Quest® QoreStor™ 7.7.0

Command Line Reference Guide

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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.

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, and 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.
QoreStor Virtual Machine	Provides information on deploying the QoreStor virtual machine on VMware ESX or

Document	Description
Deployment Guide	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.

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 user name for an account with sufficient privileges.
    - Type `<user name>`
    - Press **<Enter>**
3. At the password prompt, enter the password for the account used in the previous step:
    - Type `<password>`
    - Press **<Enter>**
4. Enter the desired command at the prompt. To view the available QoreStor CLI commands, type **help**.

Alternatively, you may access the command line interface through the QoreStore web terminal in the QoreStor GUI.

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 2: QoreStor CLI Commands Overview

Command Group	Description
alerts	View system events and alerts.
authenticate	Configure Active Directory (AD) authentication.
cloud_tier	Configure a cloud connection.
connection	Configure OST or RDS access to a container.
container	Configure a filesystem to share over RDS or OST.
email_alerts	Configure/enable/disable QoreStor Alert Email Service.
email_stats	Configure/enable/disable QoreStor Daily Stats Report Service.
`iscsi`	Manage and view iSCSI connection types for VTL containers.

Command Group	Description
ndmp	Manage and view NDMP connection types for VTL containers.
maintenance	Repair the data and state of the system. Collect diagnostics for the product.
object_container	Configure and manage Object Container.
ost	Configure OST for Veritas (formerly Symantec) backup applications.
performance_tier	Configure a performance tier storage group.
qs_help	Display the QoreStor help command listing.
rda	Configure Rapid Data Access (RDA) for the NetVault application.
replication	Manage replication between systems.
schedule	Manage replication and cleaner schedules in the system.
seed	Configure and manage seeding import or export.
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.
vtl	Manage and view VTL container types.

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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**

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

Description

Displays the current list of system events.

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

Where

```
--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.
```

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 --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 --add [options]**
- **authenticate --delete [options]**
- **authenticate --set --user <user name>**
- **authenticate --guestmode [options]**
- **authenticate --server_signing --mode <auto|mandatory|disabled|show>**
- **authenticate --help**

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

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.

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 [--users] [--domain <domain name>] [--login_group] [--
server_signing]
```

Where

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

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 --join

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.

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 (.).

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

Where

```
--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.
--domain-join-cli      Alternate join method to join domain
```

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.
```

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

Description

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

Syntax

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

Where

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

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.
```

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.

NOTE: If you notice `authenticate --leave` fails to disjoin the system from the ADS domain in case the domain controller is not reachable or if trust is broken; please retry `authenticate --leave` operations after `service ocards restart` or a system reboot.

authenticate --update

Description

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

Syntax

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

Where

```
--kerberos   Updates kerberos configuration.
```

Result

```
Updated kerberos configuration.
```

authenticate --add

Description

Adds a new local CIFS workgroup user for CIFS authentication (and administrative tasks) after you provide and confirm the CIFS user password.

Syntax

```
authenticate --add [--user <user name>][--login_group <DOMAIN\LOGIN GROUP>]
```

Where

```
--user          Name of local CIFS user to add.
--login_group   Name of login group to add (<domain>\<login group>)
```

Result

```
Enter password for new CIFS user administrator2:
Re-enter password for new CIFS user administrator2:
Added CIFS user administrator2.
```

authenticate --delete

Description

Deletes an existing local CIFS workgroup user from CIFS authentication (and administrative tasks).

Syntax

authenticate --delete [--user <user name>] [--login_group <DOMAIN\LOGIN GROUP>]

```
--login_group   Name of login group to add (<domain>\<login group>)
```

Result

```
Deleted CIFS user administrator2.
```

authenticate --set

Description

Sets the password for an existing local CIFS workgroup user.

Syntax

```
authenticate --set --user <user name>
```

Where

```
--user          Name of local CIFS user.
```

Result

```
Enter new password for CIFS user administrator2:
Re-enter new password for CIFS user administrator2:
Changed administrator2's password.
```

NOTE: The QoreStor administrator that manages the QoreStor has a different set of privileges than does the CIFS user administrator. For example, only the QoreStor administrator can change the password for the CIFS user administrator.

authenticate --guestmode

Description

Configures all CIFS shares for guest-only access.

Syntax

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

Where

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

Result

```
Restarting Windows Access Server... done.
```

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 --server_signing

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|mandatory|disabled>
```

Where

```
--mode   Mode of Server Signing.
```

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]
               [--server_signing]

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

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

       authenticate --update --kerberos

       authenticate --add [--user <user name>]
               [--login_group <DOMAIN\LOGIN GROUP>]

       authenticate --delete [--user <user name>]
               [--login_group <DOMAIN\LOGIN GROUP>]

       authenticate --set --user <user name>

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

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

```
       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.
       --add              Creates a local workgroup user for CIFS authentication.
       --delete           Deletes a local workgroup user from CIFS authentication.
       --set              Sets the password for a local workgroup user.
       --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>
       eg:
       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 **email_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.

> **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

```
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 --configure
Please enter SMTP URL ([username@]relay[:port]): smtp.mail.qsft.net
Username is not given in SMTP URL, SMTP auth may not be required
Proceed without SMTP auth? (yes/no): yes
Please enter the senders's email address: no-reply@sekhar-a10-qsl
Please enter the sender's name: QS Admin
Please enter the list of recipient email addresses: nakka.sekhar.rao@quest.com
Please enter the list of email addresses to be CC'ed:
Please enter the list of email addresses to be BCC'ed:
```

Note: STARTTLS is disabled for SMTP email notifications.

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

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

email_stats

Description

Configure/enable/disable QoreStor Daily Stats Report Service. Allows reports with statistics from the QoreStor server sent over email.

Syntax

```
email_stats --clear-config | --enable | --disable | --status | --configure | --test-
email
            --clear-config     removes the stored stats email configuration
            --enable           enables the QoreStor Stats Email service
            --disable          disables the QoreStor Stats Email service
            --status           checks that QoreStor Stats Email service is running
            --configure        interactive prompts to configure email relay, sender name
and email address, recipients, CC recipients, and BCC recipients
            --test-email       send a test email
```

Result

Configure email stats report using option “--configure”.

```
email_stats --configure
Please enter the SMTP Relay FQDN or IP address: <enter relay host>
Please enter the sender's email address: <enter email id>
Please enter the sender's name: <can be QS Admin>
Please enter the SMTP Password (if a password is not required, leave this field
blank):
Please enter the list of recipient email addresses: <email id>
Please enter the list of email addresses to be CC'ed:
Please enter the list of email addresses to be BCC'ed:
Please enter the time when the report should be sent (in HH:MM format): <enter time>
```

Applied configuration:

```
SMTP Relay: <…>
Sender Address: <…>
Sender Name: <…>
Recipient(s): <…>
CC:
BCC:
Send Report at: <..>
```

To enable email reporting execute the following :

```
email_stats --enable
Service is already enabled.
```

Find status of email_stats service:

```
email_stats --status
Service is running.
```

Test the configuration:

```
email_stats --test-email
SUCCESS; Test email sent.
```

Disable email_stats service:

```
email_stats --disable
Service disabled successfully.
```

To remove stored email_stats configuration:

```
email_stats --clear-config
```

Syntax

```
email_stats --configure

Please enter SMTP URL ([username@]relay[:port]): user@smtp.mail.qsft.net

Please enter the sender's email address: no-reply@sp-r9cvg-tst3
Please enter the sender's name: QS Admin
Please enter the SMTP Password (if a password is not required, leave this
field blank): test
Please enter the list of recipient email addresses: reply@sp-r9cvg-tst3
Please enter the list of email addresses to be CC'ed:
Please enter the list of email addresses to be BCC'ed:
Please enter the time when the report should be sent in (HH:MM format):
00:00


Applied Configuration:

SMTP URL: user@smtp.mail.qsft.net
SMTP Username:  user
SMTP Password:  ********
Sender Address: no-reply@sp-r9cvg-tst3
Sender Name:    QS Admin
```

```
Rescipient(s):   reply@sp-r9cvg-tst3
CC:
BCC:
Send Report at:00:00
```

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**

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

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

Where

```
--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.
```

Result

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

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                    Peer    IP             Peer    ID       Savings     Bytes
              Throughput        Replicated  At:           Encryption
 /1481068800/w1     10.250.240.232   10               100.00%     107374182400Bytes
1075139KiB/s     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
```

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.

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

Description

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

Syntax

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

Where

```
--opdup_encryption   Type of encryption to use on the wire.
```

Result

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

ost --delete_client

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 <OST Client Hostname>
```

Where

```
--name   Host name
```

Result

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

ost --update_client

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 <OST Client Hostname> --mode <auto|passthrough|dedupe>
```

Where

```
--name   Hostname of client
```

```
--mode   OST modes (auto, dedupe, passthrough)
```

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

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 <Container id> [--delete <Partial image path>] [--timeout <> 0>]
```

Where

```
--containerid   Container ID.

--delete        OST partial image path to delete

--timeout       Maximum timeout(in seconds) to list partial images.
```

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 <container name>]
               [--active_files] [--name <container 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.

For command-specific help, execute :

        ost --help <command>

            eg: ost --help show
```

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

Description

The command displays the RDA-specific configurations.

Syntax

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

Where

```
--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


--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 Address   Type   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

Description

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

Syntax

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

Where

```
--opdup_encryption   Type of encryption to use on the wire.
```

Result

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

rda --delete_client

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>
```

Where

```
--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

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 .

Syntax

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

Where

```
--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

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 <Container id> [--delete <Partial image path>] [-
-timeout <> 0>]
```

Where

```
--containerid   Container ID.

--delete        RDA partial image path to delete

--timeout       Maximum timeout(in seconds) to list partial images.
```

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 <container name>]
              [--active_files] [--name <container name>]
              [--clients]


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

       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
```

About SAML

Security Assertion Markup Language (SAML) is the protocol QoreStor uses to provide multi-factor authentication (MFA) and single sign-on (SSO) through third-party service providers.

This set of QoreStor CLI commands allow you to perform the following configuration for SAML:

- Adding a SAML configuration
- Updating a SAML configuration with changes
- Showing a list of existing SAML configurations
- Deleting a configuration

SAML configuration command usage

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

- **saml_cfg --add**
- **saml_cfg --update**
- **saml_cfg --show**
- **saml_cfg --delete**
- **saml_cfg --help**

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

saml_cfg --help

Description

Displays a list of all commands for managing a SAML configuration with a compatible identity provider (IDP) when using the QoreStor CLI.

Syntax

```
saml_cfg --help
```

Result

```
Usage:
       saml_cfg --add [--idp_entity_id <anything>]
                      [--idp_login_url <anything>]
                      [--idp_logout_url <anything>]
                      [--idp_metadata_url <anything>]
       saml_cfg --update [--idp_entity_id <anything>]
                      [--idp_login_url <anything>]
                      [--idp_logout_url <anything>]
                      --idp_metadata_url <anything>
       saml_cfg --show
       saml_cfg --delete
       saml_cfg --help

saml_cfg <command> <command-arguments>
<command> can be one of:
       --add      Add SAML Configuration to this system.
       --update   Updates SAML Configuration.
       --show     Display SAML Configuration.
       --delete   Delete SAML Configuration.

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

       eg:
              saml_cfg --help add
```

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 --help**

sc_manager status --property <path_to_sc_client.property_file>

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>

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**
- NFS: **--nfs**

- CIFS: **--cifs**
- OST media server: **--ost**
- RDS media server **--rds**
- NDMP: **--ndmp**
- Completed NDMP sessions: **--ndmp_completed**
- iSCSI: **--iscsi [--verbose]**
- A specific container: **--container --name**
- Storage group: **--storage_group --name <name>**
- Replication: **--replication**
- Cleaner: **--cleaner**
- Clients: **--clients [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI>]**
- Seeding: **--seed**
- Cloud tiers: **--cloud_tier**
- Peformance tier: **--performance_tier**
- Help: **--help**

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 --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 --seed**
- **stats --performance_tier**

- **stats --cloud_tier**
- **stats --object_direct**
- **stats --archive_tier**
- **stats --object_container**
- **stats --help**

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 : 55111.6 GiB
Capacity Used in GB : 59175.623
Capacity Free : 29806.9 GiB
Capacity Free in GB : 32004.894
License Used : 55111.5 GiB
License Used in GB : 59175.548
Licensed Free : 149688.5 GiB
Licensed Free in GB : 160726.778
Cloud Capacity Used : 3620.4 GiB
Cloud Capacity Used in GB : 3887.323
Archive Capacity Used : 10795.9 GiB
Archive Capacity Used in GB : 11592.043
Metadata Used in Repository : 6100.0 GiB
Metadata Used in Repository in GB: 6549.872
Space Used in Metadata location : 0.0 GiB
Space Used in Metadata location in GB: 0.000
Space Free in Metadata location : 0.0 GiB
Space Free in Metadata location in GB: 0.000
Reserve Space : 1055.2 GiB
Reserve Space in GB : 1133.066
Physical Capacity Used : 61211.6 GiB
Physical Capacity Used in GB : 65725.495
Physical Capacity Free : 29806.9 GiB
Physical Capacity Free in GB : 32004.894
Total Physical Capacity : 91268.5 GiB
Total Physical Capacity in GB : 97998.824
Licensed Capacity : 204800.0 GiB
Licensed Capacity in GB : 219902.326
```

