Backup to Cloud

Cloud Manager

NetApp
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Backup to Cloud

Learn about Backup to Cloud

Backup to Cloud is an add-on service for Cloud Volumes ONTAP that delivers backup and restore capabilities for protection, and long-term archive of your cloud data. Backups are stored in an object store in your cloud account, independent of volume Snapshot copies used for near-term recovery or cloning.

Backup to Cloud is powered by the Cloud Backup Service.

You must use Cloud Manager for all backup and restore operations. Any actions taken directly from ONTAP or from your cloud provider results in an unsupported configuration.

Features

- Back up independent copies of your data volumes to low-cost object storage in the cloud.

  Backup data is secured with AES-256 bit encryption at-rest and TLS 1.2 HTTPS connections in-flight.

- Restore data from a specific point in time.
- Restore the data to the source Cloud Volumes ONTAP system or to a different system.

Supported object storage providers

Backup to Cloud is supported with the following types of working environments:

- Cloud Volumes ONTAP in AWS
- Cloud Volumes ONTAP in Azure

Cost

You'll need to pay your cloud provider for object storage costs and NetApp for backup licensing costs. The licensing costs are based on used capacity (before storage efficiencies).

- AWS: A 30-day free trial is available. Go to the Cloud Manager Marketplace offering for pricing details.
- Azure: A 30-day free trial is available. Go to the Cloud Manager Marketplace offering for pricing details.

How Backup to Cloud works

When you enable Backup to Cloud, the service performs a full backup of your data. After the initial backup, all additional backups are incremental, which means that only changed blocks and new blocks are backed up.

Where backups reside

Backup copies are stored in an S3 bucket or Azure Blob container that Cloud Manager creates in your cloud account. The object store is created in the same region where the Cloud Volumes ONTAP system is located. There's one object store per Cloud Volumes ONTAP system.

Cloud Manager names the object store as follows: netapp-backup-*clusteruuid*

Be sure not to delete this object store.

Notes:

- In AWS, Cloud Manager enables the Amazon S3 Block Public Access feature on the S3 bucket.
- In Azure, Cloud Manager creates a new resource group with a storage account for the Blob container.

Supported S3 storage classes

In Amazon S3, backups start in the *Standard* storage class and transition to the *Standard-Infrequent Access* storage class after 30 days.

Supported Azure Blob access tiers

In Azure, each backup is associated with the *cold* access tier.

Backup settings are system wide

When you enable Backup to Cloud, *all* supported volumes on the system are backed up to the cloud.

The schedule and number of backups to retain are defined at the system level. The backup settings affect all volumes on the system.

The schedule is daily, *or* weekly, *or* monthly

You can choose daily, or weekly, or monthly backups of all volumes. A combination of these backup frequency options isn't supported.

Backups are taken at midnight

- Daily backups start just after midnight each day.
- Weekly backups start just after midnight on Sunday mornings.

- Monthly backups start just after midnight on the first of each month.

At this time, you can't schedule backup operations at a user specified time.

Backup copies are associated with your Cloud Central account

Backup copies are associated with the Cloud Central account in which Cloud Manager resides.

If you have multiple Cloud Manager systems in the same Cloud Central account, each Cloud Manager system will display the same list of backups. That includes the backups associated with Cloud Volumes ONTAP instances from other Cloud Manager systems.

Supported volumes

Backup to Cloud supports read-write volumes only.

FlexGroup volumes and data protection volumes aren't supported.

Limitations

- Volumes that you create outside of Cloud Manager aren't automatically backed up.

  For example, if you create a volume from the ONTAP CLI, ONTAP API, or System Manager, then the volume won't be automatically backed up.

  If you want to back up these volumes, you would need to disable Backup to Cloud and then enable it again.

- Backup to Cloud can maintain up to 1,019 total backups of a volume.
- In Azure, if you enable Backup to Cloud when Cloud Volumes ONTAP is deployed, Cloud Manager creates the resource group for you and you cannot change it. If you want to pick your own resource group when enabling Backup to Cloud, **disable** Backup to Cloud when deploying Cloud Volumes ONTAP and then enable Backup to Cloud and choose the resource group from the Backup to Cloud Settings page.
- WORM storage is not supported on a Cloud Volumes ONTAP system when Backup to Cloud is enabled.

Get started

Backing up data to Amazon S3

Complete a few steps to get started backing up data from Cloud Volumes ONTAP to Amazon S3.

Quick start

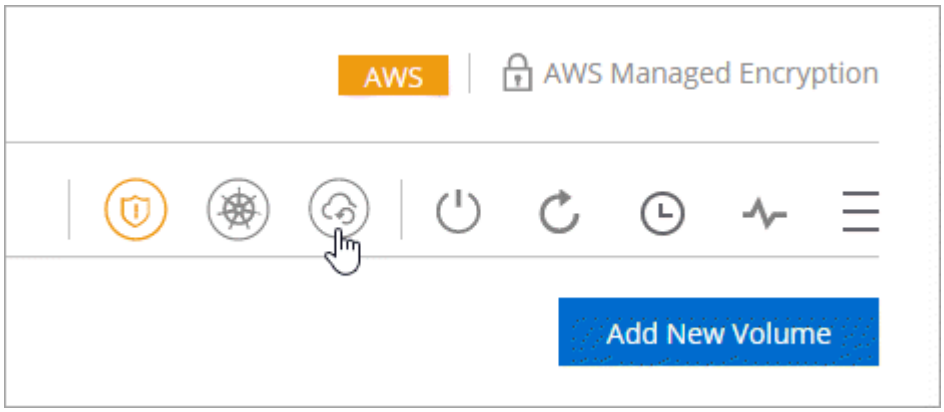
Get started quickly by following these steps or scroll down to the remaining sections for full details.

Verify support for your configuration

- You're running Cloud Volumes ONTAP 9.6 or later in AWS.
- You have subscribed to the new Cloud Manager Marketplace offering.
- The IAM role that provides Cloud Manager with permissions includes S3 permissions from the latest Cloud Manager policy.

