

Setting up Quest[®] QoreStor™ as an OST Backup Target for Veritas™ Backup Exec™

Technical White Paper

Quest Engineering February 2023

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Quest Software Inc.

Attn: LEGAL Dept

4 Polaris Way

Aliso Viejo, CA 92656

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Legend

WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death
 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 Quest[®] QoreStor[™] with Veritas Backup Exec for Updated – February 17, 2023

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Executive Summary

This white paper provides information about how to set up QoreStor as a backup target for Veritas Backup Exec. 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 Backup Exec, refer to the Backup Exec documentation at:

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

NOTE: The QoreStor and Veritas Backup Exec screenshots used in this document might vary slightly depending on the QoreStor version and Backup Exec 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*.

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>).

\leftarrow \rightarrow G \textcircled{o}	Q https://myqorestor.5233/#/login	⊠ lii\ ∺
	QoreStor™	
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3 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 Backup Exec

In this chapter, we will show how to create an OST container for Backup Exec 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 and log in.
- 2. Select **Containers** in the left navigation pane.
- 3. Click Add container.

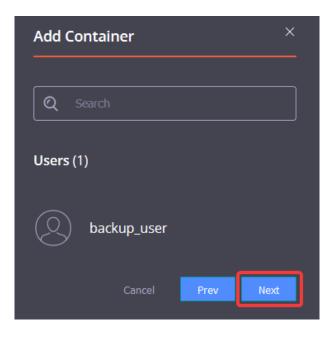
Quest Qo	reStor	
u Dashboard		Containers (0)
Containers		
😫 Local Storage	~	
Cloud Storage		
Replications		0
🖬 System		0
Q Diagnostics		No Containers Available
名 Users		Add Container
🛱 Events		Add Container
Management		

- 4. Select Veritas OpenStorage (OST) from the Protocol dropdown. Enter the Name of the container.
- 5. Type a container Name.
- 6. Click the **Next** button.

Add Contai	ner		×
Protocol			
	enStorage ((DST)	<u> </u>
Name			
Storage Group DefaultGro			~
	Cancel	Prev	Next

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

7. Select the User(s) that will have access to the container and click the Next button.



Setting up Quest® QoreStor™ as an OST Backup Target for Veritas™ Backup Exec™ -Creating an OST container for Backup Exec 8. Select the LSU Capacity and click the Next button.

Add Container		×
LSU Capacity Unlimited		
🔵 Quota		
Quota Capacity [GB] 1		÷
Cancel	Prev	Next

9. Select if you want to enable Recycle Bin and click the Next button.

Add Container		×
Recycle Bin		
Cancel	Prev	Next

NOTE: Refer to the QoreStor User Guide for information on Recycle Bin feature.

10. Review the Container settings and click the **Finish** button.

i

Add Container		
🖻 Container Summary		
Name: OST1		
Storage Group: DefaultGroup		
Protocol: OST		
Connection Summary		
Protocol OST:		
Capacity: Quota		
Quota: 1 GB		
User: backup_user		
	Prev	Finish

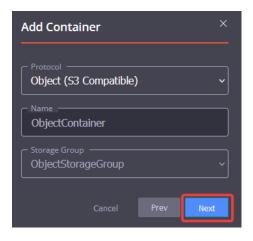
Creating an Object Container for Backup Exec

In this chapter, we will show how to create an Object container for Backup Exec 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 and log in.
- 2. Select **Containers** in the left navigation pane.
- 3. Click Add container.

Quest Qo	reStor		
🕕 Dashboard		Containers (0)	
Containers			
😫 Local Storage			
Cloud Storage			
Replications		\boldsymbol{O}	
🖬 System		0	
Q Diagnostics		No Containers Available	
🛱 Events		Add Container	
Management			

- 4. Select Object (S3 Compatible) from the Protocol dropdown.
- 5. Click the **Next** button.



Setting up Quest® QoreStor™ as an OST Backup Target for Veritas™ Backup Exec™ -Creating an Object Container for Backup Exec

- 6. Select if you want to use Encryption, Unlimited Quota, and Use HTTP instead of HTTPS.
- 7. Click the **Next** button.