```
Read Throughput : 0.00 MiB/s
Write Throughput : 0.00 MiB/s
Current Files : 190618
Current Files Stubbed : 624847
Current Files Locked : 2154
Current Files Locked Logical Size: 3180931842048
Current Direct to Cloud Files : 0
Modified Files Uploaded to Cloud: 149
Modified Files Uploaded to Archive: 1
Current Bytes : 1807225688380143
Current Stubbed Bytes : 81842309261836
Current Local Bytes : 1725383379118307
Current Direct to Cloud Bytes : 0
Post Dedupe Bytes : 75891364234061
Post Compression Bytes : 59168482354785
Post Encryption Bytes : 17490971606704
Post Encryption Bytes in GiB : 16289.7 GiB
Cleaner Status : Running
Compression Status : Done
Total Inodes : 190747
Bytes decrypted : 14464
Dedupe Savings : 94.92 %
Compression Savings : 18.77 %
Total Savings : 95.87 %
Local Dedupe Savings : 95.60 %
Local Compression Savings : 22.04 %
Local Total Savings : 96.57 %
Current Recycle Bin Files : 4
Current Recycle Bin Logical Bytes: 1583620096
Current Recycle Bin Physical Bytes (estimated): 75483633
Total Immutable files : 0
Total Fast Cache space used (physical): 6561497088
```

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                       : 98730140 kB
MemFree                        : 423060 kB
MemAvailable                   : 69596376 kB
Buffers                        : 0 kB
Cached                         : 69734184 kB
SwapCached                     : 7036 kB
Active                         : 618996 kB
Inactive                       : 69248208 kB
Active(anon)                   : 244028 kB
Inactive(anon)                 : 313112 kB
Active(file)                   : 374968 kB
Inactive(file)                 : 68935096 kB
Unevictable                    : 26689192 kB
Mlocked                        : 26689192 kB
SwapTotal                      : 4194300 kB
SwapFree                       : 4105716 kB
Dirty                          : 1488 kB
Writeback                      : 0 kB
AnonPages                      : 26814984 kB
Mapped                         : 502072 kB
Shmem                          : 303136 kB
Slab                           : 680584 kB
SReclaimable                   : 424836 kB
SUnreclaim                     : 255748 kB
KernelStack                    : 42816 kB
PageTables                     : 87144 kB
NFS_Unstable                   : 0 kB
Bounce                         : 0 kB
WritebackTmp                   : 0 kB
CommitLimit                    : 53559368 kB
Committed_AS                   : 37430456 kB
VmallocTotal                   : 34359738367 kB
VmallocUsed                    : 604172 kB
VmallocChunk                   : 34308610044 kB
HardwareCorrupted              : 0 kB
AnonHugePages                  : 17606656 kB
CmaTotal                       : 0 kB
CmaFree                        : 0 kB
HugePages_Total                : 0
HugePages_Free                 : 0
```

```
HugePages_Rsvd                 : 0
HugePages_Surp                 : 0
Hugepagesize                   : 2048 kB
DirectMap4k                    : 374480 kB
DirectMap2M                    : 15255552 kB
DirectMap1G                    : 87031808 kB
```

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 --iscsi

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 -icsi -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 --container

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 <name>
```

Where

```
--name   Name of container.
```

Result

```
**************************************************************************
# stats --container --name nascont

Container Name                  : nascont
Container ID                    : 4
Total Inodes                    : 1
Read Throughput                 : 0.00 MiB/s
Write Throughput                : 0.00 MiB/s
Current Files                   : 0
Current Files Stubbed           : 0
Current Files Locked            : 815
Current Files Locked Logical Size: 1250010595328
Current Bytes                   : 0
Cleaner Status                  : Done
Current Recycle Bin Files       : 0
Current Recycle Bin Logical Bytes: 0
Current Immutable Files         : 0
Current CDP Files               : 0


~]# stats --container --name rds1 --verbose
Container Name                  : rds1
Container ID                    : 13
Total Inodes                    : 71941
Read Throughput                 : 0.00 MiB/s
Write Throughput                : 0.00 MiB/s
Current Files                   : 71773
Current Files Stubbed           : 71773
Current Bytes                   : 0
Cleaner Status                  : Done
Current Immutable Files         : 0
Current CDP Files               : 0
RDS connection Used Capacity              : 0.0 GiB
RDS Inbound Images Duplicated   : 0
RDS Inbound Bytes Processed     : 0 (0.00 GiB)
RDS Inbound Bytes Duplicated    : 0 (0.00 GiB)
```

```
RDS Inbound Bytes Transferred   : 0 (0.00 GiB)
RDS Inbound Bytes Decrypted     : 0 (0.00 GiB)
RDS Inbound Bytes Synthesized   : 0 (0.00 GiB)
RDS Inbound Network Savings     : 0.00 %
RDS Inbound Extent Errors       : 0
RDS Inbound Duplication Errors  : 0
RDS Outbound Images Duplicated  : 0
RDS Outbound Bytes Processed    : 0 (0.00 GiB)
RDS Outbound Bytes Duplicated   : 0 (0.00 GiB)
RDS Outbound Bytes Transferred  : 0 (0.00 GiB)
RDS Outbound Bytes Encrypted    : 0 (0.00 GiB)
RDS Outbound Network Savings    : 0.00 %
RDS Outbound Extent Errors      : 0
RDS Outbound Duplication Errors : 0
RDS Outbound Timeout Errors     : 0
RDS Outbound Network Errors     : 0
RDS Bytes Synthesized           : 0
RDS Images Synthesized          : 0
RDS Images Included From        : 0
RDS Synthesized Errors          : 0
RDS Images Ingested             : 71773
RDS Images Aborted              : 71773
RDS Used Capacity               : 0 (0.00 GiB)
RDS Image Ingest Errors         : 44
RDS Bytes Ingested              : 3029462073737216 (2821406.42 GiB)
RDS Images Read                 : 142577
RDS Image Read Errors           : 2
RDS Bytes Read                  : 1350565888 (1.26 GiB)
RDS Bytes Transferred           : 316911341832916 (295146.69 GiB)
RDS Network Savings             : 89.54 %
Cloud Replication stats:

**************************************************************************

Source container Name           : rds1
Cloud container Name            : cloud_connector_tgt_13
Total files at source           : 71773
Cloud replication history:
File : /soakw58/rds_QS-SOAK_QSPL-4300-10_10240M_soakw58_20220903224617-
seed588876751, 0.00%, 0 bytes, 0 KiB/s, replicated at : 2022-09-06 06:38:05
File : /soakw44/rds_QS-SOAK_QSPL-4300-10_1024M_soakw44_20220903115122-seed831985892,
0.00%, 0 bytes, 0 KiB/s, replicated at : 2022-09-06 06:38:05
File : /soakw46/rds_QS-SOAK_QSPL-4300-10_1024M_soakw46_20220904065438-seed940147290,
0.00%, 0 bytes, 0 KiB/s, replicated at : 2022-09-06 06:38:05
Files in progress to cloud      : 0
Total bytes at source           : 222673833013824
Total bytes processed (logical) : 2130975398045085
Total files replicated          : 1974708
Total bytes replicated          : 303951844552724
Total compressed bytes replicated: 294371035800622
Total cloud bmap bytes read     : 0
Total cloud bmap bytes written  : 7843840020480
```

```
Total cloud bmap blobs created  : 1921113
Total cloud cloud bytes read    : 26064979393952
Total cloud cloud bytes written : 582681060971807
Total cloud blobs               : 19281781
Modified Files Uploaded to Cloud: 0
Modified Files Uploaded to Archive: 4
Total cloud bytes               : 65302925266636

Policy Manager Replication stats:
**************************************************************************


 Last crawl stats:
 Start time         : 12/05/22 - 01:16AM
 End time            : 12/05/22 - 01:16AM
 Replication completed for all files modified until : 09/04/22 - 06:54AM
 Replication completed for file with modification time of : 09/04/22 - 06:54AM
 Number of files matching the cloud policy : 71773
 Number of files replicated in previous crawls : 71773
 Pending files to be CRed : 0
 Pending bytes to be CRed : 0(logical)

 Current crawl stats:
 Start time : 12/05/22 - 01:16AM
 Replication completed for all files modified until: 09/04/22 - 06:54AM
 Replication completed for file with modification time of: 09/04/22 - 06:54AM
 Number of files matching the cloud policy : 71773
 Number of files replicated in previous crawls : 71773
 Pending files to be CRed : 0
 Pending bytes to be CRed : 0(logical)
  "
```

NOTE: QoreStor users can check the oldest cloud replicated file information and the last timestamp when cloud tier replication is attempted with the “stats –container –name << >> --verbose “

stats --storage_group

Description

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

Syntax

```
stats --storage_group --name <name>
```

Where

```
--name   Name of storage_group.
```

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 %
Current Recycle Bin Files       : 0
Current Recycle Bin Logical Bytes : 0
Current Recycle Bin Physical Bytes : 0
```

stats --replication

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

Where

```
--verbose   Verbose Option

--name      Name of container
```

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

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.

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 [--type <NFS|CIFS|OST|RDS|NDMP|ISCSI>]
```

Where

```
--type   Type of clients (OST|RDS only).
```

Result

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

RDS Client(s)
Type  Plugin   OS                    Backup Software        Last 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

Description

Resets the current RDS statistics for a QoreStor.

Syntax

```
stats --reset [--rds] [--datacheck]
```

Where

```
--rds         Reset statistics for RDS connections.

--datacheck   Reset statistics for online data verification
```

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 --peformance_tier

Description

Displays statistics for a performance tier.

Syntax

```
stats --performance_tier
```

Result

stats --cloud_tier

Description

Displays aggregate statistics for cloud tier. The cloud_provider option includes the capability to obtain stats specific to each cloud provider type on MSP mode enabled systems.

Syntax

```
stats --cloud_tier [--name <cloud tier name>]
     [--cloud_provider <AWS-S3|AZURE|Wasabi-S3|Backblaze-S3|Google-S3|IBM-
S3|Scality-Artesca-S3|NetApp-StorageGRID|S3-Compatible>]
```

Result

```
# stats --cloud_tier --cloud_provider S3-Compatible

Cloud Provider         : S3-Compatible
Total Inodes          : 4
Read Throughput         : 0.00 MiB/s
Write Throughput        : 0.00 MiB/s
Current Files          : 2
Current Bytes          : 1642508386
```

```
Post Dedupe Bytes        : 1638782736
Post Compression Bytes     : 1638549046
Post Encryption Bytes      : 1639061472
Post Encryption Bytes in GiB  : 1.5 GiB
Bytes decrypted         : 0
Cleaner Status         : Done
Compression Status       : Done
Encryption Status        : Done
Dedupe Savings         : 0.23 %
Compression Savings       : 0.01 %
Total Savings          : 0.21 %
Current Recycle Bin Files    : 0
Current Recycle Bin Logical Bytes: 0
Current Recycle Bin Physical Bytes (estimated): 0
Cloud read Throughput      : 0.00 MiB/s
Cloud write Throughput     : 0.00 MiB/s
Files in progress to cloud   : 0
Total cloud bytes uploaded   : 1645168671
Total cloud bytes downloaded  : 0
Total cloud cache bytes read  : 0
Total cloud read bytes optimized: 0
Total cloud files        : 395
Total cloud overwritten files  : 0
Total cloud bytes        : 1645168671
Total cloud bytes processed   : 0
Total cloud ds bytes reclaimed : 0
Total Fast Cache space used (physical): 0
Total cloud metadata bytes   : 6107199
Total space (rehydrated)    : 1648615585
```

stats --object_direct

Description

Displays cumulative statistics for all object direct storage containers.

Syntax

```
stats --object_direct
```

Result

```
Capacity Used                  : 0.1 GiB
Capacity Used in GB            : 0.120
Capacity Free                  : 1023.9 GiB
Capacity Free in GB            : 1099.391
Metadata Used                  : 330.0 GiB
Metadata Used in GB            : 354.385
Reserve Space                  : 137.5 GiB
Reserve Space in GB            : 147.640
Total Capacity                 : 1354.0 GiB
```

```
Total Capacity in GB            : 1453.897
Licensed Capacity               : 1024.0 GiB
Licensed Capacity in GB         : 1099.512
Read Throughput                 : 0.00 MiB/s
Write Throughput                : 0.00 MiB/s
Current Files                   : 115
Current Files Stubbed           : 0
Modified Files Uploaded to Cloud: 0
Modified Files Uploaded to Archive: 0
Current Bytes                   : 101203342
Current Stubbed Bytes           : 0
Current Local Bytes             : 101203342
Post Dedupe Bytes               : 120340056
Post Compression Bytes          : 120209672
Post Encryption Bytes           : 120253568
Post Encryption Bytes in GiB    : 0.1 GiB
Cleaner Status                  : Done
Compression Status              : Done
Total Inodes                    : 215
Bytes decrypted                 : 4758745363
Dedupe Savings                  : 0.00 %
Compression Savings             : 0.11 %
Total Savings                   : 0.00 %
Local Dedupe Savings            : 0.00 %
Local Compression Savings       : 0.11 %
Local Total Savings             : 0.00 %
Object Direct read Throughput   : 0.00 MiB/s
Object Direct write Throughput  : 0.00 MiB/s
Total Object Direct files       : 24
Total Object Direct bytes       : 202379648
Total Object Direct bytes uploaded: 6063623408
Total Object Direct bytes downloaded: 4594683184
Total Object Direct bytes processed: 7225518094
Total Object Direct ds bytes reclaimed: 6099125293
Total Object Direct metadata bytes: 82126080
Total Object Direct space (rehydrated): 183329422
```

stats --archive_tier

Description

Displays statistics for cloud archive tier.

Syntax

```
stats --archive_tier
```

Result

```
Storage_group ID                : 9
Total Inodes                    : 107778
```

```
Read Throughput                 : 0.00 MiB/s
Write Throughput                : 0.00 MiB/s
Current Files                   : 107580
Current Direct Files            : 0
Current Bytes                   : 1063112803071360
Post Dedupe Bytes               : 21317401075761
Post Compression Bytes          : 20571371433798
Post Encryption Bytes           : 20578697128976
Post Encryption Bytes in GiB    : 19165.4 GiB
Bytes decrypted                 : 32
Cleaner Status                  : Running
Compression Status              : Done
Encryption Status               : Done
Dedupe Savings                  : 97.99 %
Compression Savings             : 3.50 %
Total Savings                   : 98.06 %
Current Recycle Bin Files       : 0
Current Recycle Bin Logical Bytes: 0
Current Recycle Bin Physical Bytes: 0
Archive read Throughput         : 0.00 MiB/s
Archive write Throughput        : 0.00 MiB/s
Files in progress to archive    : 0
Total archive bytes uploaded    : 921408551220
Total archive bytes downloaded  : 1873868939264
Total archive cache bytes read  : 0
Total archive read bytes optimized: 0
Total archive files             : 5807770
Total archive overwritten files : 71
Total archive bytes             : 25681990126438
Total archive bytes processed   : 666783837316320
Total archive ds bytes reclaimed: 43417657547953
Total archive metadata bytes    : 5103292997462
Total space (rehydrated)        : 1068216096068822
Archive Restore Bytes (most recent logical): 0
Archive Restore Bytes (most recent physical): 0
```

stats --object_container

Description

Displays statistics for Object container.

Syntax

```
stats --object_container
```

Result

```
Storage_group ID                : 3
Capacity Used                   : 0.0 GiB
Capacity Used in GB             : 0.000
```

```
Capacity Free                   : 293.4 GiB
Capacity Free in GB             : 315.088
Total Inodes                    : 43
Read Throughput                 : 0.00 MiB/s
Write Throughput                : 0.00 MiB/s
Current Files                   : 17
Current Files Stubbed           : 3
Current Bytes                   : 1136103273
Post Dedupe Bytes               : 6613
Post Compression Bytes          : 6577
Post Encryption Bytes           : 6640
Post Encryption Bytes in GiB    : 0.0 GiB
Bytes decrypted                 : 1096056509
Cleaner Status                  : Done
Compression Status              : Done
Encryption Status               : Done
Dedupe Savings                  : 6.69 %
Compression Savings             : 0.54 %
Total Savings                   : 6.31 %
```

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 --nfs
stats --cifs
stats --ost
stats --rds
stats --container --name <name> [--verbose]
stats --storage_group --name <name>
stats --replication [--verbose][--name <name>]
stats --cleaner
stats --clients [--type <NFS|CIFS|OST|RDS>]
stats --reset [--rds]
stats --seed
stats --performance_tier
stats --cloud_tier [--name <cloud tier name>]
stats --object_direct
```

```
stats --archive_tier
stats --object_container
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.
       --nfs                   Displays statistics for NFS.
       --cifs                  Displays statistics for CIFS.
       --ost                   Displays statistics for OST server.
       --rds                   Displays statistics for RDS server.
       --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.
       --performance_tier      Displays statistics for performance tier.
       --cloud_tier            Displays statistics for cloud tier.
       --object_direct         Displays cumulative statistics for all object direct storage
contatainers
       --archive_tier          Displays statistics for cloud archive tier
       --object_container      Displays statistics for Object container



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**

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

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

Where

```
--name      Display details for a specific Storage group.