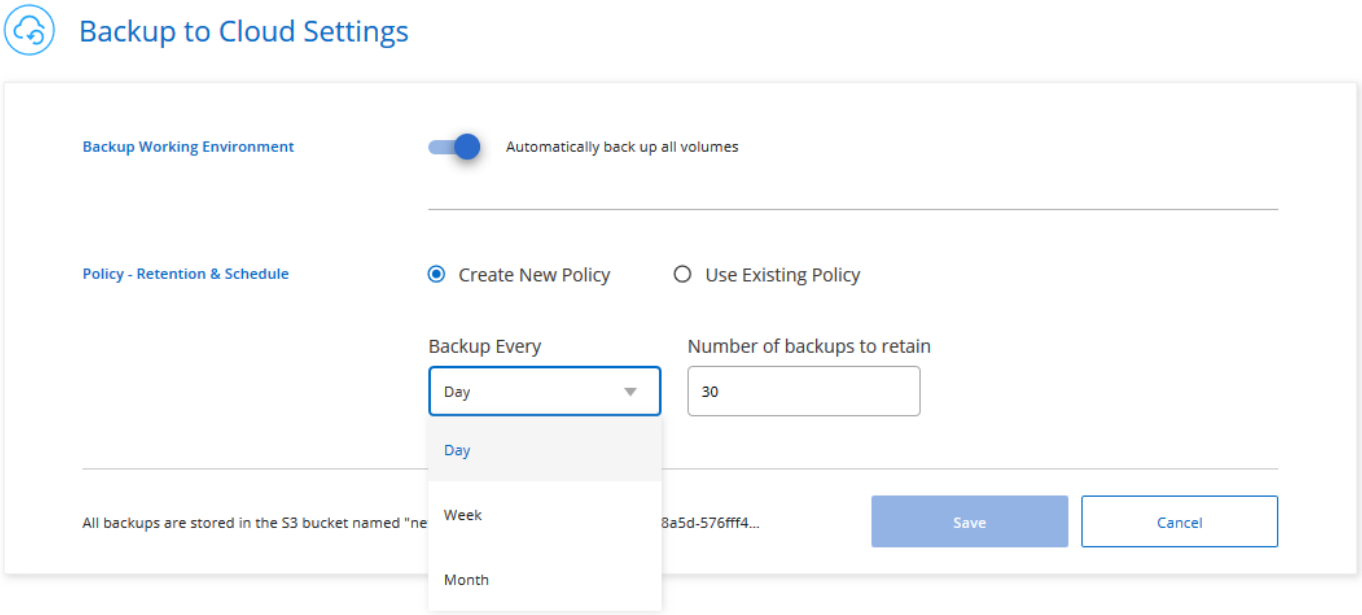
Enable Backup to Cloud on your new or existing system

- New systems: Backup to Cloud is enabled by default in the working environment wizard. Be sure to keep the option enabled.
- Existing systems: Open the working environment, click the backup settings icon and enable backups.



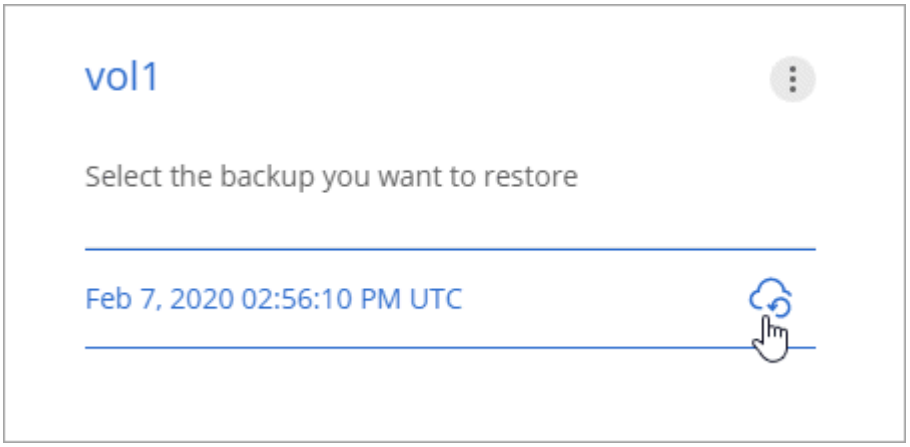
If needed, modify the backup policy

The default policy backs up volumes every day and retains the most recent 30 backup copies of each volume. Change to weekly or monthly backups, or select one of the system-defined policies that provide more options. You can also change the number of backup copies to retain.



Restore your data, as needed

At the top of Cloud Manager, click **Backup**, select a volume, select a backup, and then restore data from the backup to a new volume.



Requirements

Read the following requirements to make sure that you have a supported configuration before you start backing up volumes to S3.

Supported ONTAP versions

Cloud Volumes ONTAP 9.6 and later.

Supported AWS regions

Backup to Cloud is supported in all AWS regions where Cloud Volumes ONTAP is supported.

AWS subscription requirement

Starting with the 3.7.3 release, a new Cloud Manager subscription is available in the AWS Marketplace. This subscription enables deployments of Cloud Volumes ONTAP 9.6 and later (PAYGO) and Backup to Cloud. You need to subscribe to this new Cloud Manager subscription before you enable Backup to Cloud. Billing for Backup to Cloud is done through this subscription.

AWS permissions required

The IAM role that provides Cloud Manager with permissions must include S3 permissions from the latest Cloud Manager policy.

