

Veritas Access NetBackup Solutions Guide

Linux 7.3.2

(Use with the Veritas Access 3340
Appliance documentation)

Veritas Access NetBackup Solutions Guide

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https://sort.veritas.com/data/support/SORT_Data_Sheet.pdf

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Veritas Access integration with NetBackup

This chapter includes the following topics:

- [About Veritas Access](#)
- [About Veritas Access as a NetBackup client](#)
- [About Veritas Access as backup storage for NetBackup](#)
- [Use cases for long-term data retention](#)

About Veritas Access

Veritas Access 3340 Appliance is a software-defined, network-attached storage (NAS) solution for unstructured data.

Veritas Access provides resiliency, multi-protocol access, and data movement to and from the public and private cloud based on policies. You can reduce your storage costs by using low-cost disks and by storing infrequently accessed data in the cloud.

About Veritas Access as a NetBackup client

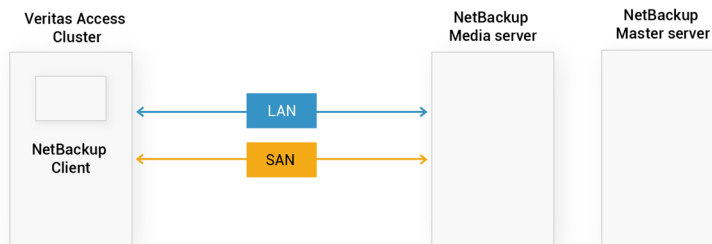
Veritas Access is integrated with Veritas NetBackup so that a NetBackup administrator can back up your Veritas Access file systems to NetBackup master or media servers and retain the data as per your company policy. Once data is backed up, a storage administrator can delete unwanted data from Veritas Access. The NetBackup master and media servers that run on separate computers from Veritas Access are licensed separately from Veritas Access.

You configure NetBackup domain information using any one of the following Veritas Access interfaces:

- **CLISH**
The Veritas Access CLISH has a dedicated `Backup>` menu. From the `Backup>` menu, register the NetBackup client with the NetBackup domain. Information is saved in the `bp.conf` file on Veritas Access.
- **GUI**
Settings > NetBackup Configuration
See the online Help for how to configure NetBackup using the GUI.
- **RESTful APIs**
See the *Veritas Access RESTful API Guide*.

Consolidating storage reduces the administrative overhead of backing up and restoring many separate file systems. Critical file data can be backed up and restored through the NetBackup client on Veritas Access.

Figure 1-1 Configuration of Veritas Access with NetBackup



About Veritas Access as backup storage for NetBackup

This document describes how Veritas Access fulfills the needs of NetBackup customers looking for a cost-effective solution for moving away from tape backups, yet retain the backed-up data for the long term.

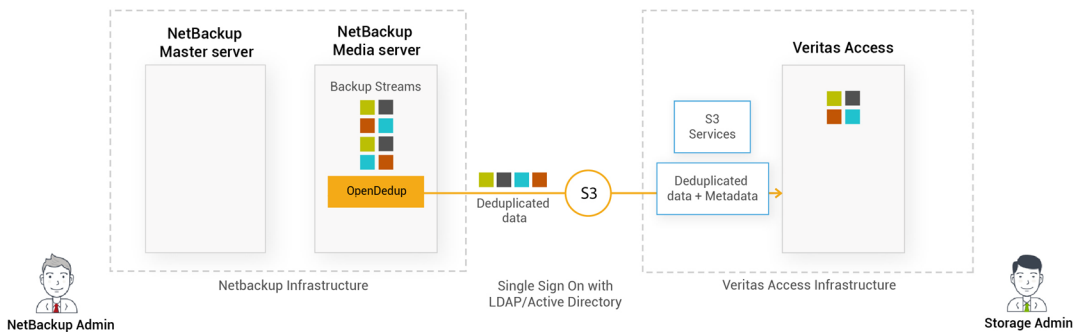
NetBackup is an enterprise-class heterogeneous backup and recovery application. It provides cross-platform backup functionality to a large variety of Windows, UNIX, and Linux operating systems.

Veritas Access is based on the rock-solid and industry-proven Veritas CFS stack. It offers an AWS-compatible S3 protocol as object storage for NetBackup.

Veritas Access is integrated with OpenDedup. OpenDedup is OpenSource software that lets you deduplicate your data to on-premises or cloud storage. OpenDedup installs on top of a NetBackup media server or Veritas Access; it performs data deduplication and stores deduplicated data on Veritas Access over S3.

Figure 1-2 shows how Veritas Access integrates with OpenDedup over S3 to store NetBackup backup streams as deduplicated data.

Figure 1-2



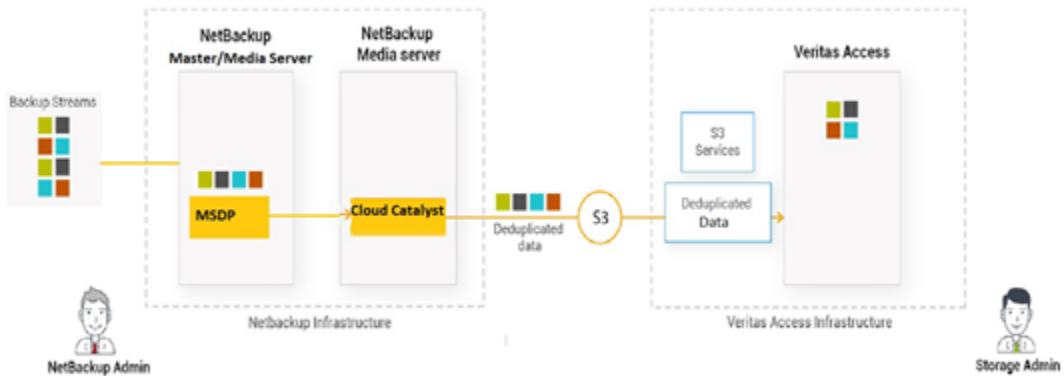
Use cases for long-term data retention

The following are the use cases for long-term data retention (LTR) with Veritas Access 3340 Appliance.

Use Case 1: Veritas Access with CloudCatalyst

- Primary backup data is deduplicated by MSDP and stored on the NetBackup server.
- The same deduplicated data is moved to the Veritas Access 3340 Appliance through SLP using CloudCatalyst.

Figure 1-3



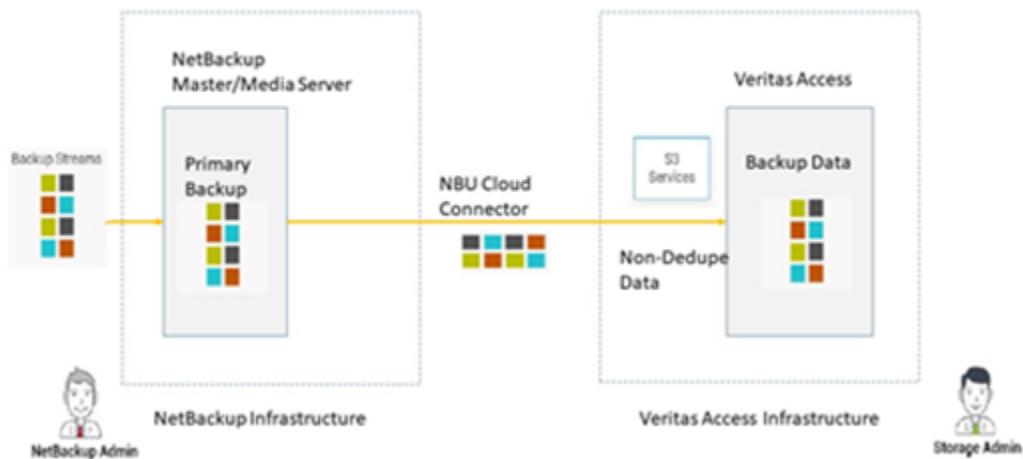
Use Case 2: Veritas Access as an S3 connector

- Backup data is stored in non-deduplicated format on the NetBackup server as primary backup.
- The same primary backup data is moved to Veritas Access 3340 Appliance through SLP over the Veritas Access S3 protocol.

Or

- Primary backup data is deduplicated by MSDP and stored on the NetBackup server.
- The deduplicated data is rehydrated and then moved to the Veritas Access 3340 Appliance through SLP over the Veritas Access S3 protocol.

Figure 1-4



System requirements

This chapter includes the following topics:

- [Supported configurations and versions for NetBackup with CloudCatalyst](#)

Supported configurations and versions for NetBackup with CloudCatalyst

Table 2-1 Supported versions

Veritas Access	Veritas NetBackup servers
7.3.2	8.1 and later (Linux only)

Download links:

Cloudprovider.xml Version 2.3.1 supports Veritas Access.

https://www.veritas.com/support/en_US/article.000125094

Update the mappings file.

Unix/Linux: <http://www.veritas.com/docs/000025759>

Configuring Veritas Access as a cloud storage server with NetBackup CloudCatalyst

This chapter includes the following topics:

- [Benefits of using Veritas Access with NetBackup and CloudCatalyst](#)
- [Creating an S3 bucket on Veritas Access for storing deduplicated backup data from NetBackup](#)
- [Creating a Media Server Deduplication Pool \(MSDP\) for primary backup using NetBackup](#)
- [Configuring Veritas Access as a cloud storage server on NetBackup server](#)
- [Configuring Veritas Access SSL with NetBackup](#)

Benefits of using Veritas Access with NetBackup and CloudCatalyst

- Low-cost, flexible alternative for long-term data retention.
- Eliminate the need for cumbersome, time-consuming tape management.
- Cost-effective and resilient solution that is scale-out (linear performance) and elastic (grow/shrink on demand).

Creating an S3 bucket on Veritas Access for storing deduplicated backup data from NetBackup

To create an S3 bucket on Veritas Access for storing deduplicated backup data from NetBackup

- 1 Log on to the Veritas Access GUI as the master user using the following URL:

`https://Veritas Access Management console IP:14161/.`

- 2 Create a storage pool for the S3 buckets.

Click **NAS Infrastructure** in the GUI navigation on the left.

Select the disks that you want to use for the S3 bucket, and click the **Add to Storage Pool** button to invoke the wizard for storage pool creation.

Follow the steps in the wizard for creating a new storage pool or adding the disks to an existing pool.

- 3 Click **Settings > User Management > Configure Active Directory** to configure AD.

Enter the required information, such as the **DNS Domain**, **DNS Name Servers**, **AD Domain**, **AD Domain Controller**, and the **AD Admin** and **Password**.

- 4 Click **Settings > S3 Management** to configure and enable the S3 server.

Edit the default parameters that are required for the S3 server, such as the storage pool name, underlying S3 bucket layout, and the default size of the bucket.

- 5 Click the button in front of **S3 Server Status** to start the S3 server.

- 6 Log out from the GUI, and log in again as an AD user.

Click on the **Create keys** button to generate the access key and the secret key for the Veritas Access S3 bucket.

Save the access key and secret key in a safe location, as Veritas Access does not allow retrieval of keys after initial creation.

Note: Log in using the *domainname\username* format.

- 7 Log out from the GUI, and log in again as the master user.

- 8 Registration of supported public cloud service is *optional*, and is only required in case you need to add an AWS cloud as a storage tier. Without this, backups are stored locally in Veritas Access S3 buckets.

Click **Settings > Cloud Storage Registration > Add Cloud Subscription** to register the supported public cloud service.

Enter information for the cloud service provider, name of subscription, access key, and secret key.

- 9 Activate the long-term data retention (LTR) policies.

Click **Policies > LTR Policy**.

Click **Activate** for either the **LTR On-Premises + Cloud** policy or the **LTR On-Premises** policy and provide the storage pool when prompted.

Note: Data movement policy to the public cloud is not supported for the Appliance 1.0 release as the default policy needs to be manually updated.

- 10 Provision the NetBackup bucket using the policy.

Under **Quick Actions**, click **Provision Storage**. Select **S3 Storage for NetBackup** and click **Next**.

Provide the bucket size, underlying layout of the bucket, the access key, and the secret key of the Veritas Access S3 server generated as the AD user in step 6.

If you selected the **LTR On-Premises + Cloud** policy, add information such as which data should be moved to the AWS cloud tier, AWS region, cloud tier type (S3/Glacier), and when the data movement to the cloud should occur.

- 11 Monitor the progress of the task under **Recent Activity**.

Make a note of the scale-out file system name that was used for the bucket creation.

- 12 Click **File Systems**.

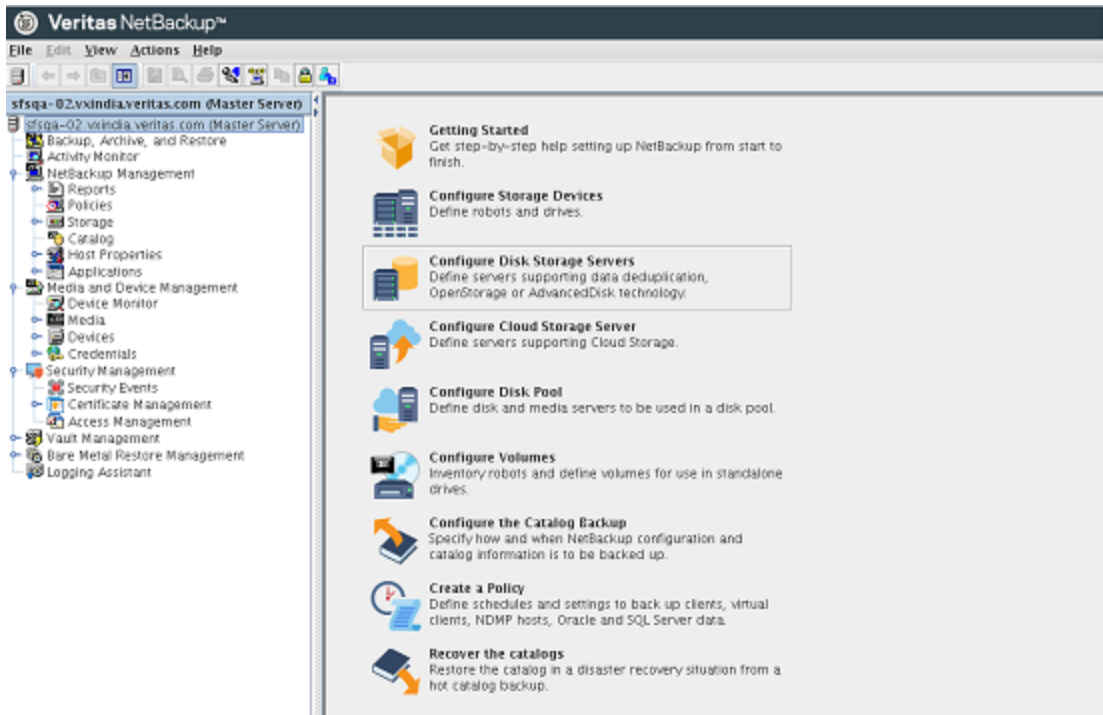
For the scale-out file system that is created, ensure that the **S3 Bucket** column displays **Yes** to indicate that the S3 bucket is enabled.

You may need to wait for some time for this change to be reflected in the GUI.

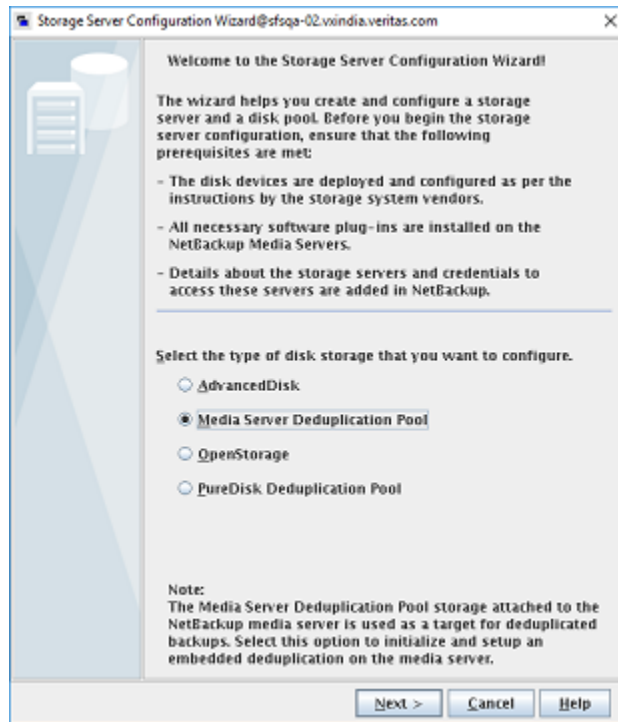
Creating a Media Server Deduplication Pool (MSDP) for primary backup using NetBackup

To create an MSDP disk pool and storage unit (STU) in the NetBackup console

- 1 Log on to the NetBackup master server from the Java console.



2 Select Media Server Deduplication Pool.



- 3 Enter the user name, password, and other required details.



The image shows a 'Storage Server Configuration Wizard' window. The title bar reads 'Storage Server Configuration Wizard@sfsqa-02.vxindia.veritas.com'. The window has a red header bar with the text 'Add Storage Server' and 'Provide storage server details.' Below this, a paragraph states: 'Select the media server that connects to the storage. The media server runs the core NetBackup Deduplication Engine components and functions as the storage server.' There are three input fields: 'Media server:' with a dropdown menu showing 'sfsqa-02.vxindia.veritas.com', 'Storage server type:' with a text box containing 'Media Server Deduplication Pool', and 'Storage server name:' with a text box containing 'sfsqa-02.vxindia.veritas.com'. A section titled 'Define credentials' contains three more input fields: 'User name:' with 'root', 'Password:' with '*****', and 'Confirm password:' with '*****'. At the bottom, there are four buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

Storage Server Configuration Wizard@sfsqa-02.vxindia.veritas.com

Add Storage Server
Provide storage server details.

Select the media server that connects to the storage. The media server runs the core NetBackup Deduplication Engine components and functions as the storage server.

