



# **Backing up Cloud Volumes ONTAP data to Azure Blob storage**

## **Cloud Manager**

Tom Onacki  
September 08, 2021

# Table of Contents

- Backing up Cloud Volumes ONTAP data to Azure Blob storage . . . . . 1
  - Quick start . . . . . 1
  - Requirements . . . . . 3
  - Enabling Cloud Backup on a new system . . . . . 4
  - Enabling Cloud Backup on an existing system . . . . . 5

# Backing up Cloud Volumes ONTAP 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.
- You have a valid cloud provider subscription for the storage space where your backups will be located.
- You have subscribed to the [Cloud Manager Marketplace Backup offering](#), or you have purchased [and activated](#) a Cloud Backup BYOL license from NetApp.



### Enable Cloud Backup on your new or existing system

- New systems: Cloud Backup is enabled by default in the working environment wizard. Be sure to keep the option enabled.
- Existing systems: Select the working environment and click **Enable** next to the Backup & Restore service in the right-panel, and then follow the setup wizard.



### Enter the provider details

Select the provider subscription and region, and choose whether you want to create a new resource group or use an already existing resource group. You can also choose your own customer-managed keys for data encryption instead of using the default Microsoft-managed encryption key.

### Provider Settings

Azure Subscription

Azure\_Subscription\_1

Region

Default\_CM\_Region

Resource Group ?

☒ Create a new    ☐ Use an existing

Resource Group Name

Encryption Managed Keys ?

☒ Microsoft-managed    ☐ Customer-managed

## 4

### Define the backup policy

The default policy backs up volumes every day and retains the most recent 30 backup copies of each volume. Change to hourly, daily, 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.

### Define Policy

**Policy - Retention & Schedule**    ☒ Create a New Policy    ☐ Select an Existing Policy

<input type="checkbox"/> Hourly	Number of backups to retain	24
<input checked="" type="checkbox"/> Daily	Number of backups to retain	30
<input type="checkbox"/> Weekly	Number of backups to retain	52
<input type="checkbox"/> Monthly	Number of backups to retain	12

**DP Volumes**    Data protection volume backups use the same retention period as defined in the source SnapMirror relationship by default. Use the API if you want to change this value

**Storage Account**    Cloud Manager will create the storage account after you complete the wizard

## 5

### Select the volumes that you want to back up

Identify which volumes you want to back up in the Select Volumes page.

## 6

### Restore your data, as needed

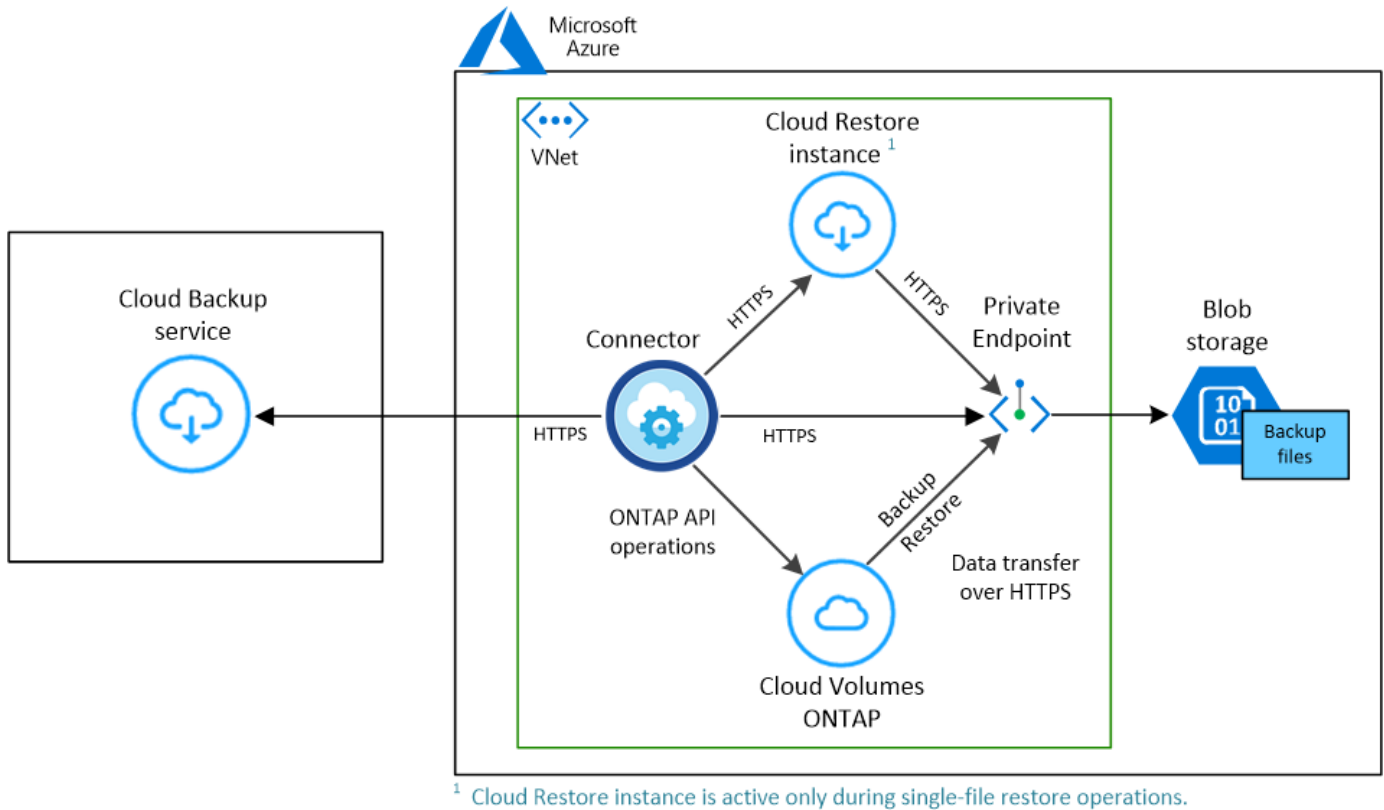
Choose to restore an entire backup to a new volume, or to restore individual files from the backup to an existing volume. You can restore data to a Cloud Volumes ONTAP system in Azure, or to an on-premises ONTAP system.

