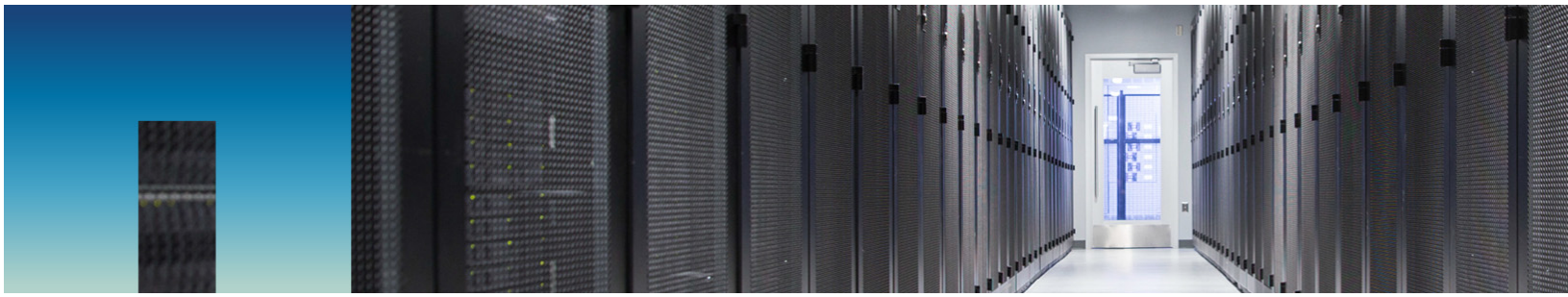

NetApp Cloud Volumes Service for AWS

Account Setup

Cloud Volumes Team, NetApp
September 2018

Abstract

This document provides instructions to help users set up the initial environment for using NetApp® Cloud Volumes Service for Amazon Web Services (AWS).

NetApp®

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1 Overview

This document guides users through the required steps to add NetApp Cloud Volumes for an AWS account.

2 Requirements

This section details the requirements to access Cloud Volumes Service for AWS.

Administrative

The following administrative tasks are required to access Cloud Volumes Service for AWS:

- Willingness to accept the NetApp End-User License Agreement (EULA)

  Note: This EULA is presented as part of the AWS Marketplace subscription process.

- An active AWS account

  Note: The ID for the AWS account is sent to NetApp to enable access to Cloud Volumes Service for AWS in the AWS Marketplace.

  Note: In certain circumstances, your AWS Payer ID might be required to subscribe to the Cloud Volumes listing on the AWS Marketplace.

Skills and Knowledge

The following skills and information are required to access Cloud Volumes Service for AWS:

- Access to and knowledge of the AWS Marketplace
- Knowledge of your AWS network and connectivity settings and controls

Compute Resources

The following compute resources are required to access Cloud Volumes Service for AWS:

- A valid AWS subscription (with permissions to subscribe to new Marketplace listings)

  Note: All AWS compute and other resources used are the sole responsibility of the user.

- A Virtual Private Cloud (VPC) that has been configured and running prior to the setup of Cloud Volumes Service for AWS
- An Internet browser

3 Workflow Overview

3.1 Virtual Private Gateways and Direct Connect Gateways

NetApp Cloud Volume Service can be connected to either a Virtual Private Gateway or Direct Connect Gateway. This provides options to best meet your needs.

Virtual Private Gateways

Virtual Private Gateway allow only one VPC to be connected to the Cloud Volume Service. This can be useful to further enhance security by isolating data access to a single VPC.

Direct Connect Gateways

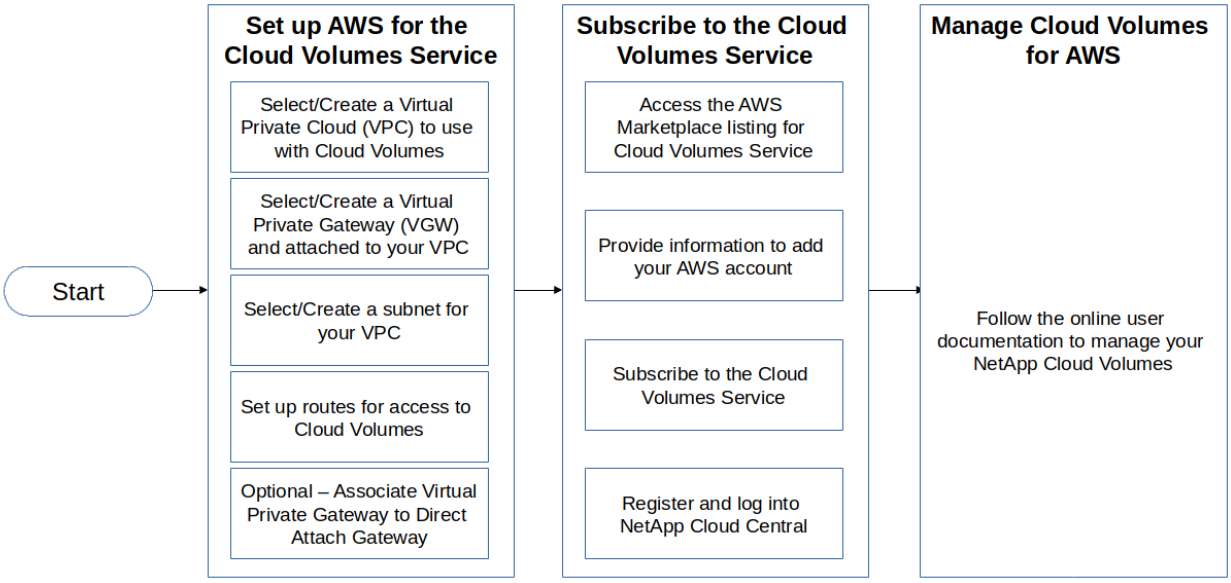
Direct Connect Gateways provide additional flexibility such as the ability to connect EC2 instances from up to 10 VPCs to a cloud volume and for the VPCs to be in different regions. It enables Cloud Volumes from multiple regions to be connected via the same Direct Connect Gateway.