Media server: sfsqa-02.vxindia.veritas.com

Storage server type: Media Server Deduplication Pool

Storage server name: sfsqa-02.vxindia.veritas.com

Define credentials

User name: root

Password: *****

Confirm password: *****

< Back Next > Cancel Help

4 Enter the storage path for MSDP.



The image shows a 'Storage Server Configuration Wizard' window. The title bar reads 'Storage Server Configuration Wizard@dfsqa-02.vxindia.veritas.com'. The main heading is 'Storage Server Properties' with the instruction 'Provide storage server properties.' Below this, there is a 'Storage path:' label followed by a text box containing '/MSDP/' and a browse button. A note states: 'Note: The location on the storage server where the deduplicated backup images reside is called storage path.' There is an unchecked checkbox for 'Use alternate path for deduplication database for performance optimization'. Below it is a 'Deduplication database path:' label with a text box and a browse button. A note explains: 'Note: The location on the storage server where the deduplication metabase data resides is called deduplication database path. By default, the storage path and the deduplication database path are the same. But if you want an optimized performance, you can store the deduplication database on a faster disk storage system.' Another unchecked checkbox is for 'Use specific network interface', followed by an 'Interface:' label and a text box. A note says: 'Note: A NetBackup media server can have more than one network interface and by default the Operating System determines which one to use. To force NetBackup to connect through a specific network interface, specify the network host name of that interface.' At the bottom left is a yellow warning icon and a message: 'Once you define the storage server details on this screen, you cannot modify them. For more information, click Help.' At the bottom right are four buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

Storage Server Configuration Wizard@dfsqa-02.vxindia.veritas.com

Storage Server Properties
Provide storage server properties.

Storage path:

Note: The location on the storage server where the deduplicated backup images reside is called storage path.

☐ Use alternate path for deduplication database for performance optimization

Deduplication database path:

Note: The location on the storage server where the deduplication metabase data resides is called deduplication database path. By default, the storage path and the deduplication database path are the same. But if you want an optimized performance, you can store the deduplication database on a faster disk storage system.

☐ Use specific network interface

Interface:

Note: A NetBackup media server can have more than one network interface and by default the Operating System determines which one to use. To force NetBackup to connect through a specific network interface, specify the network host name of that interface.

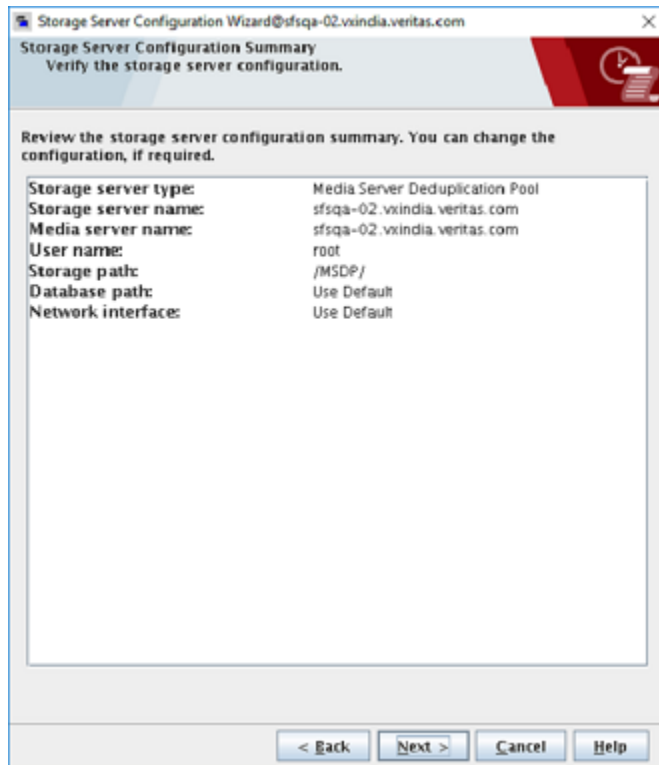
 Once you define the storage server details on this screen, you cannot modify them. For more information, click Help.

< Back Next > Cancel Help

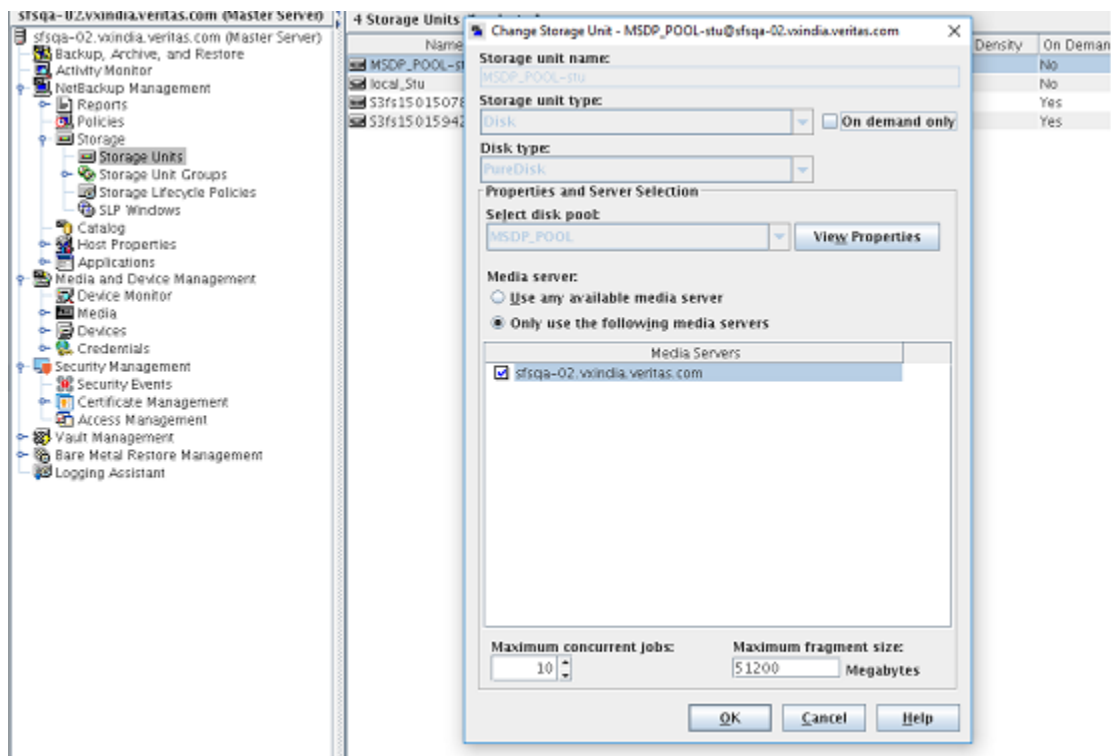
- 5 Enter the load balancing options to distribute the workload.



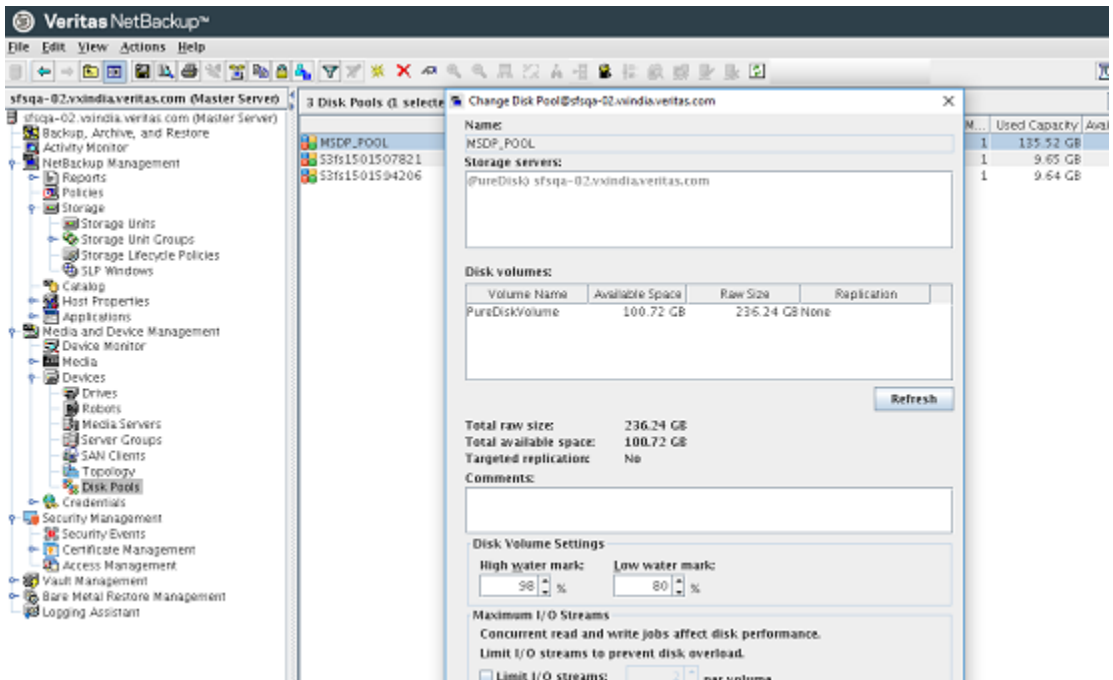
6 Verify the storage server configuration summary.



7 Verify that the storage unit is created for MSDP.



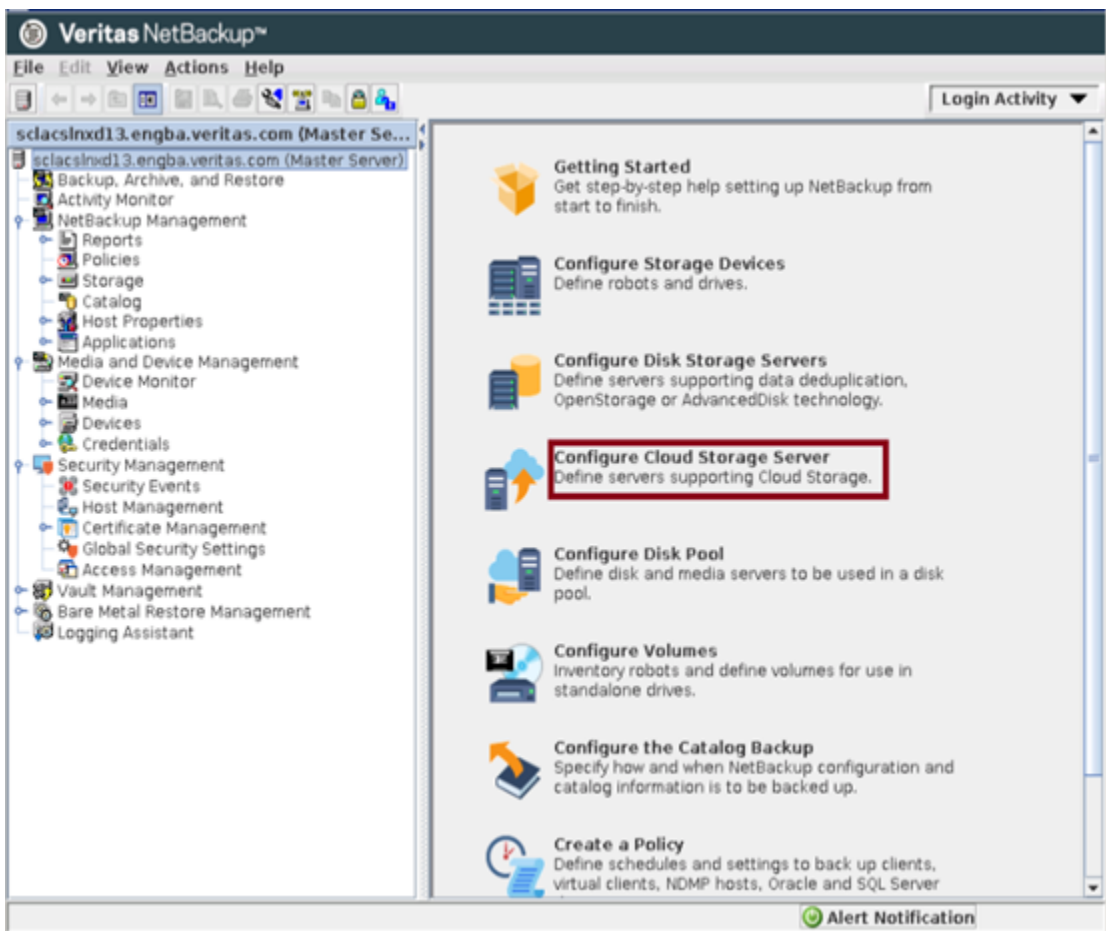
8 Verify that the disk pool is create for MSDP.



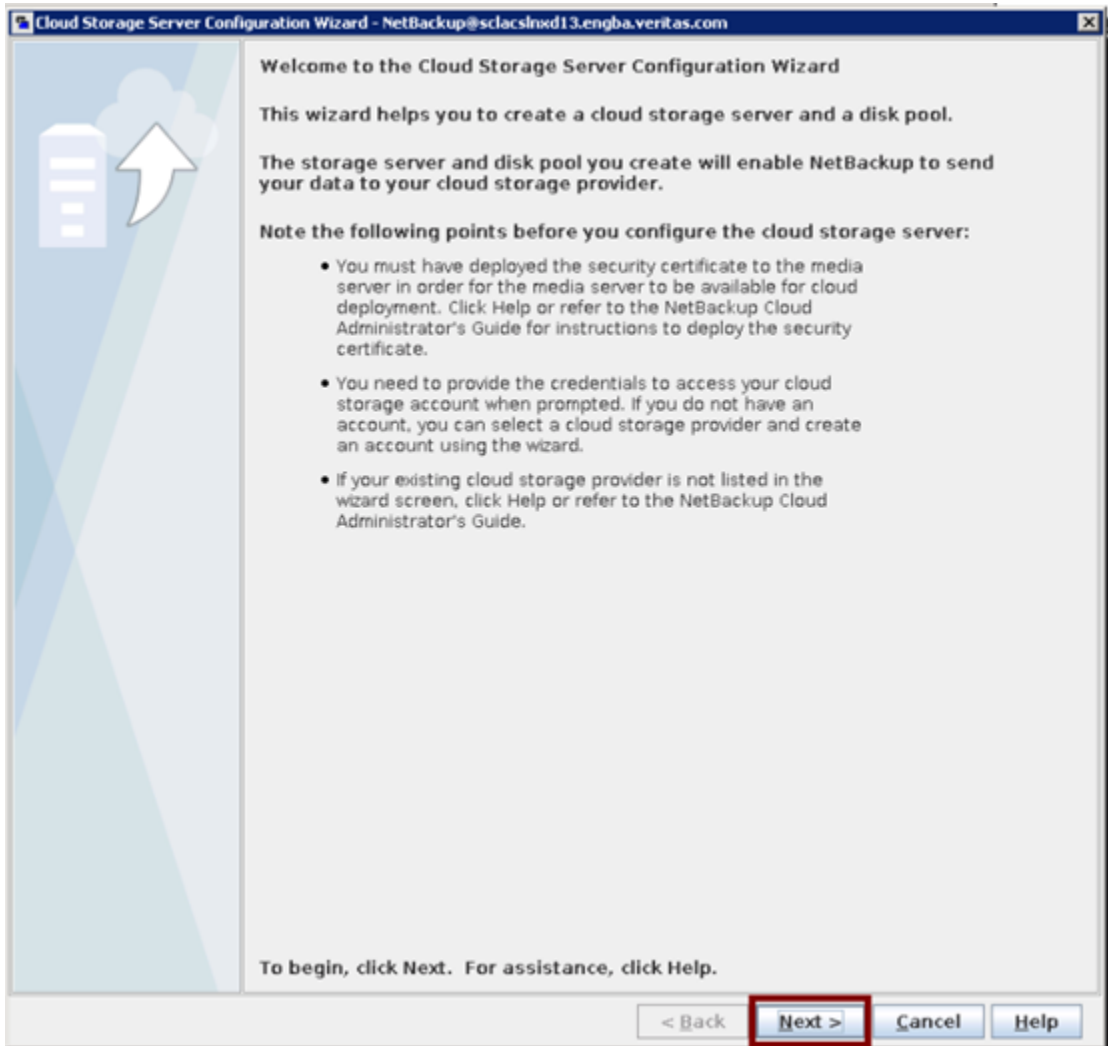
Configuring Veritas Access as a cloud storage server on NetBackup server

To configure Veritas Access cluster as a cloud storage server and create an OpenStorage Technology (OST) disk pool and storage unit (STU) from the NetBackup console

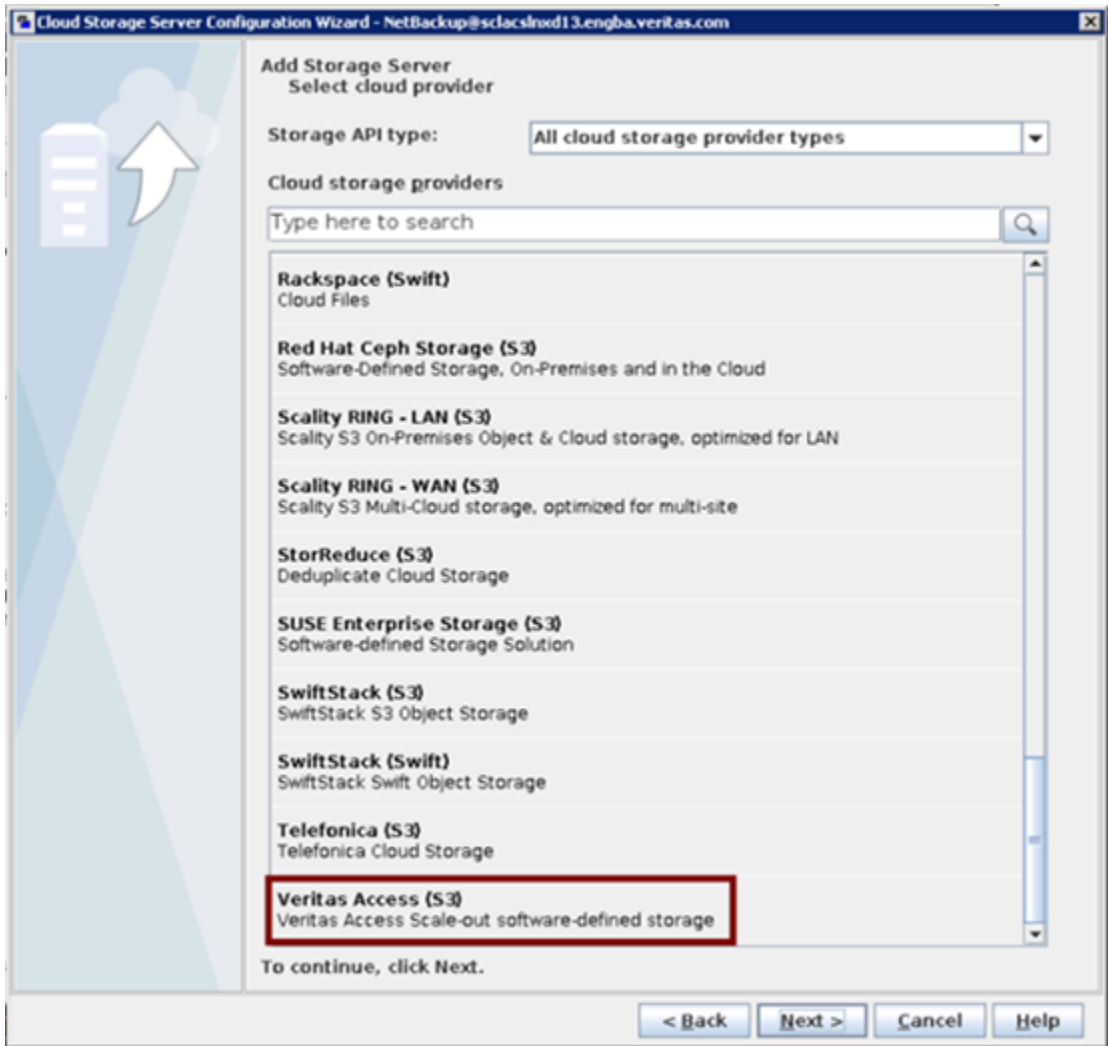
- 1 Log on to the NetBackup master server from the Java console.
- 2 Select **Configure Cloud Storage Servers**.



