Quest™

Setting up Quest® QoreStor™ as an RDA Backup Target for vRanger™ Backup & Replication

Technical White Paper

Quest Engineering

February 2023

If you have any questions regarding your potential use of this material, contact:

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 vRanger

Updated – February 17, 2023

Contents

Executive summary

This white paper provides information about how to set up QoreStor as a backup target for vRanger Backup & Replication (vRanger). 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 vRanger Backup & Replication, refer to the vRanger documentation at:

https://support.quest.com/vranger

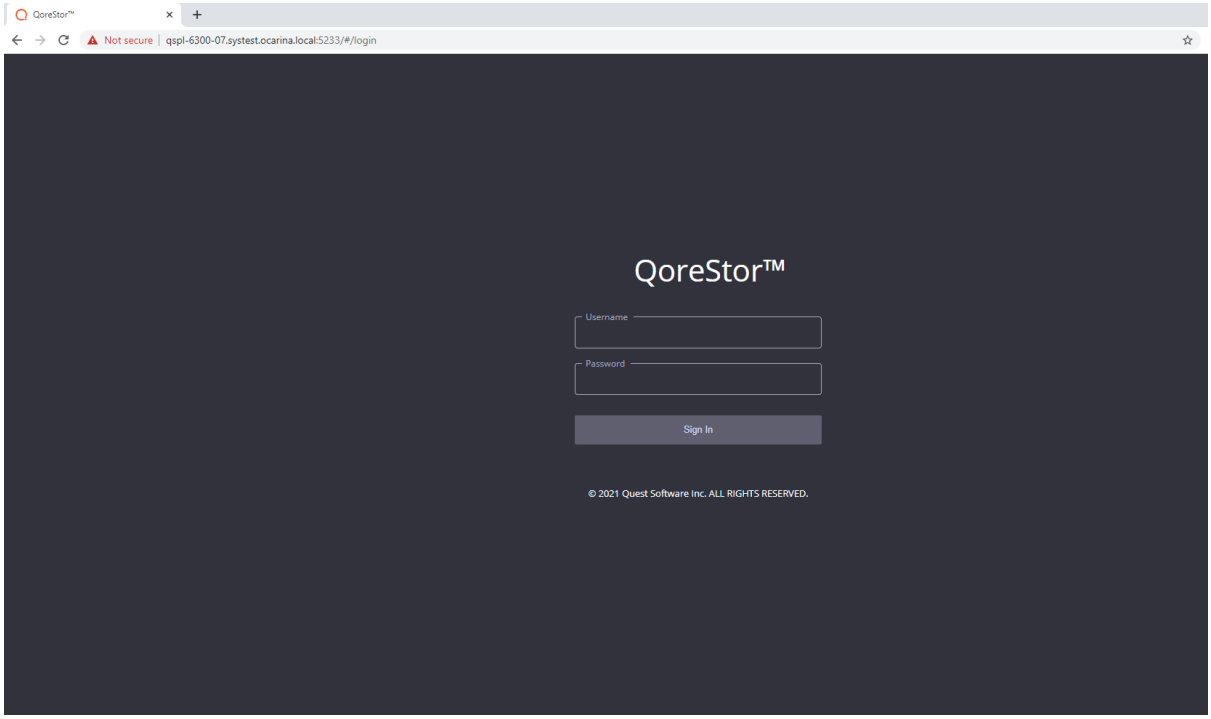
NOTE: The QoreStor and vRanger Backup & Replication screenshots used in this document might vary slightly, depending on the QoreStor version and vRanger version you are using.

Installing and configuring QoreStor

1. Before installing QoreStor, refer to the *QoreStor Interoperability Guide* to ensure your system(s) meet the installation requirements.

   To install QoreStor on your system(s), follow the procedures documented in the *QoreStor Installation Guide*.

2. 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>). Log in with the username `admin` and password `St0r@ge!` (The “0” in the password is the numeral zero)

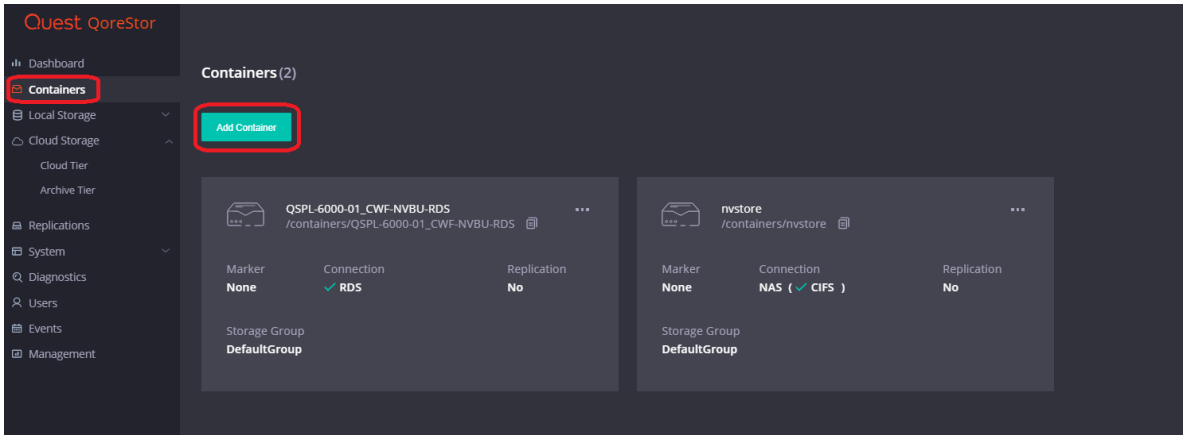


3. By default, QoreStor has a user with RDA Role named backup_user and password “St0r@ge!”. Refer to the *QoreStor User Guide* for information on changing user accounts.

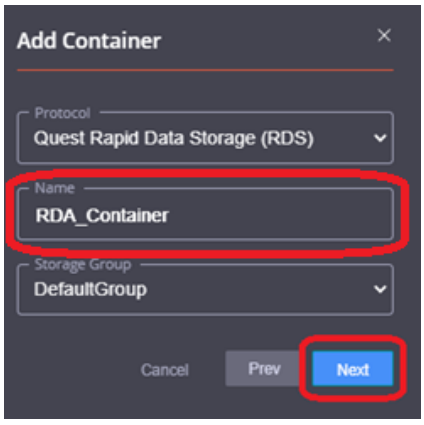
Creating an RDS container for vRanger

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

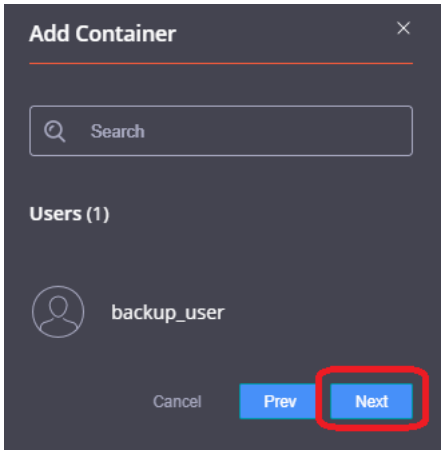
1. Open the QoreStor administrative Console and log in. Select **Containers** in the left navigation area then click the **Add Container** button.