Add Container ×
Encryption
- Confirm Passphrase
Static ~
Unlimited Quota
Quota
GiB ~
Use HTTP instead of HTTPS
Cancel Prev Next

8. Review the Container settings and click the **Finish** button.

Add Container			×
ත Container Summary			
Name: ObjectContainer			
Storage Group: ObjectStorageGroup			
Protocol: OBJECT			
Connection Summary			
Protocol Object:			
Encryption: Enabled			
Mode: Static			
Quota: 100 G			
	Cancel	Prev	Finish

NOTE: Refer to the QoreStor User Guide for information on additional features of the Object container.

Installing the Quest OST Plugin

To enable Backup Exec to use QoreStor, the Quest OST Plugin must be installed in the Backup Exec Media Server(s).

Before proceeding, refer to the *QoreStor Interoperability Guide* for a list of supported Operating Systems, Backup Exec, 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.

😕 Quest Storage Plugin for Veritas OST (64-bit) Setup	😕 Quest Storage Plugin for Veritas OST (64-bit) Setup
Welcome to the Quest Storage Plugin for Veritas OST (64-bit) Setup Wizard	End-User License Agreement Please read the following license agreement carefully
The Setup Wizard will install Quest Storage Plugin for Veritas OST (64-bit) on your computer. Click Next to continue or Cancel to exit the Setup Wizard.	Software Transaction Agreement PLEASE READ THIS AGREEMENT CAREFULLY BEFORE USING THIS PRODUCT. BY DOWNLOADING, INSTALLING OR USING THIS PRODUCT. BY DOWNLOADING, INSTALLING OR USING THIS PRODUCT. BY DOWNLOADING, DUTSIDE THE UNITED STATES OF AMERICA, PLEASE GO TO Chitto//usesi.Com/Head/Statagues/TO VIEW THE APPLICABLE VERSION OF THIS AGREEMENT FOR YOUR REGION. IF YOU DO NOT AGREE TO THE TERMS AND CONDITIONS OF THIS AGREEMENT TOR OT HE APPLICABLE VERSION OF THIS AGREEMENT FOR YOUR REGION, DO NOT AGREE TO THIS AGREEMENT FOR YOUR REGION, DO NOT AGREE TO THE TERMS AND CONDITIONS OF THIS AGREEMENT WITH PROVIDER THAT IS PRODUCT. IF YOU HAVE A SIGNED AGREEMENT FOR YOUR DESCHIPTIONS SPECIFICALLY REFRENCED III AN ORDER THAT IS EXECUTED BETWEEN YOU AND PROVINGER. THEN TART SIGNED AGREFMENT WILL SUPERSFORT THIS II accept the terms in the License Agreement
Back Next Cancel	Print Back Next Cancel
皮 Quest Storage Plugin for Veritas OST (64-bit) Setup 💶 🗶	j월 Quest Storage Plugin for Veritas OST (64-bit) Setup 💶 🗙
Ready to install Quest Storage Plugin for Veritas OST (64-bit) QUEST	Completed the Quest Storage Plugin for Veritas OST (64-bit) Setup Wizard
Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.	Click the Finish button to exit the Setup Wizard.
Back Instal Cancel	Back Finish Cancel

Setting up Quest® QoreStor™ as an OST Backup Target for Veritas™ Backup Exec™ -Installing the Quest OST Plugin

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.

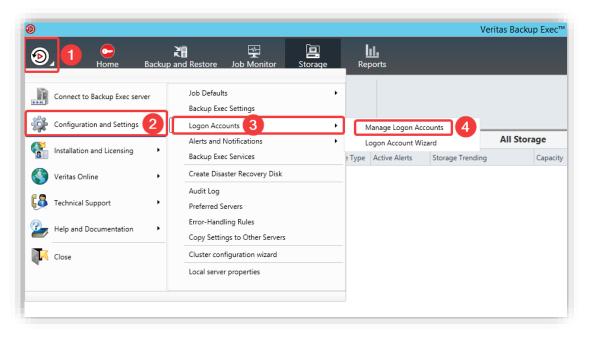


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Adding the OST account to Backup Exec

This section provides information needed to add an existing or newly created OST account to Backup Exec. 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.

- 1. Open the Backup Exec administration console.
- Click the Backup Exec button ①, then Configuration and Settings ②, Logon Accounts ③, and Manage Logon Accounts ④.