3.2 Workflow

Figure 1 is a high-level workflow diagram illustrating how to set up your Cloud Volumes Service for AWS account, enable the AWS subscription and Cloud Volumes Service for AWS.

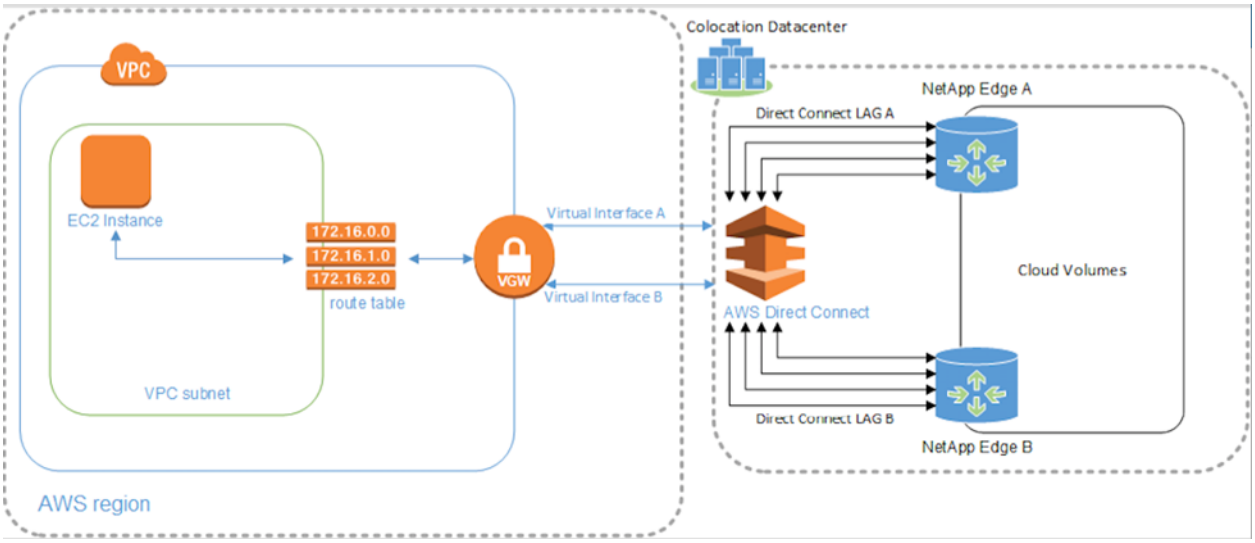
For detailed information about on-boarding your Cloud Volumes Service for AWS account, see section 4 through section 6.

Figure 1) Workflow diagram: Cloud Volumes Service for AWS account.



4 Set Up Cloud Volumes Service for AWS Account

Figure 2) Connectivity for the Cloud Volumes Service for AWS (showing connection to Virtual Gateway)



Before you subscribe to NetApp Cloud Volumes Service for AWS, please complete or verify that your AWS account is correctly configured by completing these tasks:

- Select/create a VPC to use with Cloud Volumes
- Select/create a Virtual Private Gateway (VGW)
- Select/create a subnet for the VPC
- Set up routes to include cloud volumes network
- Optionally select/create a Direct Connect Gateway (DCG)

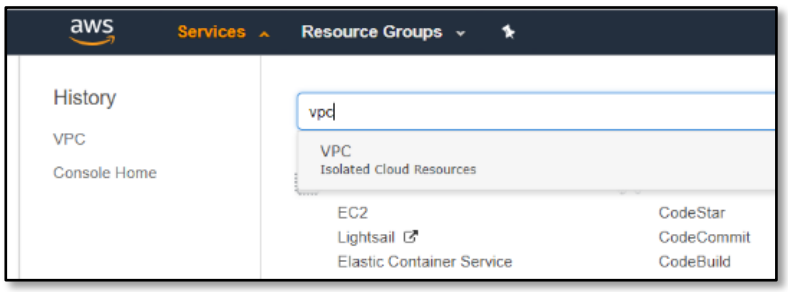
If you already have a VPC and virtual gateway (and optionally a Direct Connect Gateway) configured, jump to section 4.5.

