



# **Aggregate administration**

## **Cloud Volumes ONTAP**

NetApp  
September 22, 2023

# Table of Contents

- Aggregate administration ..... 1
  - Create aggregates ..... 1
  - Manage aggregates ..... 3
  - Manage capacity settings on a Connector ..... 4

# Aggregate administration

## Create aggregates

You can create aggregates yourself or let BlueXP do it for you when it creates volumes. The benefit of creating aggregates yourself is that you can choose the underlying disk size, which enables you to size your aggregate for the capacity or the performance that you need.



All disks and aggregates must be created and deleted directly from BlueXP. You should not perform these actions from another management tool. Doing so can impact system stability, hamper the ability to add disks in the future, and potentially generate redundant cloud provider fees.

### Steps

1. From the left navigation menu, select **Storage > Canvas**.
2. On the Canvas page, double-click the name of the Cloud Volumes ONTAP instance on which you want to manage aggregates.
3. On the Aggregates tab, click **Add Aggregate** and then specify details for the aggregate.

## AWS

- If you're prompted to choose a disk type and disk size, refer to [Plan your Cloud Volumes ONTAP configuration in AWS](#).
- If you're prompted to enter the aggregate's capacity size, then you're creating an aggregate on a configuration that supports the Amazon EBS Elastic Volumes feature. The following screenshot shows an example of a new aggregate comprised of gp3 disks.


The screenshot shows the AWS console interface for selecting a disk type. At the top, there are four steps: 1 Disk Type (active), 2 Aggregate details, 3 Tiering Data, and 4 Review. The main heading is 'Select Disk Type'. Below it, a 'Disk Type' dropdown menu is set to 'GP3 - General Purpose SSD Dynamic Performance'. A detailed box for 'General Purpose SSD (gp3) Disk Properties' is displayed, containing a description, IOPS Value (12000), and Throughput MB/s (250).

1 Disk Type   2 Aggregate details   3 Tiering Data   4 Review



### Select Disk Type



Disk Type

GP3 - General Purpose SSD Dynamic Performance

 **General Purpose SSD (gp3) Disk Properties**

**Description:** General purpose SSD volume that balances price and performance (performance level is independent of storage capacity)

IOPS Value  Throughput MB/s 

12000  250 

[Learn more about support for Elastic Volumes.](#)

## Azure

For help with disk type and disk size, refer to [Plan your Cloud Volumes ONTAP configuration in Azure](#).

## Google Cloud

For help with disk type and disk size, refer to [Plan your Cloud Volumes ONTAP configuration in Google Cloud](#).

4. Click **Go**, and then click **Approve and Purchase**.

# Manage aggregates

Manage aggregates yourself by adding disks, viewing information about the aggregates, and by deleting them.



All disks and aggregates must be created and deleted directly from BlueXP. You should not perform these actions from another management tool. Doing so can impact system stability, hamper the ability to add disks in the future, and potentially generate redundant cloud provider fees.

## Before you begin


If you want to delete an aggregate, you must have first deleted the volumes in the aggregate.

## About this task


If an aggregate is running out of space, you can move volumes to another aggregate by using System Manager.

## Steps

1. From the left navigation menu, select **Storage > Canvas**.
2. On the Canvas page, double-click the Cloud Volumes ONTAP working environment on which you want to manage aggregates.
3. In the working environment, click the **Aggregates** tab.
4. On the Aggregates tab, navigate to the desired title and then click the ... (ellipse icon).

 aggr1


■ ONLINE



INFO		CAPACITY	
Disk Type	GP3 3000 IOPS	Provisioned size	907.12 GiB
Disks	4	EBS Used	1.13 GiB
Volumes	2	S3 Used	0 GiB
Elastic Volumes	Enabled		
S3 Tiering	Enabled		

5. Manage your aggregates:

Task	Action
View information about an aggregate	Under the ... (ellipse icon) menu, click <b>View aggregate details</b> .

Task	Action
Create a volume on a specific aggregate	Under the ... (ellipse icon) menu, click <b>Add volume</b> .
Add disks to an aggregate	<p>a. Under the ... (ellipse icon) menu, click <b>Add disks</b>.</p> <p>b. Select the number of disks that you want to add and click <b>Add</b>.</p> <div>  <p>All disks in an aggregate must be the same size.</p> </div>
Increase the capacity of an aggregate that supports Amazon EBS Elastic Volumes	<p>a. Under the ... (ellipse icon) menu, click <b>Increase capacity</b>.</p> <p>b. Enter the additional capacity that you'd like to add and then click <b>Increase</b>.</p> <p>Note that you must increase the capacity of the aggregate by a minimum of 256 GiB or 10% of the aggregate's size.</p> <p>For example, if you have a 1.77 TiB aggregate, 10% is 181 GiB. That's lower than 256 GiB, so the size of the aggregate must be increased by the 256 GiB minimum.</p>
Delete an aggregate	<p>a. Select an aggregate tile that does not contain any volumes click the ... (ellipse icon) &gt; <b>Delete</b>.</p> <p>b. Click <b>Delete</b> again to confirm.</p>

## Manage capacity settings on a Connector

Each Connector has settings that determines how it manages aggregate capacity for Cloud Volumes ONTAP.

These settings affect all Cloud Volumes ONTAP systems managed by a Connector. If you have another Connector, it can be configured differently.

### Required permissions

Account Admin privileges are required to modify Connector settings.

### Steps

1. In the upper right of the BlueXP console, click the Settings icon, and select **Connector Settings**.



2. Under **Capacity**, modify any of the following settings:

#### **Capacity Management Mode**

Choose whether BlueXP notifies you of storage capacity decisions or whether BlueXP automatically manages capacity requirements for you.

[Learn how Capacity Management Mode works.](#)

#### **Aggregate Capacity Threshold - Free Space Ratio**

Triggers a notification when the free space ratio on an aggregate drops below the specified threshold.

The free space ratio is calculated as follows:

$$(\text{aggregate capacity} - \text{total used capacity on the aggregate}) / \text{aggregate capacity}$$

#### **Aggregate Capacity Thresholds - Free Space Ratio for Data Tiering**

Defines how much free space is required on the performance tier (disks) when tiering data to a capacity tier (object storage).

The ratio is important for disaster recovery scenarios. As data is read from the capacity tier, Cloud Volumes ONTAP moves data to the performance tier to provide better performance. If there isn't sufficient space, then Cloud Volumes ONTAP can't move the data.

3. Click **Save**.

## Copyright information

Copyright © 2023 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.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

## 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.