--verbose   Display more details
```

Result

```
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 Quota limit       : Unlimited
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

Description

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

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 <name> [--compression_mode <fast|best>][--quota <Quota
value in GiB or TiB>]
```

Where

```
--name                  Name of the storage group. Valid values are [a-z,A-Z,0-9,'-' and '_'] and
maximum of 32 characters.
--compression_mode      Valid values are Fast and Best.
--quota                 Quota value in GiB or TiB.
```

Result

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

storage_group --update

Description

Allows you to modify the settings for the specified storage group.

Syntax

```
storage_group --update --name <name> [--compression_mode <fast|best>] [--quota
<Quota value in GiB or TiB>]
```

Where

```
--name                   Name of the storage group. Valid values are [a-z,A-Z,0-9,'-' and '_'] and
maximum of 32 characters.
--compression_mode       Valid values are Fast and Best
--quota                  Quota value in GiB or TiB.
```

Result

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

storage_group --encryption

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.

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.

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.

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

Where

```
--name       Name of the storage group. Valid values are [a-z,A-Z,0-9,'-' and '_']
and maximum of 32 characters.
--set        Valid values are On and Off.
--mode       Valid values are static and internal.
--interval   Valid values are between 7 days to 70 years (in days)
```

Result

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

storage_group --delete

Description

Deletes the specified storage group from the QoreStor.

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 <name>
```

Where

```
--name   Name of storage_group.
```

Result

```
Storage Group "StorageGroup_1" has been deleted.
```

storage_group --setpassphrase

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.

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 <name>
```

Where

```
--name   Storage group name
```

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>]
       [--quota <Quota value in GiB or TiB>]

storage_group --update --name <name>
       --compression_mode <fast|best>
       [--quota <Quota value in GiB or TiB>]

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**

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 information about the current QoreStor configuration.

Syntax

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

Where

```
--storage   Display system storage information.
--license   Shows the installed license.
--verbose   Shows more information.
--version   Display software version of the system.
```

`system --show` shows maintenance status as follows when partial ofsck is invoked.

```
Reason : Filesystem is partially operational for I/O.
Maintenance Status : Storage group [DefaultGroup] is read-only. (Filesystem Checker
is in progress)
```

Result

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

system --license

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

Where

```
--show       Shows the installed license.
--verbose    Shows more information.
--validate   Validates the license file.
--add        Installs the license file.
--replace    Replace currently installed term licenses with the new license file.
--file       License 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

Description

Adds the volume at the specified path to the QoreStor server and shows the current storage configuration.

Syntax

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

Where:

```
--add    Add the data storage.
--show   Show the data storage.
--path   Path to the data storage.
```

Result

```
ENCLs   Path            Total(GiB) Available(GiB) Used(GiB) Status

ENCL_0 /quest/ocaroot   599        307            292       On
```

Other Examples

To add storage to QoreStor, use the command below. In this example, the path to the storage is **/qs4**.

```
system --storage --add --path /qs4
```

Result

```
Running IOPS tests on /qs4, takes few minutes

Sequential and Random IOPS tests passsed on /qs4
WARNING: IO will be stopped during storage addition.
Do you want to continue (yes/no) [n]? yes
Stopping filesystem... Done.
Configuring data storage volume... Done.
Starting filesystem... Done.
```

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.
          --storage              Configure  /  Display  storage  properties.

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

system --msp

Description

Enables the MSP mode on QoreStor.

Syntax

```
system --msp
```

Result

```
Usage:
       system --msp [--enable]
                    [--show]
```

```
        --enable          Enable MSP mode.
        --show           Show MSP mode.


#system --msp --enable
WARNING: IO will be stopped to enable msp mode.

Do you want to continue (yes/no) [n]? yes
Stopping filesystem... Done.
Configuring MSP mode... Done.
Starting filesystem... Done.

#  system  --msp  --show
MSP:  enabled.
```

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**

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

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]
       [--logins]
       [--verbose]
       [--name <user name>]
       [--roles <cifs|ost|rda|ndmp|iscsi|monitor|administrator|secure_connect|object>]
```

Where

```
--users     List of users.
--logins    List of logins.
--verbose   verbose
--name      show a specific user.
--roles     List all users who has these roles
```

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

Description

Adds a user account with the specified username.

Syntax

```
user --add --name <user name>
       [--roles <cifs|ost|rda|ndmp|iscsi|monitor|administrator|secure_connect|object>]
       [--full_name <full name>]
       [--phone <phone number>]
       [--email_addr <e-mail address (e.g. name@company.com)>]
```

```
       [--description <anything>]
       [--auth_type <local|saml>]
```

Where

```
--name          user name
--roles         user role
--full_name     user's full name
--phone         phone number
--email_addr    email address
--description   description
```

Result

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

user --update

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 <user name> [--new_name <user name>]
       [--add_roles <cifs|ost|rda|ndmp|iscsi|monitor|administrator|secure_connect|object>]
       [--remove_roles <cifs|ost|rda|ndmp|iscsi|monitor|administrator|secure_
connect|object>]
       [--full_name <full name>]
       [--phone <phone number>]
       [--email_addr <e-mail address (e.g. name@company.com)>]
       [--description <anything>]
```

Where

```
--name           user name
--new_name       new user name
--add_roles      user role
--remove_roles   user role
--full_name      user's full name
--phone          phone number
--email_addr     email address
--description    description
```

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

Description

Deletes the specified user account.

Syntax

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

Where

```
--name   user name
```

Result

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

user --setpassword

Description

Sets a password for the specified user account.

Syntax

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

Where

```
--name   user name
```

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|ndmp|iscsi|monitor|administrator|secure_connect|object>]

        user --add --name <user name>
               [--roles <cifs|ost|rda|ndmp|iscsi|monitor|administrator|secure_connect|object>]
               [--full_name <full name>]
               [--phone <phone number>]
               [--email_addr <e-mail address (e.g. name@company.com)>]
               [--description <anything>]
               [--auth_type <local|saml>]

       user --update --name <user name>
               [--new_name <user name>]
               [--add_roles <cifs|ost|rda|ndmp|iscsi|monitor|administrator|secure_
connect|object>]
               [--remove_roles <cifs|ost|rda|ndmp|iscsi|monitor|administrator|secure_
connect|object>]
               [--full_name <full name>]
               [--phone <phone number>]
               [--email_addr <e-mail 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
```

Anomaly Detection

Description

Anomaly detect is a new CLI option for system CLI, storage_group CLI, cloud_tier CLI, and performance_tier CLI to detect anomalies system-wide, storage-group level, or container level.

Syntax

```
system --anomaly_detect --set <ON|OFF> --interval <30 to 4320> --metric <os-auth |
ui-auth | proto-auth | loadavg | diskio | all>
```

Where

```
 set          - Specified to turn on/off particular metric for anomaly
detection.
 interval     - Specifies(in minutes) how frequently anomaly detection has to
run. Valid values are 30 to 4320(i.e. 3-days).
 os-auth      - OS or system level authentication failures/anomalies.
ui-auth      - UI user authentication failures/anomalies.
proto-auth  - Protocol authentications mainly RDS/OST
 loadavg      - System load average anomalies.
 diskio       - QoreStor disk io/usage anomalies with average io-wait times
and/or number of total i/o.
                [diskio includes data-repository partition, metadata-partition,
and enclosures].
```

storage_group CLI

```
storage_group --anomaly_detect --name <group name>
              --set <ON | OFF>
              --metric <ingest | savings | expiry | all>
```

cloud_tier CLI

```
cloud_tier --anomaly_detect [--name <cloud tier name>]
           --set <ON | OFF>
           --metric <ingest | savings | expiry | all>
           [--cloud_archive]
```

performance-tier CLI:

```
performance_tier --anomaly_detect --set <ON | OFF>
                 --metric <ingest | savings | expiry | all>
```

metrics used in above CLI commands:

```
ingest  - Anomalies in ingested bytes or backup pattern, applicable to containers
under the storage group.
savings - Anomalies in post-dedupe and post-compress bytes only storage group.
expiry  - Only applicable to containers in the storage group.
all     - All of the above metrics.
```

Container CLI

```
container --anomaly_detect --name <container name>
          --set <ON | OFF | INHERIT>
          --metric <ingest | expiry | all>
```

```
Where
```

```
INHERIT  - Specifies to use same metric set on storage group.  This is default when
container is created.
metric:
ingest   - Anomalies in ingested bytes and overwrite bytes.
expiry   - Anomalies in files unlinked and bytes unlinked.
```

Viewing anomaly settings

Anomaly detection settings can be viewed at system level or storage group level or cloud_tier or performance_tier or container level using existing 'show' options using the following commands.

System CLI

```
system --show
...
...
Anomaly Detection               : Enabled
Anomaly Detection Interval(min) : 30
Anomaly Detection Metric        : os-auth,ui-auth,proto-auth,loadavg,diskio
...
Anomaly Detection Service       : RUNNING Mar 22 03:11:59
System Date                     : Operational Mode
```

(displaying only new fields in the output)

Storage group CLI

```
storage_group --show --name <group name>

Storage_group Name                : DefaultGroup
Storage_group Compression Type    : Fast
Storage_group Encryption Set      : Off
Storage_group Encryption Type     : Off
Storage_group Rotate Period       : 0
Storage_group Passphrase set      : No
Storage_group Quota limit         : Unlimited
Storage_group Anomaly Detection   : Enabled
Storage_group Anomaly Detection Interval(min): 30
Storage_group Anomaly Metric      : savings
DefaultGroup's Containers
-------------------------
rdas (id: 1)
```

Container CLI

```
container --show --name <name>

Container's Group ID            : 0
Container's Group Name          : DefaultGroup
Container Name                  : rdas
Container Path                  : /containers/rdas
Container Object Direct Storage : No
Container Cloud Replication     : None
Container cloud locking         : None
Container Marker                : None
Recycle Bin Enabled             : No
RDS connection Quota            : Unlimited
RDS connection Used Capacity    : 0.0 GiB
RDS connection Enabled          : Yes
RDS connection status           : Available
Number of container UACs        : 1
Anomaly detection               : Enabled
Anomaly detection interval(min) : 30
Anomaly metric                  : ingest,expiry [inherit]
```

Cloud_tier CLI

```
cloud_tier --show --name <cloud tier name>

Cloud_tier Name                   : minio-ct
Cloud_tier Compression Type       : Fast
Cloud_tier Encryption Set         : On
Cloud_tier Encryption Type        : Static
Cloud_tier Rotate Period          : 0
Cloud_tier Passphrase set         : Yes
Cloud_tier Anomaly Detection      : Disabled
```

```
Cloud_tier Anomaly Detection Interval(min): 30
Cloud_tier Anomaly Metric        : ingest,savings,expiry
```

Performance_tier CLI

```
performance_tier --show

Storage_group Name                      : PerformanceTier
Storage_group Compression Type          : Fast
Storage_group Encryption Set            : On
Storage_group Encryption Type           : Static
Storage_group Rotate Period             : 30
Storage_group Passphrase set            : Yes
Storage_group Mapped Enclosure          : /perf_tier
Storage_group Quota limit               : Unlimited
Storage_group Anomaly Detection         : Enabled
Storage_group Anomaly Detection Interval(min): 30
Storage_group Anomaly Metric            : ingest,savings,expiry
PerformanceTier's Containers
----------------------------
rds_perf (id: 112)
nfs_perf (id: 121)
```

Anomaly detection report

Following CLI can used to view anomalies detected so far.
Usage:

```
/opt/qorestor/bin/ocamlreport [--cont=<container_name> --group=<group_name> --start_date=<start date YYYY-MM-DD> --end_date=<end date YYYY-MM-DD> --start_time=<HH:MM:SS> --end_time=<HH:MM:SS> --skip_group --skip_cont --skip_allauth --skip_osauth --skip_uiauth --skip_protoauth --deleted --loadavg --diskio] [ --latest]]
```

To report all anomalies, execute without options

```
ocamlreport --loadavg --diskio
```

To report only loadavg anomalies

```
ocamlreport --loadavg --skip_group --skip_cont --skip_allauth
```

To report only diskio anomalies

```
ocamlreport --diskio --skip_group --skip_cont --skip_allauth
```

To report anomalies only for authentications

```
ocamlreport --skip_group --skip_cont
```

To report anomalies only for one type of authentication (skip other auth)

```
ocamlreport --skip_group --skip_cont --skip_uiauth --skip_protoauth
```

To report anomalies only on container

```
ocamlreport --cont=<> --skip_allauth
```

To report anomalies only on storage group

```
ocamlreport --group=<> --skip_cont --skip_allauth
```

To report anomalies for all storage groups

```
ocamlreport --skip_cont --skip_allauth
```

To report anomalies for all containers in a storage group

```
ocamlreport --group=<> --skip_group --skip_allauth
```

To report anomalies on all deleted storage group and containers

```
ocamlreport --deleted --skip_allauth
```

To report anomalies in csv file (generates under diagnostics directory)

```
ocamlreport --csv
Generated anomaly report: /var/diagnostic_logs/oca_anomaly_report_<hostname>_2024-
04-12_12-49-17.csv
```

To report anomalies on all deleted storage group and containers

```
ocamlreport --deleted --skip_allauth
```

Training/Retraining

You can manually train or retrain the anomaly detection on-demand . An automatic retraining occurs every 30-days.

Syntax

```
/opt/qorestor/bin/ocamltrain [--start_date=YYYY-MM-DD] [--sg_only=<sg-name> | --
cont=<cont-name>] [--loadavg] [--diskio] --train_days=<days 30 to 90> | --versions
```

NOTE: Difference between current date and start-date should accommodate/contain at-least train-days.

To train all storage groups and containers

```
ocamltrain --start_date=YYYY-MM-DD --train_days=<days 30 to 90>
```

To train a particular storage group only

```
ocamltrain --start_date=YYYY-MM-DD --train_days=<days 30 to 90> --sg_only=sg-name
```

To train a particular container

```
ocamltrain --start_date=YYYY-MM-DD --train_days=<days 30 to 90> --cont=cont-name
```

To train a loadavg

```
ocamltrain --start_date=YYYY-MM-DD --train_days=<days 30 to 90> --loadavg
```

To train a diskio

```
ocamltrain --start_date=YYYY-MM-DD --train_days=<days 30 to 90> --diskio
```

To list all storage groups/container ML versions

```
ocamltrain --versions
```

To list storage group versions

```
ocamltrain --sg_only=<sg-name> --versions
```

To list container ML versions

```
ocamltrain --cont=<cont-name> --versions
```

NOTE: Training won't run on already [marked] deleted containers/storage groups.

Configuring Email

To configure an email for the anomalies execute the following CLI.

