Organize your resources using tags

Cloud Manager

NetApp
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Table of Contents

Organize your resources using tags 1
Learn about tagging 1
Manage tags for your resources 4

Organize your resources using tags

Learn about tagging

Cloud Manager enables you to apply tags to your *existing* resources to help organize and manage those resources. Tags are metadata that you can use to group resources to identify applications, environments, regions, billing codes, cloud providers, and more.

Tags consists of a **tag key** and a **tag value**. For example, you can create a tag key called "Environment" and then add tag values of "Production" and "Test". After they are applied to your resources, you can quickly search for and view resources that match the key/value pair.

You can add tag key/value pairs to *new* resources when you create a working environment or an Azure NetApp Files volume. You can also define tag key/value pairs in Cloud Manager templates that you build for your storage admins and DevOps engineers.

You can add new tags using the Tagging service, and you can change or delete existing tags.

Features

The Tagging service offers the following features and benefits:

- Create tag keys and tag values that match the terms you use in your environment
- Organize the resources in your environment for easier monitoring and management
- Add, remove, and edit tag keys and tag values by resource type
- Tag ONTAP resources and resources in your environment from AWS and Azure.

Pricing and licenses

The ability to tag your resources requires no licensing and is free to use by all Cloud Manager users with the Account Admin or Workspace Admin role.

Resources that you can tag

You can apply tags to the following resources.

Provider	Service	Resource
ONTAP	Cloud Volumes ONTAP	Aggregate Storage VM Volume
	On-premise ONTAP	Aggregate Storage VM Volume
	Azure NetApp Files	Volume

Provider	Service	Resource
AWS	EC2	Instance Security Group Subnet Volume VPC
Azure	Compute	Snapshot Virtual Machine
	Network	Security Group Virtual Network
	Resource	Resource Group
	Storage	Storage Account
GCP	Compute	Instance
	Storage	Bucket

For information about AWS EC2 tags, refer to AWS Documentation: Tagging your Amazon EC2 Resources.

For information about Azure tags, refer to Azure Documentation: Tagging your Azure resources.

For information about Google labels, refer to Google Cloud Documentation: Tagging your Google Cloud resources.

Prerequisites

Verify your AWS Connector permissions

If you created the Connector using Cloud Manager version 3.9.10 or greater, then you're all set. If you created the Connector using an earlier version of Cloud Manager, then you'll need to add some required permissions for the Cloud Manager IAM role to tag AWS EC2 instances:

```
{
  "Action": [
    "ec2:CreateTags",
    "ec2:DeleteTags",
    "ec2:DescribeTags",
    "tag:getResources",
    "tag:getTagKeys",
    "tag:getTagValues",
    "tag:TagResources",
    "tag:UntagResources"
  ],
  "Resource": "*",
  "Effect": "Allow",
  "Sid": "tagServicePolicy"
}
```

Verify your Azure Connector permissions

If you created the Connector using Cloud Manager version 3.9.10 or greater, then you're all set. If you created the Connector using an earlier version of Cloud Manager, then you'll need to add some required permissions for the Cloud Manager Operator IAM role to tag Azure resources:

```
{
  "id": "<ID>",
  "properties": {
    "roleName": "Cloud Manager Operator-<ID>",
    "description": "Cloud Manager Operator",
    "assignableScopes": [
      "/subscriptions/<SUBSCRIPTION-ID>"
    ],
    "permissions": [
      {
        "actions": [
          "Microsoft.Resources/tags/read",
          "Microsoft.Resources/tags/write",
          "Microsoft.Resources/tags/delete",
          "Microsoft.ClassicCompute/virtualMachines/read"
        ],
        "notActions": [],
        "dataActions": [],
        "notDataActions": []
      }
    ]
  }
}
```

Tag rules and restrictions

The following rules apply when creating tag keys and tag values:

- Maximum key length: 128 characters
- Maximum key value length: 256 characters
- Valid tag and tag value characters: letters, numbers, spaces, and special characters (_, @, &, *, etc.)
- Tags are case upper/lower sensitive.
- Maximum tags per resource: 30
- Per resource, each tag key must be unique

Tag examples

Key	Values
Env	production test
Dept	finance sales eng
Owner	admin storage

Manage tags for your resources

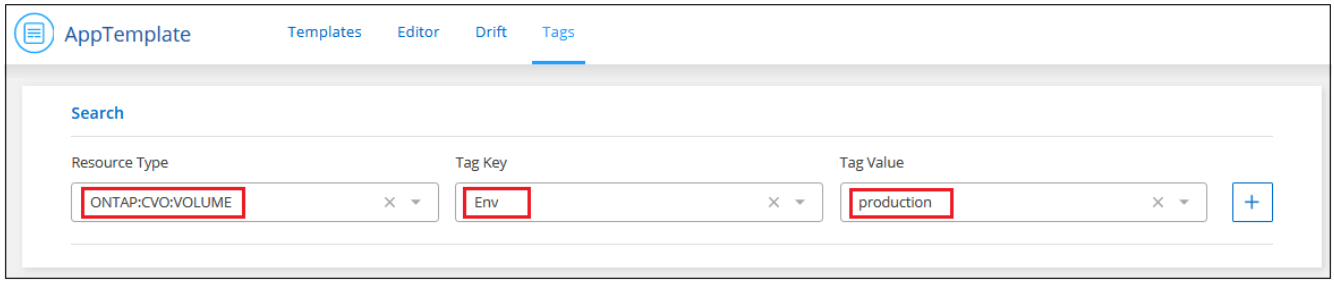
You can view, add, modify, and delete the tags assigned to your existing resources using the Cloud Manager Tagging service. This allows you to organize and simplify the management of your resources.