See [Restoring volume data from backup files](#) for details.

# Requirements

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

The following image shows each component and the connections that you need to prepare between them:



When the Cloud Restore virtual machine is deployed in the cloud, it is located in the same subnet as the Connector.

## Supported ONTAP versions

Cloud Volumes ONTAP 9.7 and later.

## License requirements

For Cloud Backup PAYGO licensing, a subscription through the Azure Marketplace is required before you enable Cloud Backup. Billing for Cloud Backup is done through this subscription. [You can subscribe from the Details & Credentials page of the working environment wizard.](#)

For Cloud Backup BYOL licensing, you need the serial number from NetApp that enables you to use the service for the duration and capacity of the license. [Learn how to manage your BYOL licenses.](#)

And you need to have a Microsoft Azure subscription for the storage space where your backups will be located.

## Supported Azure regions

Cloud Backup is supported in all Azure regions [where Cloud Volumes ONTAP is supported.](#)

## Required setup for creating backups in a different Azure subscription

By default, backups are created using the same subscription as the one used for your Cloud Volumes ONTAP system. If you want to use a different Azure subscription for your backups, you must [log in to the Azure portal and link the two subscriptions](#).

## Required information for using customer-managed keys for data encryption

You can use your own customer-managed keys for data encryption in the activation wizard instead of using the default Microsoft-managed encryption keys. In this case you will need to have the Azure Subscription, Key Vault name, and the Key. [See how to use your own keys](#).

## Required outbound internet access for Azure deployments

The Cloud Restore virtual machine requires outbound internet access. If your virtual or physical network uses a proxy server for internet access, ensure that the instance has outbound internet access to contact the following endpoints.

Endpoints	Purpose
<a href="http://olcentgbl.trafficmanager.net">http://olcentgbl.trafficmanager.net</a> <a href="https://olcentgbl.trafficmanager.net">https://olcentgbl.trafficmanager.net</a>	Provides CentOS packages for the Cloud Restore virtual machine.
<a href="http://cloudmanagerinfraprod.azurecr.io">http://cloudmanagerinfraprod.azurecr.io</a> <a href="https://cloudmanagerinfraprod.azurecr.io">https://cloudmanagerinfraprod.azurecr.io</a>	Cloud Restore virtual machine image repository.

# Enabling Cloud Backup on a new system

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


See [Launching Cloud Volumes ONTAP in Azure](#) for requirements and details for creating your Cloud Volumes ONTAP system.