- 3 The **Welcome to cloud storage server configuration** wizard appears. Click **Next**.



- 4 Select **Veritas Access** in the cloud provider list. Click **Next**.



- 5 On the **Add storage server** form, click on **Add Cloud Storage**.

Cloud Storage Server Configuration Wizard - NetBackup@scslcslnxd13.engba.veritas.com

Add Storage Server
Select a media server and provide cloud storage service credentials. To be listed below in the media server drop-down list a security certificate must be deployed and NetBackup must be running including the NetBackup CloudStore Service Container (nbcss).

Cloud storage provider - Veritas Access

Service host:

Storage server name:

Add Cloud Storage

Media server name:

Deduplication


☐ Enable NetBackup CloudCatalyst

Local cache directory:

Access details for Veritas Access account

Access key ID:

Secret access key:

 If you do not have Veritas Access account [Create an account with Veritas Access.](#)

To continue, click Next.

- 6 In the **Add cloud storage** wizard, enter the required information.
- Service host: s3.<veritas_access_cluster_name>
 - HTTP port: 8143
 - Https Port: 8143
 - Storage server Name: Any string or any auto-generated name.

For example, *my-s3.<veritas_access_cluster_name>*

Click **Ok**.

The screenshot shows the 'Cloud Storage Server Configuration Wizard' window. The main window has a title bar 'Cloud Storage Server Configuration Wizard - NetBackup@slclacslinx13.engba.veritas.com'. It contains a 'Add Storage Server' section with instructions: 'Select a media server and provide cloud storage service credentials. To be listed below in the media server drop-down list a security certificate must be deployed and NetBackup must be running including the NetBackup CloudStore Service Container (nbcssc)'. Below this is a 'Cloud storage provider - Veritas Access' section with a 'Service host' dropdown. A modal dialog box titled 'Add Cloud Storage@slclacslinx13.engba.veritas.com' is open, showing 'General Settings' and 'Region Settings' tabs. The 'General Settings' tab is active, displaying the following fields: 'Provider type: Veritas Access', 'Service host: s3.accesscluster', 'Service endpoint: ', 'HTTP port: 8143', 'HTTPS port: 8143', 'Storage server name: my-s3.accesscluster', and 'Endpoint access style: Path Style'. The 'Ok' button is highlighted with a red rectangle. At the bottom of the main window, there are buttons for '< Back', 'Next >', 'Cancel', and 'Help'. The text 'To continue, click Next.' is visible at the bottom of the main window.

Cloud Storage Server Configuration Wizard - NetBackup@slclacslinx13.engba.veritas.com

Add Storage Server
Select a media server and provide cloud storage service credentials. To be listed below in the media server drop-down list a security certificate must be deployed and NetBackup must be running including the NetBackup CloudStore Service Container (nbcssc).

Cloud storage provider - Veritas Access

Service host: [dropdown]

Add Cloud Storage@slclacslinx13.engba.veritas.com

General Settings | Region Settings

Provider type: Veritas Access

Service host: s3.accesscluster

Service endpoint: [text box]

HTTP port: 8143

HTTPS port: 8143

Storage server name: my-s3.accesscluster

Endpoint access style: Path Style [dropdown]

Ok Cancel Help

Create an account with Veritas Access.

Advanced Settings

To continue, click Next.

< Back Next > Cancel Help

- 7 Select **Media server** from the **Media server name** drop-down box. Select the **Enable NetBackup CloudCatalyst** check box if you want to store the deduplicated MSDP backup data on Veritas Access's ObjectAccess bucket. Specify the path of local cache directory for CloudCatalyst. Enter the access key and secret key using which the bucket is created on Veritas Access. For SSL-related settings, click on **Advance Setting**.

Cloud Storage Server Configuration Wizard - NetBackup@sciacslnxd13.engba.veritas.com

Add Storage Server
Select a media server and provide cloud storage service credentials. To be listed below in the media server drop-down list a security certificate must be deployed and NetBackup must be running including the NetBackup CloudStore Service Container (nbcssc).

Cloud storage provider - Veritas Access

Service host: s3.accesscluster

Storage server name: my-s3.accesscluster

Add Cloud Storage

Media server name: sciacslnxd13.engba.veritas.com

Deduplication

☒ Enable NetBackup CloudCatalyst

Local cache directory: /ESFS/

Browse...

Access details for Veritas Access account

Access key ID: NrmU2NTgyZGM1MDZkYTZ

Secret access key:

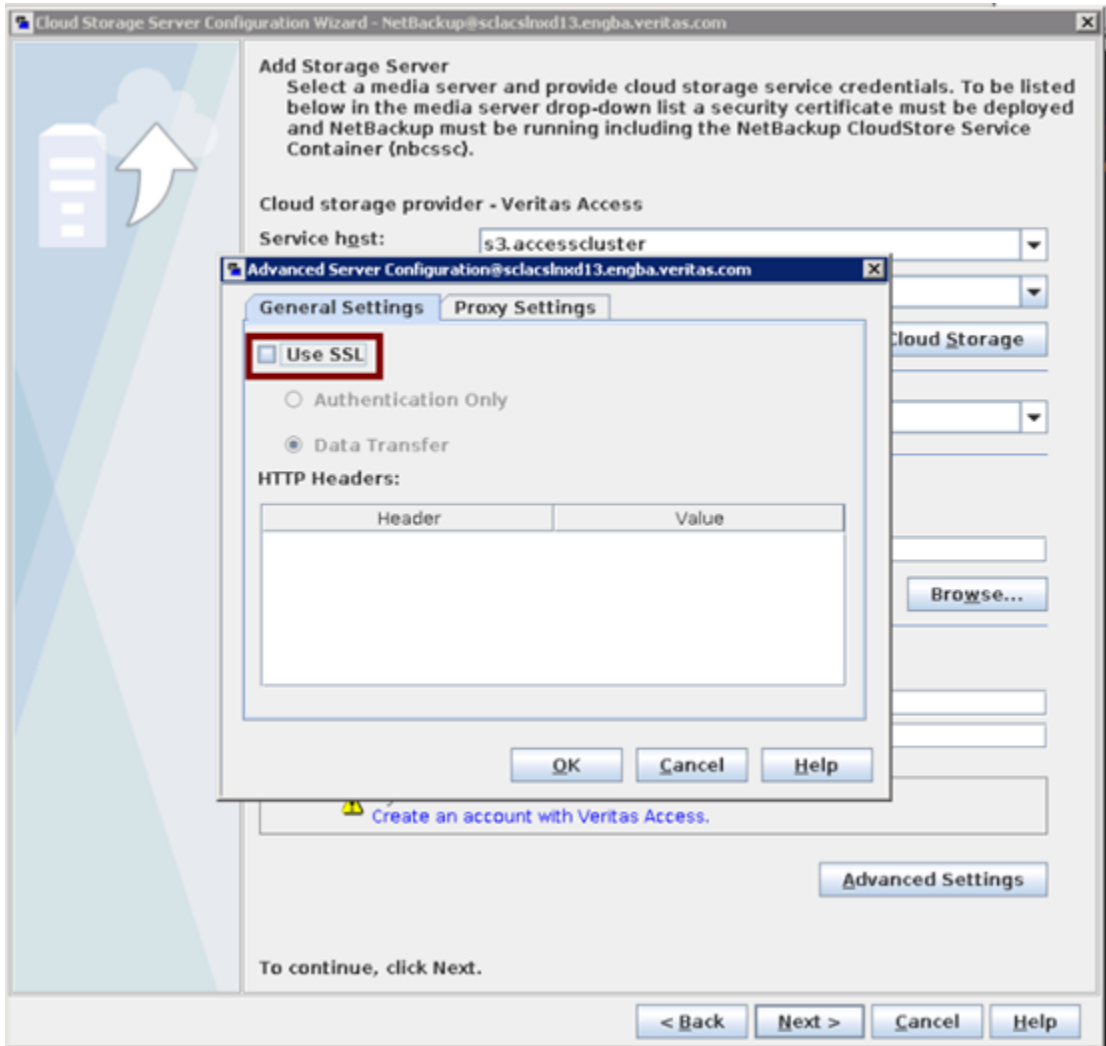
If you do not have Veritas Access account
[Create an account with Veritas Access.](#)

Advanced Settings

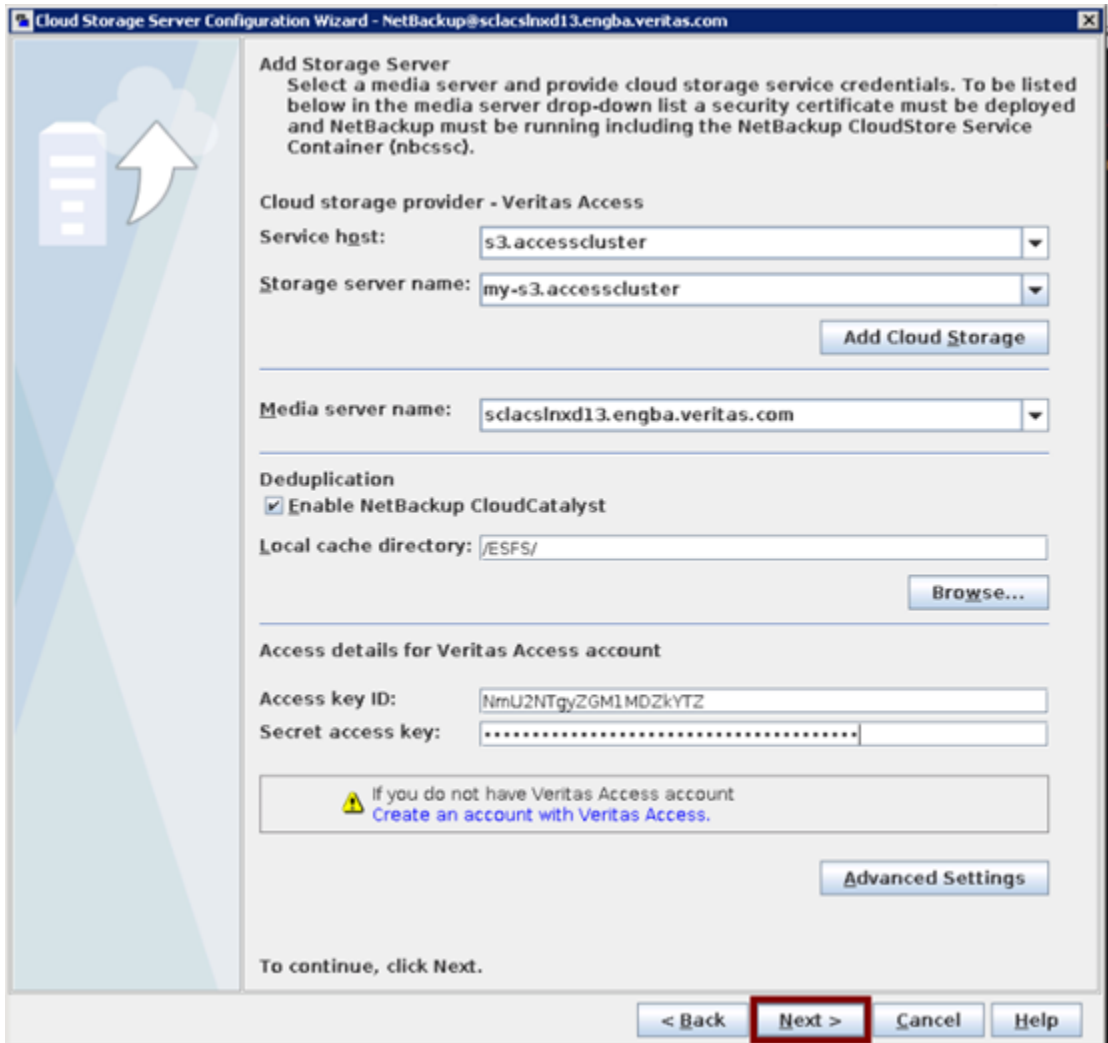
To continue, click Next.

< Back Next > Cancel Help

- 8 If the Veritas Access ObjectAccess server is configured with **No SSL**, then clear the **Use SSL** check box and click **Ok**.




9 Click Next



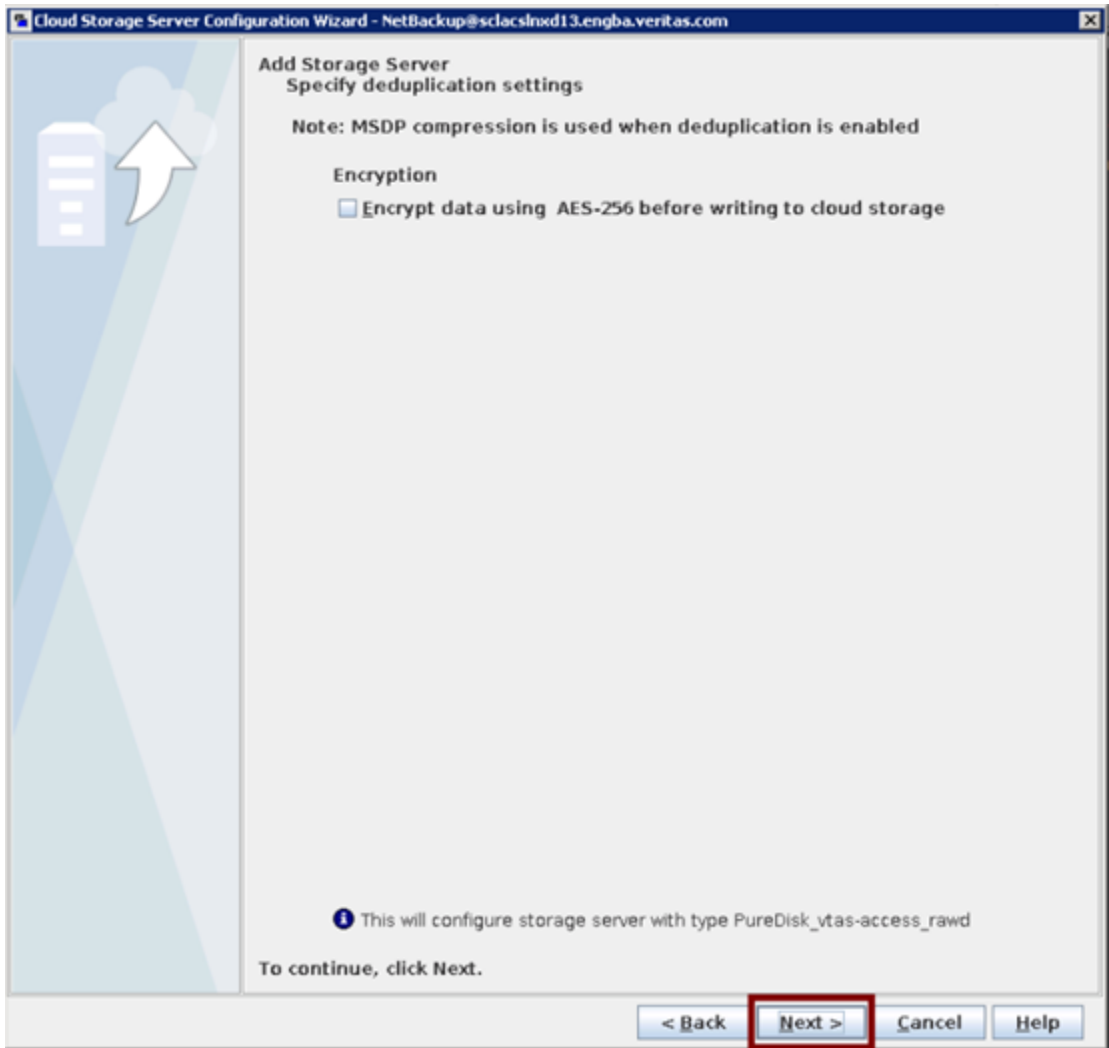
The image shows a 'Cloud Storage Server Configuration Wizard' window. On the left is a decorative graphic with a server icon and an upward arrow. The main area contains the following sections:

- Add Storage Server**
Select a media server and provide cloud storage service credentials. To be listed below in the media server drop-down list a security certificate must be deployed and NetBackup must be running including the NetBackup CloudStore Service Container (nbcssc).
- Cloud storage provider - Veritas Access**
Service host:
Storage server name:
- Media server name:**
- Deduplication**
☒ Enable NetBackup CloudCatalyst
Local cache directory:
- Access details for Veritas Access account**
Access key ID:
Secret access key:

 If you do not have Veritas Access account
[Create an account with Veritas Access.](#)
- To continue, click Next.**

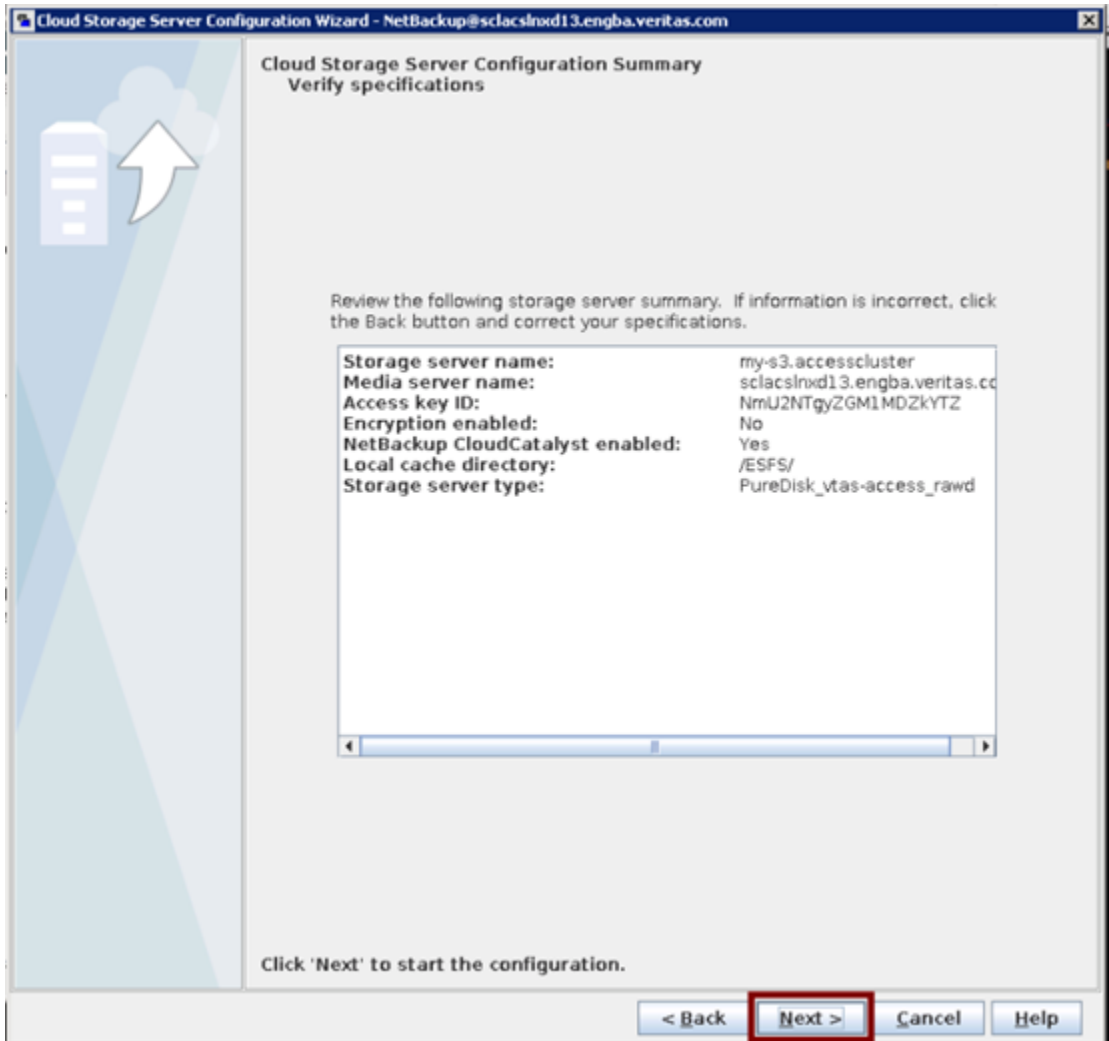
At the bottom are four buttons: '< Back', 'Next >' (highlighted with a red rectangle), 'Cancel', and 'Help'.

10 On the **Specify Deduplication setting** form, click **Next**

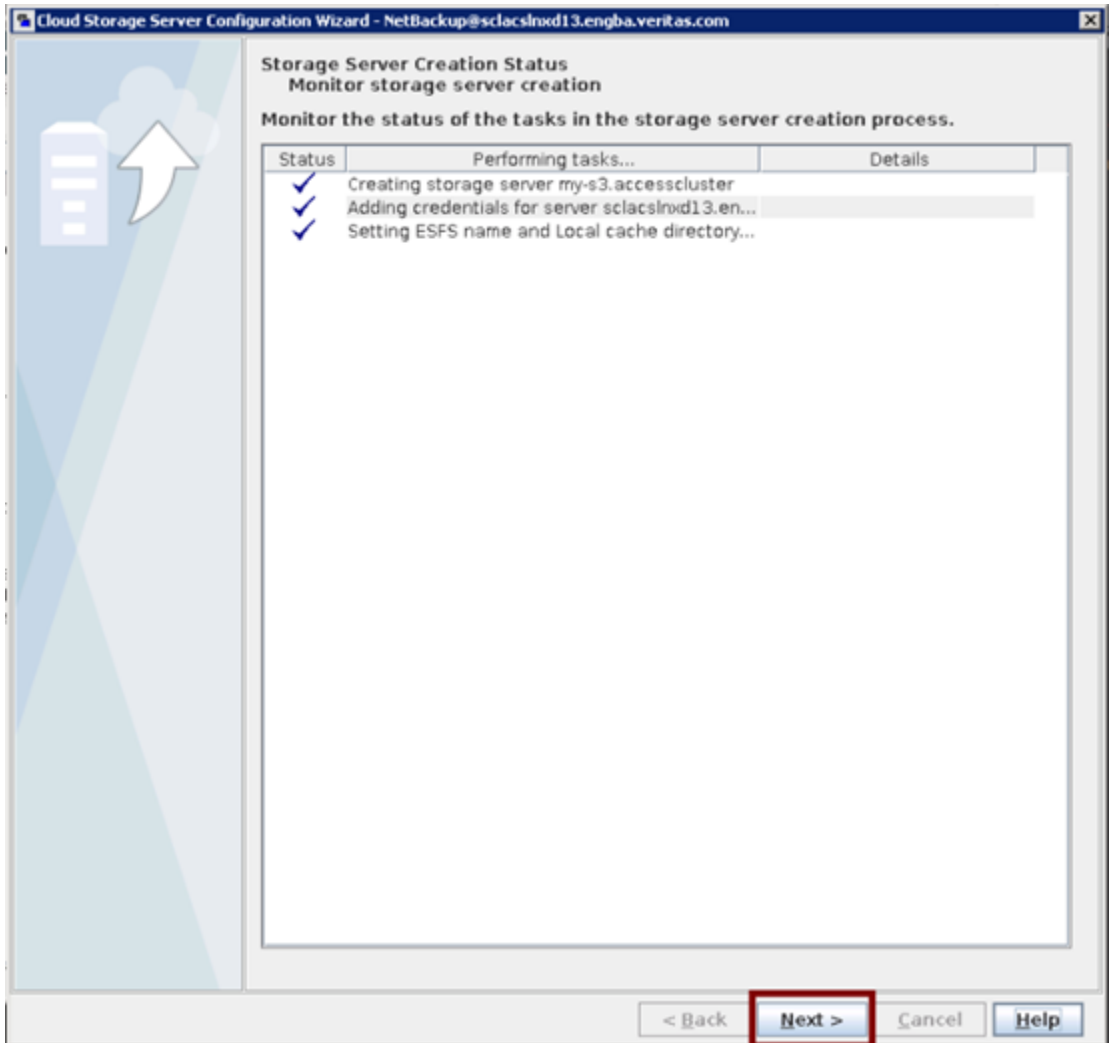


11 Messages related to setting the encryption appear. Click **Yes**.

12 Review the Cloud storage server summary and click **Next**.



13 Check the status of the tasks in the storage server creation process. Click **Next**



14 Verify that the storage server is successfully created and click **Next**.

- 15** The **Volume selection to use in disk pool** form lists all the buckets that are created by a user on the Veritas Access cluster as a volume. If the bucket is not created from Veritas Access, then click on **Add volume** and specify the bucket name. After bucket creation, the bucket is listed as a volume. Select a bucket and click **Next**.

Disk Pool Configuration Wizard@sclacslnxd13.engba.veritas.com

Volume Selection
 Select volumes to use in the disk pool.

Storage server type: PureDisk_vtas-access_rawd

Select storage server volumes to add to the disk pool.

Volume Name	Available Space	Raw Size	Replication	Region
<input checked="" type="checkbox"/> testappbkt	---	---	None	Default
<input type="checkbox"/> tests3	---	---	None	Default

Add new volume on the selected storage server(s) **Add New Volume**

Disk Pool Size
 Total available space: ---
 Total raw size: ---

i Before selecting a volume, you must validate if it is shared among the storage servers.

< Back **Next >** Cancel Help

- 16** In the **Additional disk pool information** form, enter the disk pool name and click **Next**.

Disk Pool Configuration Wizard@sciacslnxd13.engba.veritas.com

Additional Disk Pool Information
Provide additional disk pool information.

Storage server type: PureDisk_vtas-access_rawd

Disk Pool Size

Total available space: ---

Total raw size: ---

Disk Pool name: accessbkt_pool

Comments:

High water mark: 98 %

Low water mark: 80 %

i The High water mark and Low water mark values are not applicable for this disk group.

Maximum I/O Streams

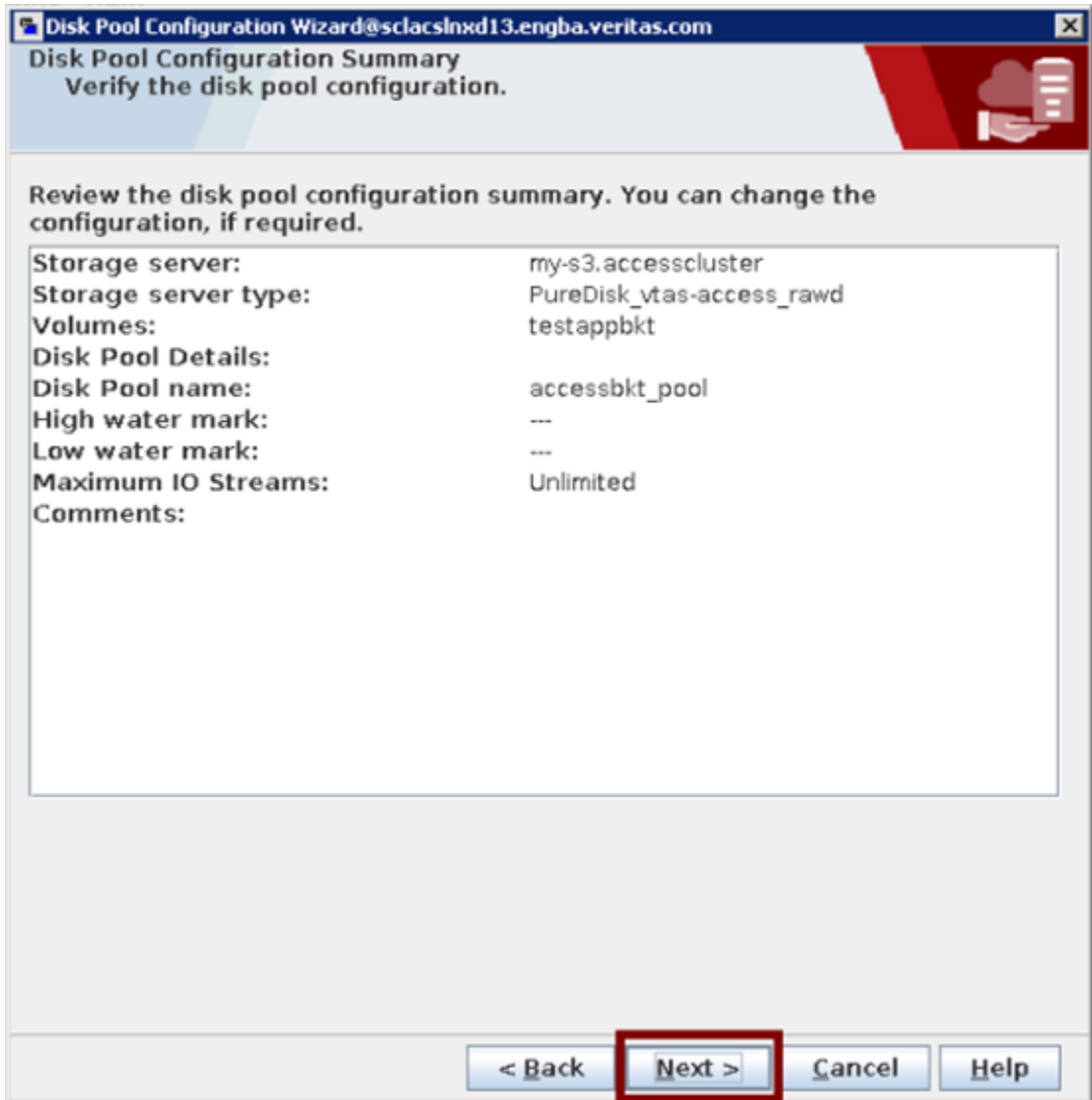
i Concurrent read and write jobs affect disk performance.

Limit I/O streams to prevent disk overload.

☐ Limit I/O streams: -1 per volume

< Back Next > Cancel Help

17 Review the disk pool configuration summary and click **Next**.



- 18 In the **Disk pool creation status** form, verify that the disk pool is created successfully. Make sure that the **Create storage unit using disk pool which you have just created** check box is selected.

The screenshot shows a window titled "Disk Pool Configuration Wizard@sciacslnxd13.engba.veritas.com". The main heading is "Disk Pool Configuration Status" with the instruction "Perform disk pool creation task." Below this is a table with two columns: "Status" and "Performing tasks...". The table contains one row with a blue checkmark in the "Status" column and the text "NetBackup Disk Pool created" in the "Performing tasks..." column. Below the table, a message states "Disk pool 'accessbkt_pool' is successfully created." followed by a checked checkbox and the text "Create a storage unit using the disk pool that you have just created". At the bottom, a note says "Click 'Close' to complete the disk pool configuration and close the wizard." and there are four buttons: "< Back", "Next >" (highlighted with a red box), "Close", and "Help".

Status	Performing tasks...
✓	NetBackup Disk Pool created

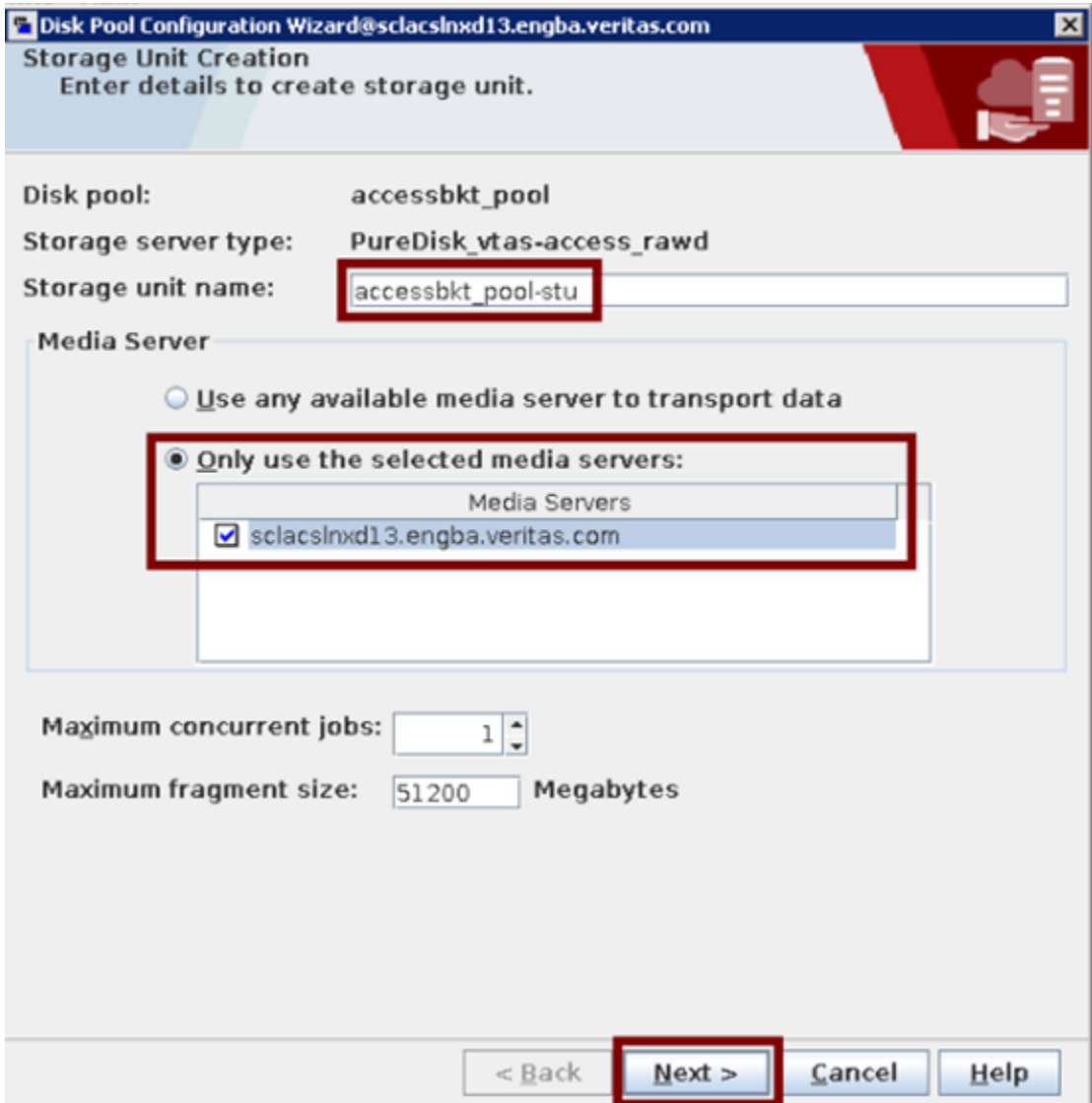
Disk pool "accessbkt_pool" is successfully created.