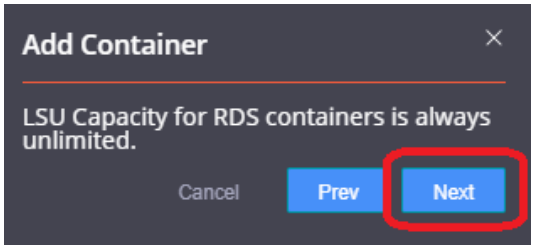
2. Select **Quest Rapid Data Storage (RDS)** from the **Protocol** dropdown then type a container **Name**. Finally, click the **Next** button.



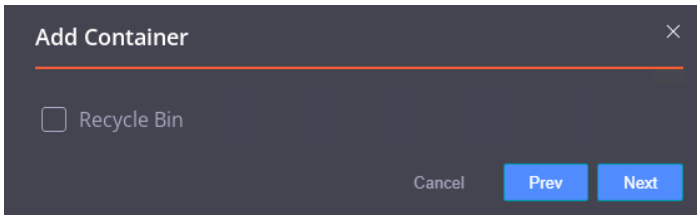
3. Click **Next** on the user page



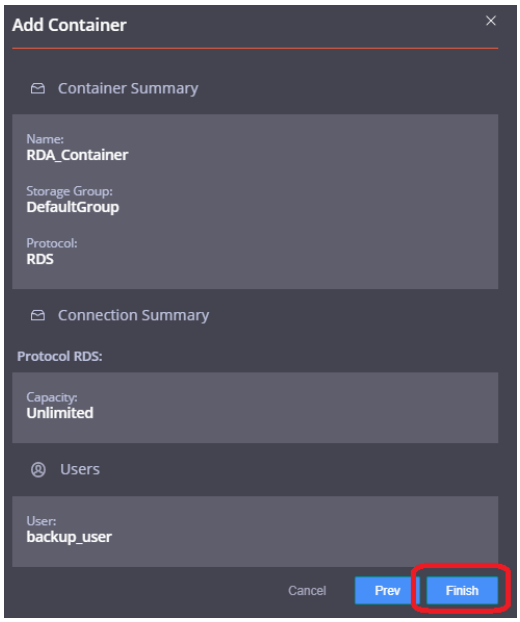
4. Click **Next** on the capacity page.



5. On this page, the Recycle Bin feature may be enabled, please check the user guide for more information. Click **Next**.



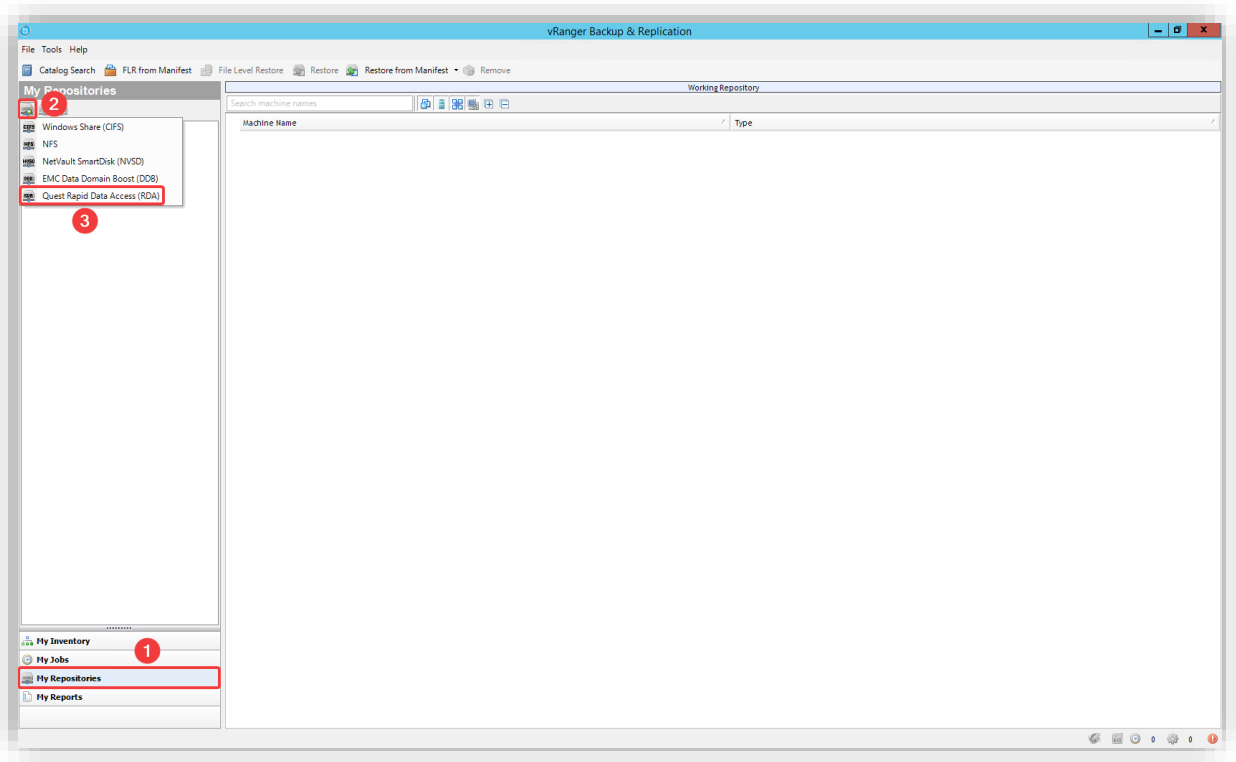
6. Finally, review the settings and click **Finish.**