3. Click **Add** on the newly opened pop-up window.

,	unt credentials that Backup Exec	uses to ac	cess resources.		
ogon account information:					
Account Name 📥	User name	Default	Туре	Owner	Add
🔊 System Logon Account	ESC-VM-BE20\Administrator	Yes	Common	ESC-VM-BE20\Admi	Delete
					Edit
					Replace
					Set as Default
					Test
					Test System Account
c	Ш			>	
	m			>	System Account
Connection status Connected to: local User Name: ESC-VN					System Account
User Name: ESC-VM Default logon acco	lhost M-BE20\Administrator unt: System Logon Account p Exec requires you to choose a	logon acco	ount, it selects t	> >	System Account

4. Enter the User name, Password, and Confirm password. Click OK to add the account.

2		Add Logon Credentials	x
Accoun	t credentials	5	
User na	me:	backup_user	
Passwo	rd:	•••••	1
Confirm	n password:	•••••]
Account r backup_ Notes:			< >
9		is a restricted logon account. is my default account.	
Help		OK	

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Adding an OST container to Backup Exec

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

- 1 Open the Backup Exec administration console.
- 2 Open the Storage tab ①, click Configure Storage ②, select Network storage ③, and click Next ④.

Filter • Storage Cloud Storage	
Name * State	Storage Type Active Alerts Storage Trending Capacity Active and Average job rate Compression
Storag	Configure storage on ESC-VM-BE20 Which type of storage do you want to configure? Which type of storage do you want to configure? Disk-based storage Losd or metado dia bange data and device, deduction dia storage, storage arrays, vistual disk. Could Storage Attorage devices to which you can and backup data to the cloud. Network storage Coefficiency devices, and remote media agents for Linux may be available to configure. Tape storage Instanting that date to the available to configure. Storage pools Wat are the different types of storage? Attorage for the storage of the storage device attack that may be available. Configure storage Instanting the different types of storage? Attorage pools Disk terms the different types of storage? Attorage for the storage? Attorage for the storage of storage and the storage device configuring robot: Ibary Instanting the different types of storage? Attorage for the storage of storage? Attorage for the storage of storage of storage devices attorage to the storage device to the storage device attack that may be available. Configure storage for the storage? Attorage for the storage of storage of storage devices attack that may be available. Configure storage for the storage of storage? Attorage for the storage of storage? Attorage for the storage of storage of storage of storage devices attack that may be available. Configure storage for the storage of storage storage of storage storage of s

3 Select OpenStorage and click Next.

Configure storage	on ESC-VM-BE20
Which type of network storage do you	ı want to configure?
OpenStorage A Veritas technology that lets you use a vendor-prov	ided intelligent disk appliance as disk storage.
NDMP Storage A device that supports the Network Data Manageme	nt Protocol.
	K Sack Next > Cancel

4 Enter the desired Name and Description (optional) for the configured OST device and click Next.

\$	Configure storage on ESC-VM-BE20	_ _ ×
	me and description do you want to use for the Ope	nStorage
device?		
Name:	28-0ST-CNT-1	
Description:		
Description:		
	< Back Ne	ext > Cancel

5 Select **QUEST** as the provider and click **Next**.

R	Configure storage on ESC-VM-BE20	_ 🗆 🗙
Which pro	ovider for the OpenStorage device do you want to use?	
DELL		
PureDisk	:	
QUEST		
My provi	ider is not listed here	
	< Back Next >	Cancel .
·		cancer

6 Enter the QoreStor **Server name** (IP/hostname or FQDN) and select the OST account as the **Logon account**. Click **Next**.

Š	Configure storage on ESC-VM-BE20
What is t	he connection information for the OpenStorage device?
Server name:	myqorestorhost.mydomain.local Use the host name or fully qualified domain name of the server.
Logon account	
	ommended that you select or create a logon account that is used exclusively for the OpenStorage device. The should not be used for any other purpose and should not contain credentials that are subject to password policies.