Here are the specific permissions from the policy:

```
{
            "Sid": "backupPolicy",
            "Effect": "Allow",
            "Action": [
                "s3:DeleteBucket",
                "s3:GetLifecycleConfiguration",
                "s3:PutLifecycleConfiguration",
                "s3:PutBucketTagging",
                "s3:ListBucketVersions",
                "s3:GetObject",
                "s3:ListBucket",
                "s3:ListAllMyBuckets",
                "s3:GetBucketTagging",
                "s3:GetBucketLocation",
                "s3:GetBucketPolicyStatus",
                "s3:GetBucketPublicAccessBlock",
                "s3:GetBucketAcl",
                "s3:GetBucketPolicy",
                "s3:PutBucketPublicAccessBlock"
            ],
            "Resource": [
                "arn:aws:s3:::netapp-backup-*"
            ]
        },
```

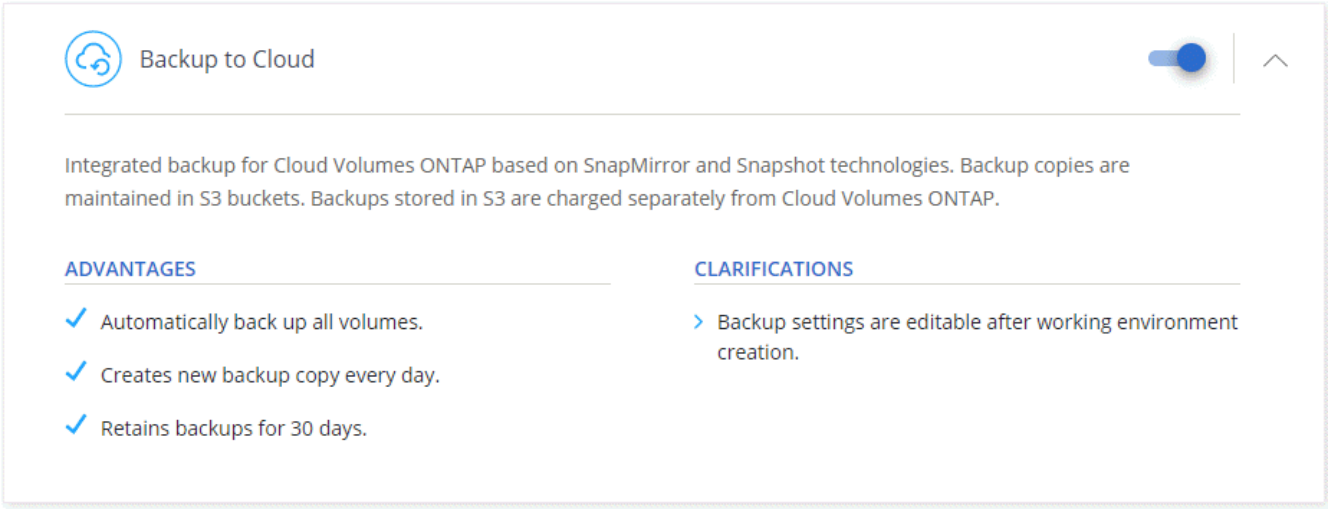
Enabling Backup to Cloud on a new system

Backup to Cloud is enabled by default in the working environment wizard. Be sure to keep the option enabled.

Steps

1. Click **Create Cloud Volumes ONTAP**.
2. Select Amazon Web Services as the cloud provider and then choose a single node or HA system.

3. Fill out the Details & Credentials page.
4. On the Services page, leave the service enabled and click **Continue**.



5. Complete the pages in the wizard to deploy the system.

Result

Backup to Cloud is enabled on the system and backs up volumes every day and retains the most recent 30 backup copies.

What's next?

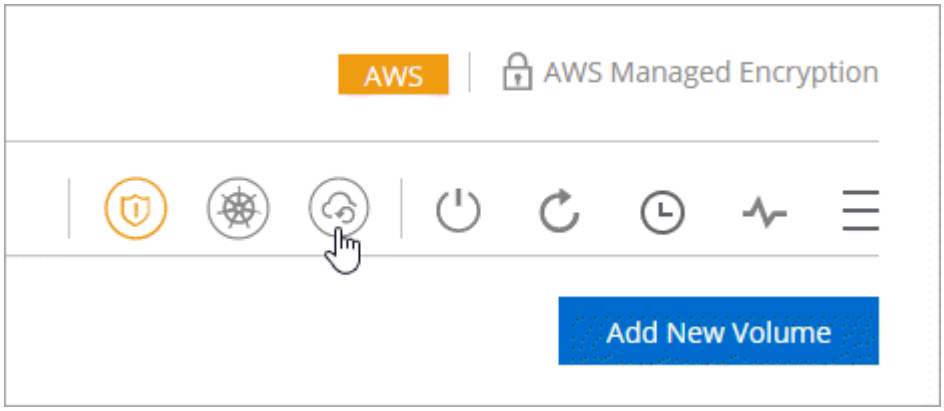
You can manage backups by changing the backup schedule, restoring volumes, and more.

Enabling Backup to Cloud on an existing system

Enable Backup to Cloud at any time directly from the working environment.