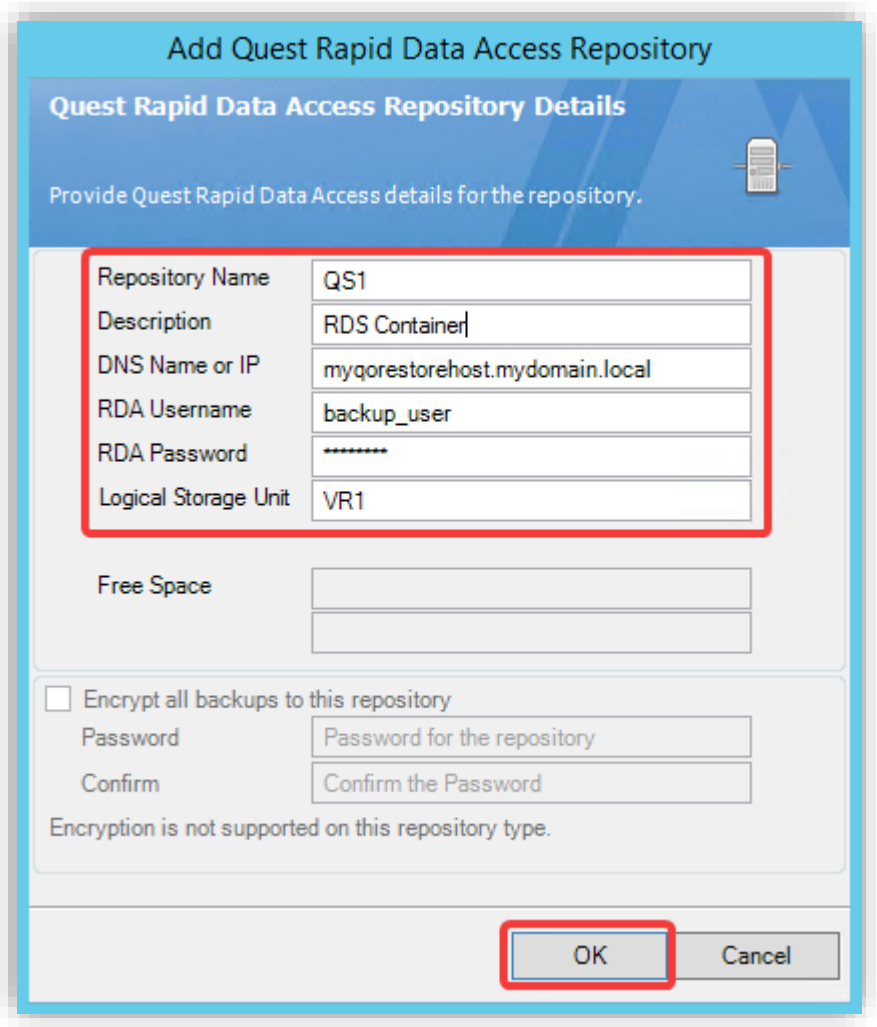
Adding an RDS container to vRanger

This section provides information needed to add an existing or newly created RDS container to vRanger.

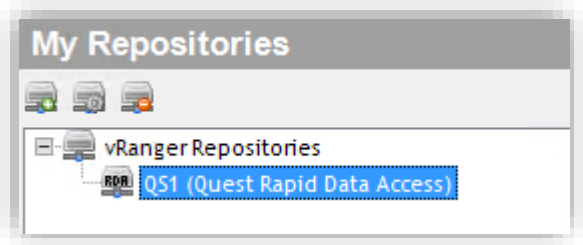
1. Open the vRanger Backup & Replication console.
2. Navigate to the **My Repositories** page ❶, click the **Add** button ❷, and click **Quest Rapid Access (RDA)** ❸.



3. Chose a name for the **Repository Name** and a **Description** (optional); provide the QoreStor host **DNS Name or IP**, the **RDA username** and **RDA Password** (the default username is **backup_user** and the default password is **St0r@ge!** (The "0" in the password is the numeral zero) and enter the container name you wish to add to **Logical Storage Unit**. Click the **OK** button to proceed.



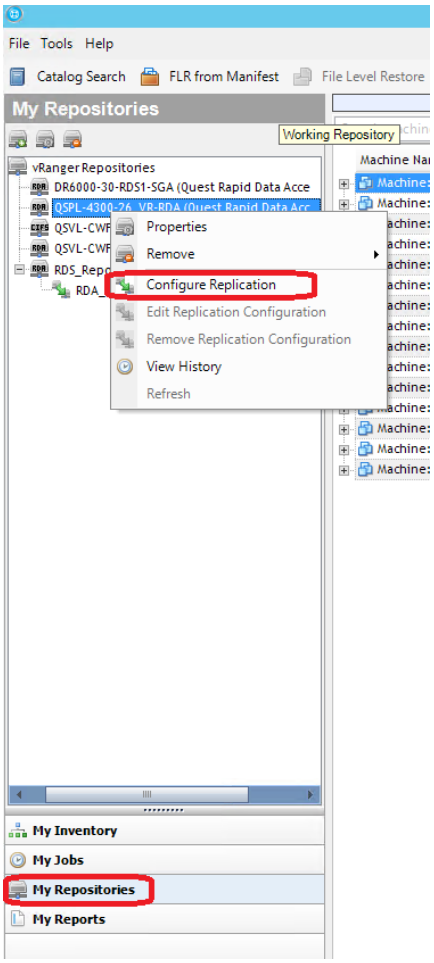
4. The added repository will show under **My Repositories**.



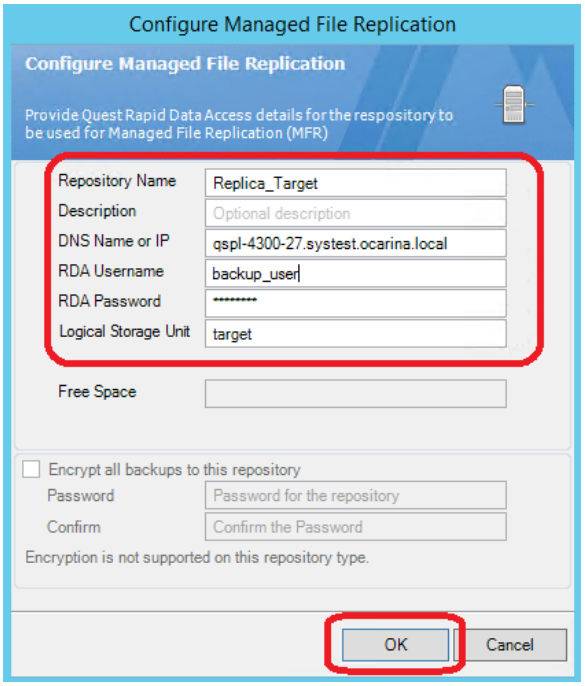
Creating vRanger replication

Adding an RDS container as a replication target to vRanger

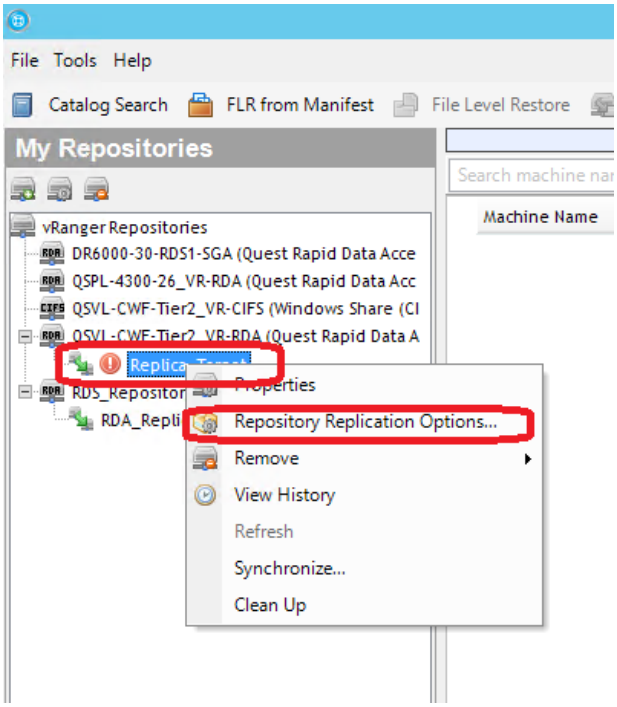
1. Open the vRanger console and navigate to the My Repository section. Right-click on an existing repository and select Configure Replication.