```
/opt/qorestor/bin/email_anomalies --configure
```

Bandwidth Throttling

The QoreStor offers a bandwidth throttling CLI command between a pair of QoreStor systems for replication and op-dup. If enabled, it works on the TCP ports: 9915, 9916, 9920 and 9443.
For more information about supported ports for the QoreStor, refer to the QoreStor User Guide.
Bandwidth throttling CLI offers the following functionality:

- Setting up default bandwidth when no schedule is defined for target QoreStor.
- Displaying the default bandwidth set and current bandwidth throttling schedules.
- Displaying applied bandwidth throttling.
- Creating new bandwidth throttling schedules for target QoreStor.
- Deleting specific bandwidth throttling schedules.
- Deleting all schedules and default bandwidth set for target QoreStorsystems.
- Refresh bandwidth throttling after a change in the network interface.

Bandwidth Throttling Command Usage

This topic introduces the **Bandwidth Throttling** command usage:

- **qs_bw_throttle --add --bandwidth --target --start_day --start_time --end_day --end_time [options]**
- **qs_bw_throttle --default_bandwidth --bandwidth --target [options]**
- **qs_bw_throttle --delete [options]**
- **rqs_bw_throttle --delete_all [options]**
- **qs_bw_throttle --sync_on_restart**
- **qs_bw_throttle --show [option]**

- **qs_bw_throttle --check_status [option]**
- **qs_bw_throttle --refresh**
- **qs_bw_throttle --help**

qs_bw_throttle --add

Description

Adds a new bandwidth throttling schedule for the target QoreStor. You need to define the target QoreStor system, the bandwidth, schedule a throttling start day, start time, end day, and end time.

A newly added schedule must be between Sunday 00:01 and Saturday 23:59. Start day and start time must be ahead of scheduled end day and end time.

Syntax

```
qs_bw_throttle --add --bandwidth=<Bandwidth in Mbps>
               --target=<IP address/Host name>
               --start_day=<Day of the week (Sunday | Monday...)>
               --start_time=<HH:MM>
               --end_day=<Day of the week (Sunday | Monday...)>
               --end_time=<HH:MM>
```

Where

```
--bandwidth            Bandwidth in Mbps
--target               IP address or host name of the target QoreStor system.
--start_day            Start day for the schedule (Sunday | Monday...).
--start_time           Start time for the schedule in HH:MM format.
--end_day              End day for the schedule (Sunday | Monday...).
--end_time             Start time for the schedule in HH:MM format.
```

Result

```
Successfully added schedule for IP: xxx.xxx.xxx.xxx
```

qs_bw_throttle --default_bandwidth

Description

Sets the default bandwidth for a target QoreStor system when no schedule bandwidth is available. Set the default bandwidth to 0 to disable it.

Syntax

```
qs_bw_throttle --default_bandwidth
               --bandwidth=<Bandwidth in Mbps>
               --target=<IP address/Host name>
```

Where

```
--bandwidth            Bandwidth in Mbps
--target               IP address or host name of the target QoreStor system.
```

Result

```
Successfully added default bandwidth of 10 Mbps for IP xxx.xxx.xxx.xxx.
```

qs_bw_throttle --delete

Description

Deletes a bandwidth throttling schedule for a given QoreStor target. If all the arguments are not entered, it will display all available schedules for the user to select and remove one schedule.

Syntax

```
qs_bw_throttle --delete
               [--target=<IP address/Host name>]
               [--start_day=<Day of the week (Sunday | Monday...)>]
               [--start_time=<HH:MM>]
```

Where

```
--target       IP address or host name of the target QoreStor system.
--start_day    Start day for the schedule (Sunday | Monday...).
--start_time   Start time for the schedule in HH:MM format.
```

Result

```
Successfully deleted schedule for target ip: xxx.xxx.xxx.xxx
```

qs_bw_throttle --delete_all

Description

Deletes all schedules for a target system or all schedules for all target systems. It will also delete the default bandwidth.

Syntax

```
qs_bw_throttle  --delete_all
                [--all_target]
                [--target=<IP  address/Host  name>]
```

Where

```
--all_targets: Delete all schedules and default bandwidth for all targets.
--target       IP address or host name of the target QoreStor system.
```

Result

```
Successfully deleted all schedule for IP: xxx.xxx.xxx.xxx
```

qs_bw_throttle --sync_on_restart

Description

Sync all the schedules after the system restarts. You do not need to execute this command as it will be automatically executed after service ocards restart or a system reboot.

Syntax

```
qs_bw_throttle  --sync_on_restart
```

Result

```
All bandwidth throttling schedules are successfully synced.
```

qs_bw_throttle --show

Description

Displays the default bandwidth and schedules established for all designated QoreStor systems. If a specific target is provided, the schedules and default bandwidth for that particular system will be displayed.

Syntax

```
qs_bw_throttle --show
               [--target=<IP address/Host name>]
```

Where

```
--target  IP address or host name of the target QoreStor system
```

Result

Default bandwidth details:

Sr. No.	Target_IP	Host Name	Device Name	Default_Bandwidth(Mbps)
1	xxx.xxx.xxx.xxx	abc	eth0	10

Scheduled bandwidth details:

Sr. No.	Target_IP	Host Name	Device Name	Default_ Bandwidth (Mbps)	Start_day	End_day	Start_time	End_time
1	xxx.xxx.xxx.xxx	xyz	eth0	100000000	Friday	Friday	01:00	02:00

NOTE: If host name is not provided as target at the time of adding the schedule, host_name will be shown as "-" in the output.

qs_bw_throttle --check_status

Description

Displays the currently implemented bandwidth throttling for all the QoreStor systems. If a specific target is specified, the system will indicate the bandwidth throttling that is currently in effect for that particular target.

Syntax

```
qs_bw_throttle --check_status
               [--target=<IP address/Host name>]
```

Where

```
--target  IP address or host name of the target QoreStor system
```

Result

Bandwidth throttling applied at present:

Sr. No.	Target_IP	Host Name	Device Name	Default_Bandwidth (Mbps)	Schedule-window
1	xxx.xxx.xxx.xxx	xxx-xxx	eth0	10	Outside schedule
2	xxx.xxx.xxx.xxx	xxx-xxx	eth0	1024	No schedule

NOTE: If the host name is not given as a target at the time of adding the schedule, host_name will be shown as "-" in the output.

qs_bw_throttle --refresh

Description

Refreshes the bandwidth throttling after a change in the network interface. If a new interface is added or updated, you should execute this command to refresh bandwidth throttling to help sync all the schedules.

Syntax

```
qs_bw_throttle --refresh
```

Result

No change in network interface:

```
No change found in the network interfaces used by bandwidth throttling.
```

Change in the network interface:

```
All bandwidth throttling schedules are successfully refreshed. Starting re-sync to
apply schedules/default bandwidth.

All bandwidth throttling schedules are successfully synced.
```

qs_bw_throttle --help

Description

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

Syntax

```
qs_bw_throttle --help
```

Commands:

```
qs_bw_throttle <command> <command-arguments>
```

<command> can be one of mentioned in the Result section.

Result

```
qs_bw_throttle --add --bandwidth=<Bandwidth in Mbps>
               --target=<IP address/Host name>
               --start_day=<Day of the week (Sunday | Monday...)>
               --start_time=<HH:MM>
               --end_day=<Day of the week (Sunday | Monday...)>
               --end_time=<HH:MM>

qs_bw_throttle --default_bandwidth
               --bandwidth=<Bandwidth in Mbps>
               --target=<IP address/Host name>


qs_bw_throttle --delete
               [--target=<IP address/Host name>]
               [--start_day=<Day of the week (Sunday | Monday...)>]
               [--start_time=<HH:MM>]

qs_bw_throttle --delete_all
               [--all_target]
               [--target=<IP address/Host name>]

qs_bw_throttle --sync_on_restart
```

```
qs_bw_throttle --show
               [--target=<IP address/Host name>]

qs_bw_throttle --check_status
               [--target=<IP address/Host name>]

qs_bw_throttle  --refresh
```

4

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

Cloud_tier

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

Cloud_tier Command Usage

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

- **cloud_tier --show [options]**
- **cloud_tier --add [options]**
- **cloud_tier --update [options]**
- **cloud_tier --delete [options]**
- **cloud_tier --setpassphrase**
- **cloud_tier --enable [options]**
- **cloud_tier --purge-ssl-certificate**
- **cloud_tier --src_cont_list [--cloud_archive]**
- **cloud_tier --help**
- **cloud_tier --troubleshoot**

cloud_tier --show

Description

Displays the current cloud connection details..

Syntax

```
cloud_tier --show [--verbose]
       [--name <cloud tier name>]
       [--cloud_archive]
```

Where

```
--verbose Displays more details
--name Displays CloudTier name
--cloud_archive View details of cloud archive
```

Result

```
Cloud_tier Name : aws-cl-bucket1
Cloud_tier Compression Type : Fast
Cloud_tier Encryption Set : On
Cloud_tier Encryption Type : Static
Cloud_tier Rotate Period : 0
Cloud_tier Passphrase set : Yes
```

cloud_tier --add

Description

Adds a new cloud connection.

NOTE: You will need your cloud provider connection string to properly configure the cloud tier.

For Azure:

The Connection String can be found in your Azure portal under Storage Accounts >Access leys > Connection string

For AWS S3 and compatible platforms:

AWS Connection String to be formed from the Security credentials in the below format.

```
"accesskey=<ABDCEWERS>;secretkey=< >; loglevel=warn; region=<aws-region>;"
```

The correct Region Name can be obtained from

https://docs.aws.amazon.com/general/latest/gr/rande.html#s3_region

NOTE: For more information see : QoreStor *User Guide*.

NOTE: If the QoreStor is FIPS-enabled, only AWS-S3 and AZURE cloud providers are supported. For the other provider types, the cloud-tier --add command will fail with the error:
`Error: Cloud provider name can only be AWS-S3 or AZURE on a FIPS enabled QoreStor.`

Syntax

```
cloud_tier --add --cloud_container <bucket name> --cloud_provider <AWS-
S3|AZURE|Wasabi-S3|Backblaze-S3|Google-S3|IBM-S3|Scality-Artesca-S3|NetApp-
StorageGRID|S3-Compatible>
       [--name <cloud tier name>]
       [--cloud_archive_service <S3-Glacier|S3-Deep-Archive>]
       [--archive_retention_in_warm <1 to 365 days>]
       [--archive_role_arn <archive role arn>]
       [--archive_restore_type <Batch|Lambda>]
       --enable_locking <Yes|No>

cloud_tier --add --cloud_container <bucket name> --cloud_provider <AWS-
S3|AZURE|Wasabi-S3|Backblaze-S3|Google-S3|IBM-S3|Scality-Artesca-S3|NetApp-
StorageGRID|S3-Compatible>>

        [--name <cloud tier name>]
       [--cloud_archive_service <S3-Glacier|S3-Deep-Archive>]
       [--archive_retention_in_warm <1 to 365 days>]
       [--archive_role_arn <archive role arn>]
       [--archive_restore_type <Batch|Lambda>]
       --enable_locking <Yes|No>
```

where

```
 --cloud_container                  Name of the cloud container. Valid values
are [a-z,A-Z,0-9,'-'].
 --cloud_provider                    Name of the cloud service provider. Valid
values are [a-z,A-Z,0-9,'-'].
 --name                             Name of the CloudTier
 --cloud_archive_service           Name of the cloud archive service. Valid
values are [a-z,A-Z,0-9,'-'].
 --archive_retention_in_warm    Valid values are [0-9], default 7 days. Value
entered is in days and counted from date of restore.
 --archive_role_arn             Valid values are [a-z,A-Z,0-9,'_','-',':','/']
 --archive_restore_type         Valid values are Batch or Lambda
 --enable_locking               Enable cloud locking or not. Valid values are
Yes or No.
```

Result

```
Enter AWS cloud connection string to connect to container <name>:
Checking if container [<name>] is empty...
Container empty test pass. Container [<name>] in the cloud is empty.
Connection credentials validated successfully.
Cloud Tier created successfully.
```

cloud_tier --update

Description

Updates a cloud connection details.

Syntax

```
cloud_tier --update [--name <cloud tier name>]
       [--cloud_password]
       [--cloud_archive]
       [--archive_retention_in_warm <1 to 365 days>]
       [--archive_role_arn <archive role arn>]
       [--archive_restore_type <Batch|Lambda>]
       [--s3_storage_class <AWS-S3|Google-S3 storage class options>]
```

Where