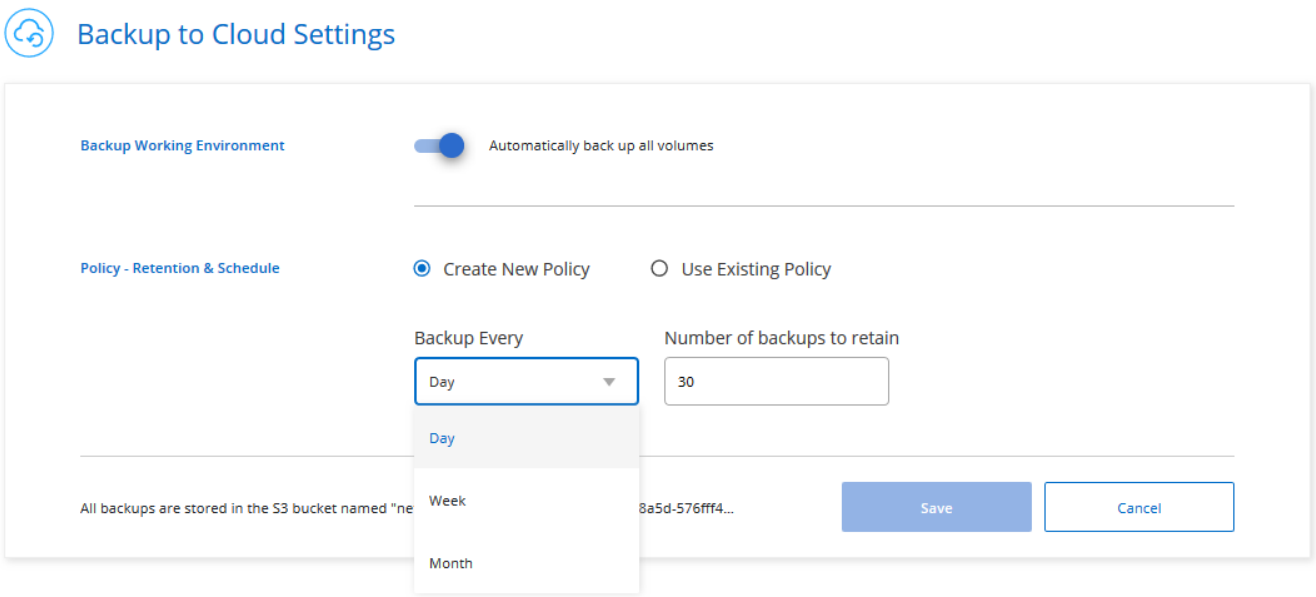
Steps

1. Open the working environment.
2. Click the backup settings icon.



3. Select **Automatically back up all volumes**.

4. Choose your backup schedule and retention value and then click **Save**.



Result

Backup to Cloud starts taking the initial backups of each volume.

What's next?

You can manage backups by changing the backup schedule, restoring volumes, and more.

Backing up data to Azure Blob storage

Complete a few steps to get started backing up data from Cloud Volumes ONTAP to Azure Blob storage.

Quick start

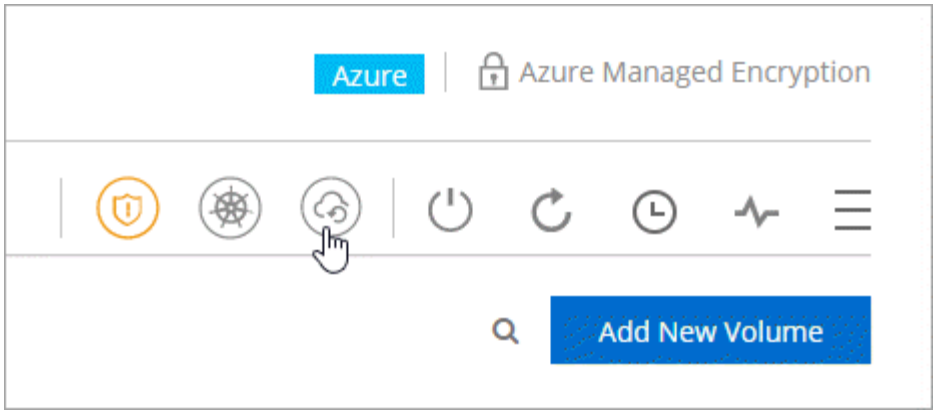
Get started quickly by following these steps or scroll down to the remaining sections for full details.

Verify support for your configuration

You're running Cloud Volumes ONTAP 9.7 or later in Azure.

Enable Backup to Cloud on your new or existing system

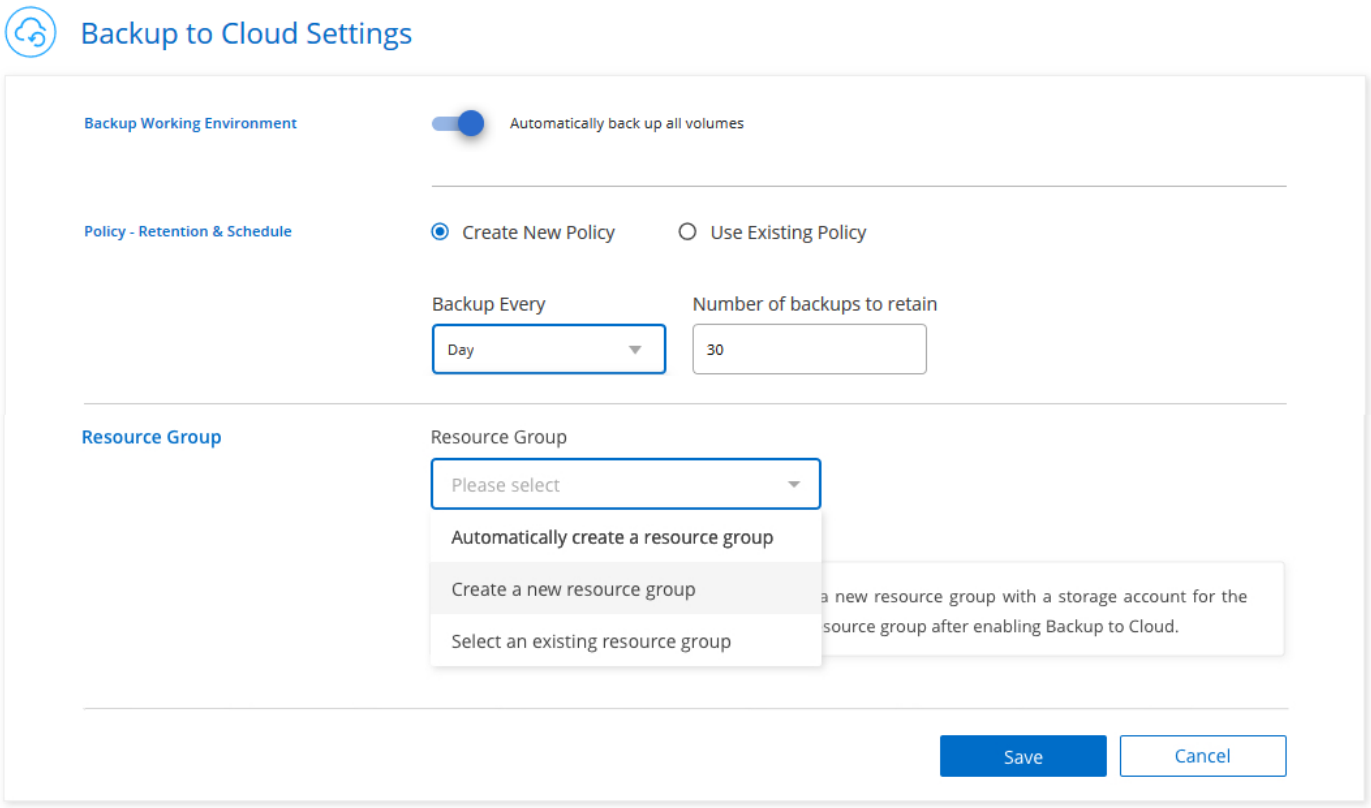
- New systems: Backup to Cloud is enabled by default in the working environment wizard. Be sure to keep the option enabled.
- Existing systems: Open the working environment, click the backup settings icon and enable backups.



