



# **Manage Kubernetes clusters**

## Kubernetes clusters

NetApp  
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# Manage Kubernetes clusters

You can use Cloud Manager to install Astra Trident, configure storage classes, remove clusters, and enable data services.

## Features

After adding Kubernetes clusters to Cloud Manager, you can manage the clusters from the resource page. To open the resource page, double-click the Kubernetes working environment on the Canvas.



From the resource page you can:

- View the Kubernetes cluster status.
- Confirm Astra Trident is installed. See [Install Astra Trident](#).
- Add and remove storage classes. See [Manage storage classes](#).
- View persistent volumes. See [View persistent volumes](#).
- Remove Kubernetes clusters from the workspace. See [Remove clusters](#).
- Activate or view Cloud Backup. See [Use NetApp cloud data services](#).

## Install Astra Trident

After you add a managed-Kubernetes cluster to the Canvas, you can use Cloud Manager to confirm a compatible Astra Trident installation or install Astra Trident. One of the four most recent versions of Astra Trident is required.

To learn more about Astra Trident, see [Astra Trident documentation](#).



If Astra Trident is not installed, or an incompatible version of Astra Trident is installed, the cluster will show there is an action required.

### Steps

1. Double-click the Kubernetes working environment on the Canvas or click **Enter Working Environment**.
  - a. If Astra Trident is not installed, click **Install Trident**.



- b. If a back level version of Astra Trident is installed, [go to the Astra Trident docs for upgrade steps](#).



## Results

The latest version of Astra Trident is installed. You can now add storage classes.

## Manage storage classes

After you add a managed-Kubernetes cluster to the Canvas, you can use Cloud Manager

to manage storage classes.



If no storage class is defined, the cluster will show there is an action required. Double-clicking the cluster on the Canvas will open the action page to add a storage class.

## Add storage class

### Steps

1. From the Canvas, drag and drop the Kubernetes working environment on the Cloud Volumes ONTAP working environment to open the storage class wizard.
2. Provide a name for the storage class, select definition options, and click **Next**.

The screenshot shows a wizard titled "Storage Class Definition for 'Kubernetes Cluster Name'". It has two steps: "1 Storage Class Definitions" (active) and "2 Select Working Environment".

Under "Storage Class Definition", there is a text input field labeled "Storage Class Name".

Below the input field is a table of options:

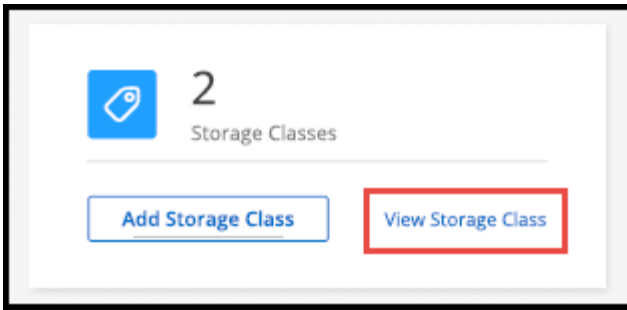
Storage Class	<input checked="" type="radio"/> Block	<input type="radio"/> Filesystem
Support Volume Expansion	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Volume Binding Mode	<input checked="" type="radio"/> Immediate	<input type="radio"/> WaitForFirstConsumer
Set as Default Storage Class	<input checked="" type="radio"/> Yes	<input type="radio"/> No

3. Select a working environment to connect to the cluster. Click **Add**.

[A screenshot showing working environment selection for the Kubernetes cluster.]

### Results

You can click to view the storage class from the resource page for the Kubernetes cluster.