4.1 Create VPC to Use with Cloud Volumes

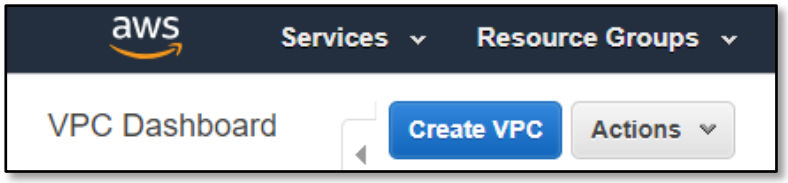
It is not mandatory that you create a new VPC; however, you might need it to isolate instances in the Cloud Volumes project from work in other VPCs.

To create a VPC to use with Cloud Volumes, complete the following steps:

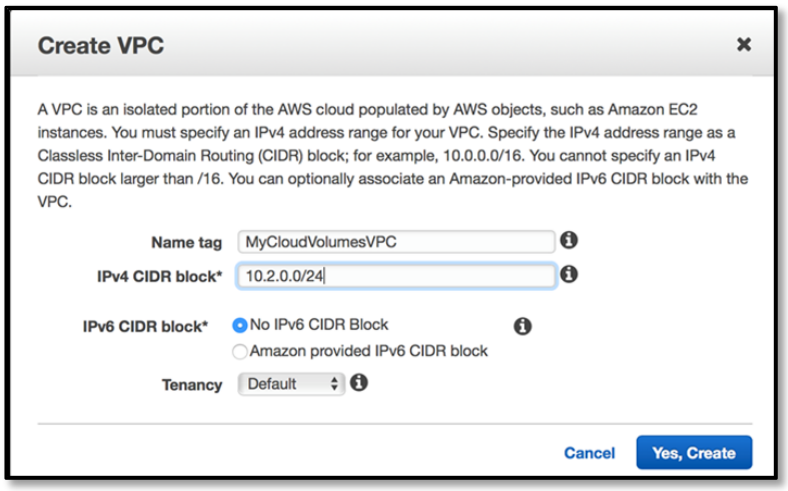
1. Log in to your AWS account and navigate to the VPC dashboard.



2. Click Your VPCs on the navigation pane to the left. Click Create VPC.



3. On the Create VPC page, complete these tasks:
   a. Enter a unique name to help you identify this VPC to use for Cloud Volumes.
   Enter a private range Classless Inter-Domain Routing (CIDR) block that works for your environment. It doesn't matter what it is, you can select from any private class range. A `/24` CIDR block is sufficient. In this example, the CIDR block name is `10.2.0.0/24`.
   b. Click Yes, Create. A new VPC is created.



4.2 Create a Virtual Private Gateway and Attach to Your VPC

The VGW is a network gateway that provides a route to NetApp Cloud Volumes.

To create a VGW and attach it to your VPC, complete the following steps:

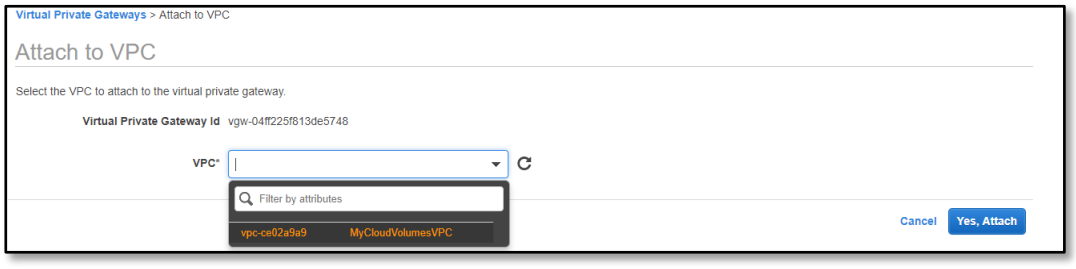
1. On the VPC page of the AWS console, select Virtual Private Gateway.
2. At the top of the page, select Create Virtual Private Gateway.
3. Provide an appropriate name tag and click Create Virtual Private Gateway.

   Note: NetApp recommends selecting Amazon Default ASN, in which case your VGW will be assigned an ASN of 64512. You can select the Custom ASN option and assign any valid private ASN. Make a note of the ASN as you will need to provide it to the NetApp onboarding team.

