

Setting Up the Quest™ as an OST Backup
Target for Veritas™ NetBackup™

Technical White Paper

Quest Engineering

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Legend



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



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

Setting Up the Quest™ as an OST Backup Target for Veritas™ NetBackup™

Updated – June 14, 2018

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Executive Summary

This white paper provides information about how to set up QoreStor as a backup target for Veritas NetBackup. This document is a quick reference guide and does not include all QoreStor deployment best practices.

For additional information, see the QoreStor documentation and other data management application best practices whitepapers at:

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

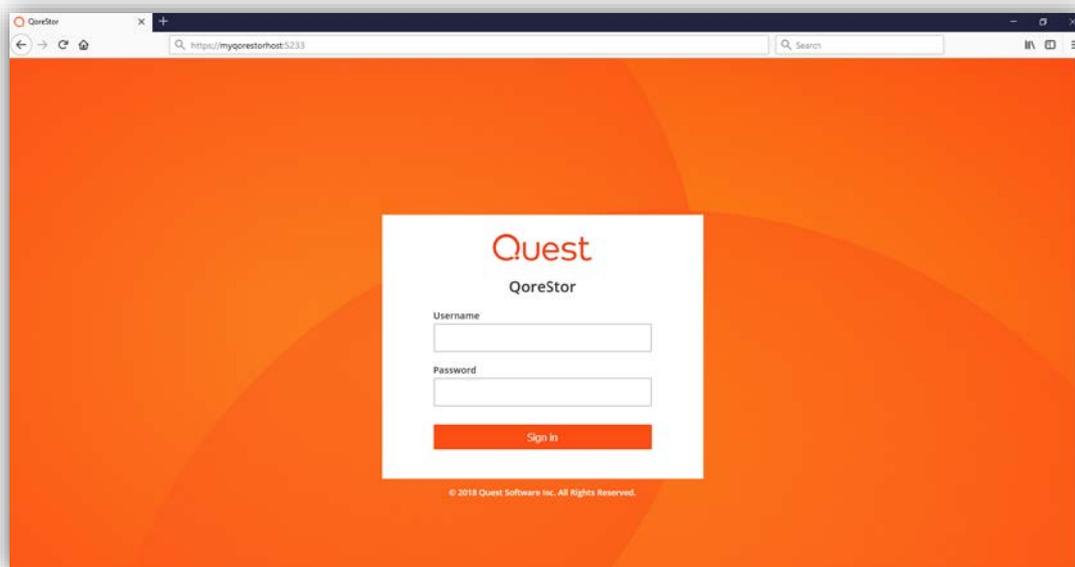
For more information about Veritas NetBackup, refer to the NetBackup Exec documentation at:

https://www.veritas.com/support/en_US/NetBackup

i **NOTE:** The QoreStor and Veritas NetBackup screenshots used in this document might vary slightly depending on QoreStor version and NetBackup version you are using.

Installing and configuring QoreStor

- 1 Before installing QoreStor, refer to the *QoreStor Interoperability Guide* to ensure your system(s) meet the installation requirements.
- 2 To install QoreStor on your system(s), follow the procedures documented in the *QoreStor Installation Guide*.
- 3 Using a supported web browser (refer to *QoreStor Interoperability Guide* for a list of supported browsers), connect to the QoreStor administrative console via https, using the host IP address/FQDN and port 5233 (<https://<hostname:5233>>).
- 4 Log in with the username `admin` and password `St0r@ge!` (The “0” in the password is the numeral zero)

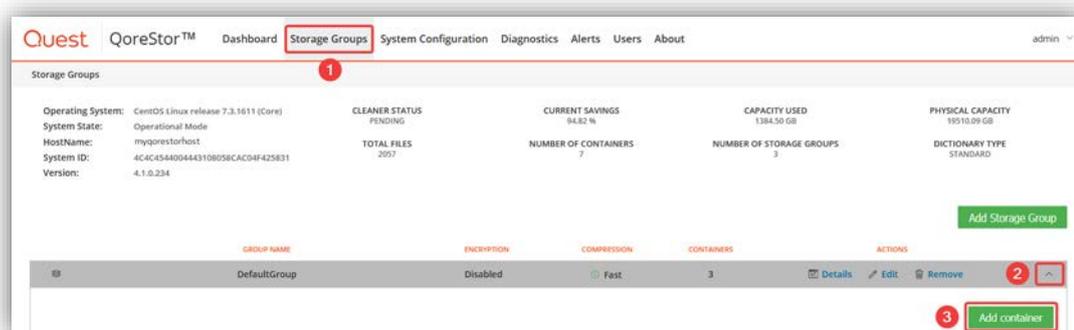


- 5 By default, QoreStor has a user with OST Role named `backup_user` and password “St0r@ge!”. Refer to the *QoreStor User Guide* for information on changing user accounts.

