



## **Learn about tagging**

### Cloud Manager

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# 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
AWS	EC2	Instance Security Group Subnet Volume VPC

Provider	Service	Resource
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

Key	Values
Dept	finance sales eng
Owner	admin storage

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