



OnCommand® Cloud Manager 1.0

Administration Guide



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Backing up Cloud Manager

It is a good practice to back up the Cloud Manager database on a periodic basis. If you experience problems, you can restore Cloud Manager from a previous backup.

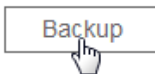
Steps

1. In the upper-right hand corner of the Cloud Manager console, click the task-drop down list, and then select **Tools**.
2. Click **Backup**.

Tools

Backup

Back up Cloud Manager to a .gz file, which you can use later to restore your configuration.



3. When prompted, save the backup file to your local machine.

Managing Cloud Manager user accounts

Each Cloud Manager user has access to the Users page. Users can modify their own user account and other accounts, if they have appropriate privileges. Privileges are defined by the user's role.

Understanding user roles

Each Cloud Manager user account is assigned a role that defines permissions.

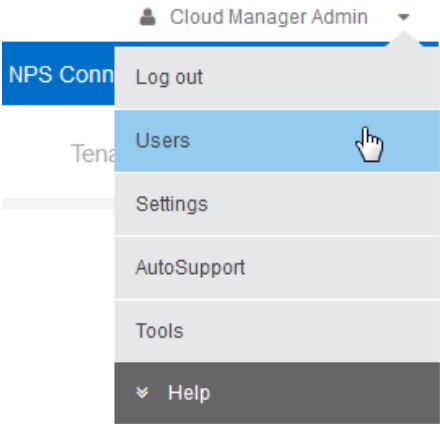
Task	Cloud Manager Admin	Tenant Admin	Working Environment Admin
Manage tenants	Yes	No	No
Manage working environments	Yes	Yes, for the assigned tenant	Yes, for assigned working environments
Manage NPS connections	Yes	No	No
View timeline	Yes	Yes	Yes
Create and delete user accounts	Yes	Yes, for the assigned tenant	No
Modify user accounts	Yes	Yes, for the assigned tenant	Yes, for their own account
Modify settings	Yes	No	No
Manage AutoSupport	Yes	No	No
Use tools	Yes	No	No

Creating user accounts

If multiple people in your organization need to use Cloud Manager, then you need to create Cloud Manager user accounts for each user. You can create several types of users: Cloud Manager administrators, tenant administrators, and working environment administrators.

Steps

1. In the upper right corner of the Cloud Manager console, click the task drop-down list, and then select **Users**.



- 2. In the **Users** page, click **New User**.
- 3. In the **New User** page, specify details for the new user account.

Most of the fields in this page are self-explanatory. The following table describes fields for which you might need guidance:

Field	Description
Email Address	Enter the email address that the user must use to log in to Cloud Manager. Cloud Manager does not send emails to this address.
Role	Select one of the three roles: Cloud Manager Admin Can perform all tasks in Cloud Manager. Tenant Admin Can create and manage all working environments in a tenant and can manage users in that tenant. Working Environment Admin Can create and manage one or more working environments in a single tenant. When you create a Working Environment Admin user, you need to assign the user to a tenant and, optionally, a working environment. If the selected tenant does not have a working environment, you can modify the assigned working environments later. Note: Working Environment Admin users automatically have privileges to the working environments that they create.

Field	Description
AWS Access Key and AWS Secret Key	Enter the access key and secret key assigned to the user in AWS. Cloud Manager uses the keys to make requests to AWS. If the user is an IAM user, the account must have specific AWS permissions. You can use NetApp-provided IAM policies that include the required permissions. NetApp Cloud ONTAP: AWS IAM User Policies for Cloud Manager Note: Cloud Manager validates the keys when the user creates and manages working environments.
AWS Cost S3 Bucket	Enter the S3 bucket that contains detailed billing reports if you specified keys for an AWS account under which the bucket was created. Giving Cloud Manager access to detailed billings reports enables it to display AWS storage and compute costs associated with Cloud ONTAP instances. If you are using AWS consolidated billing, you do not need to specify the bucket each time you create a Cloud Manager user account. You just need to specify the bucket for one Cloud Manager user account that corresponds to an IAM user created under the AWS payer account or the payer account itself. If you have not set up an S3 bucket and enabled billing reports, see the OnCommand Cloud Manager Installation and Setup Guide for details.