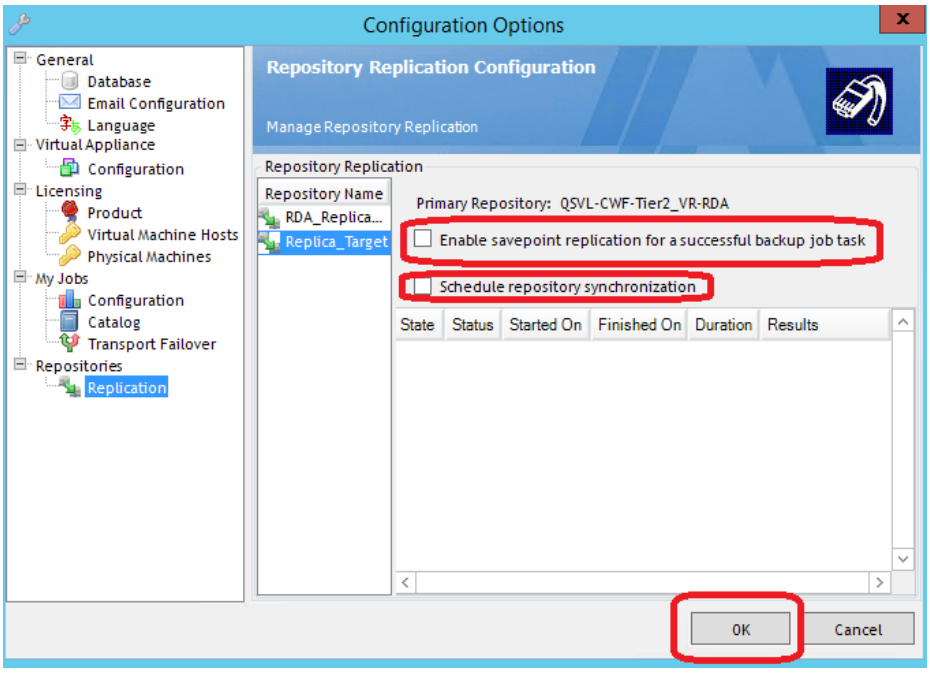
2. Fill in a name you define into the **Repository Name** field and the IP/FQDN hostname into the **DNS Name or IP** field, The default **RDA Username** is *backup_user* and the default RDA Password is *St0r@ge!* (The "0" in the password is the numeral zero). The **Logical Storage Unit** field is the name of the container you created in the *Creating an RDS container for vRanger* section of this guide. Finally, click **OK**.



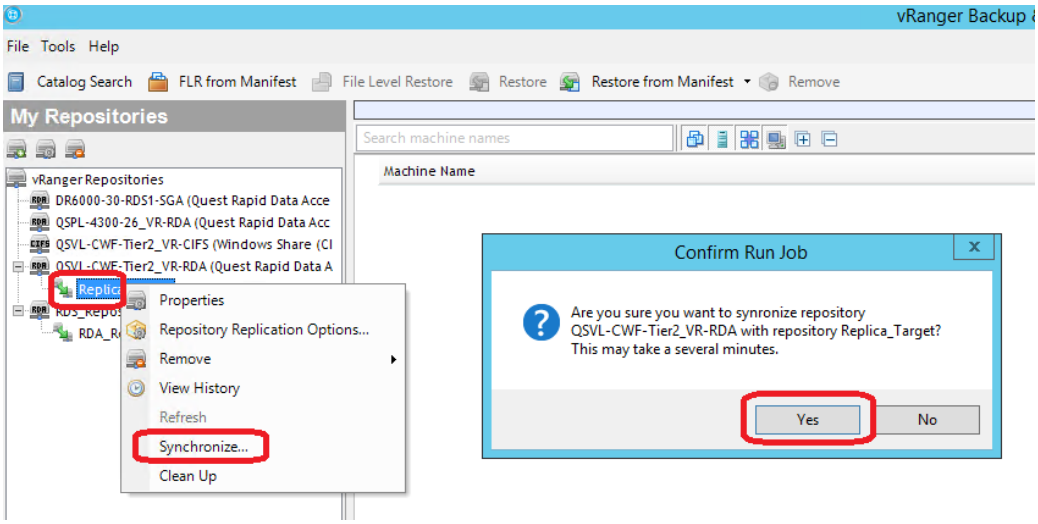
3. The container will be added as a replica target, but replication still needs to be defined. Right-click the newly added replication target container name and select **Repository Replication Options**.



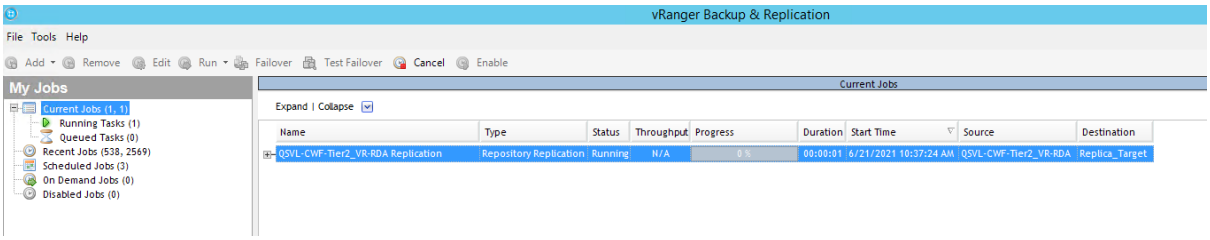
4. There are two different ways vRanger can handle replication which simply means either right after a job to the source repository finishes or on a schedule at controlled times of the day. If you wish vRanger to perform the replication ASAP check the **Enabled savepoint replication for a successful backup job task** option. If you prefer a schedule check the **Schedule repository synchronization** option which will then open a second window in which you define that schedule. Once finished click **OK**.



5. If you've added this replication target to an existing RDS container there may be a bulk amount of data to copy from the source to the container. You may want to manually trigger a synchronization in vRanger. Do this by right clicking the target repository and selecting **Synchronize**. On the *Confirm Run job* pop-up click **Yes**.



6. vRanger will automatically take you to the Current Job page, you should see a Repository Replication job running. Depending on the amount of data to be copied this job can take quite a while to complete.



4

Performance Tier

A Performance Tier allows you to define a set of faster disks as a Storage Group and create a container within that group. This Performance container will always read/write to these faster disks which will allow operations like restores and standard synthetic backups to occur quickly. This tier does not stage data off to the standard disks, this is because a restore of synthetic operation reading from the standard disks would still hamper the operation. All data written to the Performance Tier stays within the performance Tier. Because of this, it is recommended to write only specific jobs, which are required to be highly available and are sized to fit within the performance tier size. Please read the QoreStor User Guide for more details about the Performance Tier.