If needed, modify the backup policy

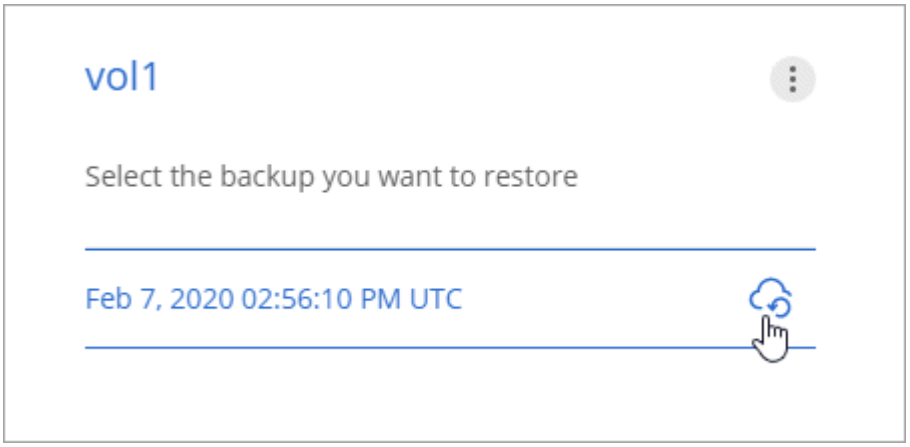
The default policy backs up volumes every day and retains the most recent 30 backup copies of each volume. Change to weekly or monthly backups, or select one of the system-defined policies that provide more options.

On existing systems, you can pick your own resource group when enabling Backup to Cloud for the first time. If you enable Backup to Cloud when Cloud Volumes ONTAP is deployed, Cloud Manager creates the resource group for you and you cannot change it.



Restore your data, as needed

At the top of Cloud Manager, click **Backup**, select a volume, select a backup, and then restore data from the backup to a new volume.



Requirements

Read the following requirements to make sure that you have a supported configuration before you start backing up volumes to Azure Blob storage.

Supported ONTAP versions

Cloud Volumes ONTAP 9.7 and later.

Supported Azure regions

Backup to Cloud is supported in all Azure regions where Cloud Volumes ONTAP is supported.

Azure Marketplace subscription

A subscription through the Azure Marketplace is required before you enable Backup to Cloud. You can subscribe from the Details & Credentials page of the working environment wizard.

Enabling Backup to Cloud on a new system

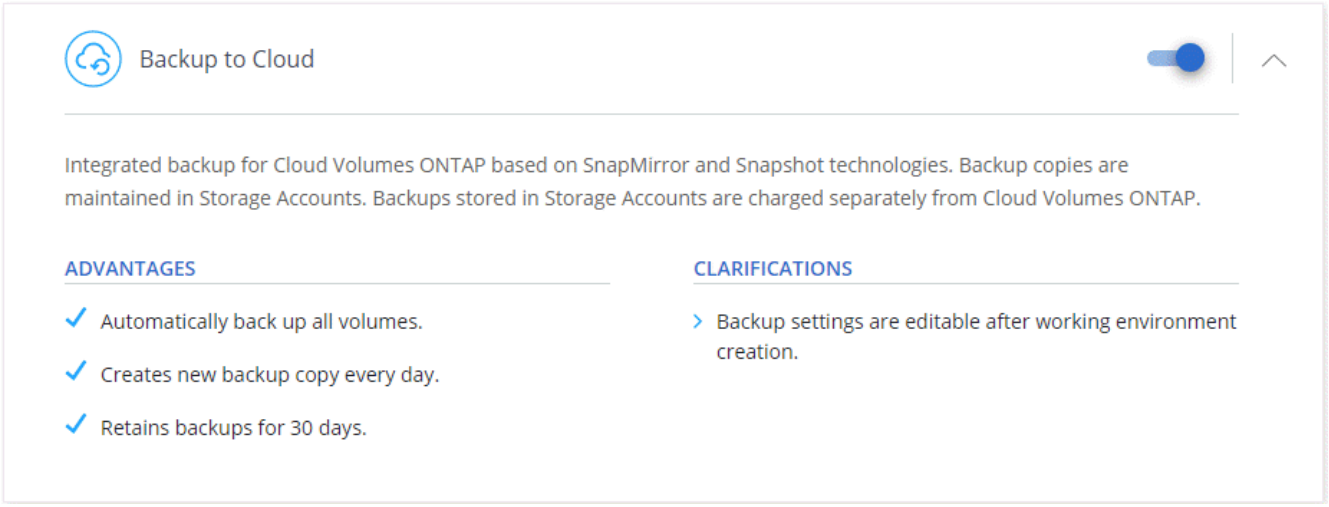
Backup to Cloud is enabled by default in the working environment wizard. Be sure to keep the option enabled.

If you want to pick the name of the resource group, **disable** Backup to Cloud when deploying Cloud Volumes ONTAP. Follow the steps for enabling backup to cloud on an existing system to enable Backup to Cloud and choose the resource group.

Steps

1. Click **Create Cloud Volumes ONTAP**.
2. Select Microsoft Azure as the cloud provider and then choose a single node or HA system.

3. Fill out the Details & Credentials page and be sure that an Azure Marketplace subscription is in place.
4. On the Services page, leave the service enabled and click **Continue**.



5. Complete the pages in the wizard to deploy the system.

Result

Backup to Cloud is enabled on the system and backs up volumes every day and retains the most recent 30 backup copies.

What's next?