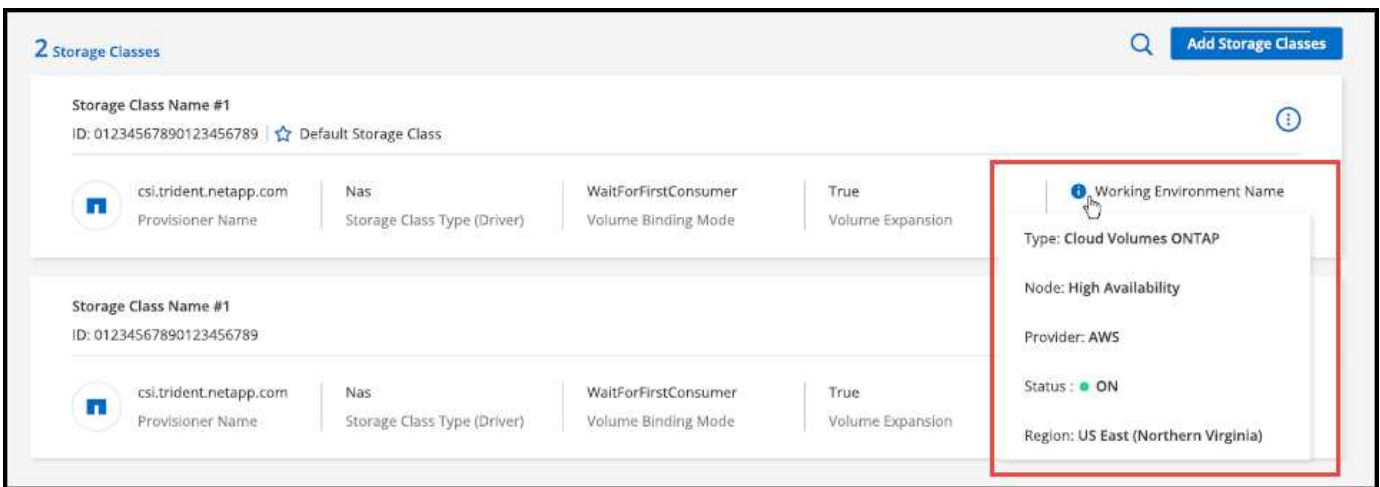
## View working environment details

### Steps

1. Double-click the Kubernetes working environment on the Canvas or click **Enter Working Environment**.
2. Click the **Storage Classes** tab.
3. Click the information icon to view details for the working environment.

### Results

The working environment details panel opens.



## Set default storage class

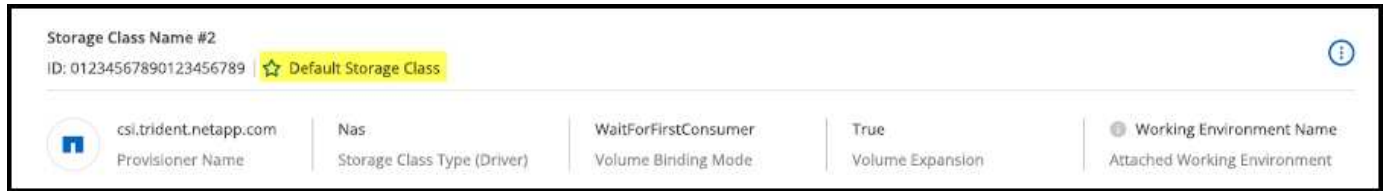
### Steps

1. Double-click the Kubernetes working environment on the Canvas or click **Enter Working Environment**.
2. Click the **Storage Classes** tab.
3. Click the action menu for the storage class and click **Set as Default**.



## Results

The selected storage class is set as the default.



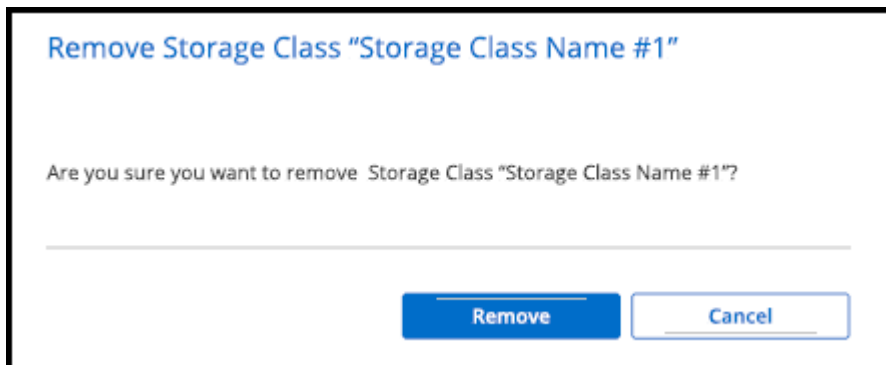
## Remove storage class

### Steps

1. Double-click the Kubernetes working environment on the Canvas or click **Enter Working Environment**.
2. Click the **Storage Classes** tab.
3. Click the action menu for the storage class and click **Set as Default**.