Creating an OST container for NetBackup

In this document, we will show how to create an OST container for NetBackup using the QoreStor administrative console. If you wish to use QoreStor CLI please refer to the *QoreStor CLI Reference Guide*.

- 1 Open the QoreStor administrative Console.
- 2 Select **Storage Groups** in the top navigation area of the QoreStor administrative console ❶.
- 3 Click on the **drop-down arrow** for the Storage Group you will be adding a container to ❷.
- 4 Click on **Add container** ❸.



NOTE: Refer to the *QoreStor User Guide* for information on creating a new Storage Group

- 5 Enter a Name for the container ❹
- 6 Select **OST** from the **Protocol** drop down menu ❺

- 7 Choose between **Unlimited** or **Quota** (specify Quota Capacity [GB]) for LSU Capacity ⑥
- 8 Click the **Add** button ⑦

The image shows a dialog box titled "Add container" with a close button (X) in the top right corner. The dialog contains the following fields and controls:

- Name:** A text input field containing "OST_Container", marked with a red circle 4.
- Protocol:** A dropdown menu showing "OST", marked with a red circle 5.
- LSU Capacity:** A section with two radio buttons: "Unlimited" (unchecked) and "Quota" (checked), marked with a red circle 6.
- Quota Capacity [GB]:** A text input field with a small dropdown arrow on the right.
- Buttons:** "Cancel" and "Add" buttons at the bottom, with the "Add" button marked with a red circle 7.

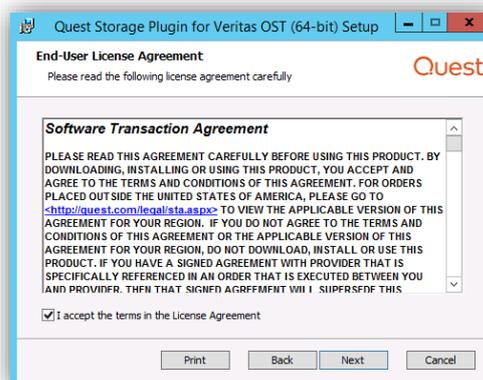
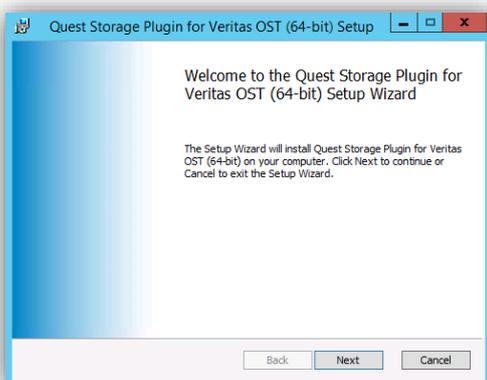
Installing the Quest OST Plugin

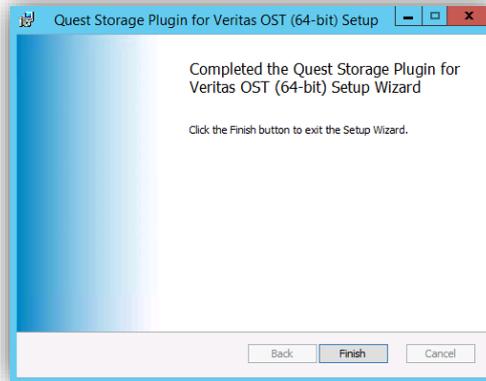
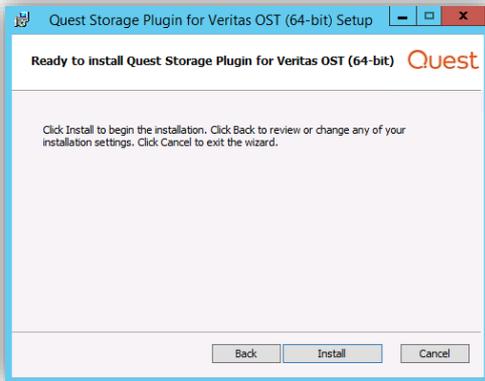
In order to enable NetBackup to use QoreStor, the Quest OST Plugin must be installed in the NetBackup Media Server(s).

Before proceeding, refer to the *QoreStor Interoperability Guide* for a list of supported Operating Systems, NetBackup and OST Plugin versions. Once identified, download the OST Plugin at <https://support.quest.com/qorestor/>.