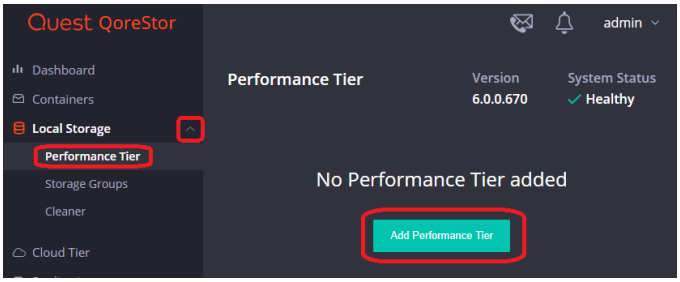
> ⚠ **Warning: Please note that once a Performance Tier is added to a system it cannot be easily removed and attempting to do so will most likely result in the destruction of data. Please disable any backup or data copy jobs to the QoreStor system and contact support before attempting removal to find out if this is possible.**

Setting up Performance Tier with QoreStor

In this section, we are not going to cover adding a device, creating a partition, creating an XFS filesystem, or defining a mount point in detail. Please reference the QoreStor Installer Guide for this information.

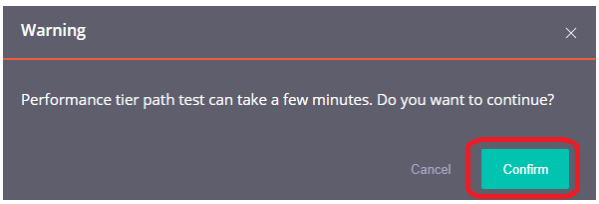
1. We first need to cable and add the disks to the OS level. Once seen as a device in the OS an aligned partition will need to be created, an XFS file system created, and a mount point defined in **fstab** that includes mount option requirements defined in the QoreStor Installer guide.

2. Once a file system path to the high-performance storage is added the next step is to add that path as a performance tier in QoreStor. In the QoreStor UI expand **Local Storage** and select the **Performance Tier** tab. Click **Add Performance Tier**.

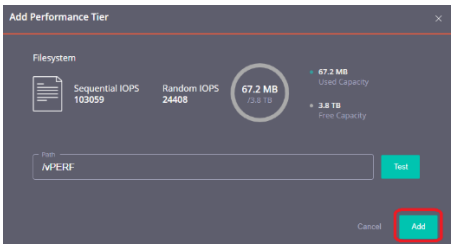


3. Enter the performance tier mount path and click the **Test** button.

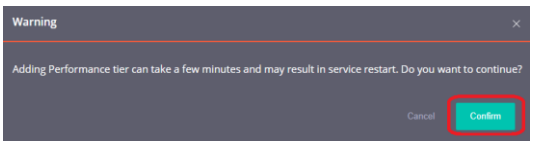
4. Click the **Confirm** button.



5. If the path gets the expected performance click **Add**.

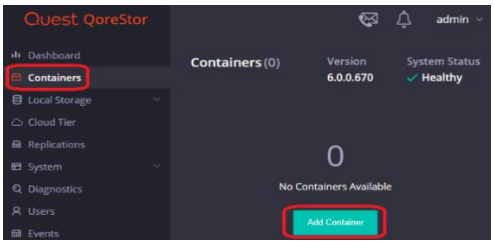


6. Click **Confirm** to finish adding the performance Tier, QoreStor services will be restarted.

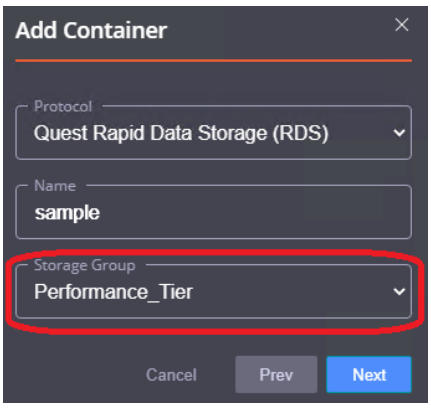


7. Once the performance Tier is added you will be logged out. Once logged back in the Performance Tier tab will now list a dashboard for the performance Tier.

8. Navigate to the Containers tab and click **Add Container**.



9. In the **Storage Group** dropdown select **PerformanceTier**. Input the container **Name** and set the **Protocol** to **Quest Rapid Data Storage** (**RDS**). Click **Next**.



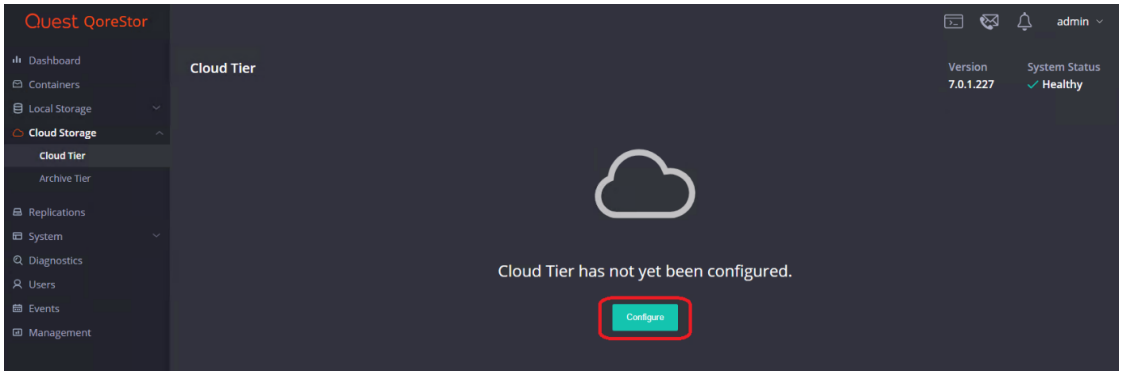
10. Follow the rest of the steps listed in the **Creating an RDS container for vRanger** and **Adding an RDS container to vRanger** sections of this guild to finish configuring your Performance Tier container.