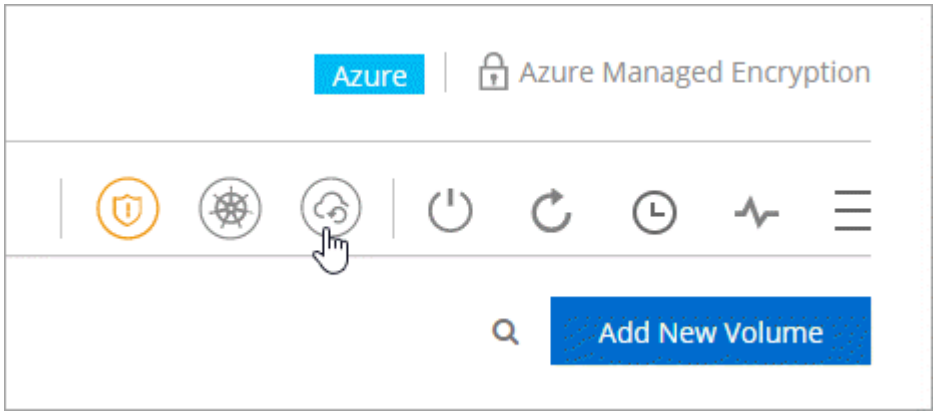
You can manage backups by changing the backup schedule, restoring volumes, and more.

Enabling Backup to Cloud on an existing system

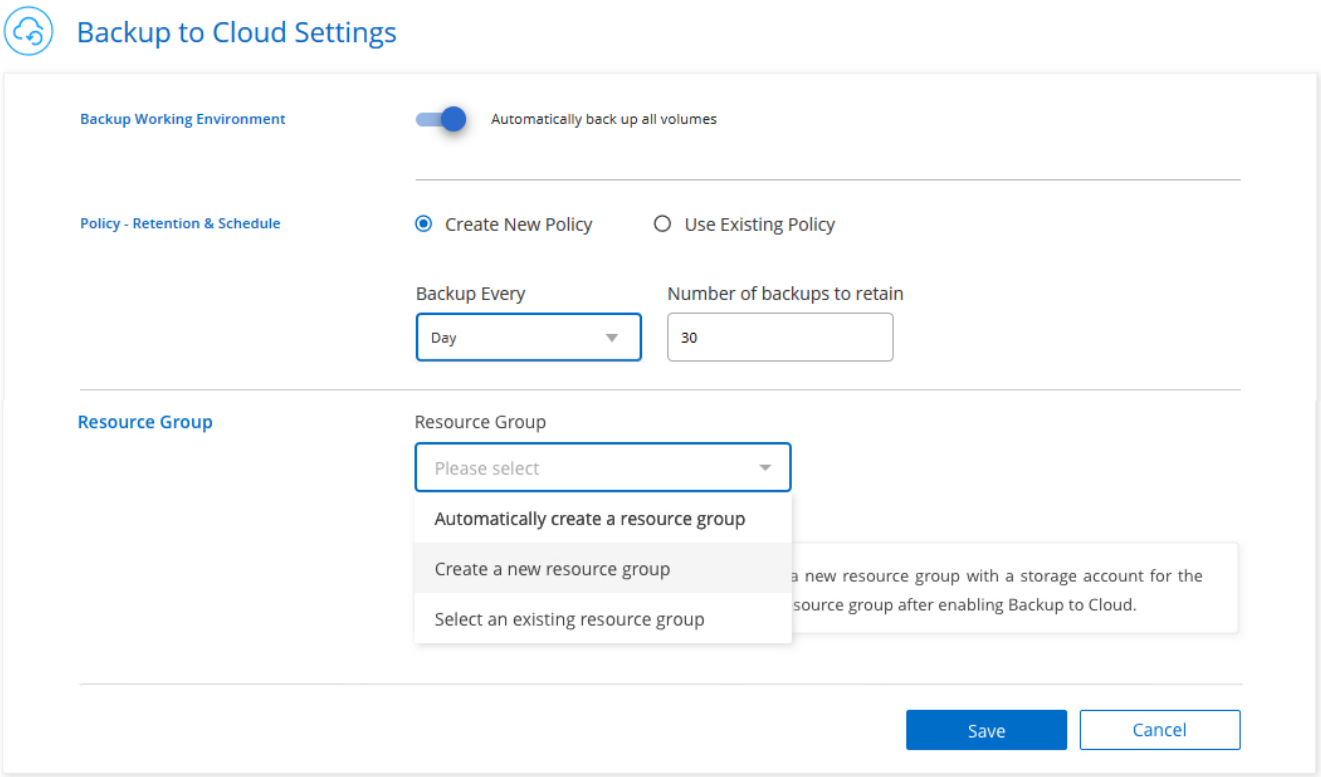
Enable Backup to Cloud at any time directly from the working environment.

Steps

1. Open the working environment.
2. Click the backup settings icon.



3. Select **Automatically back up all volumes**.
4. Choose your backup schedule and retention value.



5. Choose how the resource group is created and click **Save**.
   - **Automatically create a resource group** - Cloud Manager creates a resource group
   - **Create a new resource group** - You create the resource group
   - **Select an existing resource group** - You select an existing resource group

Result

Backup to Cloud starts taking the initial backups of each volume.

What's next?

You can manage backups by changing the backup schedule, restoring volumes, and more.

Managing backups for Cloud Volumes ONTAP

Manage backups for Cloud Volumes ONTAP by changing the backup schedule, restoring volumes, and more.

Changing the schedule and backup retention

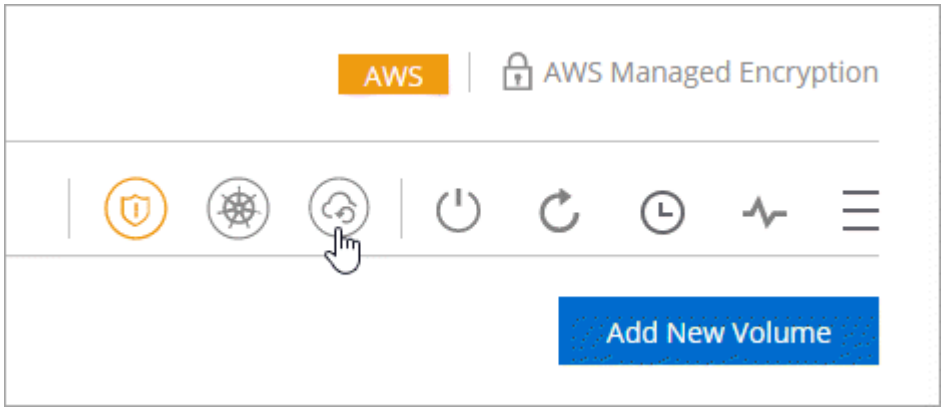
The default policy backs up volumes every day and retains the most recent 30 backup copies of each volume. You can change to weekly or monthly backups and you can change the number of backup

copies to retain. You can also select one of the system-defined policies that provide more options, such as *NetappRecommended2* that provides 30 daily, 13 weekly, and 12 monthly backups.