4. Make a note of the VGW ID and click Close. The new VGW is displayed in the detached state.

5. Click the button next to the new Virtual Private Gateway and press Actions (above the table).
6. Click Attach to VPC.
7. Select the newly created VPC to attach to the VGW, and then click Yes, Attach.

   Note: You are returned to the Virtual Private Gateway page.



It can take a minute or two for the VGW to transition from the Attaching state to Attached.

Note: Use the Refresh button in the upper-right corner of the page to refresh the status.

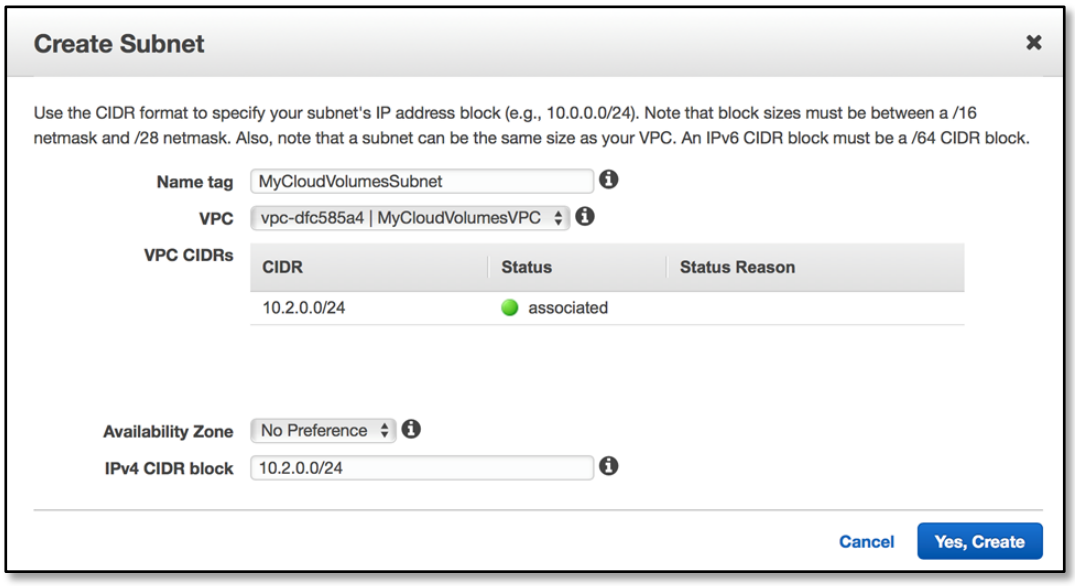
4.3 Create a Subnet for the VPC

To create a subnet for the VPC, complete the following steps:

1. On the VPC dashboard, select Subnets from the navigation pane on the left. A list of existing subnets is displayed. Click Create Subnet.
2. On the Create Subnet page, complete these steps:
   a. Enter an appropriate name tag for your environment.
   b. Select the newly created VPC.
   c. Unless you want to select a specific availability zone, leave the No Preference default value and the system will select the availability zone for you.
   d. Unless you need to divide the VPC into multiple subnets, use the CIDR block for the entire VPC.

      In this example, the `10.2.0.0/24` CIDR block was used—it represents the entire VPC CIDR block.
   e. Click Yes, Create. The new subnet will reside in the VPC you selected.

   Note: This process can take a few minutes.

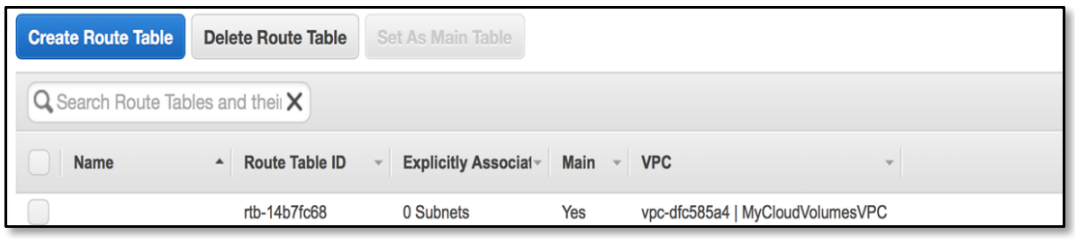


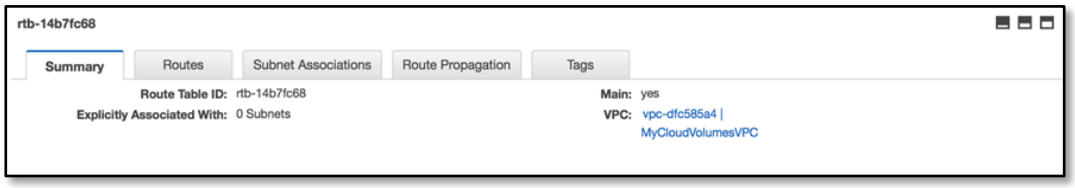
4.4 Set Up Routes

To set up routes, complete the following steps:

1. On the VPC dashboard, select Route Table from the navigation pane on the left.

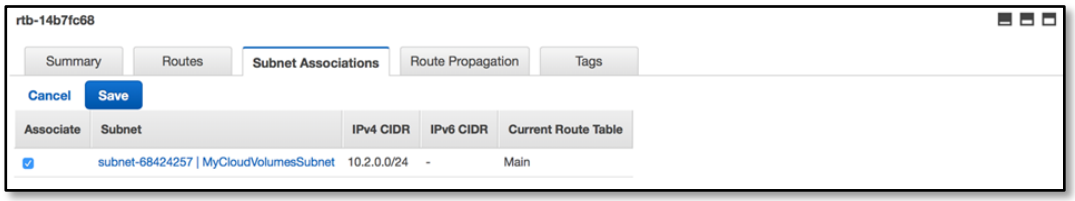
   Note: A route table is automatically assigned as part of the VPC creation.





2. Select the Subnet Associations tab and associate the newly created subnet with this route table.

3. Click Save.



4. Optional. Select the Route Propagation tab or configure a static route (refer to section where static route can be viewed/used).
5. Optional. The VGW is not currently set to have routes propagated. To enable this setting, click Edit and enable the toggle button to the right of the VGW name.

6. Click Save.

4.5 Gather and provide AWS configuration information to NetApp

You are now ready to subscribe to Cloud Volumes in the AWS Marketplace. When subscribing, provide the following information:

- AWS account number
- Regions required
- Private network CIDR preference (for example, Class A, B, or C network in RFC 1918)
- Virtual private gateway or Direct Connect Gateway ASN (autonomous system number)
- Desired name for the virtual interfaces (for example, `NetApp_CVS_XXX`; the default names are `NetApp-CV-A` and `NetApp-CV-B`)

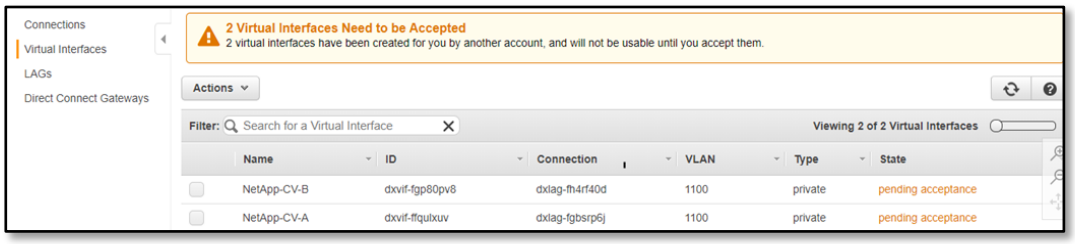
  Note: At this point, you can accept the Direct Connect virtual interfaces created by NetApp.

4.6 Accept the Direct Connect Virtual Interfaces

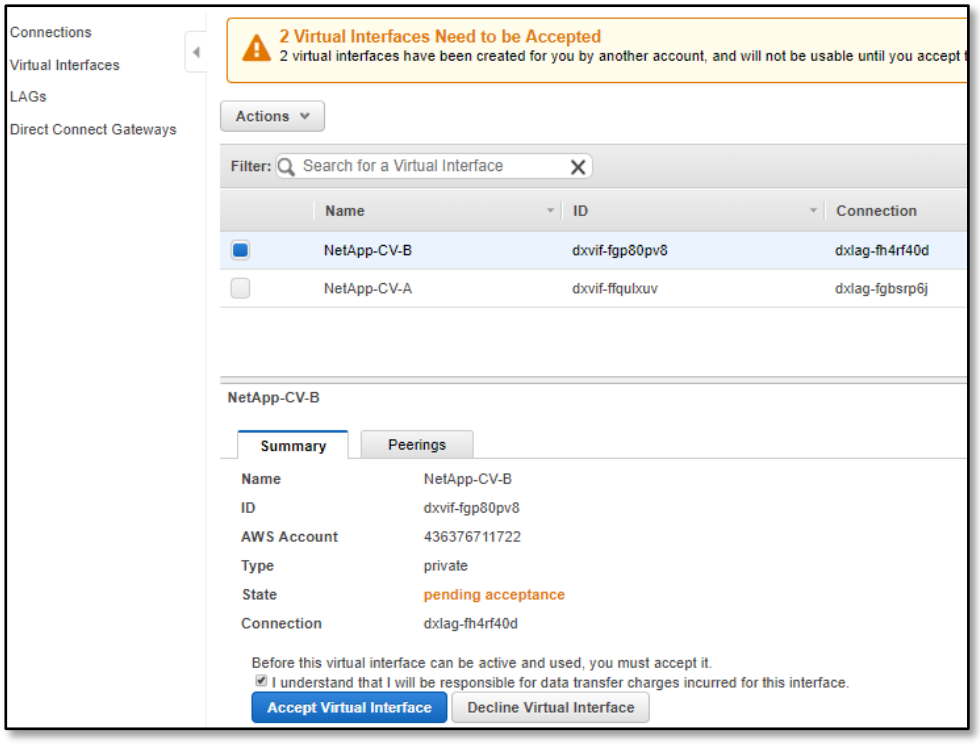
NetApp provides virtual interfaces for connectivity to the Cloud Volumes Service. These virtual interfaces must be accepted before they can be used.