```
--name                          Name of the cloud storage group. Valid
values are [a-z,A-Z,0-9,'-' and '_'] and maximum of 32 characters.
 --cloud_password               Updates cloud connection password
 --cloud_archive                Update connection for cloud archive
 --archive_retention_in_warm    Valid values are [0-9], default 7 days. Value
entered is in days and counted from date of restore.
 --archive_role_arn             Valid values are [a-z,A-Z,0-9,'_','-',':','/']
 --archive_restore_type         Valid values are Batch or Lambda
 --s3_storage_class             Valid values are "Storage class options are
INTELLIGENT_TIERING, STANDARD_IA, ONEZONE_IA, GLACIER_IR, STANDARD for AWS-S3
and STANDARD, NEARLINE, COLDLINE, ARCHIVE for Google-S3"
```

Result

```
Enter cloud connection string to connect for storage_group <cloud_tier name> :
Connection credentials validated successfully.
Storage Group "aws-cl-bucket1" updated successfully.
```

cloud_tier --delete

Description

Deletes an existing cloud connection.

Syntax

```
cloud_tier --delete [--name <cloud tier name>]
                    [--cloud_archive]
```

Where

```
--name          Name of the CloudTier
--cloud_archive Deletes the cloud archive and its connection
```

Result

Cloud Tier Storage Group "aws-cl-bucket1" has been deleted.

cloud_tier --setpassphrase

Description

sets passphrase to a cloud connection.

Syntax

```
cloud_tier --setpassphrase [--name <cloud tier name>]
                           [--cloud_archive]
```

Where

```
--name            Name of the CloudTier
--cloud_archive   Set passphrase for cloud archive connection
```

Result

```
Storage Group "aws-cl-bucket1" updated successfully.
Passphrase updated successfully.
```

cloud_tier --enable

Description

Enable cloud replication for source container.

Syntax

```
cloud_tier --enable --src_name <name>
       [--name <cloud tier name>]
       [--cloud_archive]
```

Where

```
--src_name        Name of the source container. Valid values are [a-z,A-Z,0-9,'-'].
--name            Name of the cloud Tier
--cloud_archive   Enable connection for cloud archive
```

Result

Cloud replication enabled on the "nfs" container.

cloud_tier --purge-ssl-certificate

Description

Remove the cached self signed ssl certificate.

Syntax

```
cloud_tier --purge-ssl-certificate
```

Result

cloud_tier --src_cont_list

Description

Displays the source container list of an existing cloud connection.

Syntax

```
cloud_tier --src_cont_list [--name <cloud tier name>]
       [--cloud_archive]
```

Where

```
--cloud_archive   Displays cloud archive tier connection source containers list
--name Name of the cloud tier
```

Result

```
Cloud source container entries are:
ObjectContainer (id: 1) (groupid: 3)
```

cloud_tier --help

Description

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

Syntax

```
cloud_tier --help
```

Result

```
cloud_tier --show [--verbose]
       [--name <cloud tier name>]
       [--cloud_archive]

cloud_tier --add --cloud_container <bucket name>
       --cloud_provider <AWS-S3|AZURE|Wasabi-S3|Google-S3|IBM-S3|Scality-Artesca-
S3|NetApp-StorageGRID|S3-Compatible|>
       [--name <cloud tier name>]
       [--cloud_archive_service <S3-Glacier|S3-Deep-Archive>]
       [--archive_retention_in_warm <1 to 365 days>]
       [--archive_role_arn <archive role arn>]
       [--archive_restore_type <Batch|Lambda>]
       --enable_locking <Yes|No>


cloud_tier --update [--name <cloud tier name>]
       [--cloud_password]
       [--cloud_archive]
       [--archive_retention_in_warm <1 to 365 days>]
```

```
       [--archive_role_arn <archive role arn>]
       [--archive_restore_type <Batch|Lambda>]
       [--s3_storage_class <INTELLIGENT_TIERING|STANDARD_IA|ONEZONE_IA|GLACIER_
IR|STANDARD>]



cloud_tier --delete [--name <cloud tier name>]
                    [--cloud_archive]

cloud_tier --setpassphrase [--name <cloud tier name>]
                           [--cloud_archive]

cloud_tier --enable --src_name <name>
       [--name <cloud tier name
       [--cloud_archive]

cloud_tier --purge-ssl-certificate

cloud_tier --src_cont_list [--name <cloud tier name>]

cloud_tier --troubleshoot --cloud_container <bucket name>
           --cloud_provider <AWS-S3|AZURE|Wasabi-S3|Backblaze-S3|Google-S3|IBM-
S3|Scality-Artesca-S3|NetApp-StorageGRID|S3-Compatible>

cloud_tier --help

cloud_tier <command> <command-arguments>

       <command> can be one of:
       --show                    Displays the current cloud connection details.
       --add                     Adds a new cloud connection.
       --update                  Updates a cloud connection details.
       --delete                  Deletes an existing cloud connection.
       --setpassphrase           Sets passphrase to a cloud connection.
       --enable                  Enable cloud replication for source container.
       --purge-ssl-certificate   Remove the cached self signed ssl certificate.
       --src_cont_list           Source container list of an existing cloud connection.
       --troubleshoot            Troubleshoot a given cloud connection string.
For command-specific help, please type cloud_tier --help <command>
       eg:
       cloud_tier --help show
```

cloud_tier --troubleshoot

Description

Troubleshoot a given cloud connection string.

Syntax

```
cloud_tier --troubleshoot --cloud_container <bucket name>
           --cloud_provider |AZURE|<AWS-S3|Wasabi-S3|Backblaze-S3|Google-S3|IBM-
S3|Scality-Artesca-S3|NetApp-StorageGRID|S3-Compatible>
```

Usage

```
--cloud_container     Name of the cloud container. Valid values are [a-z,A-Z,0-
9,'-'].
--cloud_provider      Name of the cloud service provider. Valid values are [a-
z,A-Z,0-9,'-'].
```

Result

```
Connection string validated
s3:ListBucket : permitted
s3:createBucket : to check
s3:listObjects : permitted
s3:listObjectsV2 : permitted
s3:putObject : permitted
s3:headObject : permitted
s3:getobject : permitted
s3:deleteObjects : permitted
s3:listObjectVersions : permitted
s3:deleteObject : to check
s3:createMultipartUpload : permitted
s3:uploadPartAsync : permitted
s3:uploadPart : to check
s3:abortMultipartUpload : to check
s3:listMultipartUploads : to check
s3:s3:GetObjectVersionAttributes : to check
Failed to lock object after close, check s3:putObjectRetention,
s3:PutBucketObjectLockConfiguration permission
Check s3:GetBucketObjectLockConfiguration, s3:PutBucketVersioning,
s3:GetObjectVersionAttributes permissions
Check s3:putObjectLegalHold, s3:getObjectLegalHold, s3:BypassGovernanceRetention
permissions
Please see /var/log/oca/aws/s3_.log or /var/log/oca/aws/s3.log for more info.
```

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**

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

Description

Displays the current connections on a container.

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

Where

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

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

Description

Adds a new connection to a container.

> **NOTE:** If the QoreStor is FIPS-enabled, the **CIFS, NDMP, EDM, and iSCSI** connection types are not supported and the `connection --add` command fails with the error:
> `Error: [type] connection is not supported on a FIPS-enabled QoreStor.`

Syntax

```
connection --add --name <name> --type <NFS|CIFS|OST|RDS|NDMP|ISCSI|EDM>
       [--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>]
```

Where

```
--name        Name of container.
--type        Type of sharing required (NFS|CIFS|OST|RDS|NDMP|ISCSI|EDM).
--clients     Restrict NFS/CIFS access to this list of comma separated hosts.
--dma         Restrict NDMP access to this DMA host.
--initiator   Restrict ISCSI/FC access to this ISCSI/FC initiator.
--rootmap     How to map root for NFS.
--options     mount options NFS (rw,ro,insecure), CIFS(hide,unhide, sync
always=<yes/no>,valid users).
--capacity    OST usable capacity in Gigabytes.
```

Result

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

connection --update

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.

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

Syntax

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

```
[--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>]
```

Where

```
--name        Name of container.
--type        Type of sharing required (NFS|CIFS|OST|RDS|NDMP|ISCSI).
--clients     Restrict NFS/CIFS access to this list of comma separated hosts.
--dma         Restrict NDMP access to this DMA host.
--initiator   Restrict ISCSI/FC access to this ISCSI/FC initiator.
--rootmap     How to map root for NFS.
--options     mount options NFS (rw,ro,insecure), CIFS(hide,unhide).
--capacity    OST usable capacity in Gigabytes.
```

Result

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

connection --delete

Description

Deletes an existing container connection.

Syntax

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

Where

```
--name      Name of container.
--type      Type of sharing to remove (NFS|CIFS|OST|RDS|NDMP|ISCSI|EDM).
--clients   List of comma separated hosts.
```

Result

```
Successfully deleted connection entry.
```

connection --enable

Description

Enables access to a container through a connection.

Syntax

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

Where

```
--name   Name of container.
--type   Type of sharing (NFS|CIFS|OST|RDS).
```

Result

```
Successfully updated connection entry.
RDS connection Quota            : Unlimited
RDS connection Used Capacity    : 257.0 GiB
RDS connection Enabled          : Yes
```

connection --disable

Description

Disables access to a container through a connection.

Syntax

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

Where

```
--name   Name of container.
--type   Type of sharing (NFS|CIFS|OST|RDS).
```

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>]
                [--verbose]

        connection --add --name <name>
                --type <NFS|CIFS|OST|RDS|NDMP|ISCSI>
                [--clients <ip address>]
                [--dma <ip address>]
                [--initiator <IQN, ip address, hostname, or WWPN>]
                [--rootmap <nobody | root | administrator>]
                [--options mount options NFS (rw,ro,insecure), CIFS(hide,unhide,sync
always=<yes/no>,valid users)]
                [--capacity <Positive decimal number>]

        connection --update --name <name>
                --type <NFS|CIFS|OST|RDS|NDMP|ISCSI>
                [--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>]

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

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

        connection --disable --name <name>
                --type <NFS|CIFS|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
- 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 --cloud_policy [options]**
- **container --delete_files --name <name>**
- **container --add_uac [options]**
- **container --delete_uac [options]**
- **container --update_uac [options]**
- **container --show_uac [options]**
- **container --help**

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

Displays the current list of containers.

Syntax

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

Where

```
--name      Display details for a specific container.
--verbose   Display more details.
```

Result

```
container --show --name vRanger_FastContainer's Group ID                    : 2
Container's Group Name                    : tool-load
```

```
Container Name                          : QSPL-4300-13_OST
Container Path                          : /containers/QSPL-4300-13_OST
Container Object Direct Storage         : No
Container Cloud Replication             : None
Container Marker                        : None
Recycle Bin Enabled                     : No
OST connection Quota                    : Unlimited
OST connection Used Capacity            : 758222.0 GiB
OST connection Enabled                  : Yes
OST connection status                   : Available
Number of container UACs                : 1
```

```
container --show --name veeam-cifs-cont-ui
Container's Group ID                    : 0
Container's Group Name                  : DefaultGroup
Container Name                          : veeam-cifs-cont-ui
Container Path                          : /containers/veeam-cifs-cont-ui
Container Object Direct Storage         : No
Container Cloud Replication             : None
Container cloud locking                 : None
Container Marker                        : None
Recycle Bin Enabled                     : No
CIFS connection IP addresses            : *
CIFS Share name                         : veeam-cifs-cont-ui
CIFS connection Enabled                 : Yes
CIFS connection status                  : Available
Number of container UACs                : 0
Anomaly detection                       : Disabled
Anomaly detection interval(min)         : 30
Anomaly metric                          : ingest,expiry [inherit]
Veeam overwrite protect                 : Enabled
```

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                      : 6
Container's Group ID                    : 2
Container's Group Name                  : tool-load
Container Name                          : QSPL-4300-13_OST
Container Path                          : /containers/QSPL-4300-13_OST
Container Object Direct Storage         : No
Container Cloud Replication             : None
Container Marker                        : None
Container Created On                    : Tue Jun 26 11:56:43 2018 EDT
Container Created Ver                   : 4.1.0.235
Container Created Bld                   : 1082C
Recycle Bin Enabled                     : No
OST connection Entry ID                 : 5
OST connection Quota                    : Unlimited
OST connection Used Capacity            : 758222.0 GiB
```

```
OST connection Enabled                    : Yes
OST connection status                     : Available
Number of container UACs                  : 1
user: backup_user,      user_id: 1,     access: RWD
```

container --add

Description

Creates and names a new container in QoreStor.

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

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 '_'.

NOTE: If the QoreStor is FIPS-enabled, the VTL and OBJECT container types are not supported and the `container --add` command fails with the error:
`Error: [type] protocol is not supported on a FIPS enabled QoreStor.`

Syntax

```
container --add --name <name>
       [--type <VTL>]
       [--tape_size <800GB|400GB|200GB|100GB|50GB|10GB>]
       [--no_of_drives <1-60>]
       [--is_oem <yes|no>]
       [--oem_vendor <QUEST>]
       [--group_name <name>]
```

Where

```
--name           Name of the container. Valid values are  [a-z,A-Z,0-9,'-' and '_'
for non-VTL containers]  and maximum of 32 characters.
--type           Type of the container.
--tape_size      Tape size <800GB|400GB|200GB|100GB|50GB|10GB>
--no_of_drives   Number of Drives (applicable to FC containers only)
--is_oem         Is OEM <yes|no>
--oem_vendor     oem_vendor <QUEST>
--group_name     Name of the storage group. Valid values are [a-z,A-Z,0-9,'-' and '_
'] and maximum of 32 characters.
```

Result

```
Container "acme99" created successfully.
```

container --update

Description

Updates the specified container.