7 Select the OST container to be added from the list and click Next.

R	Configure storage on ESC-VM-BE20	_ _ X
Which log	ical storage unit do you want to use?	
BE20		
NB8		
	< Back Next >	Cancel

8 Enter the number of how many Concurrent operations that can run and click Next.

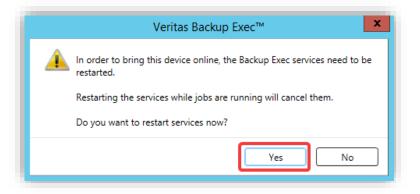
Că (Configure storage on ESC-VM-BE20	_ D X
How many concurrent on this OpenStorage	nt operations do you want to let run a e device?	at the same time
Concurrent operations: 4	Ð	
can handle varies dependin	w many jobs can run at the same time on this device. The numl ig on your hardware and environment, so you may need to adj it low enough to avoid overloading your system, but high eno	ust this setting later. It is
	< Back	Next > Cancel

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

9 Review the Storage configuration summary and click Finish.

Storage category Network storage		~
Storage type OpenStorage		*
Name and description for the OpenStor		~
Name: Description:	QS-OST-CNT-1	
Provider name OpenStorage provider name:	QUEST	*
Connection information		~
Server name:	myqorestorhost.mydomain.local	
Logon account:	backup_user	
Logical storage unit Storage location:	BE20	*
Number of concurrent operations allow		\$
Concurrent operations:	4	~

10 Click **Yes** to restart the Backup Exec Services and bring the newly added device online.



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Adding an Object container to Backup Exec

This section provides information needed to add an existing or newly created Object container to Backup Exec.

1 Connect to the Backup Exec server and run the PowerShell command to add a generic S3 device as documented in https://www.veritas.com/support/en_US/article.100038827, e.g.:

New-BECloudInstance -Name "qorestor" -Provider "compatible-with-S3" -ServiceHost "qorestor.hostname.or.ip" -SsIMode "disabled" -HttpPort 9000

- 2 Open the Backup Exec administration console.
- 3 Open the **Storage** tab **①**, click **Configure Cloud Storage ②**, type **Name** and **Description ③**, and click the **Next** button**④**.

ړی	A Home	Backup and	Restore Job	Monitor	Stora		lil. Leports	Instant Cloud I	lecovery		1					
Compact		Pause Disable Offline	Configure Co Storage Clou	onfigure of Storage	oublesho	pot Delete Sh	are Invento	ory Catalog Inve Cat	ntory and alog now	Eject Label	Galactic Contraction Contractic C	Restore				
	Views	State		2 Confi	gure			Stor	ige Operat	ions		Media Operation	s			
										All Storage	•					
Name 🔺			Sta	te		Storage Typ	е	Active Alerts	Stora	age Trending		Capacity			Active and	Average job rate
					3	device?	Cloud storage					r the cloud	storage	Cancel		

Setting up Quest® QoreStor™ as an OST Backup Target for Veritas™ Backup Exec™ -Adding an Object container to Backup Exec 4 Select **S3** and click the **Next** button.

i

📸 Configure storage on	-		×
Which provider for the cloud storage device do you want to use	e?		
Azure			
(2) S3			
Some cloud storage providers require encryption to be enabled when backup jobs or duplicate joi cloud storage. For details about why you should encrypt backup data when targeting jobs to cloud technote: 000095780			
The Verify option is disabled by default for backups targeted to cloud devices as cloud storage pr for reading data from the cloud during verification. To enable the option, go to the Verify tab and s appropriate option to verify data. If you retarget existing backup jobs to cloud storage, ensure that not enabled. Backup Exec complies with data integrity mechanisms for cloud transfer. For more in the technote: 000108140	elect th t the ve	e rify option	is
What do I need to configure to use cloud storage?		Cancel	

5 Chose the previously created **Cloud Storage** and Object account as the **Logon account** and click the **Next** button.

Configure stor	ge on	-		×
What is th	e connection information for the cloud storage d	levice?		
Cloud storage:	qorestor [compatible-with-s3]			•
Logon account:	jackup_user	•	Add/Edi	t
	mended that you select or create a logon account that is used exclusively for th ould not be used for any other purpose and should not contain credentials that cles			
update po	ues.			
	< Back	Next >	Cancel	

NOTE: You can use the previously created OST account or create a separate account. The only requirement is that the chosen account has the **Object** Role in QoreStor.

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6 Select the logical storage unit (bucket) and click the Next button.