Installing the OST Plugin on Windows

- 1 Download the Quest OST Plugin onto the server you wish to install
- 2 Execute the OST Plugin .msi installer and follow the screen prompts





Installing the OST Plugin on Linux

- 1 Download the Quest OST Plugin onto the server you wish to install
- 2 Extract the `.bin` file from the `.gz` package and give it executable permission
- 3 Execute the `.bin` file adding `-install` switch

```
gunzip ./QuestOSTPlugin-X.X.X.X-x86_64-RHEL/SLES.bin.gz
chmod +x ./QuestOSTPlugin-X.X.X.X-x86_64-RHEL/SLES.bin.gz
./QuestOSTPlugin-X.X.X.X-x86_64-RHEL/SLES.bin.gz -install

Starting, please wait...

OST Plugin Installation requires nbrmms service to be stopped.

Checking if nbrmms service is running...

nbrmms service is not running, proceeding with Installation...

Preparing...
QuestOSTPlugin
oca-libs

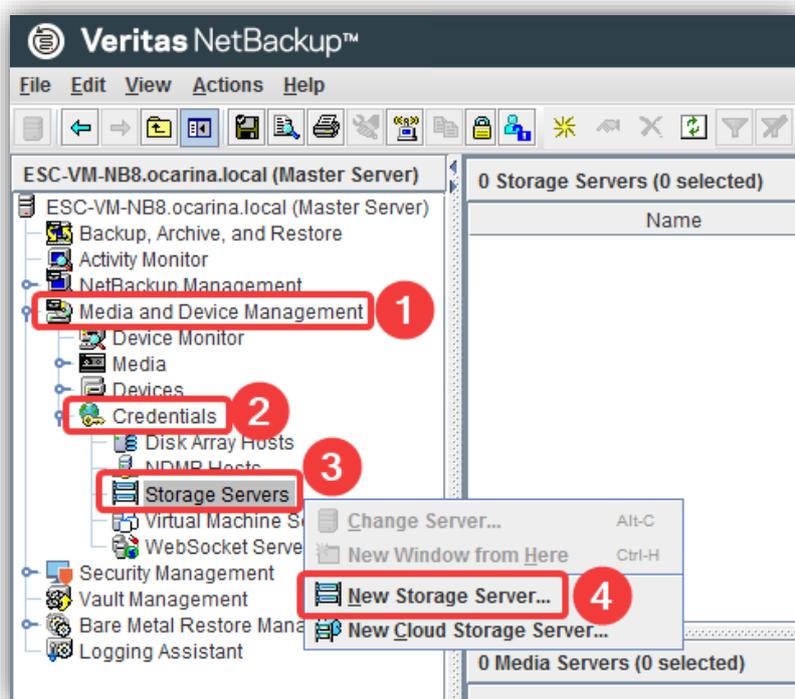
Installation successful!

Log for this operation is /var/log/libstspioca_install.log
```

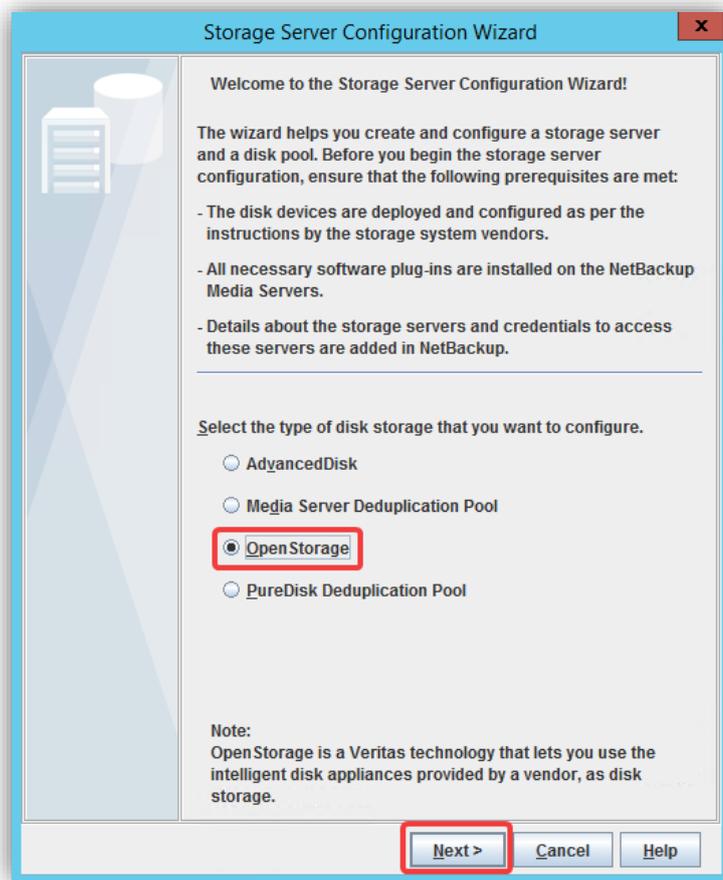
Adding an OST container to Veritas NetBackup

This section provides information needed to add an existing or newly created OST container to NetBackup.

- 1 Open the NetBackup administration console.
- 2 Expand Media and Device Management ❶, then Credentials ❷. Right-click Storage Servers ❸ and click on New Storage Server... ❹.