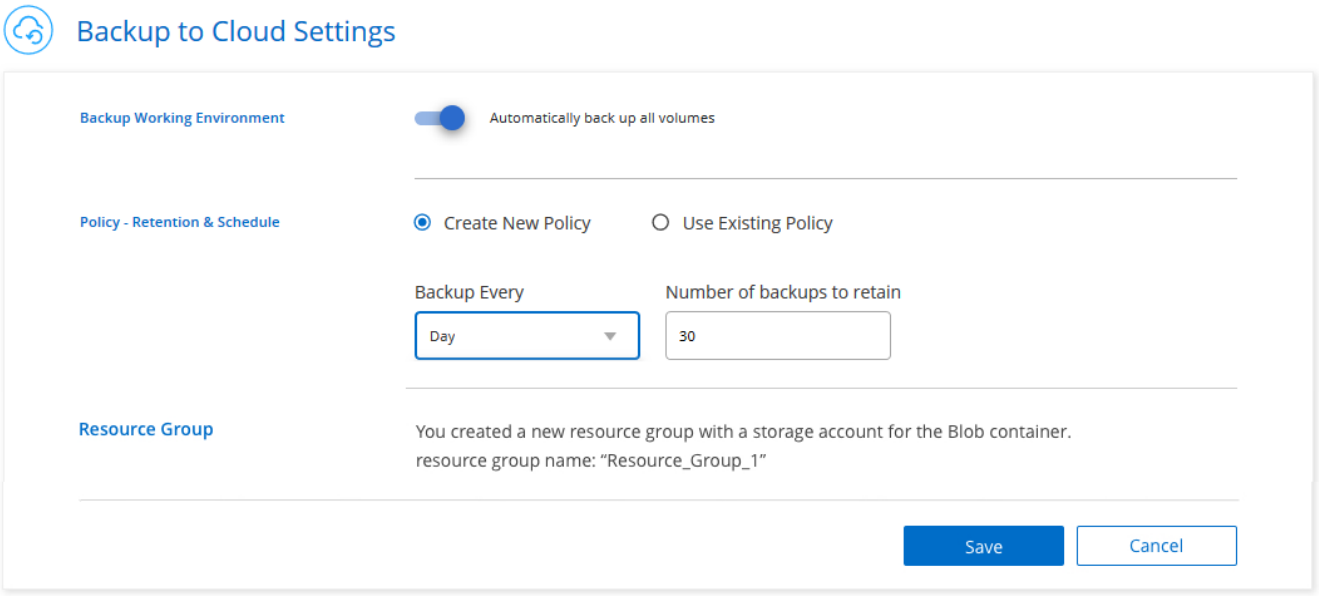
Changing the backup policy affects all future backups. It doesn't affect any previous backups that were created.

Steps

1. Open the working environment.
2. Click the backup settings icon.



3. Change the schedule and backup retention and then click **Save**.

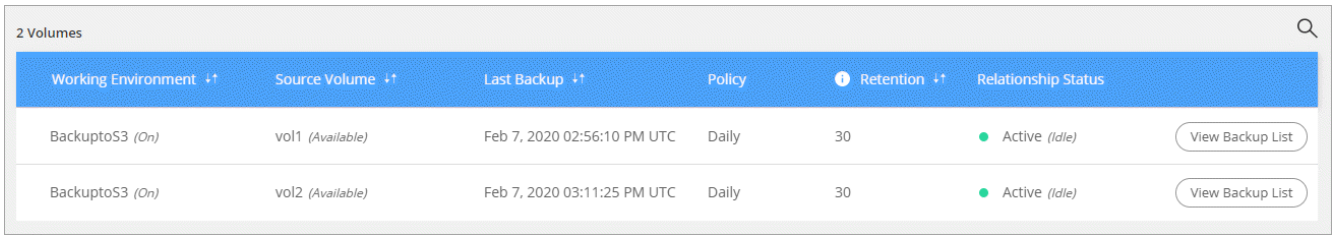


Restoring a volume

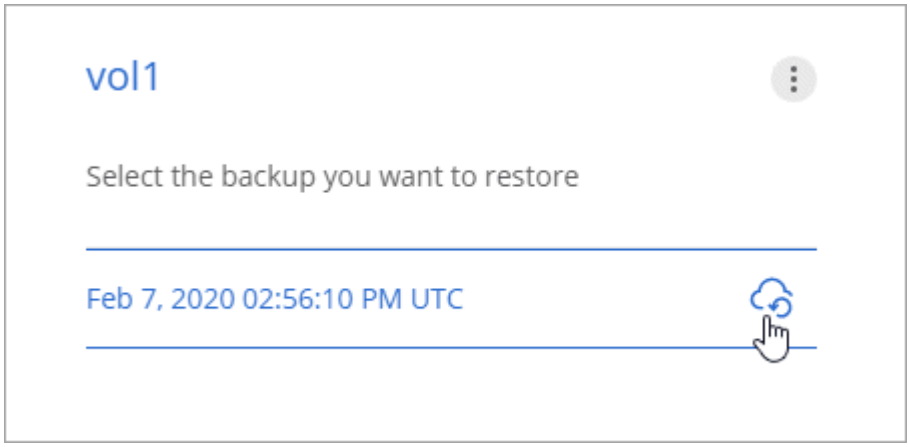
When you restore data from a backup, Cloud Manager performs a full volume restore to a *new* volume. You can restore the data to the same working environment or to a different working environment that's located in the same AWS account as the source working environment.

