J NQ9VL500K NQ9VL500L NQ9VL500M NQ9VL500N NQ9VL500O
NQ9VL500P NQ9VL500Q NQ9VL500R NQ9VL500S NQ9VL500T NQ9VL500U NQ9VL500V NQ9VL500W
NQ9VL500X NQ9VL500Y NQ9VL500Z NQ9VL5010 NQ9VL5011 NQ9VL5012 NQ9VL5013 NQ9VL5014
NQ9VL5015 NQ9VL5016 NQ9VL5017 NQ9VL5018 NQ9VL5019 NQ9VL501A NQ9VL501B NQ9VL501C
NQ9VL501D NQ9VL501E NQ9VL501F NQ9VL501G NQ9VL501H NQ9VL501I NQ9VL501J NQ9VL501K
NQ9VL501L NQ9VL501M NQ9VL501N NQ9VL501O NQ9VL501P NQ9VL501Q NQ9VL501R NQ9VL501S
NQ9VL501T NQ9VL501U NQ9VL501V NQ9VL501W NQ9VL501X NQ9VL501Y NQ9VL501Z NQ9VL5020
NQ9VL5021 NQ9VL5022 NQ9VL5023 NQ9VL5024 NQ9VL5025 NQ9VL5026 NQ9VL5027 NQ9VL5028
NQ9VL5029 ... and more!
```

Total: 110 cartridges available.

vtl --update_carts --name <name> --add --no_of_tapes <number>

Description

This command allows you to create additional tapes for a library specified in the `--name` option. Each library is initially created with 10 slots housing 60 tape media. Additional tapes can be added to the library as needed using this command. A library can only contain tapes of the same size. For example, if the library was originally created with 60 tapes of size 10G, additional tapes of size 10G can only be added.

Syntax

```
vtl --update_carts --name test-vtl --add --no_of_tapes 10
```

Result

Created 10 cartridges.

vtl --activate --name <name> [--force <yes|no>]

Description

This command activates a replica VTL.

Syntax

```
vtl --activate --name VTL1_Test --force yes
```

Result

```
Enter reserialization code for replica [ 00 (no op), 01 - 99 ]: 00
VTL processes will be started for container, VTL1_Test ...
```

vtl --deactivate --name <name>

Description

This command deactivates a replica VTL.

Syntax

```
vtl --deactivate --name VTL1_Test
```

Result

```
Are you sure you want to de-activate this VTL? [ Yes, No ] y
VTL VTL1_Test is deactivated !!
```

vtl --rescan --name <name> [--force <yes|no>]

Description

This command rescans a replica VTL.

Syntax

```
vtl --rescan --name VTL1_Test
```

Result

```
Rescan replica VTL after new cartridges have been added at source VTL? [Yes|No] y
```

```
Connections to the library VTL1_Test could be disrupted for a brief period.
Make sure no cartridges are loaded in tape drives and/or backups are in progress.
Proceed? [Yes|No] y
vtllibrary will be re-instantiated for container, VTL1_Test!
```

vtl --set_rw --name <name> [--id <number>]

Description

This command allows you to set the drives in a VTL container to read/write. The arguments to this command are as follows:

- **--name** — Specifies the name of a valid VTL container.
- **--id** — Sets the IO mode of a specific drive to RW.

Syntax

```
vtl --set_rw --name ndmp --id 81
```

Result

```
I/O mode set to readwrite for the drive with id 81 in container ndmp
```

vtl --show_replstate --name <name>

Description

This command shows the replication state of a specified VTL replication source container.

Syntax

```
vtl --show_replstate --name VTL1_Test
```

Result

Cartridges with data, INSYNC with peer:

```
-----  
AFNGC6003 AFNGC6004 AFNGC6005 AFNGC6006 AFNGC6007 AFNGC6008 AFNGC6009 AFNGC600A  
AFNGC600B AFNGC600C AFNGC600D AFNGC600E AFNGC600F AFNGC600G AFNGC600H AFNGC600I  
AFNGC600J AFNGC600K AFNGC600L AFNGC600M AFNGC600N AFNGC600O AFNGC600Q AFNGC600R  
AFNGC600S AFNGC600T AFNGC600V AFNGC600W AFNGC600X AFNGC600Y AFNGC600Z AFNGC6010  
AFNGC6011 AFNGC6012 AFNGC6013 AFNGC6014 AFNGC6002 AFNGC6001  
Total 38 cartridges synchronized with peer VTL.
```

Cartridges with data, not INSYNC with peer:

```
-----  
None.  
Total 0 cartridges NOT synchronized with peer VTL.
```

Cartridges that do not have data are not displayed.

vtl --help

Description

Displays the list of vtl-related options that can be used as a reference when using the QoreStor CLI.

Syntax

```
vtl --help
```

Result

Usage:

```
vtl --show [--verbose]
           [--name <name>]

vtl --update_carts --name <name>
           --add
           --no_of_tapes <number>

vtl --activate --name <name>
           [--force <yes|no>]

vtl --deactivate --name <name>
```

```
vtl --rescan --name <name>
      [--id <number>]
```

```
vtl --show_replstate --name <name>
```

```
vtl --help
```

```
vtl <command> <command-arguments>
```

<command> can be one of:

--show	Displays command specific information.
--update_carts	Add cartridges
--activate	Activate a replica VTL
--deactivate	De-activate a replica VTL
--rescan	Rescan a replica VTL
--set_rw	Set drives in a vtl container to read write
--show_replstate	Show replication state of a container

For command-specific help, please type `vtl --help <command>`

eg:

```
vtl --help show
```

Maintaining QoreStor

This topic introduces the CLI commands that are useful for managing the filesystem and performing system maintenance-related tasks.

- The Maintenance command and its options are used to perform filesystem and system maintenance.

Maintenance

The QoreStor CLI **maintenance** commands lets you display the system maintenance repair progress, and manage the data repair and state of a QoreStor system.

i **NOTE:** Whenever the QoreStor enters or exits from the **Maintenance** mode state, communication via OST, RDA, CIFS, and NFS is lost.

The **maintenance --filesystem** commands perform maintenance operations on the QoreStor file system, the **maintenance --diags** command allow you to create and view diagnostic bundles for your QoreStor system.

i **NOTE:** This set of maintenance commands provide some functionality that is not available in the QoreStor GUI. To check the status of the QoreStor server, use the QoreStor CLI **system --show** command to display the current status.

Maintenance command

This topic introduces the **maintenance** command usage:

NOTE: Using some of the maintenance command options could result in the deletion of data. Carefully observe the warnings (for example, running the scan without running the repair). If you have questions, do not perform these QoreStor CLI command options without first contacting Technical Support.

- **maintenance --filesystem**
 - **--scan_report [verbose]**
 - **--repair_status [verbose]**

- `--repair_history [verbose]`
- `--scan_restart [verify_data | verify_rda_metadata | verify_metadata]`
- `--repair_now`
- `--reclaim_space`
- `--stop_reclaim_space`
- `--clear_quarantine`
- `--start_scan [verify_data | verify_rda_metadata | verify_metadata] [--storage_group <name>]`
- `--stop_scan`
- **maintenance --diags**
 - `--collect`
 - `--show`
 - `--delete <name>`
 - `--delete_all`
- **maintenance --help**

NOTE: If you specify a command without supplying the expected value or option, you are prompted to provide the correct value or option.

maintenance --filesystem [--scan_status]

Description

Displays the current filesystem checker status and scan progress for a QoreStor.

Syntax

```
maintenance --filesystem --scan_status
```

Result

```
Filesystem checker           : Scan in progress
Filesystem check status:
DataBlock Consistency Checker Stats
=====
Phase                        : INODE CRAWL
Inode check                  : IN PROGRESS
Inodes processed             : 3200 / 3498
Time left (approx)           : 4 secs
Cont Name      TotalInodes  Checked      Corrupted      Missing Data Orphan
-----
backup                                0
container29                          0              0              0
backupsys-60_replicate                                71826

Data block check              : COMPLETED
Data blocks processed         : 422 / 422
```



```

Corrupted data chunks          : 0
Data chunk refcount mismatch   : 0
Recomputed bytes out           : 1383308872
Recomputed bytes in            : 6107833613
Recomputed % Savings           : 77.351890%
Time left (approx)             : 0
Data block check               : NOT STARTED
Namespace Consistency Checker Stats
=====
Namespace check                : NOT STARTED

```

maintenance --filesystem --scan_report [verbose]

Description

Displays the current filesystem checker report, which is generated by the QoreStor CLI [maintenance --filesystem \[--start_scan \[verify_data | verify_rda_metadata | verify_metadata\] \[--storage_group <name>\]](#) command.

Syntax

```
maintenance filesystem --scan_report [verbose]
```

Result

```

Filesystem check report
=====
Report generated at          : Fri Dec 9 08:23:05 2016

There are no problems detected.

```

maintenance --filesystem [--repair_history [verbose]]

Description

Displays the filesystem checker history for a QoreStor.

Syntax

```
maintenance --filesystem --repair_history
```

Result

```

Filesystem check time          : Wed Nov 23 21:59:10 2016
Dry run finished at            : Wed Nov 23 21:59:14 2016
Release version                : 4.0.0254.0
Build                          : 62141
Data verification              : Not Enabled
Scan mode                      : Normal scan
Result                         : No inconsistencies discovered.
Storage Group(s)               : sg2

```

```
Filesystem check time      : Tue Nov 29 22:13:54 2016
Dry run finished at       : Tue Nov 29 22:15:57 2016
Release version           : 4.0.0254.0
Build                     : 62141
Data verification         : Not Enabled
Scan mode                 : Normal scan
Result                    : No inconsistencies discovered.
Storage Group(s)         : All
```