4. Click **Save**.

Result

Cloud Manager creates the user account. The user can now log in to Cloud Manager.

Related information

[OnCommand Cloud Manager 1.0 Installation and Setup Guide](#)

Editing user accounts

You can modify Cloud Manager user accounts by changing the user's name and email address, by resetting the user's password, by changing the AWS keys associated with the account, and by changing the S3 cost bucket in which detailed billing reports are stored.

Steps

1. In the upper-right hand corner of the Cloud Manager console, click the task-drop down list, and then select **Users**.
2. Select the user account that you want to modify.

3. In the **Edit User** page, modify the user account and then click **Save**.

Deleting user accounts

You can delete a user account, as long as no working environments created by that user exist. For example, if a user created a Cloud ONTAP working environment, you cannot delete that user's account until you delete the working environment.

About this task

You can delete a user account that is assigned to a working environment that the user did not create.

Steps

1. In the upper-right hand corner of the Cloud Manager console, click the task-drop down list, and then select **Users**.
2. Select the user account that you want to delete.
3. Click the delete icon.
4. Click **OK** to confirm.

Configuring Cloud Manager settings

Cloud Manager includes a few settings that determine how the product works. Capacity thresholds trigger notifications when the space in an aggregate reaches a certain threshold, an HTTP proxy setting configures Cloud Manager and Cloud ONTAP instances to use a proxy server for all HTTP communications, and a logging verbosity setting enables full API logging. You should enable full API logging only when requested by NetApp technical support.

Modifying aggregate capacity thresholds

Cloud Manager notifies you when an aggregate's free space ratio declines below the configured threshold or when an aggregate's overcommitment ratio grows beyond the configured threshold. You can modify the default thresholds if they do not meet your needs.

About this task

You can define capacity thresholds for the following:

Aggregate free space ratio

The percentage of free space available in the aggregate. The threshold is 10 percent by default. The calculation for the ratio is: the aggregate's capacity minus the aggregate's used capacity divided by the aggregate's capacity.

Aggregate overcommitment ratio

The ratio between the amount of storage over provisioned in the aggregate and the free space available in the aggregate. The threshold is 500 percent by default. The calculation for the ratio is: the total allocated capacity on the aggregate minus the aggregate's used capacity divided by the aggregate's free capacity. The total allocated capacity on the aggregate is derived from all volumes, whether they are thick or thin provisioned.

For example, suppose a 1,000 GB aggregate has 100 GB of free space and contains two volumes:

- A 1,000 GB thin provisioned volume with 600 GB used size
- A 300 GB thick provisioned volume

The overcommitment ratio for this aggregate is: 1,300 minus 900 divided by 100 which translates to 400 percent. If you wanted to provision a 200 GB thin provisioned volume on this aggregate, the overcommitment would increase: 1,500 minus 900 divided by 100 which translates to 600 percent. Provisioning this volume would cross the threshold.

If an aggregate crosses either of these thresholds, Cloud Manager displays a notification in the working environment page, notifying you that additional disks are needed.

Steps

1. In the upper-right hand corner of the Cloud Manager console, click the task-drop down list, and then select **Settings**.
2. Under **Capacity Thresholds**, change the percentages and click **Save**.

Result

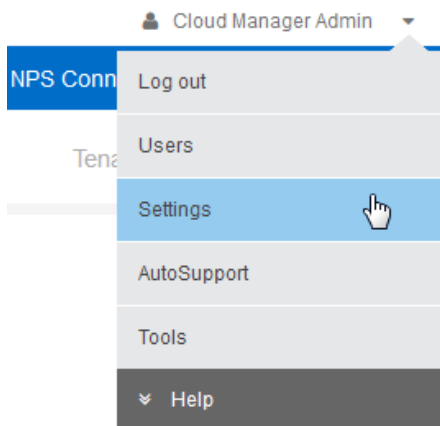
Cloud Manager updates the threshold percentages and notifies users when they are reached.

Configuring Cloud Manager to use a proxy server

If your corporate policies dictate that you use a proxy server for all HTTP communication to the Internet, then you must configure Cloud Manager to use that proxy server. The proxy server can be in AWS or in your data center.