Steps

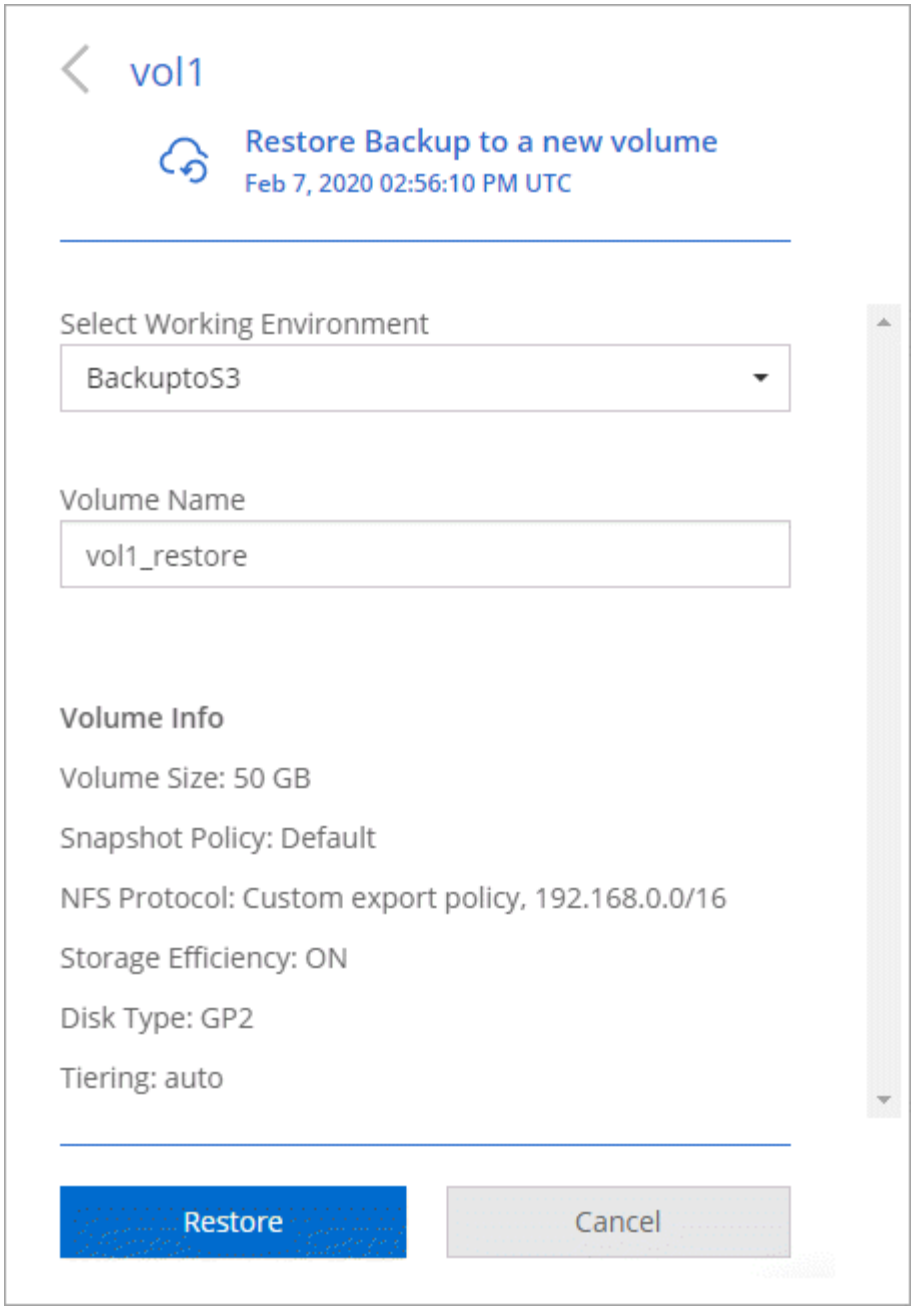
1. At the top of Cloud Manager, click **Backup**.
2. Select the volume that you want to restore.



3. Find the backup that you want to restore from and click the restore icon.



4. Select the working environment to which you want to restore the volume.
5. Enter a name for the volume.
6. Click **Restore**.



Deleting backups

Backup to Cloud enables you to delete *all* backups of a specific volume. You can't delete *individual* backups.

You might do this if you deleted a volume or if you deleted a Cloud Volumes ONTAP system. Backup to Cloud doesn't automatically delete backups when you delete a volume or when you delete a system.

Steps

1. At the top of Cloud Manager, click **Backup**.
2. Click **View Backup List** for a volume.
3. Click the menu and select **Delete All Backups**.

Result

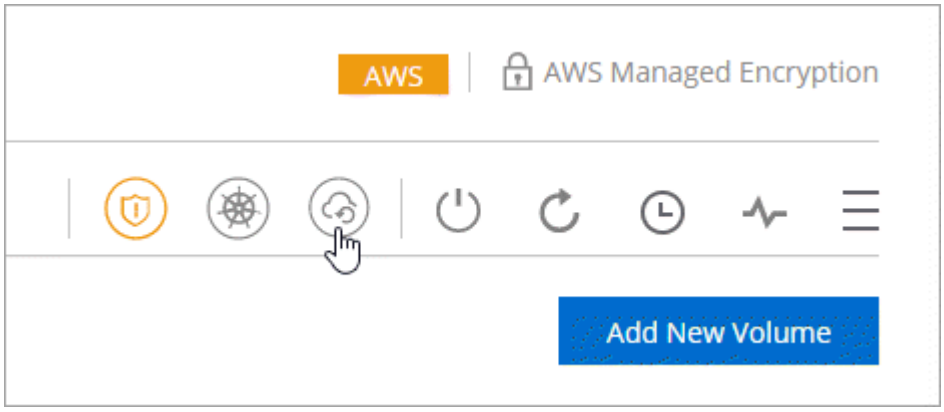
Cloud Manager deletes all backups for the selected volume.

Disabling Backup to Cloud

Disabling Backup to Cloud disables backups of each volume on the system. Any existing backups will not be deleted.

Steps

1. Open the working environment.
2. Click the backup settings icon.



3. Disable **Automatically back up all volumes** and then click **Save**.