Syntax

```
container --update --name <name>
       [--no_of_drives <1-60>]
       [--cloud_replication <yes|no>]
       [--veeam_overwrite_protect]
       [--rb_retention_period <7 days to 30 days>]
       [--immutable_file_stat]
       [--locked_file_stat]
```

Where

```
--name                     Name of the container. Valid values are  [a-z,A-Z,0-9,'-'
and '_' for non-VTL containers]  and maximum of 32 characters.
--no_of_drives             Number of Drives (applicable to FC containers only)
--cloud_replication        <yes|no>
--veeam_overwrite_protect  DMA vendor 'veeam' specific control to tune the container
behavior, such as protecting its data files(only .vbk and .vib) against mutable file
operations like overwrite, truncate, append, and rename.
--immutable_file_stat      Updates immutable file stat
--locked_file_stat        Updates locked file stat.
```

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.
```

NOTE: `--veeam_overwrite_protect` option enables the CIFS overwrite protection for Veeam forward incrementals that is applicable to only CIFS containers. Once enabled this is irreversible option. To enable this option, recycle-bin should also be enabled because unlinked files are also to be protected.

container --delete

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 <name> [--delete_files]
```

Where

```
--name           Name of container.
--delete_files   Deletes the files in the container.
```

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 "default_ost" marked for deletion. Please run "maintenance --filesystem --
reclaim_space" to recover the storage space.
```

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.

container --marker

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 <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>
```

Where

```
--enable       Enable marker of given type.
--disable      Disable marker of given type.
--name         Name of container.
```

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 --cloud_policy

Description

Cloud policy for a replication primary container.

Syntax

```
container --cloud_policy [--age_of_file <1 hours to 70 years (in hours)>]
       [--incl_file_ext <file extension list>]
```

```
       [--excl_file_ext <file extension list>]
       [--incl_file_regex <file regex pattern>]
       [--excl_file_regex <file regex pattern>]
       [--incl_dir <include directory list>]
       [--excl_dir <exclude directory list>]
       [--stub_excl_dir <exclude directory list>]
       [--stub_excl_file_regex <file regex pattern>]
       [--stub_excl_file_ext <file extension list>]
       [--on_prem_reten_age <1 hours to 70 years (in hours)>]
       [--reset <incl_file_ext|incl_file_regex|excl_file_ext|excl_file_regex|incl_
dir|excl_dir|stub_excl_dir|stub_excl_file_ext|stub_excl_file_regex>]
       [--enable_locking <[--lock_type <Governance|Compliance>]>]


--name <name>
```

Where:

```
--stub_excl_dir          Comma separated list of directories in which files under
those directories that should be excluded from stubbing. (Ex: /excl_dir1/,.excl_
dir2))
--stub_excl_file_regex   | separated list of regular expressions skips the files to
be stubbed.(Ex: .jpg|.gz)
--stub_excl_file_ext     Comma separated list of file extensions of files to be
excluded from stubbing.(Ex: .jpg,.gz)
--reset                  reset incl_file_ext, excl_file_ext, incl_dir excl_dir.
stub_excl_dir, stub_excl_file_ext or stub_excl_file
```

For RDA containers to enable cloud lock for a container use:

```
[--enable_locking <[--lock_type <Governance|Compliance>]>]
```

For Object Container use:

```
container --cloud_policy --enable_locking --name <name of Object container>
```

container --delete_files

Description

Deletes only the data files in a container, and leaves the container intact.

Syntax

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

Where

```
--name   Container Name
```

Result

```
Error: Connection needs to be disabled first.
```

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 . To delete the files and the existing OST container on which the files resides, see container --delete.

container --add_uac

Description

Add user access control (UAC) to an OST or RDS container. Mode is [RW | RWD].

NOTE: Only OST and RDA users can have access controls. Adding UAC commands applies only to RDS and OST containers.

Syntax

```
container --add_uac --name <name> --user <user name> --mode <RW|RWD>
```

```
Where
```

```
--name   Name of container.
--user   Name of the user.
--mode   Access permissions for the user: {RW | RWD}
```

Result

Successfully updated container with uac for user "<user name>".

container --delete_uac

Description

Delete user access control to the container.

Syntax

```
container --delete_uac --name <name>  --user <user name>
```

Where

```
--name   Name of container.
--user   Name of the user.
```

Result

Successfully deleted uac for user "<user>" from the container

container --update_uac

Description

Update user access control to the container. Mode is [RW | RWD]

Syntax

```
container --update_uac --name <name> --user <user name> --mode <RW|RWD>
```

Where

```
--name   Name of container.
--user   Name of the user.
--mode   Access permissions for the user: {RW | RWD}
```

Result

Successfully updated container with uac for user "<user>"

container --show_uac

Description

Show user access controls of all users (or just specified user) of the container.

Syntax

```
container --show_uac [--name <name>] [--user <user name>]
```

Where:

```
--name   Name of container.
--user   Name of the user.
```

Result

The UAC configuration will be displayed.

```
container: <name>, user: <user>, user_id: 6, access: RW
```

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

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

container --add --name <name>
```

```
       [--type <NFS|CIFS|OST|RDS>]
       [--tape_size <800GB|400GB|200GB|100GB|50GB|10GB>]
       [--no_of_drives <1-60>]
       [--is_oem <yes|no>]
       [--oem_vendor <QUEST>]
       [--group_name <name>]
       [--src_name <name>]

container --update --name <name>

       [--cloud_replication <yes|no>]
       [--immutable_file_stat]
       [--locked_file_stat]


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

container --recycle_bin [--enable <--rb_retention_period <7 days to 30 days>>]
       [--update <--rb_retention_period <7 days to 30 days>>]
       [--restore <[--start_time "YYYY-MM-DD HH:MM:SS"] [--end_time "YYYY-MM-DD
HH:MM:SS"]>]
       [--file_list <[--start_time "YYYY-MM-DD HH:MM:SS"] [--end_time "YYYY-MM-DD
HH:MM:SS"]>]
       [--view_file_list]
       [--view_restored_times]
       [--view_restored_files <[--time "YYYY-MM-DD HH:MM:SS"]>]
       --name <name>


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 --cloud_policy
       [--age_of_file <1 hours to 70 years (in hours)>]
       [--incl_file_ext <file extension list>]
       [--excl_file_ext <file extension list>]
       [--incl_file_regex <file regex pattern>]
       [--excl_file_regex <file regex pattern>]
       [--incl_dir <include directory list>]
       [--excl_dir <exclude directory list>]
       [--stub_excl_file_regex <file regex pattern>]
       [--stub_excl_file_ext <file extension list>]
       [--on_prem_reten_age <1 hours to 70 years (in hours)>]
       [--reset <incl_file_ext|incl_file_regex|excl_file_ext|excl_file_regex|incl_
dir|excl_dir>]
       [--enable_locking <[--lock_type <Governance|Compliance>]>]
```

```
       --name <container name>

container --delete_files --name <name>

container --add_uac --name <name>
       --user <user name>
       --mode <RW|RWD>

container --delete_uac --name <name>
       --user <user name>

container --update_uac --name <name>
       --user <user name>
       --mode <RW|RWD>

container --show_uac
       [--name <name>]
       [--user <user 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.
       --recycle_bin    Recycle bin for an existing container.
       --marker         Enables/Disables marker for an existing container.
       --cloud_policy   Cloud policy for a replication primary container.
       --delete_files   Deletes the files in the container.
       --add_uac        Add user access control to the container. Mode is [RW | RWD]
       --delete_uac     Delete user access control to the container.
       --update_uac     Update user access control to the container. Mode is [RW | RWD]
       --show_uac       Show user access controls of all users (or just specified user) of
the container.

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

container --help show

container --recycle_bin [--enable <--rb_retention_period <7 days to 30 days>>]
       [--update <--rb_retention_period <7 days to 30 days>>]
       [--restore <[--start_time "YYYY-MM-DD HH:MM:SS"] [--end_time "YYYY-MM-DD
HH:MM:SS"]>]
       [--file_list <[--start_time "YYYY-MM-DD HH:MM:SS"] [--end_time "YYYY-MM-DD
HH:MM:SS"]>]
       [--view_file_list]
       [--view_restored_times]
       [--view_restored_files <[--time "YYYY-MM-DD HH:MM:SS"]>]
       --name <name>
```

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

Description

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

Syntax

```
iscsi --show [--user]
```

Where

```
--user   Show CHAP user name
```

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

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

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 <number>]
```

Where

```
--port   Set the port number of NDMP server.
```

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
ndmp --help

ndmp <command> <command-arguments>
<command> can be one of:
--show   Displays command specific information.

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

eg:
ndmp --help show
```

Object_container

This topic introduces the set of QoreStor CLI commands that allow you to manage, configure, and display connection-related settings for object containers on a QoreStor server.

object_container command usage

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

- **object_container --show [options]**
- **object_container --add [options]**
- **object_container --start --name [options]**
- **object_container --stop**
- **object_container --update [options]**
- **object_container –encryption [options]**
- **object_container --delete_data**
- **object_container --delete**

- **object_container –setpassphrase [options]**
- **object_container --bkt-add [options]**
- **object_container --bkt-del [options]**
- **object_container --bkt-list [options]**
- **object_container --bkt-lock [options]**
- **object_container --bkt-version [options]**
- **object_container --bkt-legalhold [options]**
- **object_container --bkt-retention [options]**
- **object_container --bkt-show [options]**
- **object_container --policy-list [options]**
- **object_container --policy-set [options]**
- **object_container --policy-unset [options]**
- **object_container --policy-update [options]**
- **object_container --policy-show [options]**
- **object_container --user-add [options]**
- **object_container --user-del [options]**
- **object_container --user-enable [options]**
- **object_container --user-disable [options]**
- **object_container --user-list [options]**
- **object_container --cleaner-status [options]**
- **object_container --help**

object_container --show

Description

Displays the current list of object_container.

Syntax

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

Where

```
--name Name of the object container
```

Result

```
ObjectContainer        ONLINE,RW                https://10.230.48.45:9000
```

object_container --add

Description

Adds a new object container

Syntax

```
object_container --add --name <new container name>
                [--group <group name>]
                [--use_http <yes|no>]
```

Where

```
--name Name of the Object Container
--group Name of the Storage Group
--use_http <yes|no>
```

Result

```
Successfully created object container `ObjectContainer1`.
Successfully started endpoint on object container `ObjectContainer1`.
```

object_container --update

Description

Updates an existing object container

Syntax

```
object_container --update [--use http <yes|no>]
                 [--quota <Quota value in GiB or TiB>]
                 [--use-http <yes|no>]
                 --name <container name>
```

Where

--compression_mode <fast|best> -> applicable only for Object containers created before 7.2.0 release
--quota Quota value in GiB or TiB. - -> applicable only for Object containers created before 7.2.0 release
--name Name of the Object Container
--use_http <yes|no>

Result

```
WARNING: IO will be stopped for the config change to take place.
Do you want to continue (yes/no) [n]? yes
Successfully updated endpoint connection for object container `ObjectContainer1`.
```

object_container --encryption

Description

Updates encryption settings of an object container.

Syntax

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

Where

```
--set        Valid values are On and Off.

--mode       Valid values are static and internal.

--interval   Valid values are between 7 days to 70 years (in days).
```

Result

```
Storage Group "ObjectStorageGroup" updated successfully.
```

NOTE: This command is valid for Object containers created before 7.7.0 release.

object_container --delete_data

Description

For Object containers created before 7.2.0 release, it deletes the data and the container. For Object containers created from 7.2.0 and onwards, it deletes data in the container.

Syntax

```
object_container --delete_data --name <container name>
```

Result

```
Warn: All buckets and objects in object container `ObjectContainer1` will be
deleted!
Do you want to continue? (yes/no) [n]? yes
Please enter the root password:
Successfully deleted all buckets and objects in object container `ObjectContainer1`.
```

object_container --delete

Description

Stops and deletes an existing object_container.

Syntax

object_container --delete --name <container name>

Result

Warn: endpoint will be stopped, deleted, all buckets and objects in object container `ObjectContainer1` will be deleted!
Do you want to continue? (yes/no) [n]? yes
Please enter the root password:
Warn: stopped endpoint on object container `ObjectContainer1`.
Warn: deleted endpoint on object container `ObjectContainer1`.
Container "ObjectContainer1" marked for deletion. Please run "maintenance --filesystem --reclaim_space" to recover the storage space.
Successfully deleted object container `ObjectContainer1`.

object_container --setpassphrase

Description

Sets passphrase to an object container.

Syntax

```
object_container --setpassphrase --name <ObjectContainer>
```

Result

```
Enter current passphrase:
Enter new passphrase:
Re-type passphrase:
Storage Group "ObjectContainer" updated successfully.
Passphrase updated successfully.
```

NOTE: This command is valid for the Object containers created before 7.7.0 release.

object_container --bkt-add

Description

Create bucket in an object_container.

Syntax

```
object_container --bkt-add --name <container name>
                 --bkt-name <bucket name>
                 [--enable-object-lock]
                 [--enable-object-versioning]
```

Where
--name Name of the Container
--bkt-name Name of the bucket

Result

```
Bucket created successfully `ObjectContainer1/bucket1`.
```

object_container --bkt-del

Description

Delete a bucket/object(s) in an object_container.

Syntax

```
object_container --bkt-del --name <container name>
                  --bkt-name <bucket name>
```

Where
```
 --name Name of the container
--bkt-name Name of the bucket
```

Result

```
Removed `ObjectContainer1/bucket1/` successfully.
```

object_container --bkt-list

Description

List bucket(s)/object(s) in an object_container.

Syntax

```
object_container --bkt-list --name <container name>
                 [--bkt-name <bucket name>]
                 [--object-prefix <anything>]
```

Where
```
--name Name of the container
--bkt-name Name of the bucket
```

Result

```
[2023-04-17 13:34:55 EDT] 0B bucket1/
```

object_container --bkt-lock

Description

Locks the configuration of buckets specifically in ObjectContainer only.

Syntax

```
object_container --bkt-lock --name <container name>
                 --bkt-name <bucket name>
                 --mode <compliance|governance|none>
                 [--object-name <anything>]
                 [--object-prefix <anything>]
                 [--valid-days <1 to 36500 days>]
                 [--valid-years <1 to 100 years>]
```

Where

```
--name Name of the container
--bkt-name Name of the bucket
--mode <compliance|governance|none>
```

Result

```
Successfully set bucket lock configuration: default-bucket mode :compliance 10d
```

NOTE: This CLI is used for locking the ObjectContainer buckets created before QoreStor 7.7.0 release.

object_container --bkt-version

Description

Enable or suspend bucket versioning.

Syntax

```
object_container --bkt-version --name <container name>
                 --bkt-name <bucket name>
                 --mode <enable|suspend>
```

Where

```
--name Name of the container
--bkt-name Name of the bucket
--mode <enable|suspend>
```

Result

```
ObjectContainer1/bucket1 versioning is enabled.
```

NOTE: This CLI is used for enabling the versioning for the Object Container buckets created in 7.7.0. It does not support versions prior to 7.7.0.

object_container --bkt-legalhold

Description

Legalhold configuration of objects in a bucket for Object containers.

Syntax

