

Quest® QoreStor™ 4.1.0

# 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.

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# 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.

**i** | **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.
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.
Additional whitepapers	Instructions and best practices for configuring additional Quest and third-party applications to work with QoreStor.

**i** | **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.

**i** | **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.
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.

**i** | **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 <a href="#">NetBackup product documentation</a> .
Veritas Backup Exec	For information on Veritas Backup Exec, refer to the <a href="#">NetBackup product documentation</a> .

# 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. (For a complete list of supported backup software, see [Supported backup applications](#)) .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

The QoreStor CLI commands are located in the `/opt/qorestor/bin` directory. In order to execute QoreStor commands, you must either:

- Use the absolute path to the command (`# /opt/qorestor/bin/stats --help`, for example)
- Change directory to `/opt/qorestor/bin` and execute commands by prepending with `./` (`./stats --help`, for example)
- Change the `$PATH` variable on your system to include the `/opt/qorestor/bin` directory.

## Changing your system \$PATH variable

1. At the QoreStor server command line, enter the command

```
echo 'export PATH=$PATH:/opt/qorestor/bin/' >> ~/.bashrc
```

2. Log out of the QoreStor system, then log in.
3. Verify that the `$PATH` was updated by entering

```
echo $PATH
```

## 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
connection	Configure OST   RDS access to a container.
container	Configure a file system to share over 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.
schedule	Manage cleaner schedules in the system.

<b>Command Group</b>	<b>Description</b>
<code>stats</code>	View statistics for system components.
<code>storage_group</code>	Manage and view the storage groups on a QoreStor
<code>user</code>	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:

- **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 [--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
```

# 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
- 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 --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	Peer	ID	Savings	Bytes
/1481068800/w1	1075139KiB/s	10.250.240.232	10			100.00%	107374182400Bytes
		2016-12-07 07:58:19	None				

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 --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 --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.
--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.
- 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 --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]
```

<code>--config</code>	Displays RDA configuration.
<code>--file_history</code>	Display(s) history of last 10 RDA optimized deduplication image files.
<code>--name</code>	RDA container name.
<code>--active_files</code>	Display(s) current active RDA image files being replicated.
<code>--name</code>	RDA container name.
<code>--clients</code>	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
qoresto	10.230.	R	4.1.0	Windows Server	NetVault	Jun 7	2	

**i** **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.

**i** **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.

## 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

### Decription

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]

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

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

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.
```

```
.  
--partial_images Lists or cleans up partial images.
```

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

eg:

```
rda --help show
```

## 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`
- OST media server: `--ost`
- RDS media server `--rds`
- A specific container: `--container --name`
- Cleaner: `--cleaner`
- Clients: `--clients --type`

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

- RDS `--reset --rds`

## Stats Command Usage

This topic introduces the `stats` command usage:

- `stats --system`
- `stats --cpu`
- `stats --memory`
- `stats --ost`
- `stats --rds`
- `stats --container --name`
- `stats --storage_group --name`
- `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 --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 --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)
```

## 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 --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 <OST|RDS>]

### Description

Displays the current OST or RDS 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	Connection(s)	Mode	Backup Software	Last
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 --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 --rds
```

```
stats --container --name <name>
stats --storage_group --name <name>
stats --cleaner
stats --clients [--type <OST|RDS>]
stats --reset [--rds]
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.
--rds	Displays statistics for RDS server.
--container	Displays statistics for a specific container.
--storage_group	Displays statistics for a specific storage_group.
--cleaner	Displays statistics for cleaner.
--clients	Displays client information.
--reset	Resets 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
v1l-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 '\_')

**i** | **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 --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 --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 --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:

group.	--show	Displays the current list of storage_
	--add	Adds a new storage_group.
	--update	updates a storage_group.
group.	--encryption	updates encryption settings of a storage_
	--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.

# System Command Usage

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

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

### 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               : 4.1.0
Build                 : 234
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 --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	Enabled

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

```
system --show --license --verbose
Feature ID           : 1
Description          : 1 Storage Enclosure
Status               : Enabled
Entitlement ID       : XKE00000003387477
Start Date           :
End Date             :
Is Eval              : No
In Use               : No
```

## 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           : 4.1.0
Build            : 234
```

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

### Description

QoreStor installs with a 1 TB, 30-day trial license. If you have purchased a perpetual license, you can install it using the **system --license** command, as described below.

When you have download 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 --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 --help
```

```
system <command> <command-arguments>
```

<command> can be one of:

<code>--show</code>	Displays command specific information.
<code>--license</code>	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 <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            : administrator
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  
<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 <ost|rda|monitor|secure_connect>] [--  
remove_roles <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 <ost|rda|monitor|administrator>

user --add --name <user name>
                [--roles <ost|rda|monitor>]
                [--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 <ost|rda|monitor>]
                [--remove_roles <ost|rda|monitor>]
                [--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
```

# 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, all communication via OST or RDA 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`
- `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          0             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 SGTst1
```

## 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
```

# 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
- **Schedule:** configuring/managing the Cleaner schedules for QoreStor

## System Storage Operation Commands

This topic introduces the QoreStor CLI system storage operation commands that allow you to manage the connections to storage containers, manage these containers, and manage storage operations.

## 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 <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 <OST|RDS>]
                [--verbose]

--name          Name of container.
--type          Type of sharing (OST|RDS).
--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 <OST|RDS> [--capacity <positive decimal number>]**

### Description

Specifies connection type to OST or RDS and sets capacity in (GB) for OST connections.

### 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 <OST|RDS> [--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 <OST|RDS >**

### 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 <OST|RDS>

### 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 <OST|RDS>

### 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 <OST|RDS>]
                [--verbose]
connection --add --name <name>
                --type <OST|RDS>
                [--capacity <Positive decimal number>]
connection --update --name <name>
                --type <OST|RDS>
                [--capacity <Positive decimal number>]
connection --delete --name <name>
                --type <OST|RDS>
connection --enable --name <name>
                --type <OST|RDS>
connection --disable --name <name>
                --type <OST|RDS>
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 (the QoreStor limits support to 16 containers)
- Delete existing containers

## Container Command Usage

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



- **container --show [options]**
- **container --add --name**
- **container --delete --name [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> [--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 --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 --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 <OST|RDS>](#). 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> [--group_name <name>]
```

```
container --update --name <name>
```

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

```
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.
```

```
--update           Updates a container
--delete          Deletes 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
```

## Schedule

A schedule is the means by which you set aside specific daily time periods for performing disk space reclamation operations. Disk reclamation operations recover unused disk space from QoreStor containers in which files were deleted;.

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

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

## Schedule Command Usage

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

- **schedule --show [options]**
- **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 for a QoreStor.

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

## Description

Creates a new Cleaner 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, 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 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 schedules (instead, use either the 23:55 or 00:05 value).

## Result

Successfully updated Cleaner schedule.

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

## Description

Deletes a day in an existing Cleaner schedule for a QoreStor instance.

**i** | **NOTE:** To delete days from either an existing Cleaner 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]
```

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

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

```
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`

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