☒ Create a storage unit using the disk pool that you have just created

Click 'Close' to complete the disk pool configuration and close the wizard.

< Back **Next >** Close Help

- 19 In the **Storage unit creation** wizard, enter the storage unit name. Click **Only use selected media servers**. Select the media server in the list and click **Next**.



The image shows a screenshot of the 'Disk Pool Configuration Wizard' window, specifically the 'Storage Unit Creation' step. The window title is 'Disk Pool Configuration Wizard@sclacslnxd13.engba.veritas.com'. The main heading is 'Storage Unit Creation' with the instruction 'Enter details to create storage unit.'.

The configuration details are as follows:

- Disk pool:** accessbkt_pool
- Storage server type:** PureDisk_vtas-access_rawd
- Storage unit name:** accessbkt_pool-stu (This field is highlighted with a red box.)

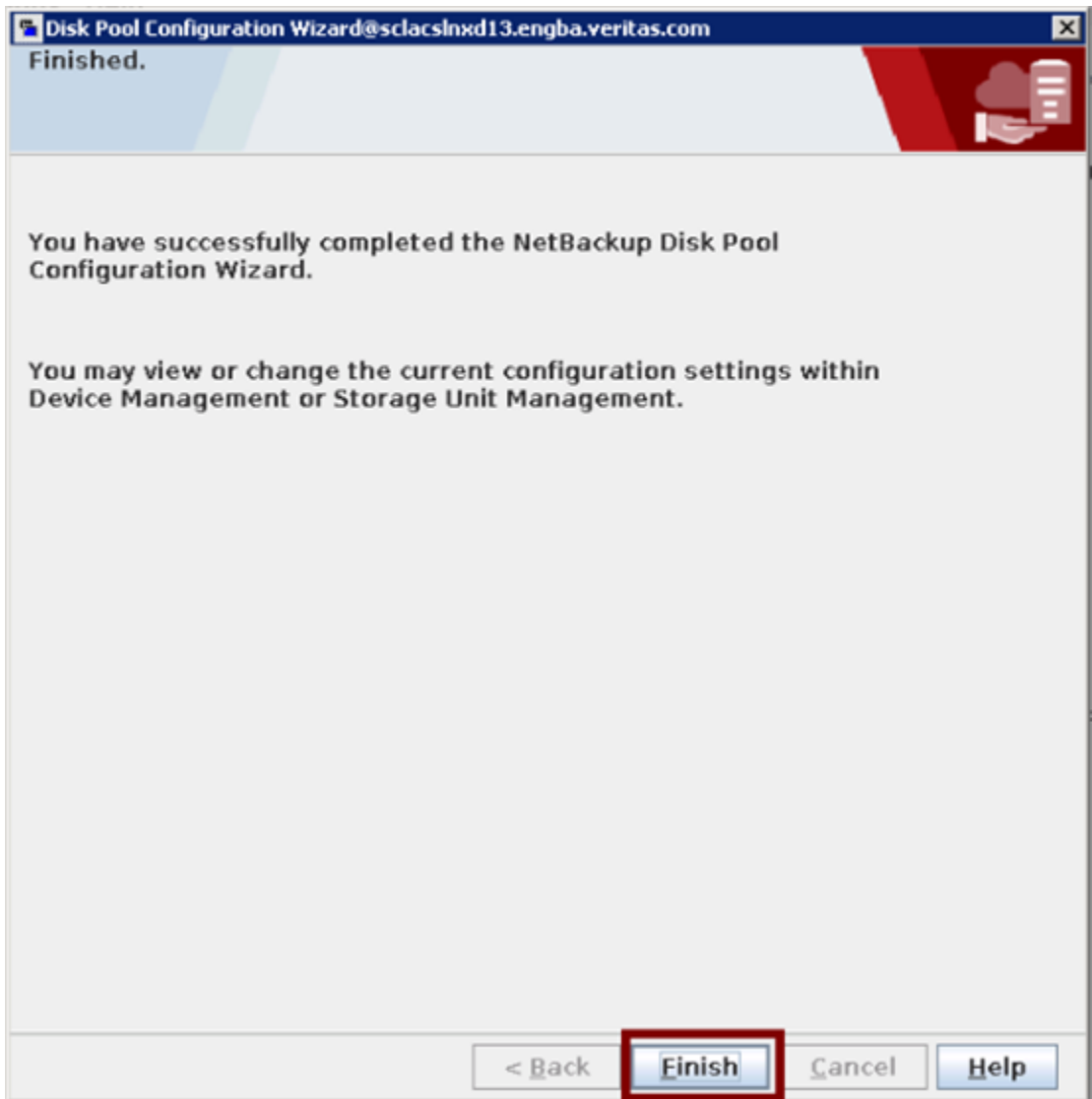
The **Media Server** section contains two radio button options:

- ☐ Use any available media server to transport data
- ☒ Only use the selected media servers: (This option and its associated list are highlighted with a red box.)

Below the selected option is a list box titled 'Media Servers' containing one entry: ☒ sclacslnxd13.engba.veritas.com.

At the bottom of the window, there are four buttons: '< Back', 'Next >' (highlighted with a red box), 'Cancel', and 'Help'.

- 20 Verify that the disk pool creation wizard is completed successfully. Click **Finish**.



Configuring Veritas Access SSL with NetBackup

To configure Veritas Access SSL with NetBackup

- 1 Enable SSL on Veritas Access.

```
Objectaccess > set ssl_enabled yes
```

```
Objectaccess > server stop
```

```
Objectaccess > server start
```


- 2 Go to the bash prompt of the cluster node and copy the following content from the `/shared/ptgwy/cacert.pem` file and append it to the `/usr/openv/netbackup/db/cloud/cacert.pem` on the NetBackup master and media servers.

```
-----BEGIN CERTIFICATE-----
```

```
MIIDjTCCAnWgAwIBAgIJANFjUuMEDS0LRMA0GCSqGSIb3DQEBCwUAMF0xCzAJBgNV
BAYTA1VTMRMwEQYDVQQIDApDYWxpZm9ybmlhMRAwDgYDVQQKDAdWZXJpdGFzM08w
DQYDVQQQLDAZBY2Nlc3MxMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEw
MTAwODAxWhcNMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEw
Q2FsaWZvcm5pYTEQMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEwMjEw
FAYDVQQDDA1zMy5uYnU4NzItYXBwMIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIB
CgKCAQEAl+Xkh9Buzz2KRYsoBbKxOExq2fRDhfTb1lp1leimN/1cryvMkguEFkFk
kjuTsi3lnuj0Sc5/Fimzfnc1XyvI9uWAB07wdxwjKFB1g0GvxSa/obQ/SMG8fEHL
qYl/baJKPoz7xvg+QJd/3A1ZJqLvA1i7DEErVuUyNrtjxKnPNIKzzRhBg9M5+HPp
b4ZOXUnFWU9w4Ci1JBvYTBQ5X2wtGx9cLtHb9ff9XTv2SqWUuRoGDC2DYlgo8j2n
AsTWzk+mJw12wRcE00FoB1YhOCNJ1Xkl4n4VSKbTUdCMkm6Ej5Yf+AIAbLiQNfGv
Sralc5TFMHjUUg5dgbPizCLTmuQz8QIDAQAB01AwTjAdBgNVHQ4EFgQUgBpm7gK1
q/M/3+Y0st8m2EMzulgwHwYDVR0jBBgwFoAUgBpm7gK1q/M/3+Y0st8m2EMzulgw
DAYDVR0TBAAUwAwEB/zANBgkqhkiG9w0BAQsFAAOCAQEAcw4QIFxIuJMY/6BGBVAA
dnrRG11+hcZHfbQVeDV9ApijEe/qiIx8QLL9fDx8MqsdIIHcgfuv5mzAQZwa+tH
7USIqBxfEYtnKBuAYbYyOfXKJDUIAaWFjcM0rOP1z+Dv6zf7B65Mv3aKD1rENFT
UgPBphLACAU9CzLidJkoE3izOaZbiys/r24yRR8X/Pugsxy7VESN6WSqzYg0jdSf
iCJkGLEdOYceE85NhW8eaCsfcqCkxoskTgu1Nnf4j01MYP5d+4U8uAEC/uLrndD3Rn
```

```
n7MB0EeciPgqWZQWNLjyQNNZ/F58wlyTtHv48VMlZXhIJBhjUwFZAEAg43R5n67o
```

```
Pw==
```

```
-----END CERTIFICATE-----
```

- 3** Restart the NetBackup services on both the master and media server.

```
# bp.kill_all  
# bp.start_all
```

- 4** Configure the cloud storage server with SSL.

Configuring backup and restore using NetBackup policies

This chapter includes the following topics:

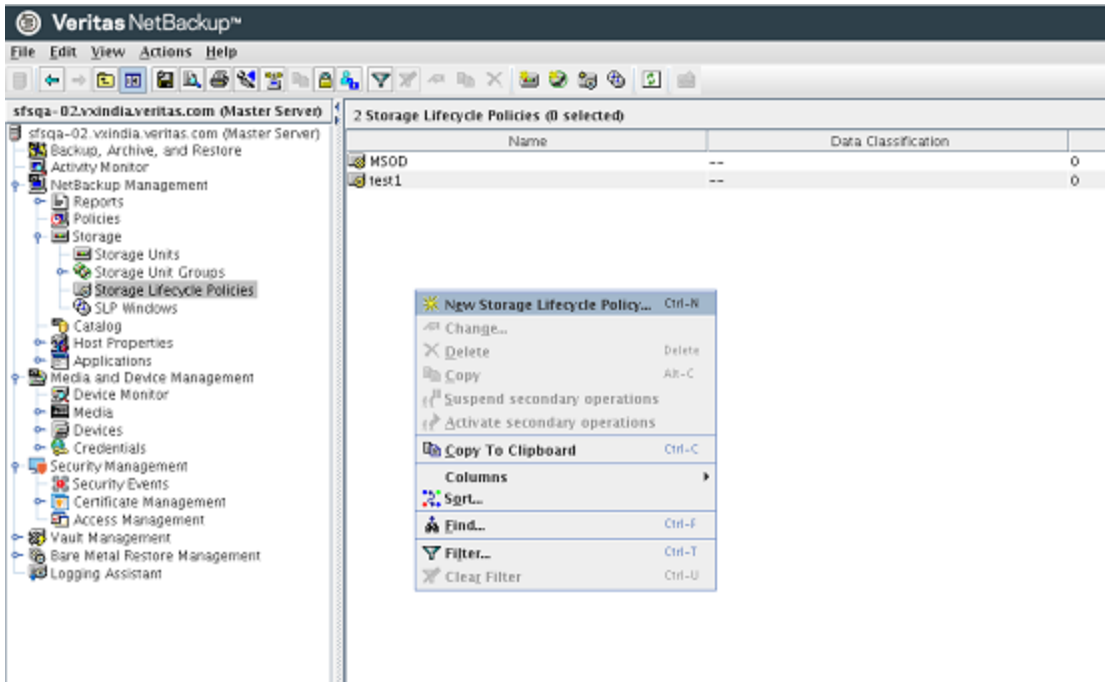
- [Storage Lifecycle Policies](#)
- [Backup and restore](#)
- [Running a backup policy manually](#)
- [Restoring backed up files](#)

Storage Lifecycle Policies

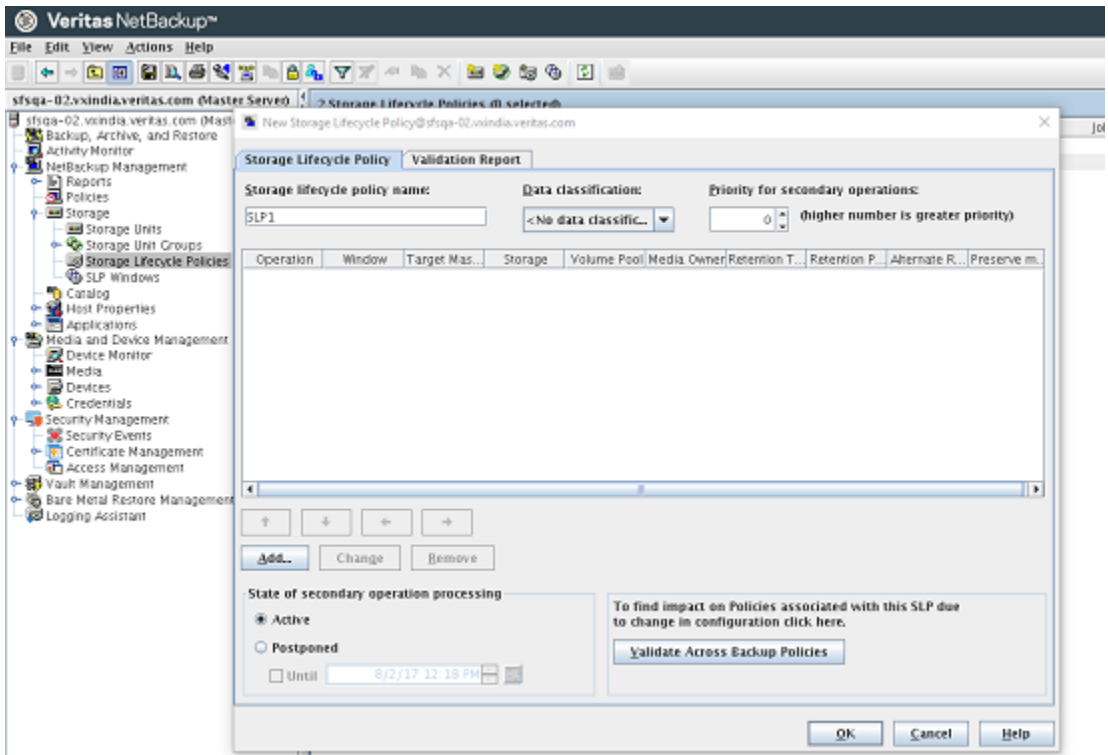
You can create Storage Lifecycle Policies (SLP).

To create Storage Lifecycle Policies

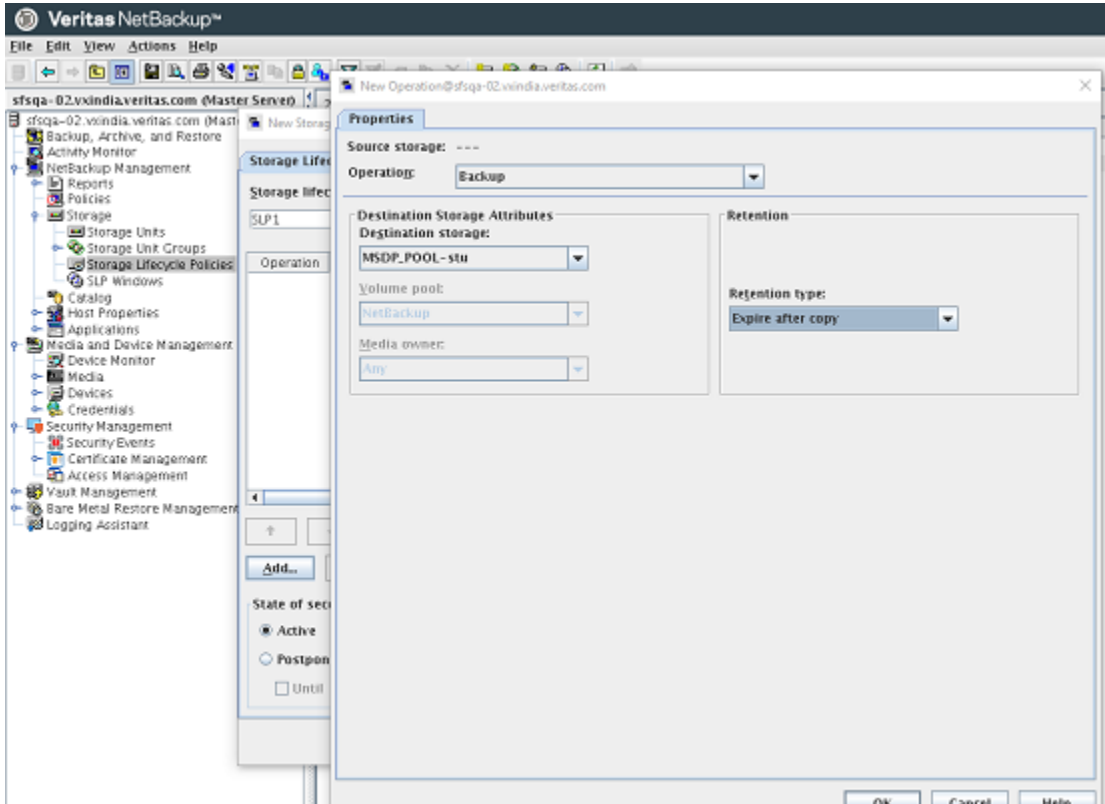
- 1 Click **Storage -> Storage Lifecycle Policies** on the NetBackup console. Select **New Storage Lifecycle Policy**.