```
object_container --bkt-legalhold --name <container name>
                 --bkt-name <bucket name>
                 --mode <set|clear>
                 [--object-name <anything>]
                 [--object-prefix <anything>]
```

Where

```
--name Name of the container
--bkt-name Name of the bucket
--mode <enable|suspend>
```

Result

```
Object legal hold successfully set for `file1`.
```

NOTE: This CLI is used for Legalhold configuration of bucket objects for Object Container created in 7.7.0. It does not support versions prior to 7.7.0.

object_container --bkt-retention

Description

Retention configuration of bucket and objects inside it.

Syntax

```
object_container --bkt-retention --name <container name>
                 --bkt-name <bucket name>
                 --mode <compliance|governance|none>
                 [--object-name <anything>]
                 [--object-prefix <anything>]
                 [--valid-days <1 to 36500 days>]
                 [--valid-years <1 to 100 years>]
```

Where

```
--name Name of the container
--bkt-name Name of the bucket
--mode <compliance|governance|none>
```

Result

```
Object retention successfully set for `ObjectContainer1/bucket3/file1`.
```

object_container --bkt-show

Description

Show Locking and Retention configauration of a bucket and objects inside it.

Syntax

```
object_container  --bkt-show  --name  <container  name>
                  --bkt-name  <bucket  name>
                  [--object-name  <anything>]
                  [--object-prefix  <anything>]
```

Where

```
--name Name of the container
--bkt-name Name of the bucket
```

Result

```
Object Locking                : Enabled
Object Retention Mode         : COMPLIANCE
Object Retention Duration     : 10DAYS
Object Versioning             : Enabled
```

object_container --policy-list

Description

List all the available policies.

Syntax

```
object_container --policy-list --name <container name>
```

Where

```
--name Name of the container
```

Result

```
List  of  available  policies  on  object  container`ObjectContainer1`  are:
writeonly
readonly
readwrite
```

object_container --policy-set

Description

Set a policy to the user.

Syntax

```
object_container --policy-set --name <container name>
                 --policy-name <Policy name>
                 --user-name <user name>
```

Where

```
--name Name of the container
--policy-name Name of the policy
--user-name Name of the user
```

Result

```
Successfully set policy `readwrite` to user `backup_user` on object container
`ObjectContainer1`
```

object_container --policy-unset

Description

Unset a policy to the user.

Syntax

```
object_container --policy-unset --name <container name>
                 --policy-name <Policy name>
                 --user-name <user name>
```

Where

```
--name Name of the container
--policy-name Name of the policy
--user-name Name of the user
```

Result

```
Successfully unset policy `readwrite` to user `backup_user` on object container
`ObjectContainer1`.
```

NOTE: This command is valid for the Object containers created from QoreStor 7.7.0 onwards.

object_container --policy-update

Description

Update a policy for the user.

Syntax

```
object_container --policy-update --name <container name>
                 --policy-name <Policy name>
                 --user-name <user name>
```

Where

```
--name Name of the container
--policy-name Name of the policy
--user-name Name of the user
```

Result

```
Successfully added policy `readonly` to user `backup_user` on object container
`ObjectContainer1`.
```

NOTE: This command is valid for the Object containers created from QoreStor 7.7.0 onwards.

object_container --policy-show

Description

Show policies set on to a user.

Syntax

```
object_container --policy-show--name <container name>
                 --user-name <user name>
```

Where

```
--name Name of the container
--user-name Name of the user
```

Result

```
Object container user policy : readwrite
```

object_container --user-add

Description

Creates a user/accesskey.

Syntax

```
object_container --user-add --name <new container name>
                            --user-name <user name>
```

Where

```
--name Name of the Object Container
--user-name Name of the user
```

Result

```
Enter Secret Key:
Re-type Secret Key:
Added user `backup_user` successfully.
```

NOTE: This command is valid for the Object containers created from QoreStor version 7.7.0 and onwards.

object_container --user-del

Description

Delete a user/accesskey.

Syntax

```
object_container --user-del --name <container name>
                 --user-name <user name>
```

Where

```
--name Name of the container
--user-name Name of the user
```

Result

```
Successfully deleted user `backup_user` from `ObjectContainer1`.
```

NOTE: This command is valid for the Object containers created from QoreStor version 7.7.0 and onwards.

object_container --user-enable

Description

Enables the user/accesskey.

Syntax

```
object_container --user-enable --name <container name>
                 --user-name <user name>
```

Where

```
--name Name of the container
--user-name Name of the user
```

Result

```
Successfully enabled user `backup_user` in `ObjectContainer1`.
```

NOTE: This command is valid for the Object containers created from QoreStor 7.7.0 onwards.

object_container --user-disable

Description

Disables the user/accesskey.

Syntax

```
object_container --user-disable --name <container name>
                                 --user-name <user name>
```

Where

```
--name Name of the container
--user-name Name of the user
```

Result

```
Successfully disabled user `backup_user` in `ObjectContainer1`.
```

NOTE: This command is valid for the Object containers created from QoreStor version 7.7.0 and onwards.

object_container --user-list

Description

Lists the users/accesskeys on a store.

Syntax

```
object_container --user-list --name <container name>
```

Where

```
--name Name of the container
```

Result

```
enabled    backup_user
```

NOTE: This command is valid for the Object containers created from QoreStor 7.7.0 onwards.

object_container --help

Description

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

Syntax

```
object_container --help
```

Result

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

object_container --add --name <new container name>
                       [--group <group name>]
                       [--use-http <yes|no>]

object_container --start --name <container name>
                         [--use-http <yes|no>]

object_container --stop --name <container name>

object_container --update [--compression_mode <fast|best>]
                 [--quota <Quota value in GiB or TiB>]
                 [--use-http <yes|no>]
                 --name <container name>

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


object_container --delete_data --name <container name>

object_container --delete --name <container name>

object_container --setpassphrase --name <ObjectContainer>

object_container --bkt-add --name <container name>
                  --bkt-name <bucket name>
                 [--enable-object-lock]
                 [--enable-object-versioning]


object_container --bkt-del --name <container name>
                 --bkt-name <bucket name>


object_container --bkt-list --name <container name>
                 [--bkt-name <bucket name>]
                 [--object-prefix <anything>
]

object_container --bkt-lock --name <container name>
                  --bkt-name <bucket name>
                  --mode <compliance|governance|none>
                 [--object-name <anything>]
                 [--object-prefix <anything>]
                 [--valid-days <1 to 36500 days>]
                 [--valid-years <1 to 100 years>]
```

```
object_container --bkt-version --name <container name>
                 --bkt-name <bucket name>
                 --mode <enable|suspend>

object_container --bkt-legalhold --name <container name>
                --bkt-name <bucket name>
                --mode <set|clear>
                [--object-name <anything>]
                [--object-prefix <anything>]


object_container --bkt-retention --name <container name>
                --bkt-name <bucket name>
                --mode <compliance|governance|none>
                [--object-name <anything>]
                [--object-prefix <anything>]
                [--valid-days <1 to 36500 days>]
                [--valid-years <1 to 100 years>]

object_container --bkt-show --name <container name>
                --bkt-name <bucket name>
                [--object-name <anything>]
                [--object-prefix <anything>]


object_container --policy-list --name <container name>

object_container --policy-set --name <container name>
                  --policy-name <Policy name>
                  --user-name <user name>

object_container --policy-unset --name <container name>
                  --policy-name <Policy name>
                  --user-name <user name>


object_container --policy-update --name <container name>
                  --policy-name <Policy name>
                  --user-name <user name>

object_container --policy-show --name <container name>   --user-name <user name>

object_container --user-add --name <container name>
                 --user-name <user name>

object_container --user-del --name <container name>
                  --user-name <user name>

object_container --user-enable --name <container name>
                  --user-name <user name>
```

```
object_container --user-disable --name <container name>
                 --user-name <user name>

object_container --user-list --name <container name>

object_container --cleaner-status [--name <container name>]


object_container --help

object_container <command> <command-arguments>

<command> can be one of:
       --show             Displays the current list of object_container.

       --add              Adds a new object container and starts a connection to it.

       --start            Start/Enable object container connection.
       --stop             Stop/Disable object container connection.
       --update           updates an object_container.
       --encryption       updates encryption settings of an object_container.
       --delete_data      Stop and deletes object_container and its data.
       --delete           Stops and deletes an existing object_container.
       --setpassphrase    sets passphrase to an object_container.
       --bkt-add          Create bucket in an object_container.
       --bkt-del          Delete a bucket/object(s) in an object_container.
       --bkt-list         List bucket(s)/object(s) in an object_container.
       --bkt-lock         Lock configuration of buckets specifically in
ObjectContainer only.
       --bkt-version      Enable or suspend bucket versioning.
       --bkt-legalhold    Legalhold configuration of objects in a bucket for containers
other than ObjectContainer.
       --bkt-retention    Retention configuration of bucket and objects inside it.
       --bkt-show         Show Locking and Retention configuration of a bucket and objects
inside it.
       --policy-list      List all the available policies
       --policy-set       Set a policy to user
       --policy-unset     Unset a policy to user
       --policy-update    Update a policy to user
       --policy-show      Show policies set to a user
       --user-add         Create user/accesskey.
       --user-del         Delete user/accesskey.
       --user-enable      Enable user/accesskey.
       --user-disable     Disable user/accesskey.
       --user-list        List users/accesskeys on a store.
       --cleaner-status   Display status of MT trash cleaner
```

Object_direct

This topic introduces the set of QoreStor CLI commands that allow you to manage and display object direct settings for a QoreStor server.

object_direct command usage

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

- **object_direct --show [options]**
- **object_direct --update [options]**
- **object_direct --update_sentinal**
- **object_direct --help**

object_direct --show

Description

Displays the current list of **object_direct** connection details

Syntax

```
object_direct --show
```

Result

```
Object_direct:
Cloud provider name    :AZURE
Cloud container name   :od-azure-container
```

object_direct --update_sentinel

Description

Updates Object Direct cloud connection details and creates sentinel in the given cloud bucket. This command should be used when the cloud connection fails during QoreStor installation in Object Direct mode, which takes the system to Manual Intervention mode.

The cloud provider name and cloud container or bucket name are to be passed as arguments. The command prompts for connection string. QoreStor comes to Operational mode after successful completion of the command.

Syntax

```
object_direct --update_sentinel --cloud_container <bucket name> --cloud_provider
<cloud provider name>
```

Where

```
--cloud_container   Name of the cloud container. Valid values are [a-z,0-9,'-','.'].
--cloud_provider    Name of the cloud service provider. Valid values are [<AWS-
S3|AZURE|Wasabi-S3|Google-S3|IBM-S3|NetApp-StorageGRID|S3-Compatible>].
```

Result

```
Enter AZURE cloud connection string to connect to container <container>: (
connection string here )
```

```
Checking if container [<container>] is empty...
Container empty test pass. Container [<container>] in the cloud is empty.
Connection credentials validated successfully.
Object Direct Connection updated successful. Restarting the filesystem service.

Filesystem service re-started successfully.
```

object_direct --update

Description

Updates Object Direct cloud connection details. This command can be used to change the connection string, for example to change the secret key or to change the protocol for cloud connection (http or https). Command prompts for the connection string.

The cloud provider or the cloud bucket cannot be changed

Syntax

```
object_direct --update
```

Result

```
Enter Google-S3 cloud connection string to connect to container <container>:
```

object_direct --help

Description

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

Syntax

```
object_direct --help
```

Result

```
object_direct --show

object_direct --update_sentinel --cloud_container <bucket name> --cloud_provider
<cloud provider name>

object_direct --update

object_direct --help

object_direct <command> <command-arguments>

<command> can be one of:
       --show            Displays the current list of object_direct.
       --update_sentinel Updates an object direct cloud connection details and creates
sentinel.
```

```
       --update          Updates an object direct cloud connection details.

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

Performance_tier

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

Performance_tier command usage

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

- **performance_tier --show [options]**
- **performanc_tier --add [options]**
- **performance_tier --update [options]**
- **performance_tier --encryption [options]**
- **performance_tier --setpassphrase**
- **performance_tier --test-iops [options]**
- **performance_tier --help**

performance_tier --show

Description

Displays the details of PerformanceTier storage_group.

Syntax

```
performance_tier --show [--verbose]
```

Where

```
--verbose   Display more details.
```

Result

```
Storage_group Name              : PerformanceTier
Storage_group Compression Type  : Fast
Storage_group Encryption Set    : On
Storage_group Encryption Type   : Static
Storage_group Rotate Period     : 30
Storage_group Passphrase set    : Yes
```

```
Storage_group Mapped Enclosure  : /test01
Storage_group Quota limit       : Unlimited
PerformanceTier's Containers
---------------------------
test123
rdacont
```

performance_tier --add

Description

Adds a new performance tier.

Syntax

```
performance_tier --add --path <enclosure filesystem dir> [--compression_mode
<fast|best>][--quota <Quota value in GiB or TiB>]
```

Where

```
--path               Absolute directory path for exclusively mapped enclosure.
--compression_mode   Valid values are Fast and Best.
--quota              Quota value in GiB or TiB.
```

Result

```
Running IOPS tests on /QS_perftier, takes few minutes
Sequential and Random IOPS tests passsed on /QS_perftier

WARNING: IO will be stopped during storage addition.

Do you want to continue (yes/no) [n]? y
Storage Group "PerformanceTier" created successfully.
SG map added to DB successfully. Now issuing storage expansion CLI
It may take a few minutes to restart the operations ...
```

performance_tier --update

Description

Updates a performance tier.

Syntax

```
performance_tier --update --compression_mode <fast|best> [--quota <Quota value in
GiB or TiB>]
```

Where

```
--compression_mode   Valid values are Fast and Best.

--quota              Quota value in GiB or TiB.
```

Result

```
Storage Group "PerformanceTier" updated successfully.
```

performance_tier --encryption

Description

Updates encryption settings of a performance tier.

Syntax

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

Where

```
--set        Valid values are On and Off.

--mode       Valid values are static and internal.