To accept the virtual interfaces, complete the following steps:

1. From the AWS console for your account, navigate to the Direct Connect service and click Virtual Interfaces.

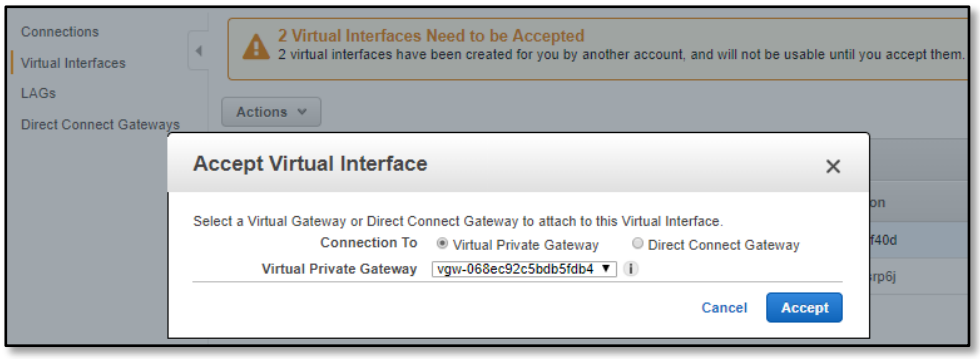


2. Select one of the virtual interfaces and click Accept Virtual Interface.



3. From the drop-down menu, select either a **virtual private gateway** or a **direct connect gateway** and click Accept.

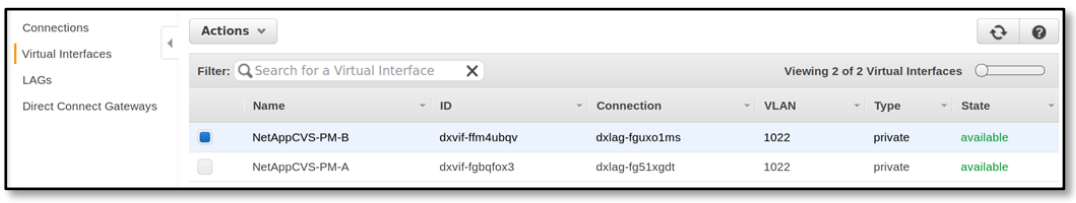
Note. A description of virtual private gateway and direct connect gateway is in section 3.



4. Repeat steps 1 through 3 for each interface.
5. The state of the virtual interface initially goes to **down**, changes to **up**, and finally to **available**.

   Note: It can take several minutes before the virtual interfaces become available.

6. Verify that the virtual interfaces are available



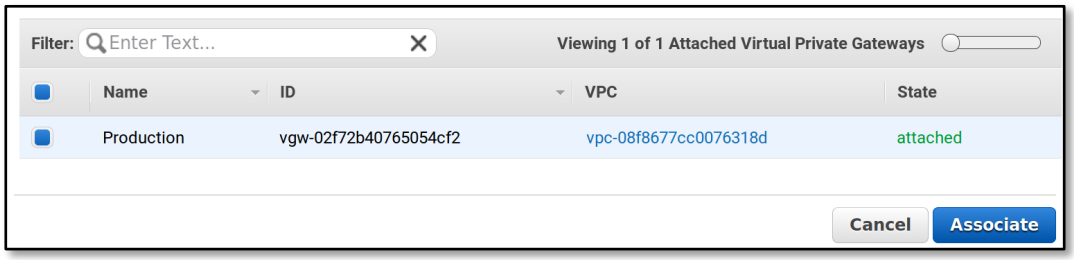
7. If you accepted the Virtual Interfaces to a Virtual Private Gateway please jump to section 5.0

Optional steps when using a Direct Connect Gateway.