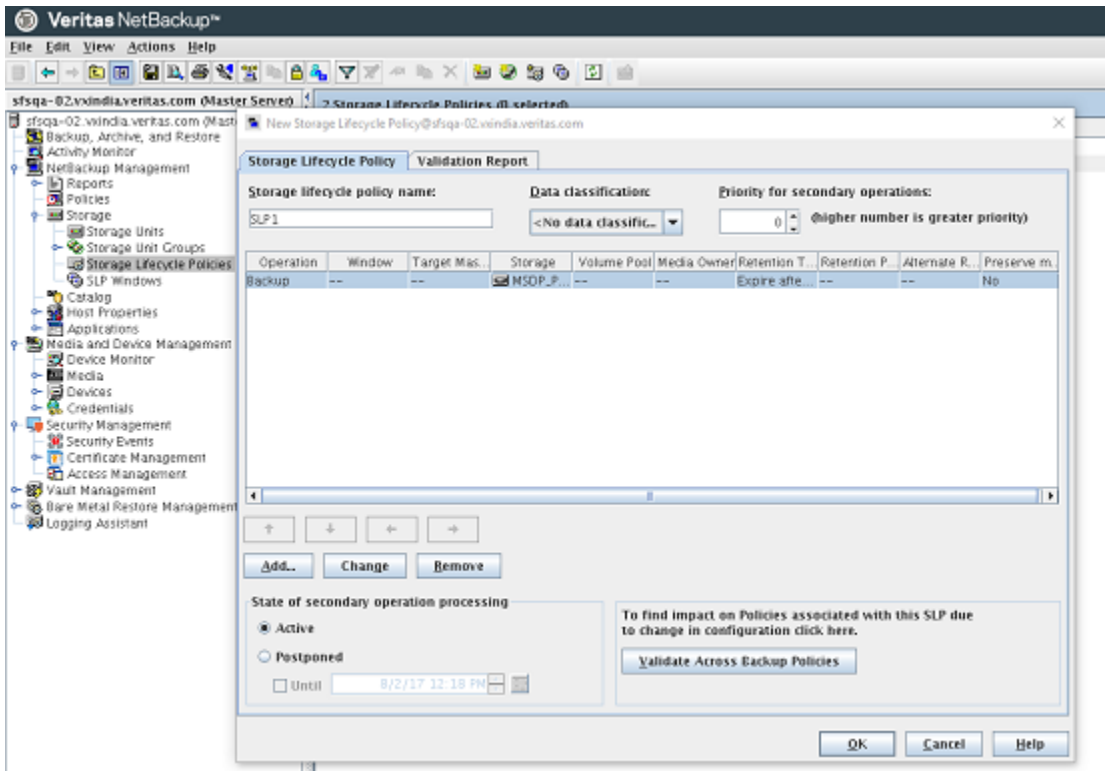
- 2 Enter a unique policy name for the policy. Click on the **Add** button.



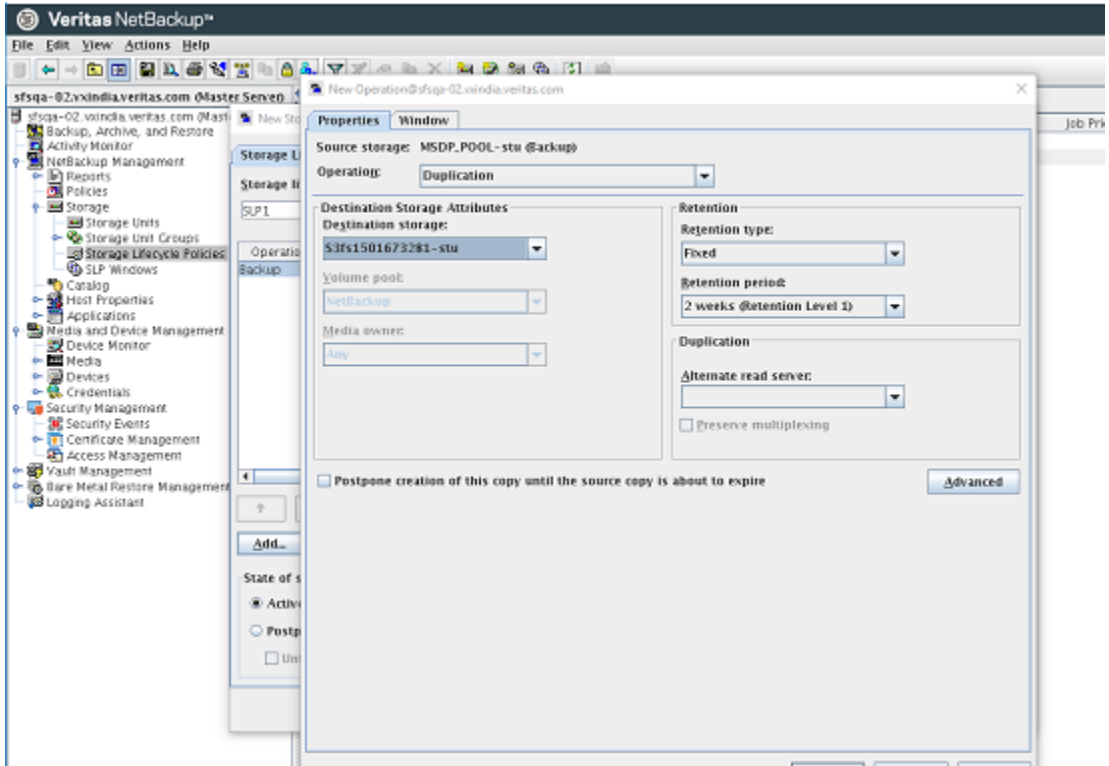
- 3 Select **Operation as Backup**, and set the destination pool to the MSDP pool that was created. Choose the **Retention type** based on your requirement.



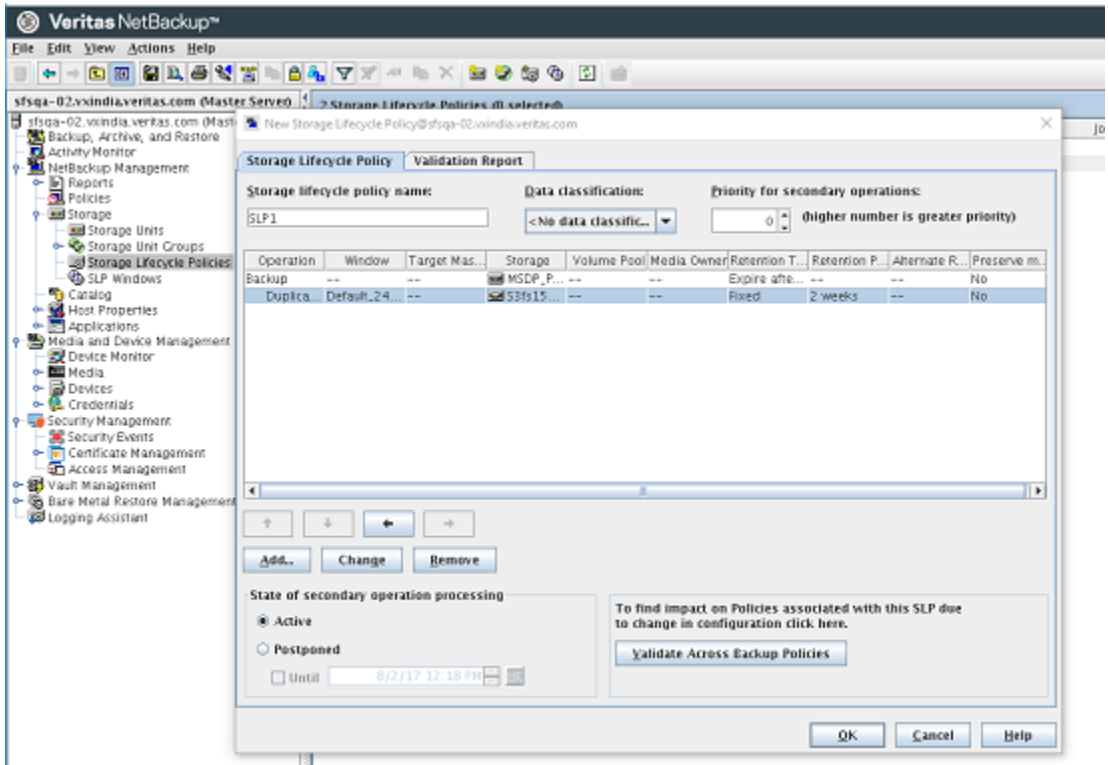
- 4 A new entry for Backup gets added. Click on the **Add** button again.



- 5 Select **Operation** as **Deduplication** and set the destination tier to the OST storage unit that was created. Choose the **Retention type** based on your requirement.



- 6 Both entries for SLP appear in the **Storage Lifecycle Policy** tab. The first operation is for Backup and the second operation is for Duplication.



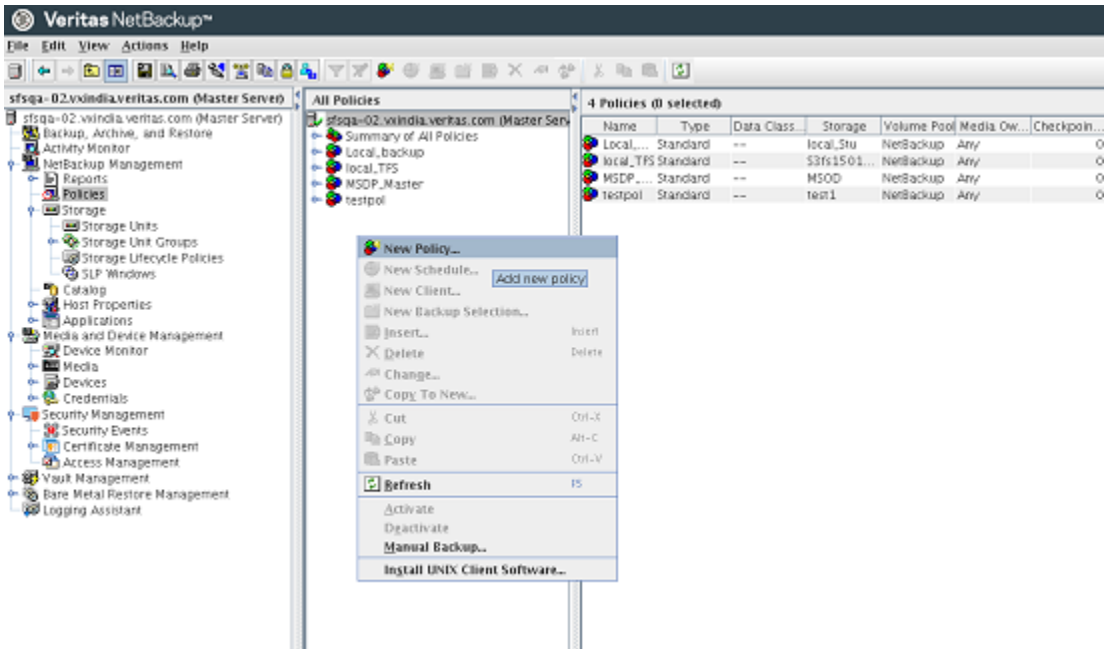
Backup and restore

After you complete the configurations, perform the following steps for backup and restore.

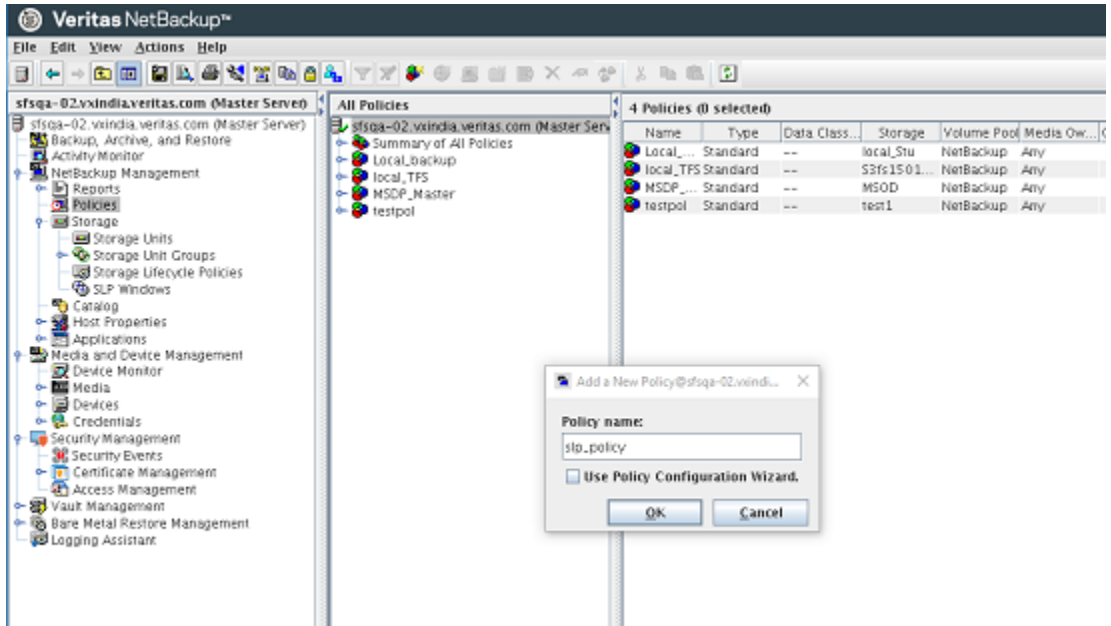
Policy creation

To create policies

- 1 Right-click on **Policies** within the NetBackup console and click on **New Policy**.



- 2 Provide the following information for policy creation.
 - Policy name
 - From the **Attributes** tab, select the appropriate storage unit under **Policy storage**.

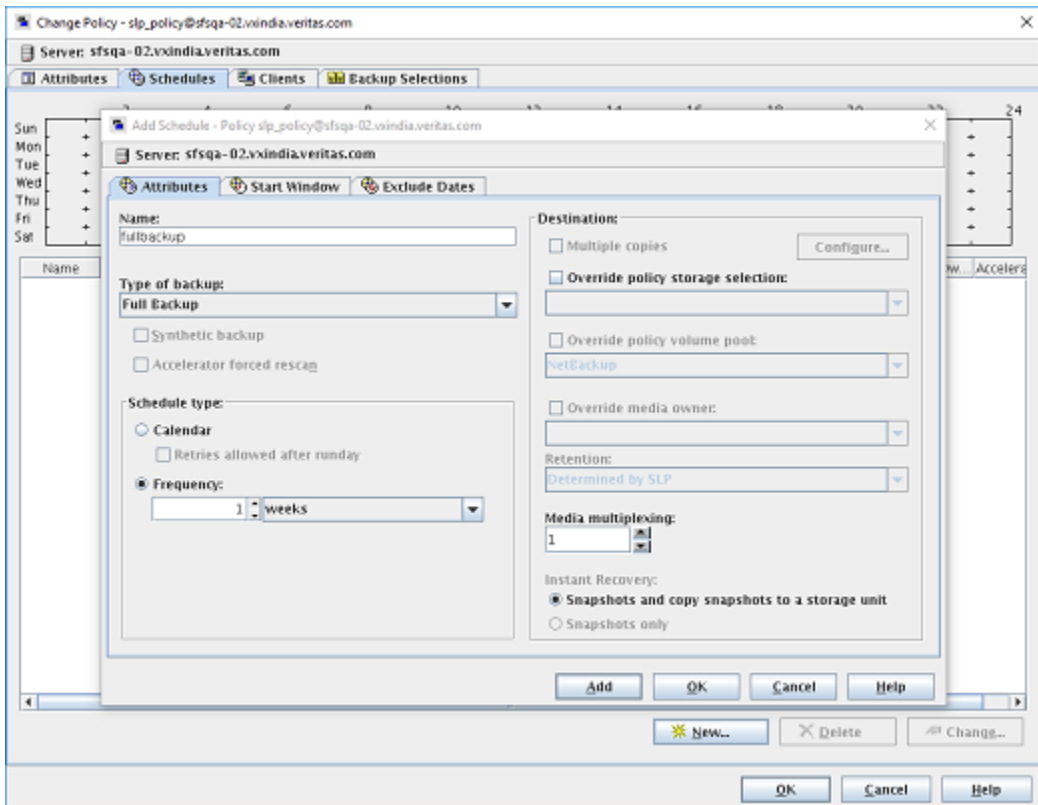


- 3 Under **Policy storage**, enter the name of the **Storage Lifecycle Policy** that was created.

See “Storage Lifecycle Policies” on page 43.