- 3 In the **Storage Server Configuration Wizard** select **OpenStorage** and click **Next**.



- a Select the desired **Media server** from the dropdown, write **QUEST** on the **Storage server type** and specify the QoreStor host IP/hostname or FQDN for **Storage server name**; enter the OST **User name**, **Password** and **Confirm password** (the default OST username is backup_user and the default password is St0r@ge!) and click **Next**.

Storage Server Configuration Wizard

Add Storage Server
Provide storage server details.

Select a media server that has the vendor's OpenStorage plug-in installed.
NetBackup uses this media server to determine the storage server capabilities.

Media server: esc-vm-nb8.ocarina.local

Storage server type: QUEST

Storage server name: myqorestorhost.mydomain.local

Enter storage server credentials

User name: backup_user

Password:

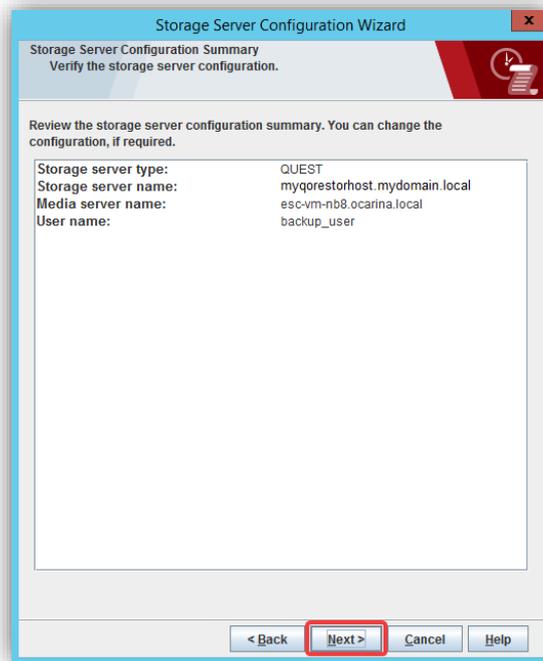
Confirm password:

< Back Next > Cancel Help

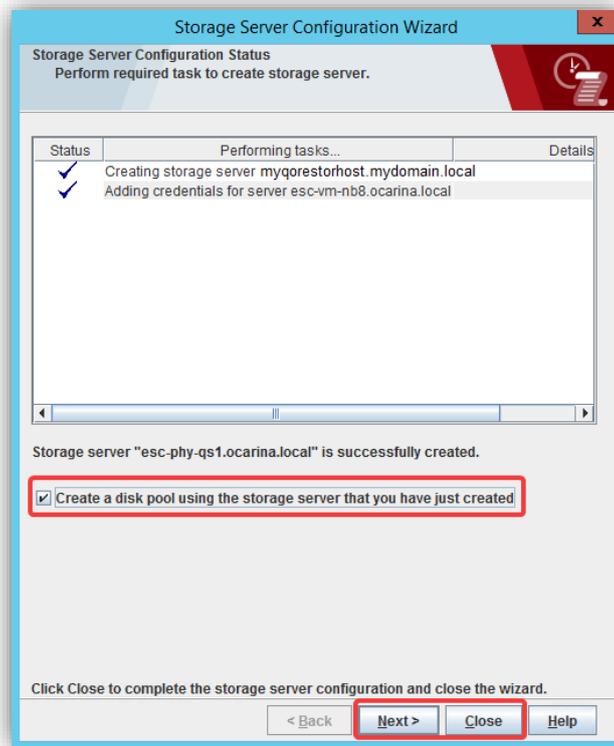


NOTE: If additional media servers are available, you will see an additional step where you can chose which media servers to add.