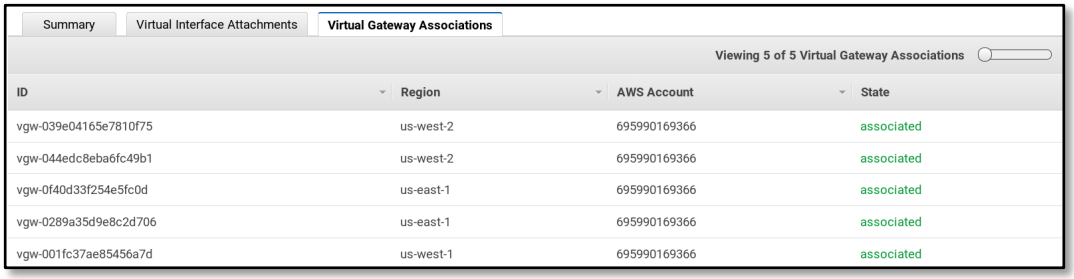
Once the previous steps are complete associate the Virtual Private Gateway to the Direct Connect Gateway with the remaining steps:

8. From the AWS console for your account, navigate to the Direct Connect service and click Direct Connect Gateways.
9. Highlight the Direct Connect Gateway and select **Associate Virtual Private Gateways**

10. Select the Virtual Private Gateway and click **Associate**



11. Click on **Virtual Gateway Associations** tab in the lower pane to confirm the VGW is associated.



Note.

Direct Connect Gateways allow multiple VPCs to be added, however the CIDR ranges of the VPCs cannot overlap as the gateway effectively creates a single network. If you require VPCs that have the same CIDR range then connect Virtual Private Gateways directly to Cloud Volumes Virtual Interfaces.

5 Enable AWS Subscription and Cloud Volumes Service

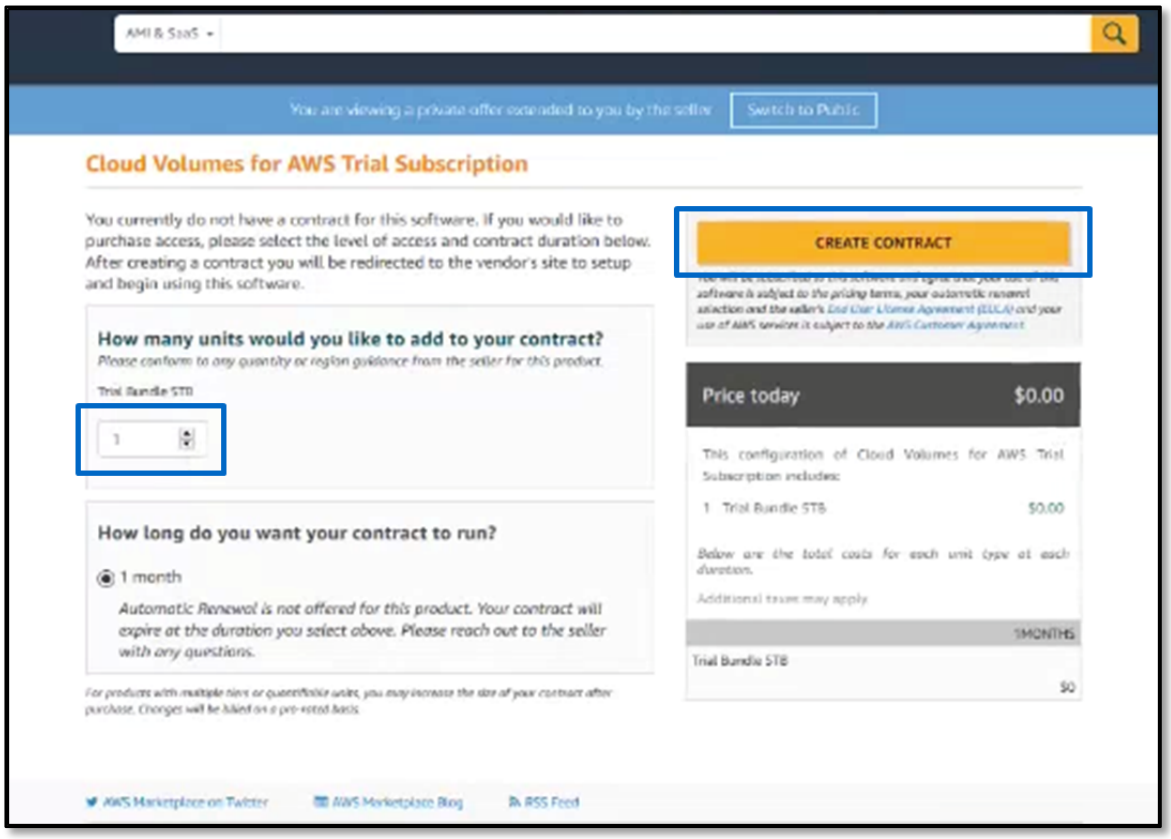
5.1 Access AWS Marketplace Listing for Cloud Volumes

Your NetApp Cloud Volumes onboarding team will provide you with an AWS Marketplace URL to access the NetApp Cloud Volumes listing on AWS.