Cloud Tier

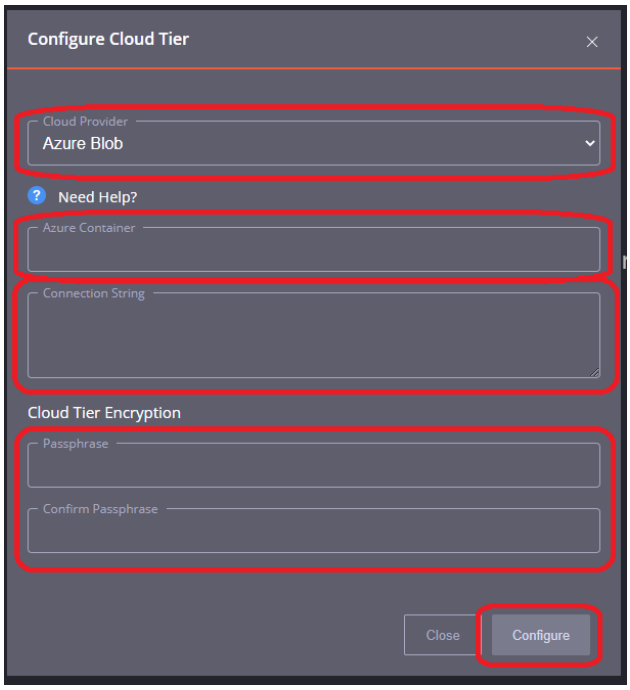
Creating a policy-driven Cloud Tier

Cloud Tier is a feature that allows a QoreStor system to tire 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.

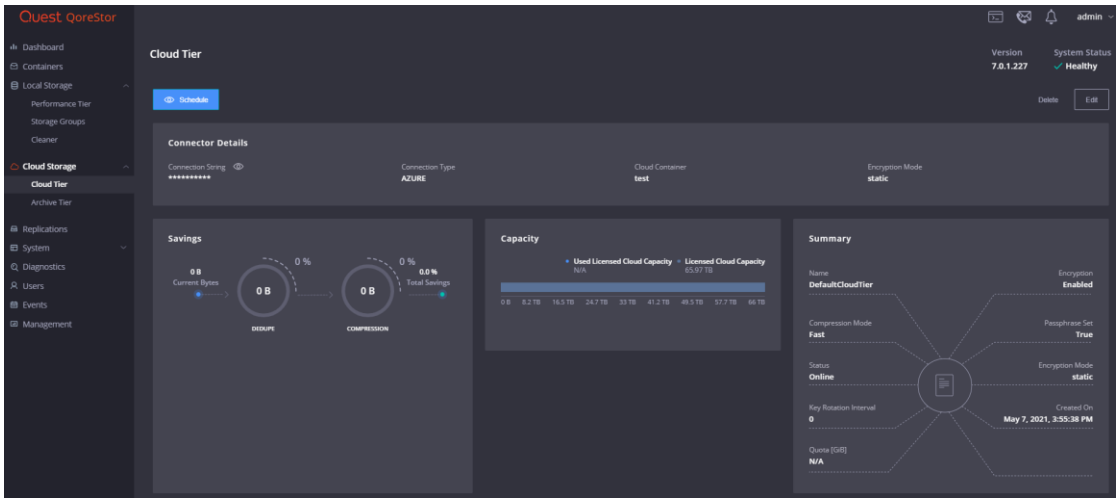
1. Open the QoreStor UI, expand the **Cloud Storage** section, and select the **Cloud Tier** page. Click the **Configure** button.



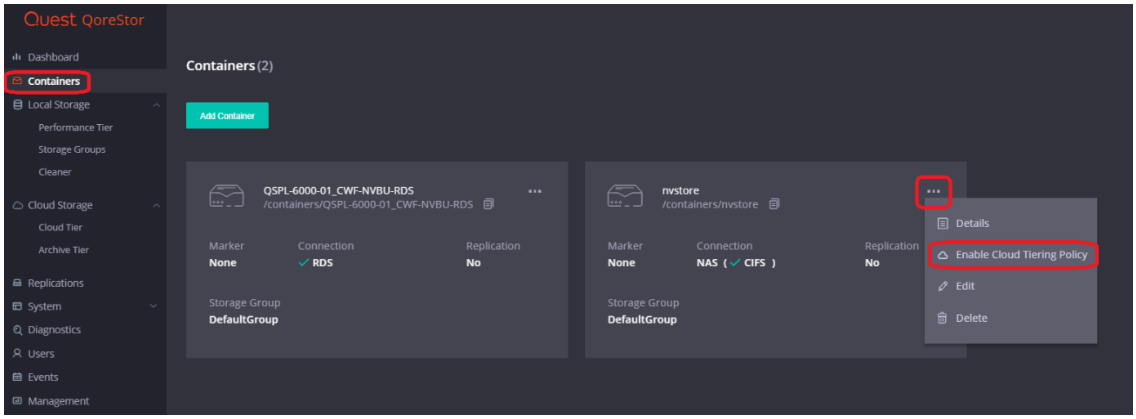
2. Select the **Cloud Provider** dropdown and pick your required provider, depending on the provider the fields below will change. The **Container** field will be a folder/bucket created in the cloud provider, there is no need to create a folder on your own. This folder name is usually limited to accepted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



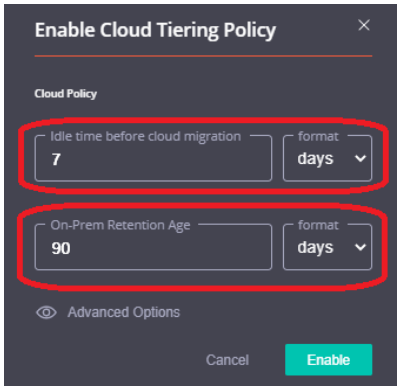
3. Once added this is how the cloud tier page should appear.



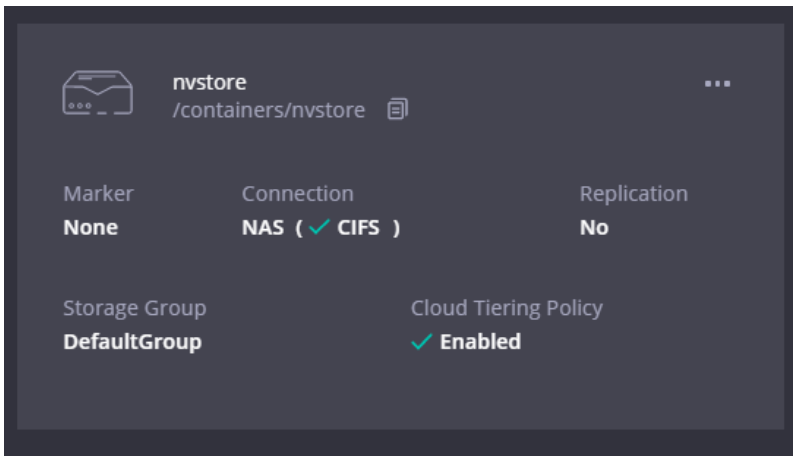
4. We need to add a cloud tiering policy to a specific container. Do this by navigating to the **Containers** page, selecting the **ellipsis** in the top right corner of the specific container, and clicking **Enabled Cloud Tiering Policy**.



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. Finally, click **Enable**.