```
Filesystem check time      : Tue Nov 29 22:20:12 2016
Dry run finished at       : Tue Nov 29 22:20:28 2016
Release version           : 4.0.0254.0
Build                     : 62141
Data verification         : Enabled
Scan mode                 : Normal scan
Result                    : No inconsistencies discovered.
Storage Group(s)         : sg2
```

maintenance --filesystem [--scan_restart [verify_data | verify_rda_metadata | verify_metadata]]

Description

Restarts file system checker to generate updated report.

i | **NOTE:** Argument **verify_data** validates data with pre-built checksum. Argument **verify_rda_metadata** scans only OST and RDA containers. Argument **verify_metadata** scans only the namespace for all containers.

Syntax

```
maintenance --filesystem --scan_restart [verify_data| verify_rda_metadata | verify_metadata]
```

Result

Successfully restarted filesystem scan.

maintenance --filesystem --reclaim_space

Description

Reclaims disk space that was formerly occupied by data in the recycle bin in a QoreStor using the Cleaner process. This command is what is commonly referred to as “manually” running the Cleaner process to reclaim disk space.

Syntax

```
maintenance --filesystem --reclaim_space
```

Result

Successfully started cleaner.

maintenance --filesystem --stop_reclaim_space

Description

Stops Cleaner running in run-once mode (as the result of executing the **--reclaim space** command)

Syntax

```
maintenance --filesystem --stop_reclaim_space
```

Result

Successfully stopped cleaner.

maintenance --filesystem [--clear_quarantine]

Description

Clears a specialized quarantine folder that collects data files considered corrupted after attempts have been made to perform repairs by the filesystem. The maintenance **--filesystem** CLI commands should only be performed when the QoreStor is in its **Maintenance** mode. This command should not need to be run on a regular basis (it should only be run when a lengthy period of time has elapsed or you feel that the space in the quarantine folder needs to be reclaimed).

Syntax

```
maintenance --filesystem --clear_quarantine
```

Result

Successfully performed quarantine cleanup.

maintenance --filesystem [--start_scan [verify_data | verify_rda_metadata | verify_metadata] [--storage_group <name>]

Description

Starts filesystem checker to check for consistency issues in storage groups.

- i** | **NOTE:** Argument **verify_data** validates data with pre-built checksum. Argument **verify_rda_metadata** scans only OST and RDA containers. Argument **verify_metadata** scans the namespace for all containers.
- i** | **NOTE:** Using this command places the files system into a read-only mode and pauses all active replications. When the QoreStor enters **Maintenance** mode, an alert is sent that indicates this operational change.

Syntax

```
maintenance --filesystem --start_scan verify_data --storage_group SGTest1
```

Result

This operation will make the filesystem read-only and pause all active replications. "verify_data" option will check for data consistency issues in the filesystem. This might take long time to complete.

Do you want to continue (yes/no) [n]? y

Please enter the administrator password:

Filesystem check started successfully.

To see the status, please execute "maintenance --filesystem --scan_status".

If you enter the maintenance --filesystem --scan_restart command when the QoreStor is not in **Maintenance** mode, the following output is displayed at the system prompt:

```
maintenance --filesystem --scan_restart
```

"Operation not supported as system is not in maintenance mode.

To be able to restart scan, filesystem check must be running or waiting".

maintenance --filesystem [--stop_scan]

Description

Stops the filesystem scan process that verifies the data contained in a QoreStor.

Syntax

```
maintenance --filesystem --stop_scan
```

Result

This operation will stop the filesystem checker and put the system back into operational mode.

Do you want to continue (yes/no) [n]? y

Please enter the administrator password:

Filesystem check stopped successfully.

maintenance --diags --collect

Description

Generates a new diagnostics log file that represents the current state of a QoreStor. This command option is only available in the CLI.

Syntax

```
maintenance --diags --collect
```

Result

```
Collecting logs...
tar: esc-kvm-qs1.ocarina.local_2018-06-07_10-18-04/oca_cores/*: File removed before we
read it
Diagnostics log location: /var/diagnostic_logs/esc-kvm-qs1.ocarina.local_2018-06-07_
10-18-04.lzip
/opt/qorestor/bin

Compressing package... Done
```

maintenance --diags --show

Description

Displays a list of the diagnostics log files. The diagnostics log files are a collection of all QoreStor-related information that describe the current state of your system.

Syntax

```
maintenance --diags --show
```

Result

```
maintenance --diags --show
Diagnostics log location: /var/diagnostic_logs
qorestor_2018-06-06_08-24-07.lzip          42219418
qorestor_2018-06-06_12-09-26.lzip          42005069
Done
```

maintenance --diags --delete <name>

Description

Deletes the named diagnostics file.

Syntax

```
maintenance --diags --delete qsvm1_2018-06-06_10-31-19.lzip_
```

Result

```
Deleting diagnostics qsvm1_2018-06-06_10-31-19.lzip_
```

maintenance --diags --delete_all

Description

Deletes all of the diagnostics files on a QoreStor server.

! **CAUTION:** Carefully consider before using the `--delete_all` command. If you delete all diagnostics log files without first saving them to another location, all previous system status information that they contained is lost and unrecoverable.

Syntax

```
maintenance --diags --delete_all
```

Result

```
Deleting all diagnostics
```

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Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at <https://support.quest.com>.

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- Submit and manage a Service Request
- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to-videos
- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product