- 4 Confirm all the information is accurate and click **Next**



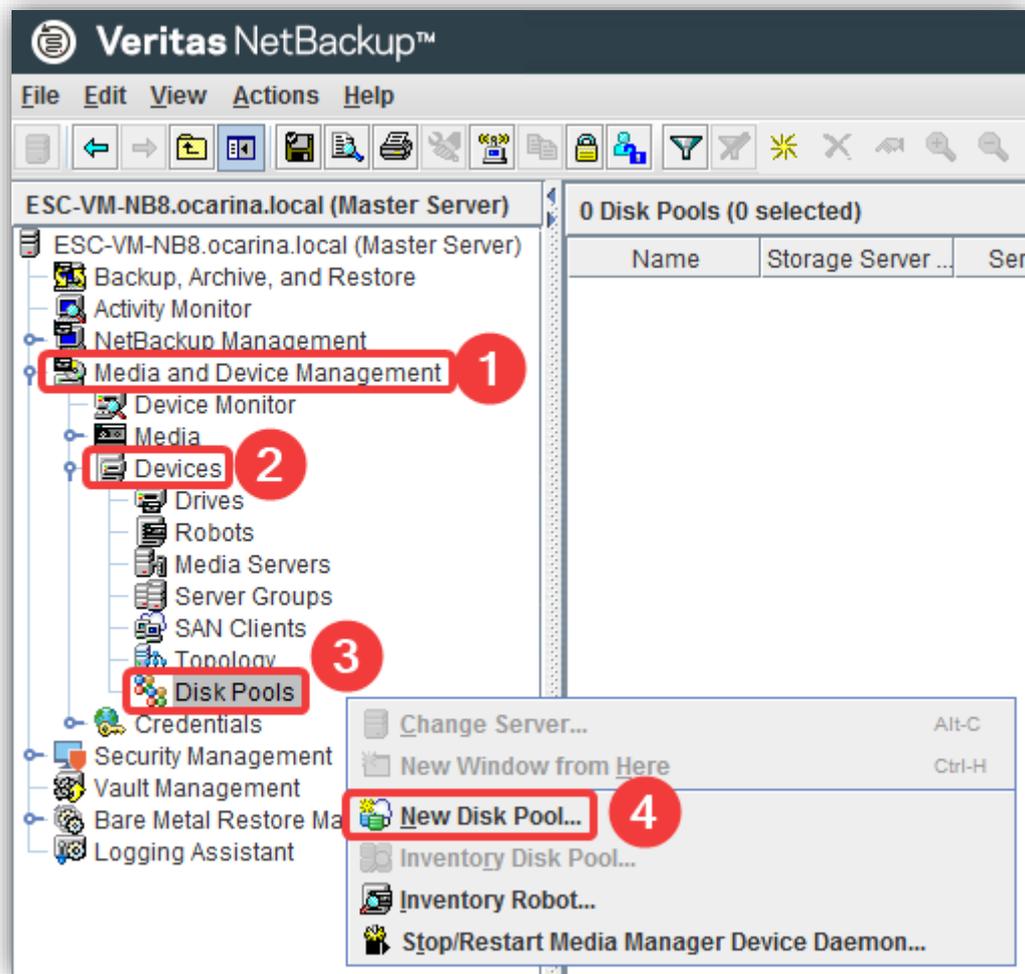
- 5 If you wish to Create a disk pool using the storage server that you have just created, check the checkbox and click Next, otherwise uncheck the checkbox and click Close. The steps to create a disk pool will be demonstrated in the next section.



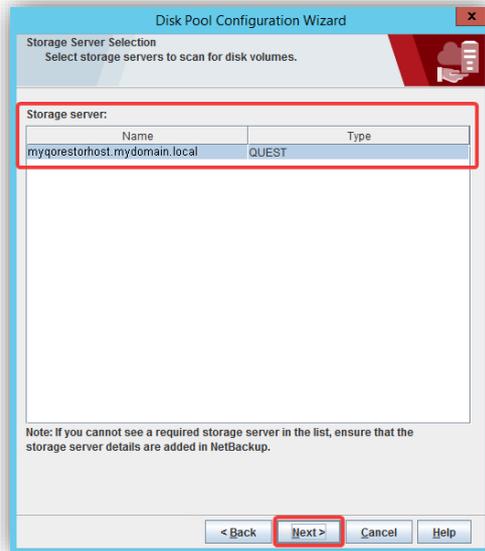
Creating a Disk Pool

After adding the QoreStor host as a Storage Server, the next stage will be to create a Disk Pool. The following steps will demonstrate how to do this.

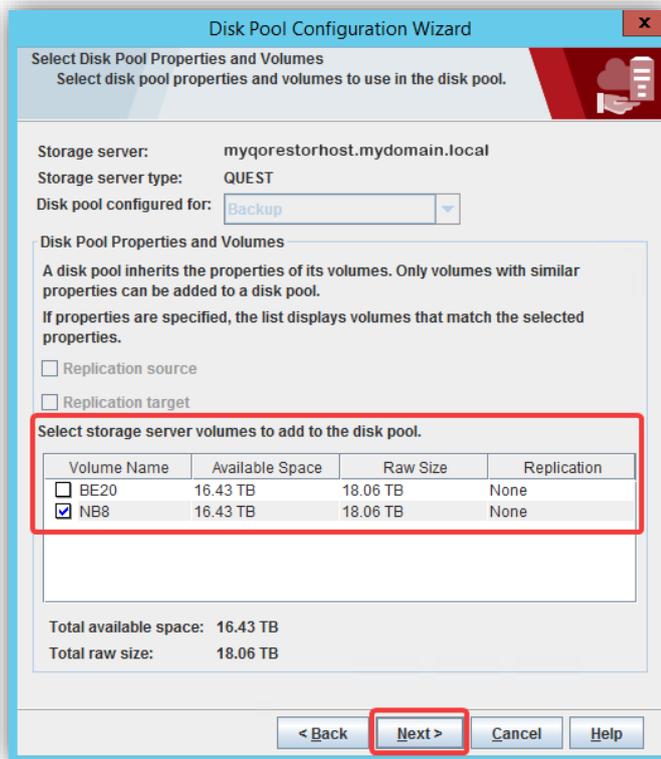
- 1 If not continuing from the previous section, where Create a disk pool using the storage server that you **have just created** checkbox would have been checked, expand **Media and Device Management** ❶, then **Devices** ❷, right-click **Disk Pools** ❸ and select **New Disk Pool...** ❹