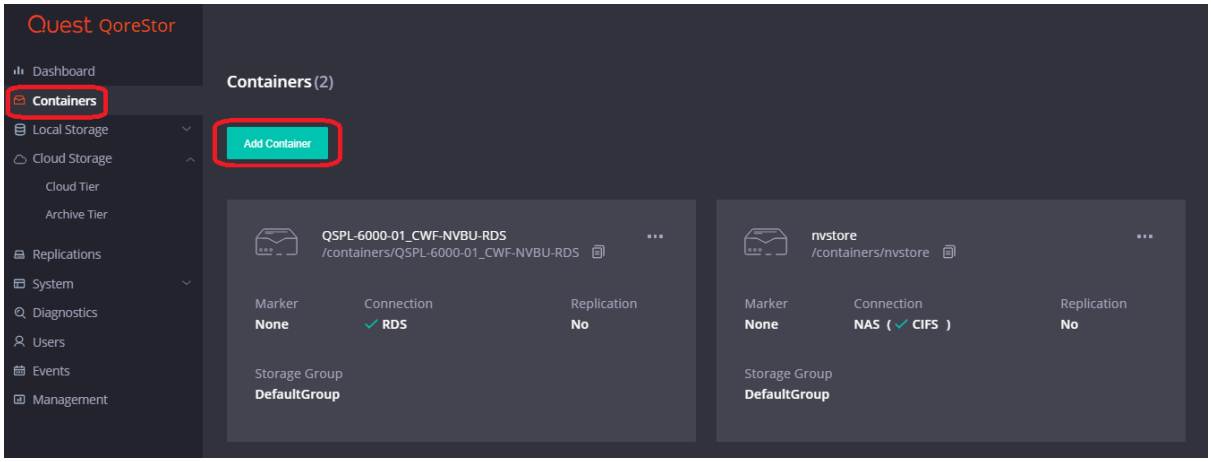
6. The container should now be shown with the cloud tiering policy enabled.



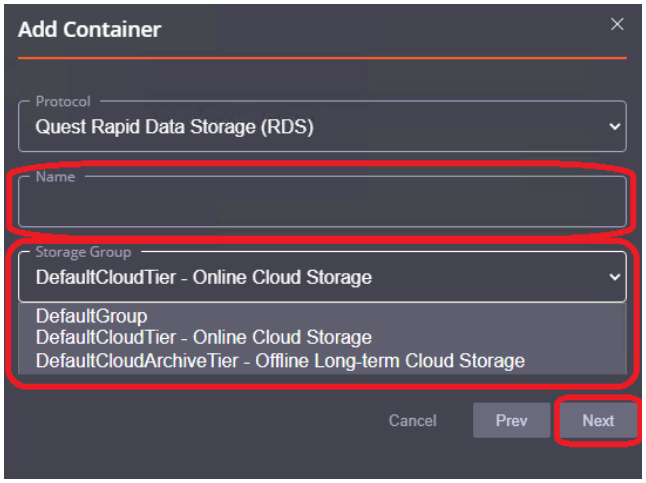
Creating a Cloud Container

A Cloud container is a container created directly in the cloud storage group. This container does not have a policy defined; all data written to it goes directly to the cloud. The use case for this is to allow users to configure their data management application with multiple storage devices. Thus, controlling what data is sent to the cloud simply by writing data to one container or the other. Before following these steps, please complete the steps documented in the *Creating a policy-driven Cloud Tier* Section.

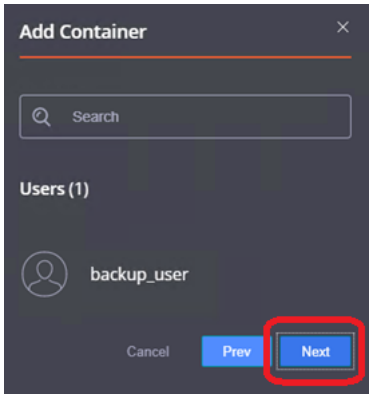
1. Open the QoreStor UI and navigate to the **containers** page. Click **Add Container**.



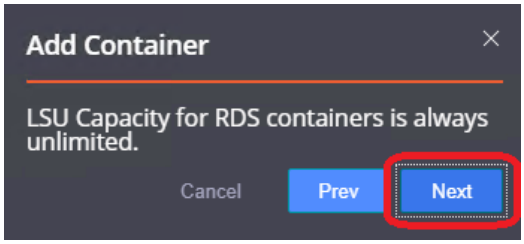
2. In the **Add Container** window enter the **Name** for the container then change the **Storage Group** to DefaultCloudTier. These storage groups will not show unless the cloud tier is already configured. Click **Next**.



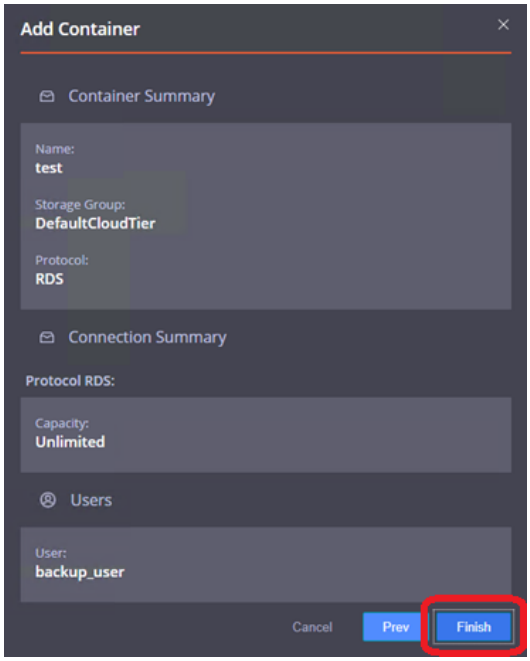
3. Click **Next** On the user page.



4. Click **Next** on the capacity page.



5. Verify configuration and click **Finish**.



6. Add this container to the DMA just like previously listed in this guide. All backups to this specific container will go to the cloud without being stored on-prem via policy.