Configure storage on	-		×
Which logical storage unit do you want to use?			
default-bucket			
qorestor1			
			_
< Back Ne	xt >	Cance	L

7 Select the number of **Concurrent Operations** and click the **Next** button.

Configure storage on	_		×
How many concurrent operations do you want to let run at the on this cloud storage device?	ə sam	e time	e
Concurrent operations: 4			
This setting determines how many jobs can run at the same time on this device. The number of can handle varies depending on your hardware and environment, so you may need to adjust th recommended that you set I tow enough to avoid overloading vour system. but hish enough to	is setting	later. It is	
a timely manner.		Cance	

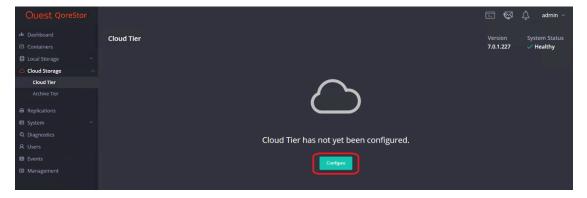
8 Review the configuration summary and click the **Finish** button.

Configure storage on R630-29	— C	X נ
Storage configuration summary		
Name and description for the cloud storage device		~
Name:	Cloud storage 0001	
Description:		
Provider name		~
Cloud provider name:	\$3	
Connection information		~
Cloud server name:	compatible-with-s3:gorestor	
Logon account:	backup_user	
Bucket / Storage container		~
Storage location:	qorestor1	
Number of concurrent operations allowed		~
Concurrent operations:	4	
	< Back Finish Ca	ancel

Creating a policy driven Cloud Tier

Cloud Tier is a feature that allows a QoreStor system to tier deduplicated blocks of files to a cloud provider via S3 protocol. There are several cloud and on-prem solution providers supported including Azure, AWS, Wasabi, IBM, Google, and many other S3-compatible solutions. Once added one or more containers can be added to a policy. How that policy is configured can determine how long the data is available on-prem in QoreStor, how long it's available both on-prem and in the cloud simultaneously, and finally at what point is it only available in the cloud.

1. Open the QoreStor UI, Expand the **Cloud Storage** section and select the **Cloud Tier** page. Click the **Configure** button.



2. Select the Cloud Provider dropdown and pick your required provider. Depending on the selected provider the following fields will change. The Container field will be a folder/bucket created in the cloud provider, there is no need to create a folder on your own. This folder name is usually limited in accepted characters by the provider. Also please make sure to keep your passphrase, without this the data is not recoverable in a Disaster Recovery scenario. Click Configure.

Configure Cloud Tier	×
Cloud Provider	
Azure Blob	
Need Help? Azure Container	
Connection String	
Cloud Tier Encryption	
Passphrase	
Confirm Passphrase	

3. Once added this is how the cloud tier page should appear.

Ouest QoreStor	Cloud Tier				E E E E E E E E E E E E E E E E E E E
Containers Local Storage Performance Tier	(1) Edweddia				7.0.1.227 V Healthy Dokte Edt
Storage Groups Cleaner Cloud Storage	Connector Details				
Cloud Tier Archive Tier		AZURE	test	static	_
Replications System ✓ Q Diagnostics	Savings	0%	Capacity • Used Licensed Cloud Capacity - Licensed Cloud Capacity N/A 55.9778	Summary	Encryption
유 Users 曲 Events @ Management			10 8.2.18 16.5.18 24.7.18 33.18 41.2.18 49.5.18 57.7.18 66.18	DefaultCloudTier Compression Mode Fast	Enabled Passphrase Set True
				Status Online	Encryption Mode static
					Created On May 7, 2021, 3:55:38 PM
				Queta (G8) N/A	\

4. We need to add a cloud tiering policy to a specific container. Do this by navigating to the **Containers** page, selecting the **ellipsis** in the top right corner of the specific container, and clicking **Enabled Cloud Tiering Policy**.

Quest QoreStor		
II Dashboard	Containers (2)	
Containers		
E Local Storage	Add Container	
Performance Tier	Aug Comainer	
Storage Groups		
Cleaner		
Cloud Storage ~	QSPL-6000-01_CWF-NVBU-RDS ···· /containers/QSPL-6000-01_CWF-NVBU-RDS I	nvstore // containers/nvstore
Cloud Tier		
Archive Tier		Marker Connection Replication
	None 🗸 RDS No	None NAS (CIFS) NO
Replications		
🖬 System 🗸 🗸		Storage Group DefaultGroup
Q Diagnostics	DefaultGroup	DefaultGroup 🗍 Delete
A Users		
🛱 Events		
Management		

5. In the next window, we need to define the policy. Idle time before cloud migration specifies the number of hours/days datablocks must be kept idle before being sent to the cloud. On-Prem Retention age specifies the number of hours/days files will be kept locally after they are sent to the cloud. Click Enable.