--interval   Valid values are between 7 days to 70 years (in days).
```

Result

```
Storage Group "PerformanceTier" updated successfully.
```

performance_tier --setpassphrase

Description

Sets passphrase to a performance tier.

Syntax

```
performance_tier --setpassphrase
```

Result

```
Enter current passphrase:
Enter new passphrase:
Re-type passphrase:
Storage Group "PerformanceTier" updated successfully.
Passphrase updated successfully.
```

performance_tier --test-iops

Description

Run IOPS tests on performance tier.

Syntax

```
performance_tier --test-iops --path <enclosure filesystem dir>
```

Where

```
--path   Path to the data storage.
```

Result

```
Running IOPS tests on /test01, takes few minutes
Sequential and Random IOPS tests passsed on /test01
Running IOPS tests on /test01, takes few minutes
Sequential min required IOPS: 2000
Sequential current IOPS: 72990
Random min required IOPS: 850
Random current IOPS: 1464
Sequential and Random IOPS tests passsed on /test01
Total Capacity bytes: 966053068800
Total Free bytes: 966019186688
```

performance_tier --help

Description

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

Syntax

```
performance_tier --help
```

Result

```
performance_tier --show [--verbose]

performance_tier --add --path <enclosure filesystem dir>
               [--compression_mode <fast|best>]
               [--quota <Quota value in GiB or TiB>]

performance_tier --update --compression_mode <fast|best>
               [--quota <Quota value in GiB or TiB>]

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

performance_tier --setpassphrase

performance_tier --test-iops --path <enclosure filesystem dir>

performance_tier --help

performance_tier <command> <command-arguments>
<command> can be one of:
       --show            Displays the details of PerformanceTier storage_group.
       --add             Adds a new performance tier.
```

```
        --update          Updates a performance tier.
        --encryption      Updates encryption settings of a performance tier.
        --setpassphrase   Sets passphrase to a performance tier.
        --test-iops       Run IOPS tests on performance tier.

For command-specific help, please type performance_tier --help <command>
        eg:
        performance_tier --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.
- Resynchronizing replication between source and target containers.
- Troubleshooting replication connection issues.

NOTE: You can set a replication schedule for daily replication operations. For details, see schedule --add .

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 --resync --name --role [options]**
- **replication --troubleshoot --peer**
- **replication --help**

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 --show

Description

Displays the current status of all existing replication containers (and respective roles) in the QoreStor.

Syntax

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

Where

```
--air       Auto Image replication enabled.
--name      Name of container.
--role      Role of container.
--verbose   Display more details.
```

Result

```
Container Name          Replication Role              Status
backup                  Source, Target                Enabled
acme-59                 Source                        Enabled
acmeStorage1            Source                        Enabled
acmeStorage2            Source                        Enabled
acmeStorage3            Target                        Enabled
```

replication --add

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 uses128-bit cryptographic keys
- aes256 (using 256-bit AES cryptographic keys).

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

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 <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>]
       [--air]
```

Where

```
--name                  Name of container to replicate.
--role                  Role of container.
--peer                  Peer appliance IP address/name of replication network
interface(s).
--peer_name             Name of remote container to/from replicate.
--peer_group_name       Name of remote container's group to/from replicate. Only
applicable if remote container is not present
--replication_traffic   IP address/name of local dedicated replication network
interface(s).
--encryption            Type of encryption to use on the wire.
--username              Username on peer system.
--air                  Auto Image replication enabled.
```

Result

```
Enter password foradministrator@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
```

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

replication --update

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

Where

```
--name                  Name of the replication container to update.
--role                  Current replication role of container.
--peer                  Peer appliance IP address/name of replication network
interface.
--replication_traffic   IP address/name of dedicated replication network interface.
--encryption            Type of encryption to use on the wire.
--username              Username on peer system.
```

Result

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>
```

NOTE: For more information about disabling replication, see replication --stop .

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

Description

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

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 run.

Syntax

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

Where

```
--name    Name of container.
--role    Role of container.
--force   Delete configuration even if peer container is unreachable. Replication
must be stopped first even with force option.
```

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.
```

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 .

Deletes the existing replication link to a container.

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

Result

```
Successfully deleted replication entry.
```

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

replication --start

Description

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

Syntax

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

Where

```
--name   Name of container.
--role   Role of container.
```

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

Description

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

Syntax

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

Where

```
--name   Name of container.
--role   Role of container.
```

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 --resync

Description

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

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

Where

```
--name   Name of container.
```

```
--role   Role of container.
```

Result

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

replication --troubleshoot

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 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 <ip address | hostname>
```

Where

```
--peer   IP address or name of remote machine to troubleshoot.
```

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 [-air] [--name <name>]
               [--role <source | target>]
               [--verbose]


       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>]
               [-air]


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

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

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

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



       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.

        --resync         Initiates a replication re-sync.
        --troubleshoot   Troubleshoots replication connection.

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

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.

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

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 <import|export> [--enc_type <aes128 | aes256>] [--storage_group_
name <name>]
```

Where

```
--op                    Seeding operation export/import.
--enc_type              Encryption type. Default value is aes256.
--storage_group_name    Storage group name. Default value is DefaultGroup
```

Result

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

seed --add_container

Description

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

Syntax

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

Where

```
--name   Seeding export container
```

Result

```
Successfully added seed container.
```

seed --add_device

Description

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

> **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 <server name> --volume <volume> --username <user name> [-
-domain <domain name>]
```

Where

```
--server     CIFS Server to be used for importing / exporting data(IP address or
FQDN).
--volume     Volume in the CIFS share.
--username   Username of cifs server.
--domain     CIFS Server's domain.
```

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.

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**

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

Description

Displays any existing Cleaner schedule.

Syntax

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

Where

```
--cleaner            Displays the cleaner schedule.
--replication        Displays all configured replication schedule(s).
--cloudreplication   Displays all configured cloud replication schedule(s).
--cloud_archive      This is used for cloud_replication. It sets cloud tier by
default. For archive tier, use --cloud_archive.
--name               Display replication schedule of a specific container.
```

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

Description

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

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 --stop_reclaim_space <storage group name>.

Syntax

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

Where

```
--day                Day of the week to add.
--cleaner            Set up a cleaner schedule.
--replication        Set up a replication schedule.
--cloudreplication   Set up a cloud replication schedule.
--start_time         Schedule start time in HH:MM format, 00:00 - 23:59 are valid
values. To disable or continue from previous day, use -:- for start time.
--stop_time          Schedule stop time in HH:MM format, 00:01 - 24:00 are valid
values. To continue to next day, use -:- for stop time.
--name               Replication source Container Name.
--cloud_archive      This is used for cloud_replication. It sets cloud tier by
default. For archive tier, use --cloud_archive.
```

NOTE: Set a corresponding stop time for every start time in each Cleaner (or Replication) schedule you create.

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.
```

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

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 <Day of the week (Sunday|Monday...)>
       [--cleaner]
```

```
       [--name <name>]
       [--replication]
       [--cloudreplication]
       [--cloud_archive]
```

Where

```
--day                Day of the schedule to delete.
--cleaner            Delete a cleaner schedule.
--name               Replication source Container Name.
--replication        Delete a specific replication source container's schedule.
--cloudreplication   Delete a specific cloud replication source container's
schedule.
--cloud_archive      With cloud_replication, set a cloud tier by default. Also for
an archive tier.
```

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]
       [--cloudreplication]
       [--cloud_archive]
       [--name <name>]

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

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

```
       [--cloudreplication]
       [--cloud_archive]

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

vtl --show

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

Where

```
--verbose   Display more details.

--name      Name of a valid VTL container
```

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 --update_carts

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 <name> --add --no_of_tapes <number>
```

Where

```
--name          Name of a valid VTL container

--add           Add more cartridges to the tape

--no_of_tapes   Number of Tapes to be created
```

Result

```
Created 10 cartridges.
```

vtl --activate

Description

This command activates a replica VTL.

Syntax

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

Where

```
--name    Name of a valid VTL container

--force   Force activation
```

Result

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

vtl --deactivate

Description

This command deactivates a replica VTL.

Syntax

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

Where

```
--name   Name of a valid VTL container
```

Result

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

vtl --rescan

Description

This command rescans a replica VTL.

Syntax

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

Where

```
--name    Name of a valid VTL container
--force   Force activation
```

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 --restore

Description

Initiate restore of cart(s) data from an archive storage tier to a c loud storage tier

Syntax

```
vtl --restore --name <name> --barcode <barcode>
```

Where

```
--name          Name of a valid VTL container

--barcode       Comma seperated list of cartridge(s) barcode that need to be
restored from the archive storage tier
```

Result

container:"<name>" cart:"<barcode>" current status: ""

/opt/qorestor/bin/ctrlrpc -p 9911 -t 60 --container_id 8 --scid 1152921504606847078 --scid 1152921504606847080 --scid 1152921504606847079 --async --xattr_scid 1152921504606847259 --all_or_none: result: 0

Successfully Initiated restore job for <name> with barcode: <barcode>.

Restore initiation was successful for the following cart(s):"<barcode>"

vtl --set_rw

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 <name> [--id <number>]
```

Where

```
--name   Name of a valid VTL container
--id     Set the io mode of a particular drive to rw
```

Result

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

vtl --show_replstate

Description

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

Syntax

```
vtl --show_replstate --name <name>
```

Where

```
--name   Name of a valid VTL replication source container
```

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.

Cartrdges 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 --import_cart --name <name>
               --barcode <barcode>

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

       vtl --deactivate --name <name>

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

       vtl --set_rw --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
        --import_cart       import cartridges from cloud
        --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
```

5

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.

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.

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 commands

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 [basic]**
  - **--show**
  - **--delete <name>**
  - **--delete_all**
- **maintenance --disaster_recovery [options]**
- **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
backupswsys-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
```

Description

Invokes file system checker on specific storage group while other storage groups are in read-write mode.

Syntax

```
maintenance --filesystem [--scan_status]
           [--start_scan [verify_data | verify_rda_metadata | verify_metadata]] [--
storage_group <name>] [--partial]
```

Result

```
# maintenance --filesystem --start_scan --storage_group DefaultGroup --partial
```

This operation will make the storage group [DefaultGroup] read only and runs ofsck.

```
Do you want to continue (yes/no) [n]? yes
Filesystem check started successfully.
To see the status, please execute "maintenance --filesystem --scan_status"
```

maintenance --filesystem --scan_report

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]

Description

Restarts file system checker to generate updated report.

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 [--repair_now]

Description

Repairs any filesystem issues in a QoreStor based on the repair report findings.

Syntax

```
maintenance --filesystem  [--repair_now]
```

Result

```
Make sure ocafsd service is stopped...DONE
Start ocafsd service in maintenance mode...DONE
Cleaner backlog is empty
Stopping the ocafsd.........DONE
Repairing storage group "DefaultGroup"
ofsck.exe --rpcport 9917 --repair_from_report  --disk_journal_path Q:\Repository
\ocaroot\\journals --nvm_journal_path Q:\Repository\ocaroot\\journals --group_id
0
Quarantine enabled
Unlinked ofsck marker files.
ofsck.exe --rpcport 9917 --repair_from_report  --disk_journal_path Q:\Repository
\ocaroot\\journals --nvm_journal_path Q:\Repository\ocaroot\\journals --group_id
0 - rc = 0
Ofsck run complete
Start ocafsd service in operational mode.....................................
.............................................................................
.............................................................................
.............................................................................
.....................................DONE
```

maintenance --filesystem --reclaim_space

Description

Reclaims disk space that was formerly occupied by data in the laundry 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.

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.

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 run "maintenance --filesystem --scan_status".
```

NOTE: Fast cache files created as part of CDP backups are scanned only as part of maintenance --filesystem –start_scan verify_rda_metadata option.

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 [basic]]
           [--show]
           [--delete <name>]
           [--delete_all]
```

Result

```
 maintenance  --diags  --collect  basic

 Collecting  diagnostics...

 Collecting  logs...
 Diagnostics  log  location:  /var/diagnostic_logs/anil-c81-tst1_2021-08-30_23-18-
37.lzip
 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
```

maintenance --disaster_recovery

Description

Begins a disaster recovery of the QoreStor server using data archived to a cloud tier.

Syntax

```
maintenance --disaster_recovery [--cloud_string <name>]
               [--container_name <name>]
               [--cloud_provider_type <name>]
               [--passphrase <name>]
               [--logfile <name>]
               [--quick_ro_recovery <[yes | no]>]
```

Where

```
--cloud_string          Cloud connection string, to connect to the cloud bucket.
--container_name        Name of the cloud bucket from where data is to be recovered.
Valid values are [a-z, 0-9, '-', '.'].
--cloud_provider_type   Name of the cloud service provider, such as <AWS-S3 | Azure
| Wasabi-S3 | Google-S3 | IBM-S3 |NetApp-StorageGRID| S3-Compatible>.
--passphrase            Passphrase used on original machine for encrypting the data
in the cloud bucket.
--logfile               Log file path to capture the ongoing recovery activity.
--quick_ro_recovery     Fast disaster recovery, with data in cloud bucket accessible in
RO mode only.
```

Result

```
Filesystem disaster recovery started successfully.
```

maintenance --transform_cloud_data

Description

Transforms cloud data to a new layout for Archive Tier cloud buckets. This option is available from QoreStor7.7.0 onwards to transform data layout in AWS cloud associated with Archive Tier. It is required to transform the layout one time when Archive Tier is created before QoreStor7.7.0 For more details, refer to the QoreStor User Guide.

Syntax

```
maintenance --transform_cloud_data[--start]
              [--stop]
              [--show_status]
              [--reinitiate]
              -start:Initiates cloud data layout transformation
              -stop:Stops the cloud data transformation process
              -show_status:shows the current status of the cloud data
transformation process
              --reinitiate:Reinitiates the cloud data migration
```

Result

```
Cloud data transformation (migrate_data) initiated or stopped or progress shows
based on the option chosen.
```

```
When the transformation starts, cloud replication and cleaner are disable on the
Archive Tier.
```

```
Cloud replication and cleaner are disabled on Archive Tier storage group.
```

maintenance --help

Description

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

Syntax

```
maintenance --help
```

Result

```
Usage:
```

```
maintenance --filesystem [--scan_status]
       [--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]
       [--shutdown]


maintenance --transform_cloud_data[--start]
       [--stop]
       [--show_status]


maintenance --diags [--collect]
       [--show]
       [--delete <name>]
       [--delete_all]

maintenance --disaster_recovery --cloud_string <name>
       --container_name <name>
       --cloud_provider_type <name>
       --passphrase <name>
       [--logfile <name>]


maintenance --help

maintenance <command> <command-arguments>
<command> can be one of:
       --filesystem                    Maintenance operations on filesystem.
       --diags                         Diags operations.
       --disaster_recovery             Disaster recovery

For command-specific help, please type maintenance --help <command>
eg:
maintenance --help filesystem
```

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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.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- 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.