Search for resources that have certain tags

If you want to see all the resources that have a certain tag, or a certain tag and tag key value, you can search for those tags. You can search across all resources, or just within certain resource categories.

Steps

1. Select the **AppTemplate** service and click the **Tags** tab.
2. In the *Resource Type* field, select the resource, for example, **ONTAP:CVO:VOLUME** to search across all Cloud Volumes ONTAP volumes.
3. In the *Tag Key* field, select the tag, for example, **Env** to restrict the search to volumes with the "Env" tag.
4. In the *Tag Value* field, select the key value, for example, **production** to restrict the search to volumes with the tag name "Env" and the tag value "production".



5. Click the + to add this search criteria to the Search area.

6. If you are done with your search, click **Search** and the search results appear in the Resources section.

If you want to add additional search criteria, follow steps 2 through 5 again and then click **Search**.

Search rules

The following rules apply when defining your search:

- After choosing a Resource Type, you can leave the Tag Key field and Tag Value fields empty if you want to list all the resources that have any key and any key value.
- You can choose a single search, or you can define multiple searches to refine the results in the Resource section.
- When defining multiple sets of search criteria:
  - If the criteria for two searches are for different resource types, then this is treated as an "OR" operation and the result shows the resources from both searches. For example, the following search returns all Azure NetApp Files volumes that have the "Environment:demo" tag value and all Cloud Volumes ONTAP volumes that have the "Environment:demo" tag value.

  - If the criteria for two searches are for the same resource type, then this is treated as an "AND" operation and the result shows only the resources that match **both** searches. For example, the following search returns Azure NetApp Files volumes that have both the "Environment:demo" tag value and "Group:Finance" tag value.

- If you have defined multiple search criteria and then decide you want to remove one, just click the × to remove it from the Search area.

Add tags to existing resources

You can apply tags to a single resource or to multiple resources. The resources could have existing tags or have no current tags.

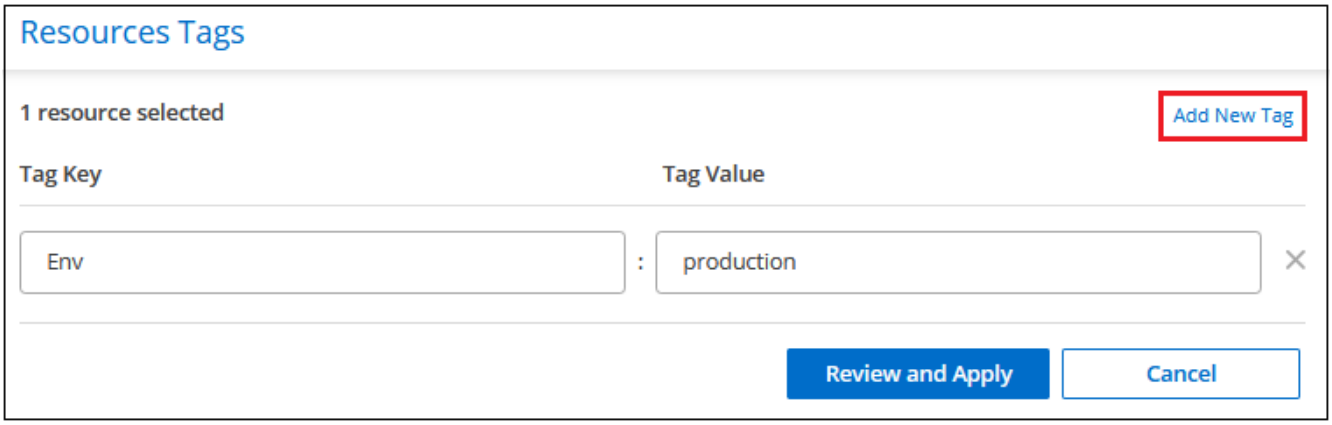
See the list of resources that you can tag at this time.

Steps

1. From the **Tags** tab, create your search criteria and click **Search**.

2. Select the resource, or resources, that you want to tag.
   - To select all resources on the page, check the box in the title row (ID).
   - To select multiple resources, check the box for each resource (Volume_1).
   - To select a single resource, click the + icon for the resource.

3. Click **Manage Tags** and the *Resource Tags* dialog appears. Any existing tags will appear in this dialog.



4. Click **Add New Tag** and a blank Tag Key and Tag Value row appears in the dialog.
5. Enter the tag key and tag value. Add more tags at this time if you want more tags on this resource, and then click **Review and Apply**.
6. If your changes look correct in the *Reviewing* page, click **Save** and the new tag is added to the resource, or to all selected resources.

Change tag values for a resource

You can change the tags that are assigned to resources, and you can change the tag value that is applied to an existing tag.

Steps

1. From the **Tags** tab, create your search criteria and click **Search**.
2. Select the resource, or resources, on which you want to change tags.
3. Click **Manage Tags** and the *Resource Tags* dialog appears.
4. Enter a new value for the tag value and click **Review and Apply**.
5. If your change looks correct in the *Reviewing* page, click **Save** and the tag value is changed for the resource, or for all selected resources.

Delete tags from resources

You can delete a tag key/value pair from a single resource or from multiple resources.

Steps

1. From the **Tags** tab, create your search criteria and click **Search**.
2. Select the resource, or resources, from which you want to remove tags.
3. Click **Manage Tags** and the *Resource Tags* dialog appears.

4. Click the ✕ for the tag key/value pair you want to delete and the row is removed, and then click **Review and Apply**.
5. If your change looks correct in the *Reviewing* page, click **Save** and the tag key/value pair is removed from the resource, or from all selected resources.

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