Enable Cloud Tiering Policy				
Cloud Policy				
Idle time before cloud r	nigration —	days	•	
On-Prem Retention Age		days	•	
Advanced Options				
	Cancel	Enable	e	

6. The container should now show with the cloud tiering policy enabled.

	nvstore /containers/nvstore	I	•••
Marker None	Connection NAS (🗸 CIFS)	Replication No
Storage Gi DefaultGr		Cloud Tiering Po	licy

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Setting up the QoreStor cleaner

Performing scheduled disk space reclamation operations are 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.

To change the predefined cleaner schedule times, perform the following steps:

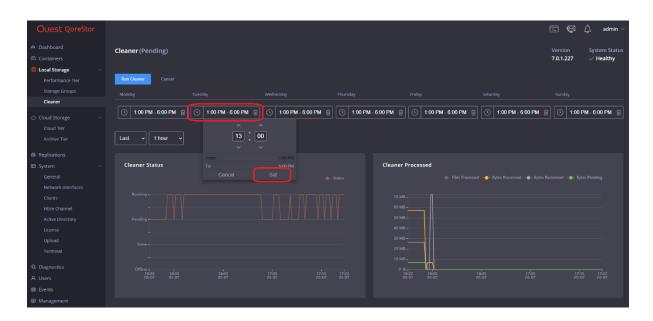
- 1. Open the QoreStor administrative console.
- 2. Expand **Local Storage** in the top navigation pane.
- 3. Select Cleaner.
- 4. Click Edit Schedule.

Quest QoreStor					🕞 🐼 🗘 admin -
III Dashboard	Cleaner (Running)				
Containers	aleaner (nonning)				7.0.1.227 Vealthy
🛢 Local Storage					
Performance Tier	Stop Cleaner Edit Schedule				
Storage Groups					
Cleaner					
Cloud Storage	S 1:00 PM - 6:00 PM	1:00 PM - 6:00 PM	3.00 PM	1:00 PM - 6:00 PM	
Cloud Tier					
Archive Tier	Last v 1 hour v				
D. Darlinstone					
Replications	Cleaner Status		Cleaner Processed		
Network Interfaces					Reclaimed
Clients					
Fibre Channel			60 MB		
Active Directory			50 MB-		
License			40 MB-		
Upload			30 MB		
Terminal			20 MB-		
Q Diagnostics			10 MB-		
Q Users			0 8 16:20 16:30 05-07 05-07		
O USERS I Events					
Management					
- m monogement					

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5. Define the schedule and click **Set**.

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NOTE: If necessary, you can also perform a full clean cycle manually using either the QoreStor Administrative Console, QoreStor CLI, or the NetVault Backup UI.

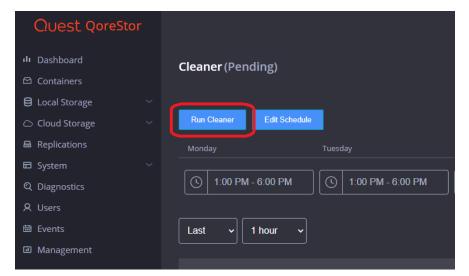


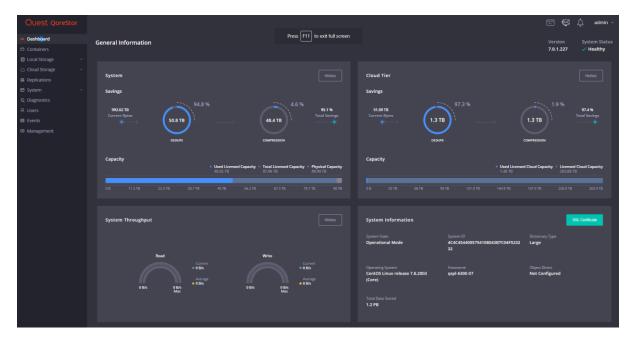
Figure 1: Using the QoreStor Administrative Console



Setting up Quest[®] QoreStor[™] as an OST Backup Target for Veritas[™] Backup Exec[™] -Setting up the QoreStor cleaner

Monitoring deduplication, compression, 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.

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