If you want to pick the name of the resource group, **disable** Cloud Backup when deploying Cloud Volumes ONTAP. Follow the steps for [enabling Cloud Backup on an existing system](#) to enable Cloud Backup 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. In the Define Azure Credentials page, enter the credentials name, client ID, client secret, and directory ID, and click **Continue**.
4. Fill out the Details & Credentials page and be sure that an Azure Marketplace subscription is in place, and click **Continue**.
5. On the Services page, leave the service enabled and click **Continue**.


Backup to Cloud

---

Integrated backup for Cloud Volumes ONTAP based on SnapMirror and Snapshot technologies. Backup copies are maintained in Storage Accounts. Backups stored in Storage Accounts are charged separately from Cloud Volumes ONTAP.

#### ADVANTAGES

- ✓ Automatically back up all volumes.
- ✓ Creates new backup copy every day.
- ✓ Retains backups for 30 days.

#### CLARIFICATIONS

- > Backup settings are editable after working environment creation.

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

### Result

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

### What's next?

You can [start and stop backups for volumes or change the backup schedule](#) and you can [restore entire volumes or individual files from a backup file](#).

## Enabling Cloud Backup on an existing system

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

### Steps

1. Select the working environment and click **Enable** next to the Backup & Restore service in the right-panel.



2. Select the provider details and click **Next**:
  - a. The Azure subscription used to store the backups. This can be a different subscription than where the Cloud Volumes ONTAP system resides.  
  
If you want to use a different Azure subscription for your backups, you must [log in to the Azure portal and link the two subscriptions](#).
  - b. The region where the backups will be stored. This can be a different region than where the Cloud Volumes ONTAP system resides.
  - c. The resource group that manages the Blob container - you can create a new resource group or select an existing resource group.
  - d. Whether you'll use the default Microsoft-managed encryption key or choose your own customer-managed keys to manage encryption of your data. ([See how to use your own keys](#)).

### Provider Settings

Azure Subscription

Azure\_Subscription\_1

Region

Default\_CM\_Region

Resource Group ?

☒ Create a new    ☐ Use an existing

Resource Group Name

Encryption Managed Keys ?

☒ Microsoft-managed    ☐ Customer-managed

3. In the *Define Policy* page, select the backup schedule and retention value and click **Next**.

### Define Policy

**Policy - Retention & Schedule**    ☒ Create a New Policy    ☐ Select an Existing Policy

☐ Hourly    Number of backups to retain: 

24

☒ Daily    Number of backups to retain: 

30

☐ Weekly    Number of backups to retain: 

52

☐ Monthly    Number of backups to retain: 

12

**DP Volumes**    Data protection volume backups use the same retention period as defined in the source SnapMirror relationship by default. Use the API if you want to change this value

**Storage Account**    Cloud Manager will create the storage account after you complete the wizard

See [the list of existing policies](#).

4. Select the volumes that you want to back up and click **Activate Backup**.

### Select Volumes

57 Volumes ?

✓	Volume Name	Volume Type	SVM Name	Used Capacity	Allocated Capacity	Backup Status
<input checked="" type="checkbox"/>	Volume_Name_1	RW	SVM_Name_1	0.25 TB	10 TB	⊖ Not Active
<input checked="" type="checkbox"/>	Volume_Name_2	RW	SVM_Name_2	0.25 TB	10 TB	⊖ Not Active
<input checked="" type="checkbox"/>	Volume_Name_3	RW	SVM_Name_3	0.25 TB	10 TB	⊖ Not Active
<input checked="" type="checkbox"/>	Volume_Name_4	DP	SVM_Name_4	0.25 TB	10 TB	⊖ Not Active
<input checked="" type="checkbox"/>	Volume_Name_5	RW	SVM_Name_5	0.25 TB	10 TB	⊖ Not Active



- To back up all volumes, check the box in the title row ( ☒ Volume Name ).
- To back up individual volumes, check the box for each volume ( ☒ Volume\_1 ).

### Result

Cloud Backup starts taking the initial backups of each selected volume and the Backup Dashboard is displayed so you can monitor the state of the backups.

### What's next?

You can [start and stop backups for volumes or change the backup schedule](#) and you can [restore entire volumes or individual files from a backup file](#).

## Copyright Information

Copyright © 2021 NetApp, Inc. All rights reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means-graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system-without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

## Trademark Information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.