4. Click **Remove** to confirm removal of the storage class.



## Results

The selected storage class is removed.

## View persistent volumes

After you add a managed-Kubernetes cluster to the Canvas, you can use Cloud Manager to view persistent volumes.

### Steps

1. Double-click the Kubernetes working environment on the Canvas or click **Enter Working Environment**.
2. Click **View Volumes** from the **Overview** tab or click the **Persistent Volumes** tab. If no persistent volumes are configured, see [Provisioning](#) for details on provisioning volumes in Astra Trident.

## Results

A table of the configured persistent volumes displays.

Volumes Summary

8

Total Volumes

400

GiB

Total Allocated Capacity

201.2

GiB

Total Used Capacity

8 Volumes

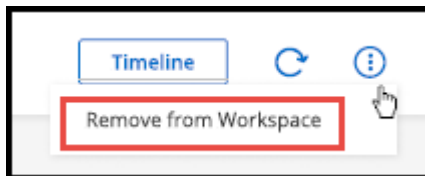
Volume Name	Name Space	Storage Class	Access Mode	Allocated Capacity	Used Capacity
<div>Volumes Very Long Name</div> <div>● On</div>	Name Space	Storage Class Name	Access Mode	50 GiB	25.15 GiB
<div>Volumes Very Long Name</div> <div>● On</div>	Name Space	Storage Class Name	Access Mode	50 GiB	25.15 GiB

## Remove Kubernetes clusters from the workspace

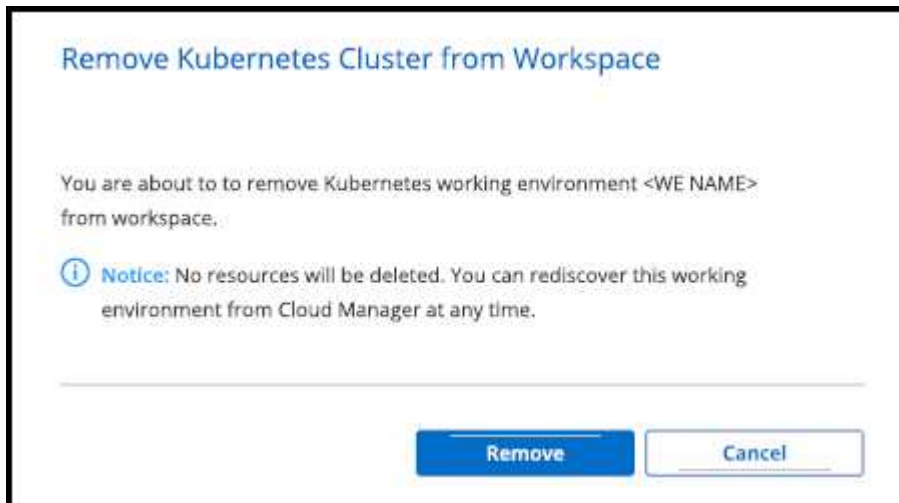
After you add a managed-Kubernetes cluster to the Canvas, you can use Cloud Manager to remove clusters from the workspace.

### Steps

1. Double-click the Kubernetes working environment on the Canvas or click **Enter Working Environment**.
2. At the top right of the page, select the actions menu and click **Remove from Workspace**.



3. Click **Remove** to confirm removal of the cluster from the workspace. You can rediscover this cluster at any time.



## Results



The Kubernetes cluster is removed from the workspace and is no longer visible on the Canvas.

## Use NetApp cloud data services with Kubernetes clusters

After you add a managed-Kubernetes cluster to the Canvas, you can use NetApp cloud data services for advanced data management.

At this time, Cloud Backup is supported with Kubernetes clusters. You can use Cloud Backup to back up persistent volumes to object storage.

[Learn how to protect your Kubernetes cluster data using Cloud Backup.](#)

[A screenshot of the Kubernetes page in the Cloud Backup Service which shows five backup jobs for a Kubernetes cluster.]

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