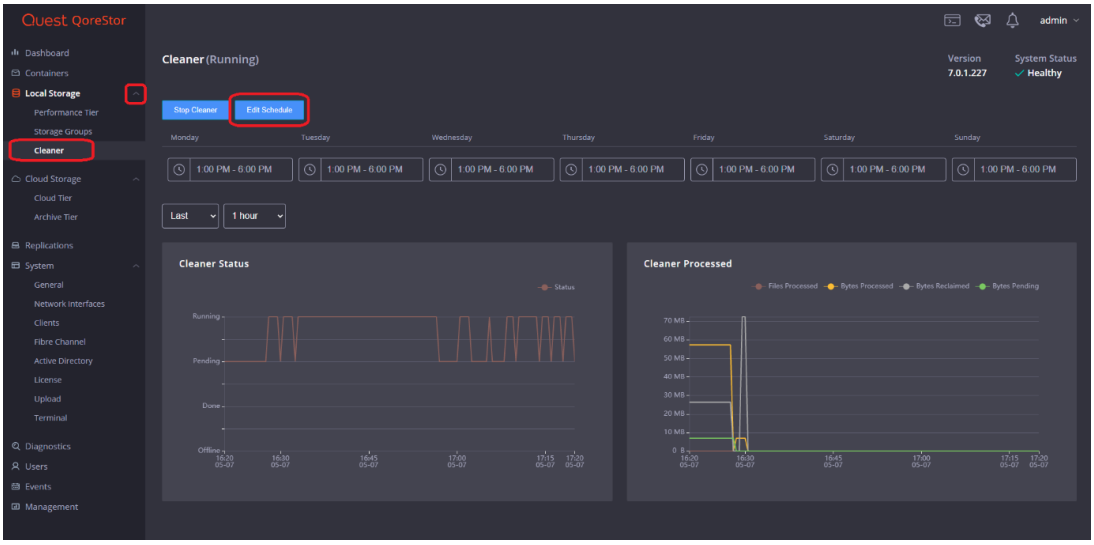
Appendix A

Setting up the QoreStor system cleaner

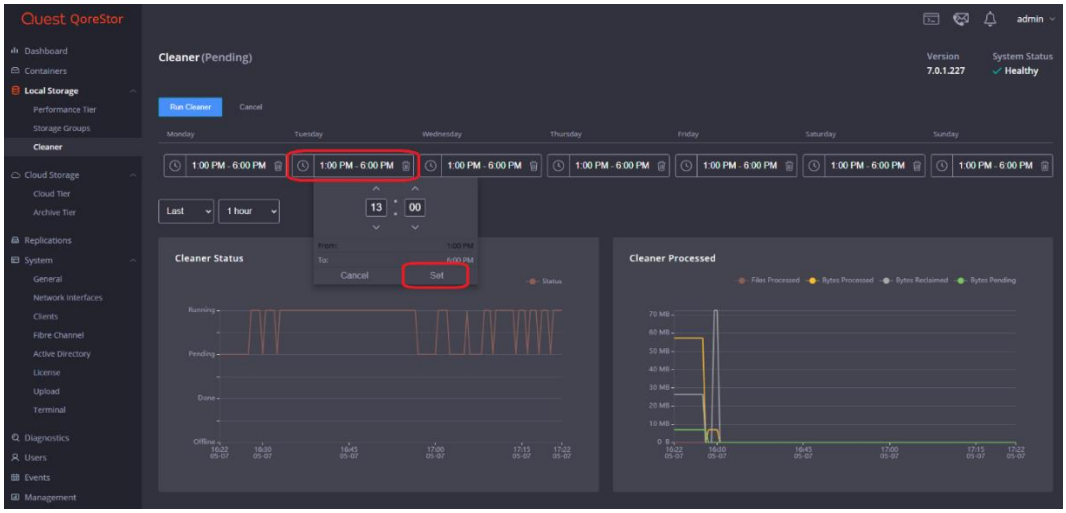
Performing scheduled disk space reclamation operations are needed as a method for recovering disk space from system containers in which files were deleted as a result of deduplication. Ideally, the QoreStor cleaner should complete a full cycle at least once a week. This will be accomplished in most cases 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.**



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



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

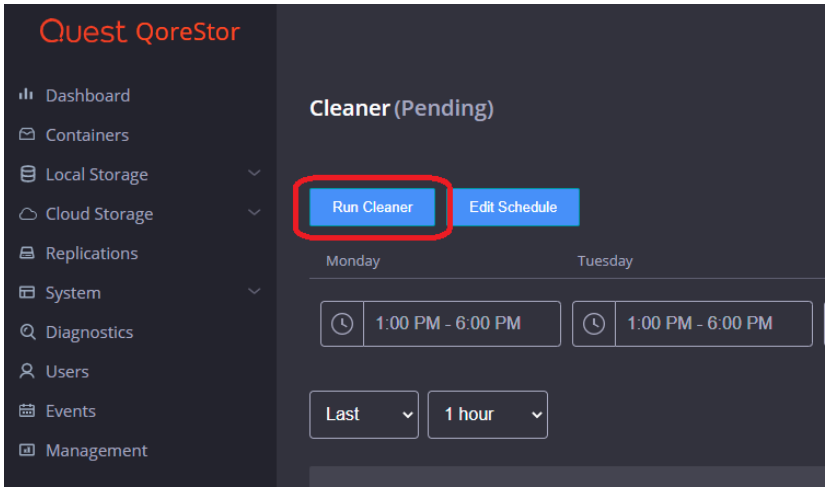


Figure 1: Using the QoreStor Administrative Console

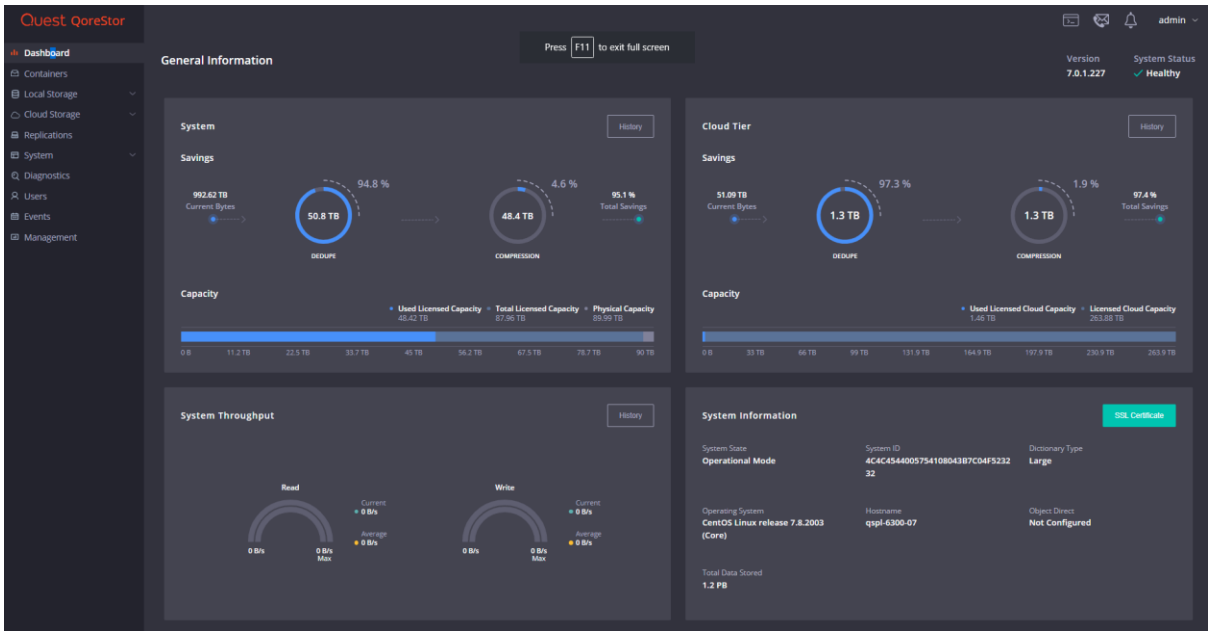
```
# maintenance --filesystem --reclaim_space
# Successfully started cleaner.
```

Figure 2: Using the QoreStor CLI

Appendix B

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.