- 2 Select **Open Storage (QUEST)** for **Storage server type** and click **Next**. Select the QoreStor **Storage server** and click **Next**



- 3 Select the OST container(s) you wish to add by ticking the corresponding **checkbox** and click **Next**



- 4 Choose a **Disk Pool name** and if desired, set the **Limit I/O streams** number **per volume** and click **Next**

Disk Pool Configuration Wizard

Additional Disk Pool Information
Provide additional disk pool information.

Storage server: myqorestorhost.mydomain.local
Storage server type: QUEST
Disk pool configured for: Backup

Disk Pool Size
Total available space: 16.43 TB
Total raw size: 18.06 TB

Disk Pool name: QS-OST-Disk-Pool

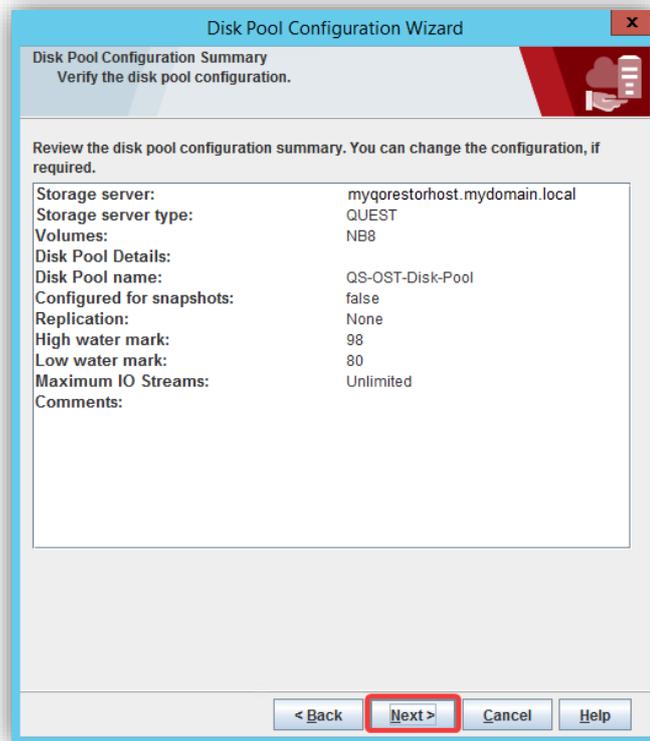
Comments:

High water mark: 98 %
Low water mark: 80 %

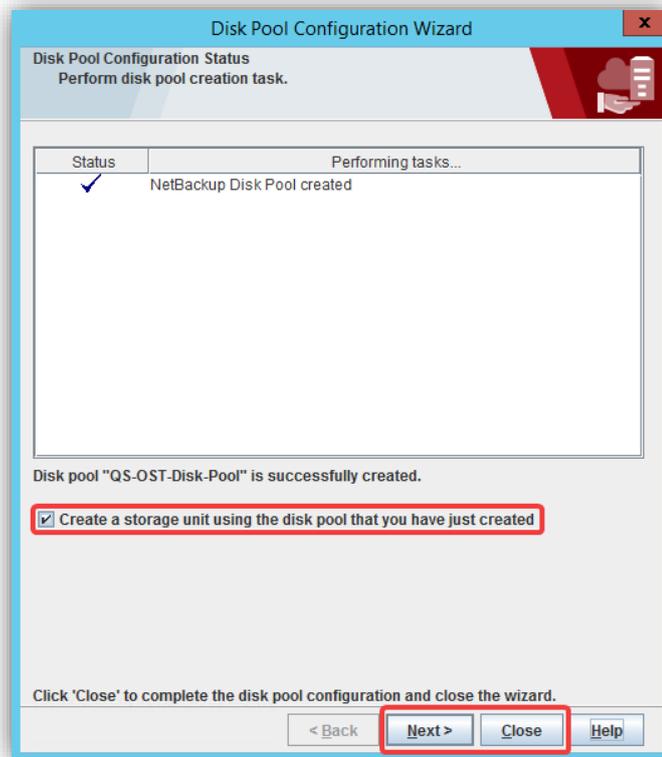
Maximum I/O Streams
Concurrent read and write jobs affect disk performance.
Limit I/O streams to prevent disk overload.
 Limit I/O streams: -1 per volume