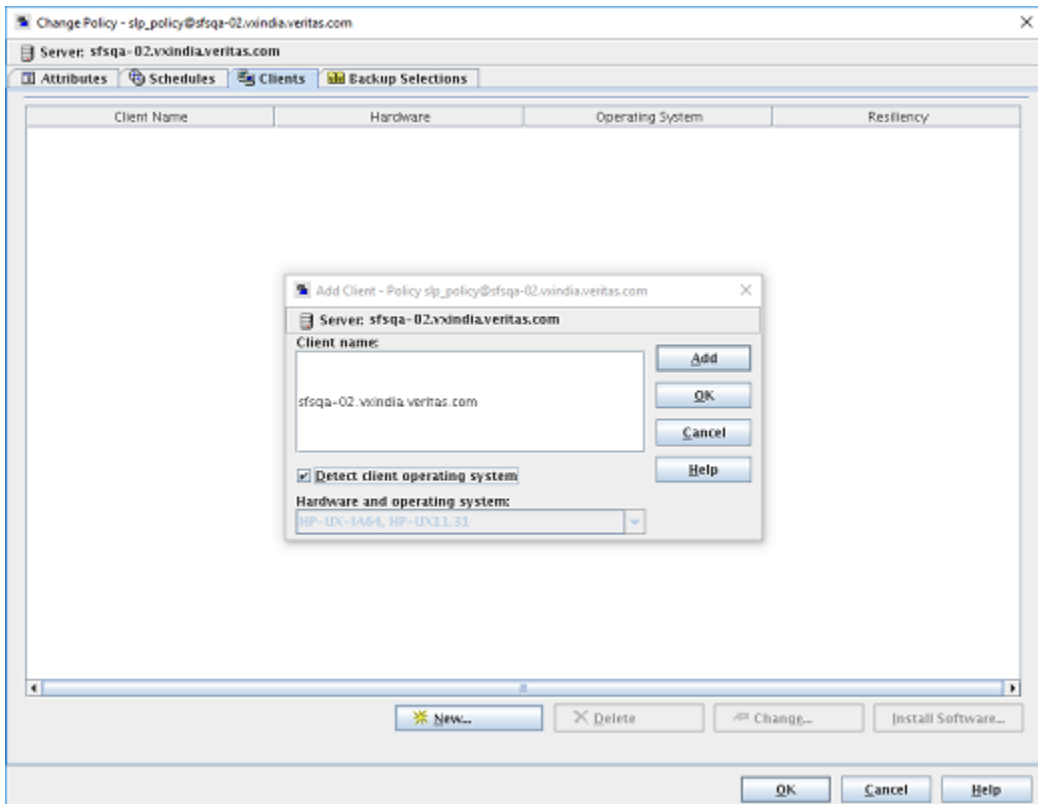
The screenshot shows the 'Change Policy' window for the policy 'slp_policy@sfsqa-02.vxindia.veritas.com'. The 'Policy storage' dropdown menu is open, displaying a list of storage options. The 'SLP1' option, which is associated with a 'Storage Lifecycle Policy', is currently selected. Other visible options include 'MSDP_POOL-stu', 'S3fs1501507821-stu', 'S3fs1501594206-stu', 'S3fs1501673281-stu', and 'MSOD (Storage Lifecycle Policy)'. The window also shows various other configuration settings such as 'Policy type' (Standard), 'Destination' (Data classification), 'Take checkpoints every', 'Job priority', 'Media Owner', and 'Snapshot Client and Replication Director' options.

- 4 Enter the attribute information as per your requirement.

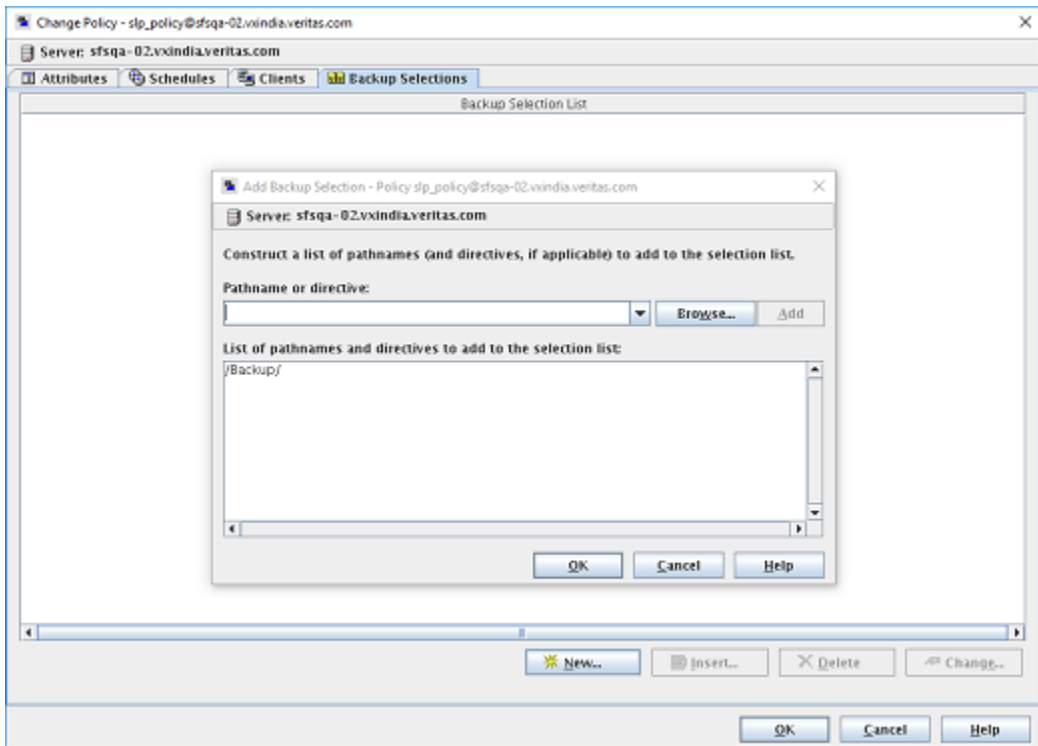


- 5 Under the **Schedule** tab, enter the name of the schedule. For example, **fullbackup**.

6 Enter the client information under the **Clients** tab.



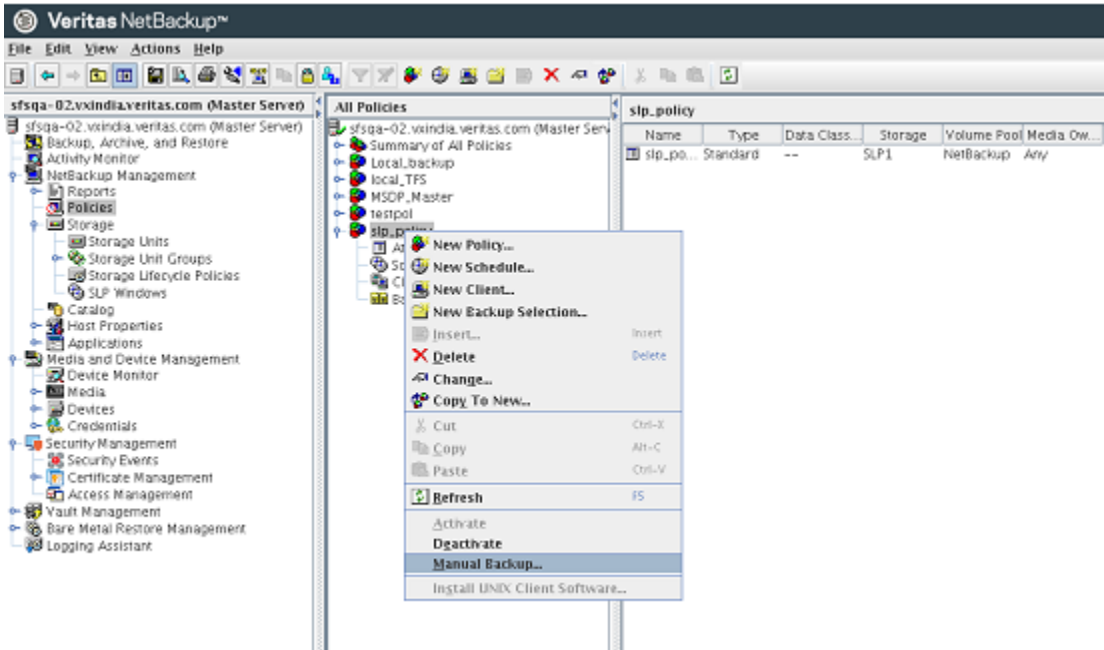
7 Select the folders that need to be backed up under **Backup Selections**.



Running a backup policy manually

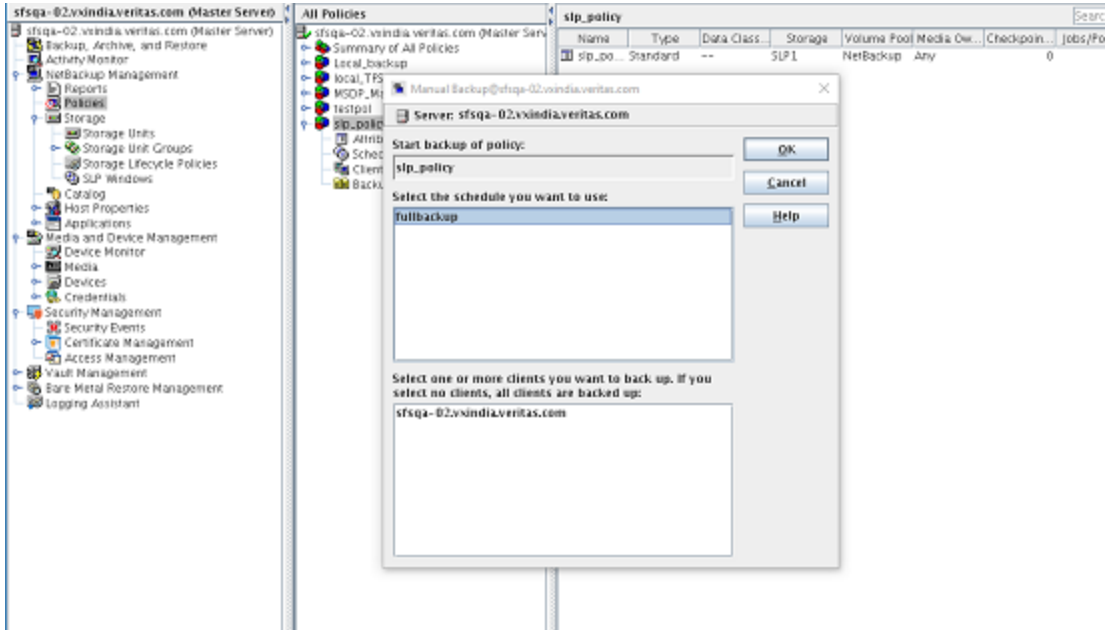
To run a backup policy manually

- 1 Once the policy is created, right-click on the name of the policy that you want to run under **Summary of All Policies**, and click on **Manual Backup**.



- 2 Select the schedule that you want to use and click **OK**.

This starts the manual backup with the policy.



3 To verify the status of the backup, go to **Activity Monitor**.

The screenshot shows the Veritas NetBackup Activity Monitor window. The left sidebar displays a tree view of the NetBackup hierarchy, with 'Activity Monitor' selected. The main pane shows a table of 28 jobs. The table has columns for Job ID, Type, State, State Details, Status, Job Policy, Job Sched., Client, Media Ser., Start Time, Elapsed Ti., and End Time. The jobs are listed in descending order of Job ID, starting from 28 (Backup) and ending with 1 (Image Cleanup). Most jobs are in a 'Done' state, while job 28 is 'Active'.

Job ID	Type	State	State Details	Status	Job Policy	Job Sched.	Client	Media Ser.	Start Time	Elapsed Ti.	End Time
28	Backup	Active		0	slp_policy	FullBackup	sfsqa-02...	sfsqa-02...	Aug 2, 20...	00:00:29	Aug 2, 20...
27	Restore	Done		0			sfsqa-02...	sfsqa-02...	Aug 2, 20...	01:52:44	Aug 2, 20...
26	Image Cleanup	Done		1			sfsqa-02...	sfsqa-02...	Aug 2, 20...	00:10:00	Aug 2, 20...
25	Image Cleanup	Done		0			sfsqa-02...	sfsqa-02...	Aug 1, 20...	00:00:02	Aug 1, 20...
24	Image Cleanup	Done		1			sfsqa-02...	sfsqa-02...	Aug 1, 20...	00:30:01	Aug 1, 20...
23	Duplication	Done		0 SUP_Nest1	Default_2...		sfsqa-02...	sfsqa-02...	Aug 1, 20...	01:42:52	Aug 1, 20...
22	Image Cleanup	Done		1			sfsqa-02...	sfsqa-02...	Aug 1, 20...	00:30:01	Aug 1, 20...
21	Backup	Done		0 testpol	Full		sfsqa-02...	sfsqa-02...	Aug 1, 20...	00:13:15	Aug 1, 20...
20	Image Cleanup	Done		1			sfsqa-02...	sfsqa-02...	Aug 1, 20...	00:30:00	Aug 1, 20...
19	Restore	Done		0			sfsqa-02...	sfsqa-02...	Aug 1, 20...	01:53:19	Aug 1, 20...
18	Image Cleanup	Done		0			sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:04	Jul 31, 20...
17	Image Cleanup	Done		1			sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:30:00	Jul 31, 20...
16	Duplication	Done		0 SUP_MS00	Default_2...		sfsqa-02...	sfsqa-02...	Jul 31, 20...	01:42:56	Jul 31, 20...
15	Image Cleanup	Done		1			sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:30:01	Jul 31, 20...
14	Backup	Done		0 MSOP_Ma...	Full		sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:13:12	Jul 31, 20...
13	Restore	Done		0			sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:08	Jul 31, 20...
12	Restore	Done		0			sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:07	Jul 31, 20...
11	Image Cleanup	Done		0			sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:01	Jul 31, 20...
10	Duplication	Done		0 SUP_MS00	Default_2...		sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:18	Jul 31, 20...
9	Backup	Done		0 MSOP_Ma...	Full		sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:03:07	Jul 31, 20...
8	Image Cleanup	Done		0			sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:00	Jul 31, 20...
7	Backup	Done		0 local_TFS	Full_Sch		sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:18	Jul 31, 20...
6	Image Cleanup	Done		0			sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:02	Jul 31, 20...
5	Image Cleanup	Done		1			sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:01	Jul 31, 20...
4	Backup	Done		0 Local_bac...	Full_Sch		ngsf06pe...	ngsf06pe...	Jul 31, 20...	00:00:10	Jul 31, 20...
3	Backup	Done		0 MSOP_Ma...	Full		sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:08	Jul 31, 20...
2	Backup	Done		150 MSOP_Ma...	Full		sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:13	Jul 31, 20...
1	Image Cleanup	Done		1			sfsqa-02...	sfsqa-02...	Jul 31, 20...	00:00:01	Jul 31, 20...

- 4 Select the appropriate job from the displayed jobs and click on the **Detailed status** tab in the new window to check on the status of the backup.

The screenshot shows the 'Job Details' window for a backup job. The window title is 'Job Details: 28@sfsqa-02.vxindia.veritas.com'. The 'Job ID' is 28 and the 'Job State' is 'Done (Successful)'. The 'Detailed Status' tab is selected, showing a log of the backup process. The log includes timestamps and details about the backup attempt, including the start time (Aug 2, 2017 12:34:14 PM), attempt elapsed time (00:13:32), attempt end time (Aug 2, 2017 12:47:46 PM), and KB/Sec (102529). The log also shows the backup process starting, writing data, and completing successfully. At the bottom, the 'Percent Complete' is 100%, and there are buttons for 'Troubleshooter...', 'Refresh', 'Close', and 'Help'.

Job ID: 28 Job State: Done (Successful)

Job Overview Detailed Status Job Hierarchy

Attempt: 1 Attempt Started: Aug 2, 2017 12:34:14 PM
 Job PID: 31260 Attempt Elapsed: 00:13:32
 Storage Unit: MSDP_POOL-stu Attempt Ended: Aug 2, 2017 12:47:46 PM
 Media Server: sfsqa-02.vxindia.veritas.com KB/Sec: 102529
 Transport Type: LAN

Status:

```

Aug 2, 2017 12:34:15 PM - Info bptm (pid=31279) start
Aug 2, 2017 12:34:15 PM - Info bptm (pid=31279) using 262144 data buffer size
Aug 2, 2017 12:34:15 PM - Info bptm (pid=31279) using 30 data buffers
Aug 2, 2017 12:34:15 PM - Info bptm (pid=31279) start backup
Aug 2, 2017 12:34:18 PM - begin writing
Aug 2, 2017 12:44:43 PM - Info bpbkar (pid=31270) bpbkar waited 519 times for empty buffer, delayed 133777 times
Aug 2, 2017 12:44:43 PM - Info bptm (pid=31279) waited for full buffer 16196 times, delayed 22006 times
Aug 2, 2017 12:44:48 PM - Info bptm (pid=31279) EXTING with status 0 <-----
Aug 2, 2017 12:44:48 PM - Info sfsqa-02.vxindia.veritas.com (pid=31279) StorageServer=PureDisk:sfsqa-02.vxindia.veritas.com; Report=PD00 S
Aug 2, 2017 12:47:44 PM - Info bpbkm (pid=31260) validating image for client sfsqa-02.vxindia.veritas.com
Aug 2, 2017 12:47:44 PM - Info bpbkar (pid=31270) done. status: 0: the requested operation was successfully completed
Aug 2, 2017 12:47:44 PM - end writing; write time: 0:13:26
the requested operation was successfully completed (0)
  
```

Current Kilobytes Written: 63268768 Estimated Kilobytes: 0
 Current Files Written: 25 Estimated Files: 0
 Current File:

Troubleshooter...

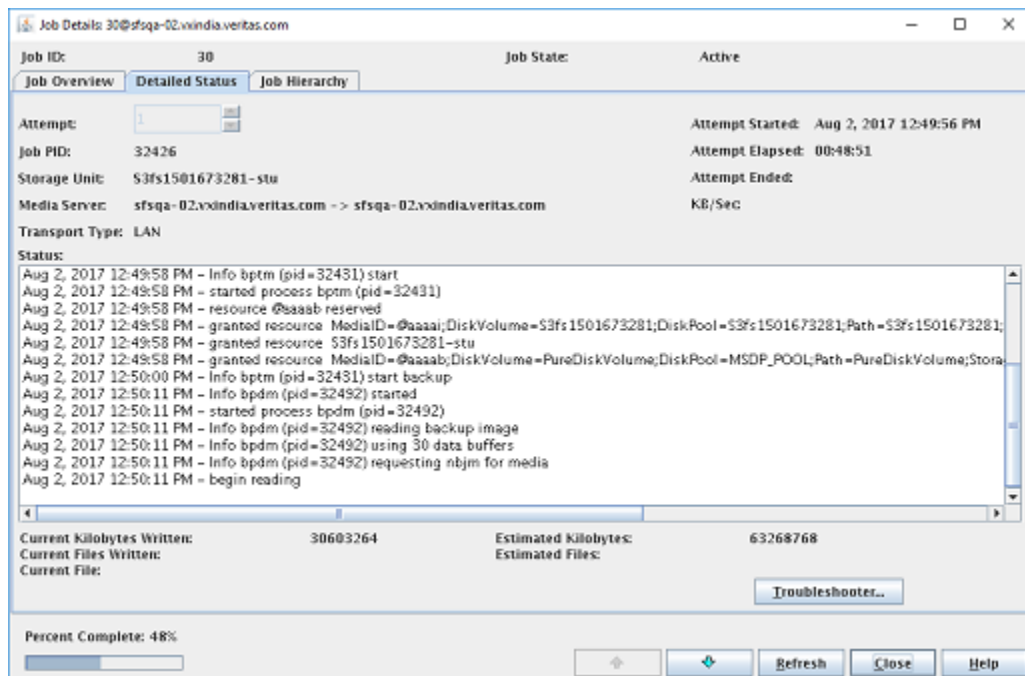
Percent Complete: 100%

Refresh Close Help

- Once the above backup job is complete, a new duplication job is automatically triggered.