Steps

1. In the upper-right hand corner of the Cloud Manager console, click the task-drop down list, and then select **Settings**.



2. Under **HTTP Proxy**, enter the server using the syntax **http://address:port**, and then click **Save**.

Example

HTTP Proxy

Set up Proxy configuration to allow Cloud Manager and Cloud ONTAP instances to access the Internet.

Enter an empty value to disable the proxy.

Result

After you set the proxy option in Cloud Manager, new Cloud ONTAP instances are automatically configured to use the proxy server for AutoSupport messages. If you set the proxy option after launching Cloud ONTAP instances, you need to manually set the proxy in the AutoSupport options for each instance.

Related information

[OnCommand Cloud Manager 1.0 User Guide](#)

Troubleshooting Cloud Manager and Cloud ONTAP

Several resources and tools are available to help you with Cloud Manager and Cloud ONTAP.

To...	Go here...
View known issues and limitations	OnCommand Cloud Manager 1.0 Release Notes Find the Release Notes for your version of Cloud ONTAP Find the Release Notes for your version of Data ONTAP 8
View cloud-related KB articles and frequently asked questions	NetApp Cloud ONTAP Support
Connect with peers and ask questions	NetApp Community: Hybrid Cloud
Add existing Cloud ONTAP instances to Cloud Manager	Adding existing Cloud ONTAP instances to Cloud Manager on page 12
Restore Cloud Manager from a backup	Restoring Cloud Manager from a backup on page 14
View logs	Working with Cloud Manager AutoSupport on page 14
Understand how technical support can use the NetApp support instance to troubleshoot problems	NetApp Support instance troubleshooting and recovery tools on page 15

Adding existing Cloud ONTAP instances to Cloud Manager

You can discover and add existing Cloud ONTAP instances to Cloud Manager. You might do this if your Cloud Manager instance became unusable and you launched a new instance, but you could not restore all Cloud ONTAP instances from a recent Cloud Manager backup.

Before you begin

If you just launched a new Cloud Manager instance and you did not restore from a backup, you should have modified your user account by entering your AWS access key and secret key.

Steps

1. In the upper-right hand corner of the Cloud Manager console, click the task-drop down list, and then select **Tools**.
2. Under **Cloud ONTAP Discovery**, select the AWS region in which the instance resides.
3. Select a Cloud ONTAP instance.
4. Enter the credentials for the Cloud ONTAP admin user and click **Verify**.
5. Select the tenant in which you want to place the instance.
6. Click **Recover**.

The following image shows the Cloud ONTAP Discovery section filled out:

Step 1: AWS Region

Select an AWS region where the Cloud ONTAP instance is located

Step 2: Discovered Cloud ONTAP instances

Select Cloud ONTAP instance to add to Cloud Manager

Name	VPC Name	Availability Zone	Subnet Id	Cloud Formation Name	Cluster Address
CloudONTAP1	VPC1	us-east-1a	subnet-44d10833	CloudONTAP1	10.0.1.83
CloudONTAP2	VPC1	us-east-1a	subnet-44d10833	CloudONTAP2	10.0.1.85

Step 3: Cloud ONTAP Credentials

Provide credentials for Cloud ONTAP and click verify

Step 4: Tenant

Select a Tenant and click Recover

Recover

Result

Cloud Manager adds the Cloud ONTAP instance to the tenant.

Restoring Cloud Manager from a backup

You can restore Cloud Manager from a backup to restore it to a previous configuration.

About this task

Restoring Cloud Manager from a backup replaces existing data with the data from the backup.

Steps

1. In the upper-right hand corner of the Cloud Manager console, click the task-drop down list, and then select **Tools**.
2. Click **Restore**.
3. Click **OK** to confirm.
4. Select the backup.

Result

Cloud Manager restores the database from the backup file.

Related tasks

[Backing up Cloud Manager](#) on page 4

Working with Cloud Manager AutoSupport

You can change the AutoSupport schedule, download AutoSupport messages for troubleshooting, and send an immediate AutoSupport message to NetApp technical support.

Steps

1. In the upper-right hand corner of the Cloud Manager console, click the task-drop down list, and then select **AutoSupport**.
2. Work with AutoSupport as follows:

To...	Do this...
Change the schedule	Change the day of week and time of day when Cloud Manager should send AutoSupport messages to NetApp technical support and then click Save .