< Back Next > Cancel Help

- 6 Verify the disk pool configuration and click **Next**



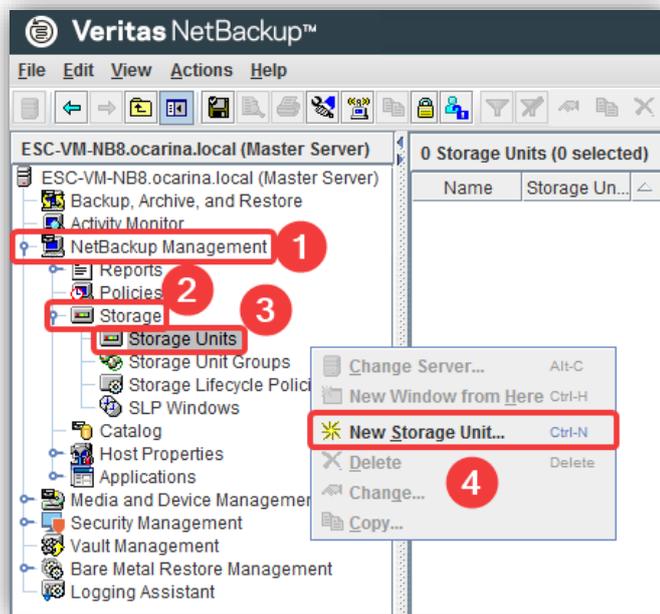
- 7 If you wish to **Create a storage unit using the disk pool that you have just created**, check the **checkbox** and click **Next**, otherwise uncheck the **checkbox** and click **Close**. The steps to create a storage unit will be demonstrated in the next section.



Creating a Storage Unit

After adding the QoreStor host as a Storage Sever and creating a Disk Pool, the final stage before enabling the OST container to be used, will be to create a Storage Unit. The following steps will demonstrate how to do this.

- 1 If not continuing from the previous section, where **Create a storage unit using the disk pool that you have just created** checkbox would have been checked, expand **NetBackup Management** ❶, then **Storage** ❷, right-click **Storage Units** ❸ and select **New Storage Unit...** ❹.



- 2 Specify a **Storage unit name**, select **Disk** and **Open Storage (QUEST)** from the Storage unit type and Disk type respectively and **Select disk pool disk** using the drop down button.
 Chose if you want to **Use any available media server** or **Only use the following media servers** (and **check** the ones you wish to use). Adjust the **Maximum concurrent jobs** field if needed. Finally click OK

New Storage Unit [X]

Storage unit name: QS_Storage_Unit

Storage unit type: Disk On demand only

Disk type: OpenStorage (QUEST)

Properties and Server Selection

Storage unit configured for: Backup

A storage unit inherits the properties of its disk pool. If properties are specified, only those disk pools that match the specified properties will be available below.

Replication source
 Replication target

Select disk pool: QS-OST-Disk-Pool [View Properties](#)

Media server:

Use any available media server
 Only use the following media servers

Media Servers

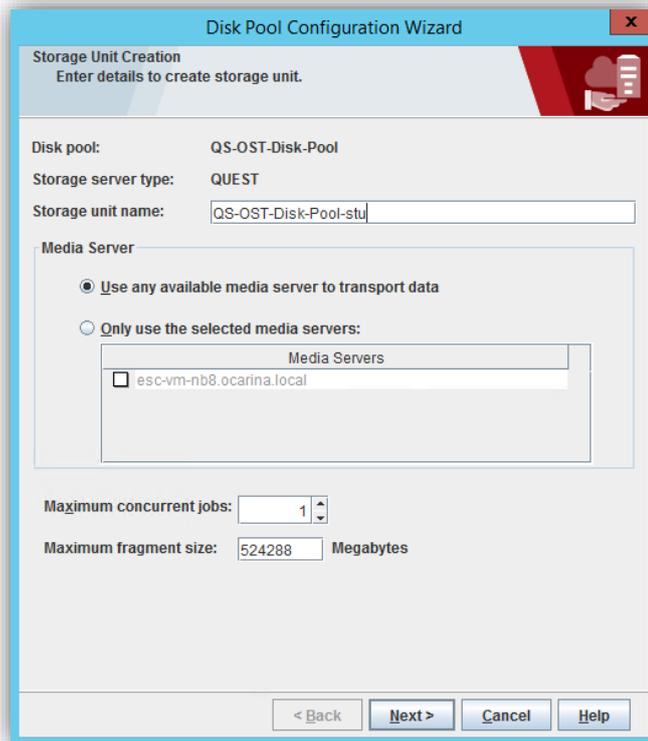
esc-vm-nb8.ocarina.local

Maximum concurrent jobs: 1

Maximum fragment size: 524288 Megabytes

OK Cancel Help

i NOTE: If you are continuing from the Disk Pool Configuration Wizard, the pop-up window is slightly different, since it assumes the values from the previously created disk pool:



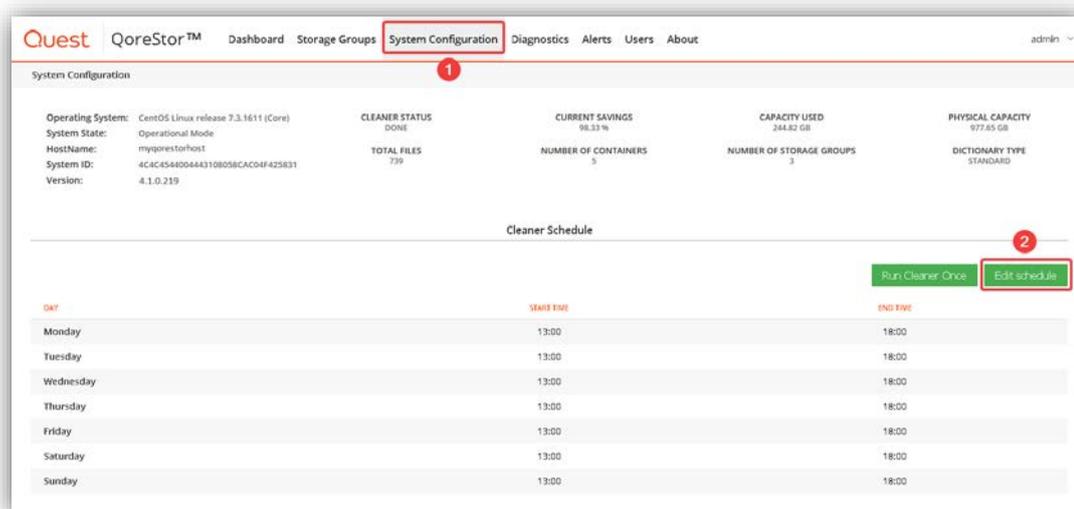
i NOTE: When choosing the number of maximum concurrent jobs, both the QoreStor and the hosting Hardware limits need to be considered to prevent job failures should those limits be exceeded. Refer to the *QoreStor Interoperability Guide* for more information

Setting up the QoreStor system cleaner

Performing scheduled disk space reclamation operations is needed as a method for recovering disk space from system containers in which files were deleted as a result of deduplication. Ideally, the QoreStor cleaner should complete a full cycle at least once a week. This will be accomplished in most cases by the predefined QoreStor cleaner schedule. The cleaner also runs during idle time.

In case you wish to change the predefined cleaner schedule times, perform the following steps:

1. Open the QoreStor administrative console.
2. Select **System Configuration** in the top navigation area ❶.
3. Click **Edit Schedule** ❷.



- 1 Define the schedule and click **Submit** 4.

ACTION	DAY	START TIME	END TIME
<input type="radio"/> Remove	Monday	13:00	18:00
<input type="radio"/> Remove	Tuesday	13:00	18:00
<input type="radio"/> Remove	Wednesday	13:00	18:00
<input type="radio"/> Remove	Thursday	13:00	18:00
<input type="radio"/> Remove	Friday	13:00	18:00
<input type="radio"/> Remove	Saturday	13:00	18:00
<input type="radio"/> Remove	Sunday	13:00	18:00

If necessary, you can also perform a full cleaner cycle manually using either the QoreStor Administrative Console or QoreStor CLI.

Figure 1: QoreStor Administrative Console

Operating System:	System State:	HostName:	System ID:	Version:	CLEANER STATUS	CURRENT SAVINGS	CAPACITY USED	PHYSICAL CAPACITY
CentOS Linux release 7.3.1611 (Core)	Operational Mode	myqres1orhost	4C4C4544004443108058CAC04F423831	4.1.0.219	DONE	98.33 %	244.82 GB	977.65 GB
					TOTAL FILES	NUMBER OF CONTAINERS	NUMBER OF STORAGE GROUPS	DICTIONARY TYPE
					739	5	3	STANDARD

Cleaner Schedule

[Run Cleaner Once](#) [Edit schedule](#)

Figure 2: QoreStor CLI

```
# maintenance --filesystem --reclaim_space
# Successfully started cleaner.
```

Monitoring deduplication, compression and performance and performance

After backup jobs have run, QoreStor tracks capacity, storage savings, and throughput. To view the historical representation of these values is shown in the dashboard of the QoreStor administrative console. This information is valuable in understanding the benefits of QoreStor.



NOTE: Deduplication ratios increase over time. It is not uncommon to see a 2-4x reduction (25-50% total savings) on the initial backup. As additional full backup jobs are completed, the ratios will increase. Backup jobs with a 12-week retention will average a 15x ratio in most cases.