Job ID	Type	State	State Details	Status	Job Policy	Job Sched.	Client	Media Ser...	Start Time	Elapsed TL	End Time	Storage
30	Duplication	Active			SUP_SUP1	Default_2...	sfsga-02...	sfsga-02...	Aug 2, 20...	00:48:01		S3fs1
29	Image Cleanup	Done		1					Aug 2, 20...	00:30:02	Aug 2, 20...	
28	Backup	Done		0	sup_policy	fullbackup	sfsga-02...	sfsga-02...	Aug 2, 20...	00:12:32	Aug 2, 20...	MSDP
27	Restore	Done		0			sfsga-02...	sfsga-02...	Aug 2, 20...	01:52:44	Aug 2, 20...	
26	Image Cleanup	Done		1					Aug 2, 20...	00:30:00	Aug 2, 20...	
25	Image Cleanup	Done		0					Aug 1, 20...	00:00:02	Aug 1, 20...	
24	Image Cleanup	Done		1					Aug 1, 20...	00:30:01	Aug 1, 20...	
23	Duplication	Done		0	SUP_test1	Default_2...	sfsga-02...	sfsga-02...	Aug 1, 20...	01:42:52	Aug 1, 20...	S3fs1
22	Image Cleanup	Done		1					Aug 1, 20...	00:30:01	Aug 1, 20...	
21	Backup	Done		0	testpol	full	sfsga-02...	sfsga-02...	Aug 1, 20...	00:12:15	Aug 1, 20...	MSDP
20	Image Cleanup	Done		1					Aug 1, 20...	00:30:00	Aug 1, 20...	
19	Restore	Done		0			sfsga-02...	sfsga-02...	Aug 1, 20...	01:53:19	Aug 1, 20...	
18	Image Cleanup	Done		0					Jul 31, 20...	00:00:04	Jul 31, 20...	
17	Image Cleanup	Done		1					Jul 31, 20...	00:30:00	Jul 31, 20...	
16	Duplication	Done		0	SUP_MSOD	Default_2...	sfsga-02...	sfsga-02...	Jul 31, 20...	01:42:56	Jul 31, 20...	S3fs1
15	Image Cleanup	Done		1					Jul 31, 20...	00:30:01	Jul 31, 20...	
14	Backup	Done		0	MSDP_Ma...	full	sfsga-02...	sfsga-02...	Jul 31, 20...	00:12:12	Jul 31, 20...	MSDP
13	Restore	Done		0			sfsga-02...	sfsga-02...	Jul 31, 20...	00:00:08	Jul 31, 20...	
12	Restore	Done		0			sfsga-02...	sfsga-02...	Jul 31, 20...	00:00:07	Jul 31, 20...	
11	Image Cleanup	Done		0					Jul 31, 20...	00:00:01	Jul 31, 20...	
10	Duplication	Done		0	SUP_MSOD	Default_2...	sfsga-02...	sfsga-02...	Jul 31, 20...	00:00:18	Jul 31, 20...	S3fs1
9	Backup	Done		0	MSDP_Ma...	full	sfsga-02...	sfsga-02...	Jul 31, 20...	00:02:07	Jul 31, 20...	MSDP
8	Image Cleanup	Done		0					Jul 31, 20...	00:00:00	Jul 31, 20...	
7	Backup	Done		0	local_TPS	full_Sch	sfsga-02...	sfsga-02...	Jul 31, 20...	00:00:18	Jul 31, 20...	S3fs1
6	Image Cleanup	Done		0					Jul 31, 20...	00:00:02	Jul 31, 20...	
5	Image Cleanup	Done		1					Jul 31, 20...	00:00:01	Jul 31, 20...	
4	Backup	Done		0	Local_bac...	full_Sch	ngsfdelip...	ngsfdelip...	Jul 31, 20...	00:00:10	Jul 31, 20...	local
3	Backup	Done		0	MSDP_Ma...	full	sfsga-02...	sfsga-02...	Jul 31, 20...	00:00:08	Jul 31, 20...	MSDP
2	Backup	Done		150	MSDP_Ma...	full	sfsga-02...		Jul 31, 20...	00:00:11	Jul 31, 20...	
1	Image Cleanup	Done		1					Jul 31, 20...	00:00:01	Jul 31, 20...	

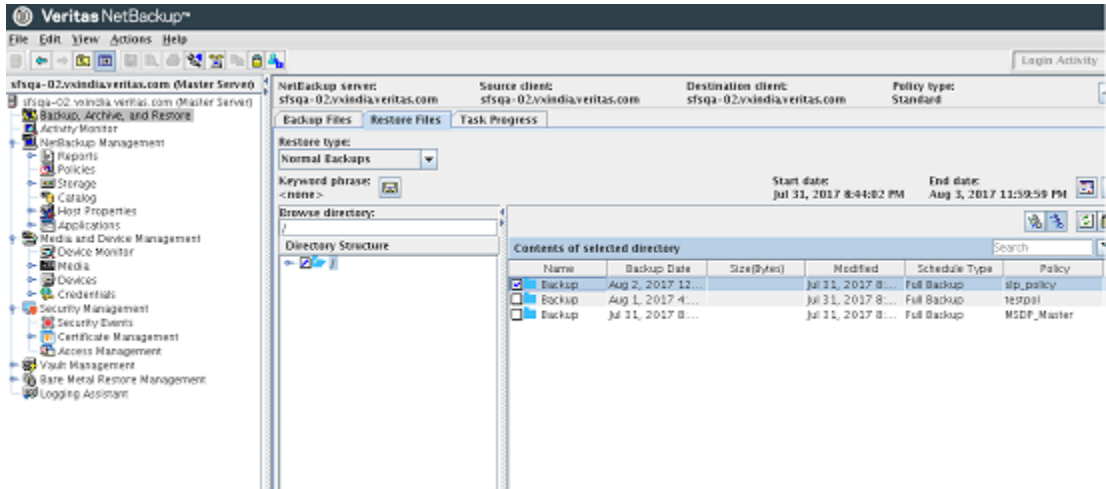
- 6 Click on that job and then select detailed status to check the status of the duplication job.



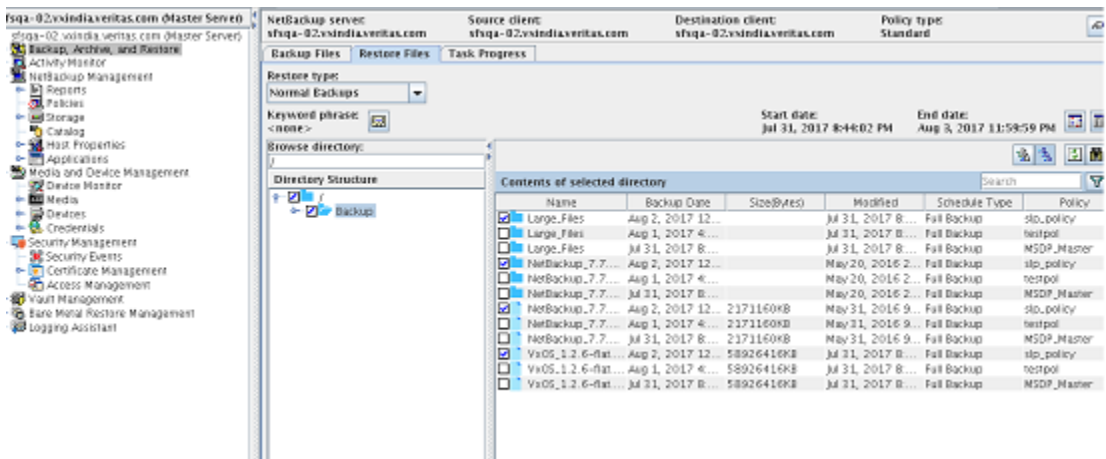
Restoring backed up files

To restore backed up files

- 1 Create a directory where you want to restore the backed-up files.
- 2 Go to the **Restore Files** tab under **Backup, Archive, Restore**.



- 3 Go to the browse directory and select the appropriate files to restore and click **Restore**. The backup to be restored can reside either on NetBackup or on Veritas Access depending on the **Storage Lifecycle Policy** that is set. Hence, the restore location changes accordingly.



- 4 Enter the location where the files should be restored, and click on the **Start Restore** button.

Restore Marked Files@sfsga-02.vxindia.veritas.com

General

Destination

☐ Restore everything to its original location.

☒ Restore everything to a different location (maintaining existing structure).

Destination:

/Restore/

☐ Restore individual directories and files to different locations.

Source	Destination	Backup Date	Modified
/Backup/		Aug 2, 2017 12:34:14 PM	Jul 31, 2017 8:23:31 PM

Change Selected Destination(s)...

Change All Destinations...

Add Destination...

Remove Selected Destination(s)

☐ Create and restore to a new virtual hard disk file.

Setting

Options

☐ Overwrite existing files

☐ Restore directories without crossing mount points

☐ Restore without access-control attributes (Windows clients only)

☒ Rename hard links

☒ Rename soft links

☐ Force rollback even if it destroys later snapshots

Media Server

(Default)

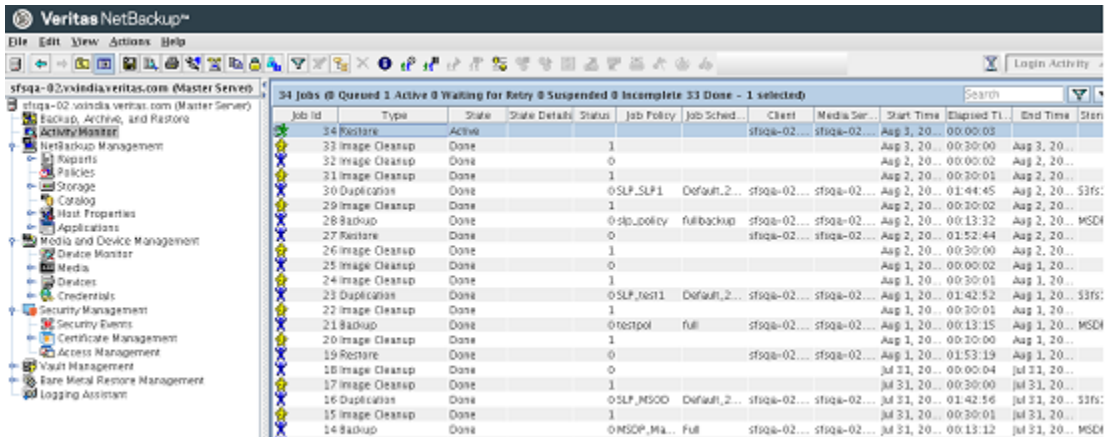
☒ Override default priority

Job Priority: 90000

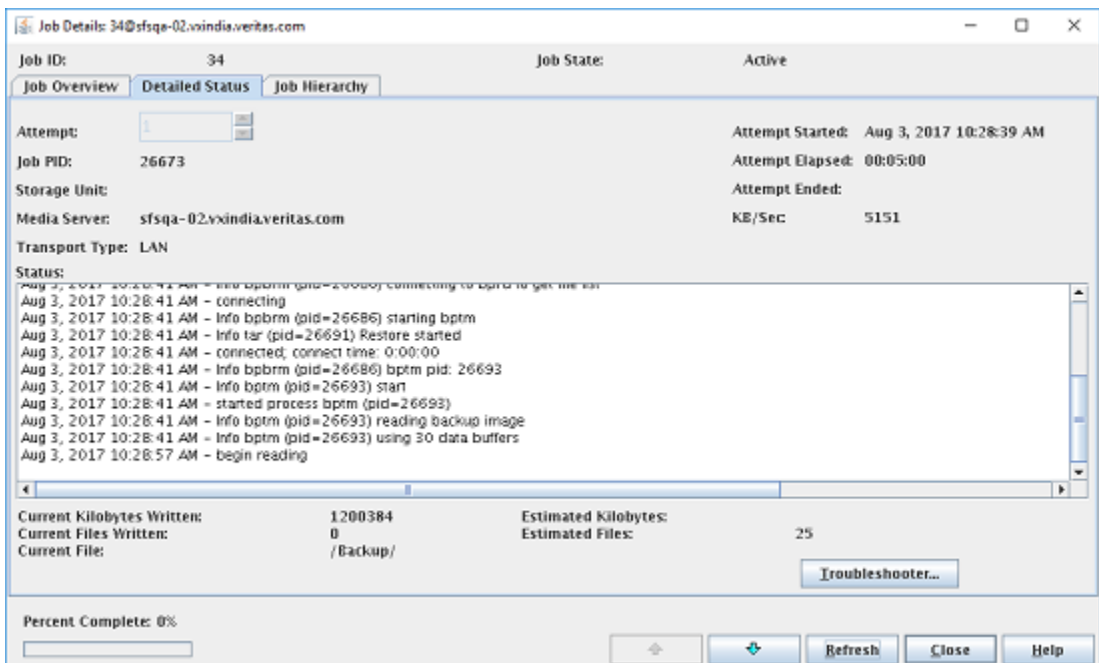
(higher number is greater priority)

Start Restore Cancel

- 5 To view the progress of the restore operation, click **Yes** on the **Restore Initiated** window.



- 6 You can view the progress of the restore operation under the **Detailed Status** tab.



Troubleshooting

This chapter includes the following topics:

- [Unmounting the SDFS volume before restarting Veritas Access or the NetBackup media server](#)
- [Log locations for troubleshooting](#)
- [Additional resources](#)
- [Generating Veritas Access S3 server keys using the helper script](#)

Unmounting the SDFS volume before restarting Veritas Access or the NetBackup media server

Before restarting Veritas Access or the NetBackup media server, create a backup copy of the SDFS volume and unmount the SDFS volume.

To perform a clean unmount of the SDFS volume

- 1 Create a backup copy of the SDFS volume .xml file in the `/etc/sdfs` directory.
- 2 Unmount the SDFS volume and wait for the `jsvc` process to exit before restarting Veritas Access.
- 3 In case of OpenDedup on Veritas Access, use the following command to offline the OpenDedup volume:

```
# openedup vol offline <vol_name>
```

Where `vol_name` is the OpenDepdup volume.

Log locations for troubleshooting

OpenDedup logs

- `/opt/VRTSnas/log/odd.log`
- `/opt/VRTSnas/log/odd-vcs.log`

Veritas Access S3 logs

- `/opt/VRTSnas/log/portald.log`
- `/opt/VRTSnas/log/portald_access.log`

SDFS logs

SDFS creates its logs under

`/var/logs/sdfs/<volume-name>-volume-cfg.xml.log`. Errors can be identified in this log file.

OST plug-in logs

The OpenDedup OST plug-in log can be found in `/tmp/logs/opendedup.log`.

NetBackup logs

Pertinent OST-related errors and logging are trapped in the `bptm` log. NetBackup logging for `bptm` can be enabled by creating the `bptm` logging directory:

```
mkdir /usr/opensv/netbackup/logs/bptm
```

Veritas Access support debug information upload command

```
CLISH> support debuginfo upload path
```

Additional resources

See the following documentation for more information on Veritas Access, OpenDedup, and Veritas NetBackup:

- *Veritas Access Installation Guide* for the supported NetBackup clients and the OpenDedup ports.
- *Veritas Access Troubleshooting Guide* for setting the NetBackup client log levels and debugging options.
- Veritas NetBackup product documentation on the [SORT](#) website.
- OpenDedup product documentation on the [OpenDedup website](#).

Generating Veritas Access S3 server keys using the helper script

Create the access and the secret keys using the Veritas Access helper script in case you do not want to use the Active directory Domain user to create and own the buckets. This is an alternative way to get the Veritas Access S3 server credential keys.

- Location of the helper script:
`/opt/VRTSnas/scripts/utils/objectaccess/objectaccess_client.py`
- The Veritas Access helper script can be used from any client system that has Python installed.
- To run the script, your S3 client needs to have the `argparse` and `requests` Python modules.
If these modules are missing, install both these modules using `pip` or `easy_install`.
- Add the `ADMIN_URL` name in your `/etc/hosts` file.
where the `ADMIN_URL` is `admin.<cluster_name>` and the port is 8144. This url should point to the Veritas Access management console IP address.
- Create the access and the secret key using the Veritas Access helper script by providing the user name, password, and `ADMIN_URL` (check the online Help of the Veritas Access helper script for all of the provided operations like `list key` and `delete key`).

Create a secret key:

```
clus_01:~ # ./objectaccess_client.py --create_key
--server admin.clus:8144 --username localuser1 --password root123
--insecure
UserName                : localuser1
AccessKeyId              : Y2FkODU2NTU2MjVhYzV
Status                   : Active
SecretAccessKey           : ODk0YzQxMDhkMmRjM2M5OTUzNjI5OWIzMdgyNzY
```

The `<localuser1>` is the local user created on both the Veritas Access cluster nodes with same unique ID.

List a secret key for the specified user:

```
clus_01:~ # ./objectaccess_client.py --list_key --server
admin.clus:8144 --username localuser2 --password root123 --insecure
```

Delete a secret key for the specified user:

```
clus_01:~ # ./objectaccess_client.py --delete_key
ZTkyNDdjZTViM2EyMWZ --server admin.clus:8144 --username localuser2
--password root123 --insecure
```

- If the object server is enabled without the `SSL` option, you need to add the `--insecure` option.

```
clus_01 ~# ./objectaccess_client.py --server
admin.clus:8144 --username <uname> --create_key --insecure
```

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