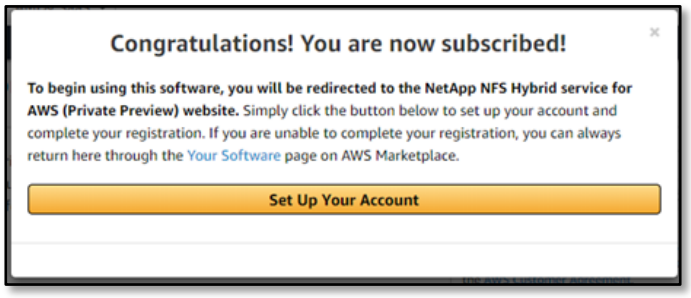
Complete the following steps:

1. Go to the AWS log-in page.
2. Log in to your AWS account.
3. Open the listing URL provided to you.
4. The NetApp Cloud Volumes Service for AWS page is displayed.
5. Click Continue to Subscription.
6. The Contract Signup page is displayed.
7. Select the quantity of trial bundles and then click Create Contract.

   Note: Only select the quantity that matches your total terabyte subscription. In this example, a 5TB 30-day trial is a quantity of 1 (1x 5TB).



8. When the congratulations message is displayed, click Set Up Your Account.

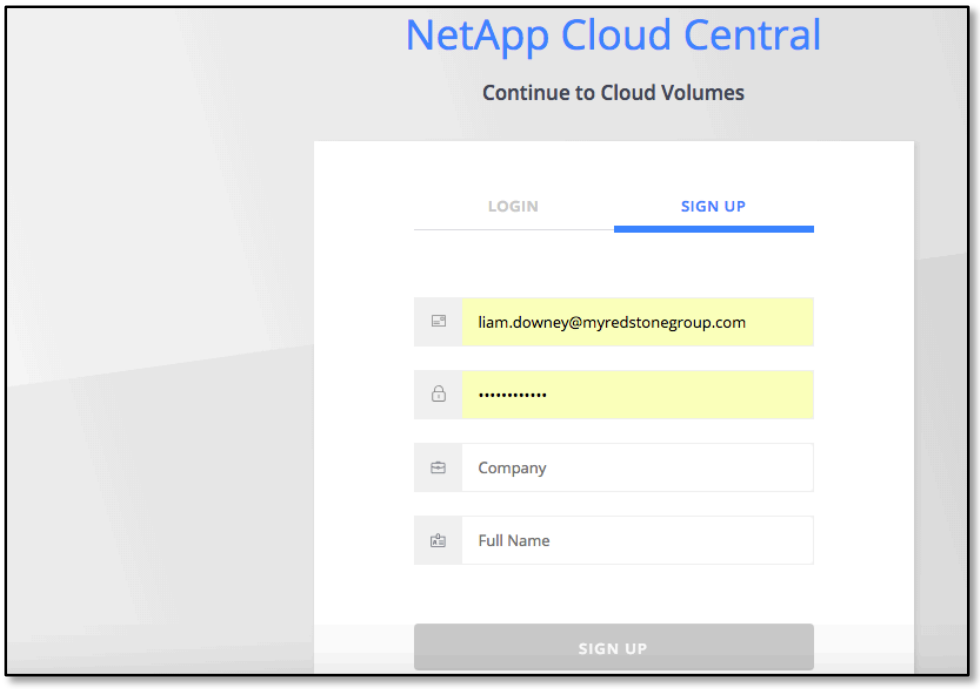


9. You will be redirected to the NetApp Cloud Central page. Complete the steps in the next section to register and log into NetApp Cloud Central.

5.2 Register and Log into NetApp Cloud Central

To register and log into NetApp Cloud Central, complete the following steps:

1. Go to the NetApp Cloud Central page.
2. If you don't have an account, create one now by selecting **Sign Up**.
3. Log in using your NetApp Cloud Central credentials.



You have completed the initial process for creating Cloud Volumes Service for AWS.

6 Manage Cloud Volumes

To create and manage Cloud Volumes Service for AWS, follow the instructions on NetApp Cloud Volumes Service for AWS Documentation. For example, you can create a cloud volume, mount the volume, and create a NetApp Snapshot™ copy of the volume.

Support

For support information, e-mail aws-bundles-support@netapp.com.

Where to Find Additional Information

To learn more about the information described in this document, refer to the following documents and/or websites:

- NetApp Cloud Volumes product page
  https://www.netapp.com/us/products/cloud-storage/cloud-volumes/index.aspx
- NetApp Cloud Volumes Service for AWS documentation
  https://docs.netapp.com/us-en/cloud_volumes/aws/
- NetApp Product Documentation page
  http://docs.netapp.com

Version History

Version	Date	Document Version History
Version 1.0	May 2018	Initial release.
Version 2.0	July 2018	Added connectivity and setup diagram.
Version 2.1	August 2018	Added section 4.5, "Accepting the Direct Connect Virtual Interfaces;" modified the workflow diagram; and updated section 5.3, "Subscribe to Cloud Volumes Bundle on AWS Marketplace."
Version 3.0	August 2018	Simplified the setup process
Version 4.0	September 2018	Added optional steps for using Direct Connect Gateways