To...	Do this...
Download an AutoSupport message, which includes logs that you or NetApp technical support can use to troubleshoot issues	Click Download Now .
Send an immediate AutoSupport message to NetApp technical support, which you might do at the request of support personnel	Click Send Now .

NetApp Support instance recovery tools

The NetApp Support instance includes recovery tools that NetApp technical support can use to troubleshoot and repair problems with Cloud ONTAP instances. You should use these tools only under the guidance of technical support.

Script	Description
<code>get_core.pl</code>	Retrieves the core file of a Cloud ONTAP instance. Examining the core file is helpful if the instance crashed due to an unexpected software failure.
<code>rec_revert_boot_volume.pl</code>	Reverts the boot volume of a Cloud ONTAP instance using the latest EBS snapshot. Reverting the boot volume might be necessary if the boot volume failed or is unavailable or when the instance will not boot after a software update.
<code>rec_revert_root_aggr.pl</code>	Reverts the root aggregate of a Cloud ONTAP instance using the latest EBS snapshot. Reverting the root aggregate might be necessary if the root aggregate failed, is unavailable, or is corrupted. Note: Cluster configuration backups are needed to complete a full recovery. These backups are sent to the NetApp Support instance by default. The user name for the destination FTP server is supportftp. The password is the ID of the VPC in which the instance is running.

The NetApp Support instance includes two other scripts that you can use without the guidance of technical support. One script takes EBS snapshots of the boot volume and the other enables you to change a Cloud ONTAP instance type. For details, see the [OnCommand Cloud Manager 1.0 User Guide](#).

Running the NetApp Support instance tools in your data center

You can install the NetApp Support instance's tools on a Linux host in your data center to enable instance changes and recovery procedures. You might do this if you want to stop the NetApp Support instance to save on AWS compute charges.

Before you begin

The Linux host must have internet access.

About this task

The NetApp Support instance is also the backup location for Cloud ONTAP cluster configuration files. If you plan to stop the instance in AWS, you should first configure Cloud ONTAP instances to send the backups to another FTP or HTTP server. It is best to back up the files to a remote location because they enable recovery procedures. To change the backup location, see the [Clustered Data ONTAP 8.3 System Administration Guide for Cluster Administrators](#).

Note: Stopping the instance is the best way to stop accruing compute charges. If you delete the NetApp Support instance, Cloud Manager will launch another instance when you launch a Cloud ONTAP instance in that VPC.

The recovery script `get_core.pl` is not supported when you install the tools in your data center.

Steps

1. Install the AWS CLI.

AWS Documentation: Installing the AWS Command Line Interface

2. Install supporting Perl modules:

```
sudo apt-get install -y libjson-perl libdatettime-format-strptime-perl
liblog-dispatch-filerotate-perl liblog-log4perl-perl
```

3. Install the tools:

```
wget -O /tmp/netappcloudontap-support-1.0.0.deb https://
netappcloudontap-support.s3.amazonaws.com/netappcloudontap-
support-1.0.0.deb
```

```
sudo dpkg -i /tmp/netappcloudontap-support-1.0.0.deb
```

Note: When this guide was published, 1.0.0 was the most recent version of the tools. If a later version is available, you will be prompted to upgrade when you run a script.

4. Verify that the tools installed properly:

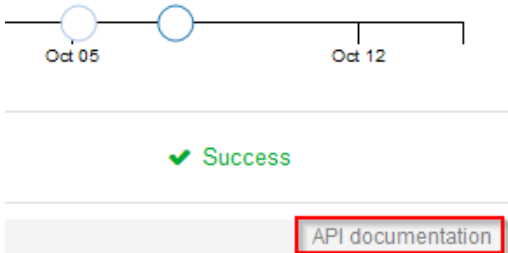
rec_snap_volume.pl -v

5. Upgrade to the latest version, if prompted.

Cloud Manager APIs

Cloud Manager includes a set of APIs that you can use to initiate actions programmatically. A list of the APIs and their descriptions are included with Cloud Manager.

A link to the API documentation is available in the lower-right hand corner of the console:



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