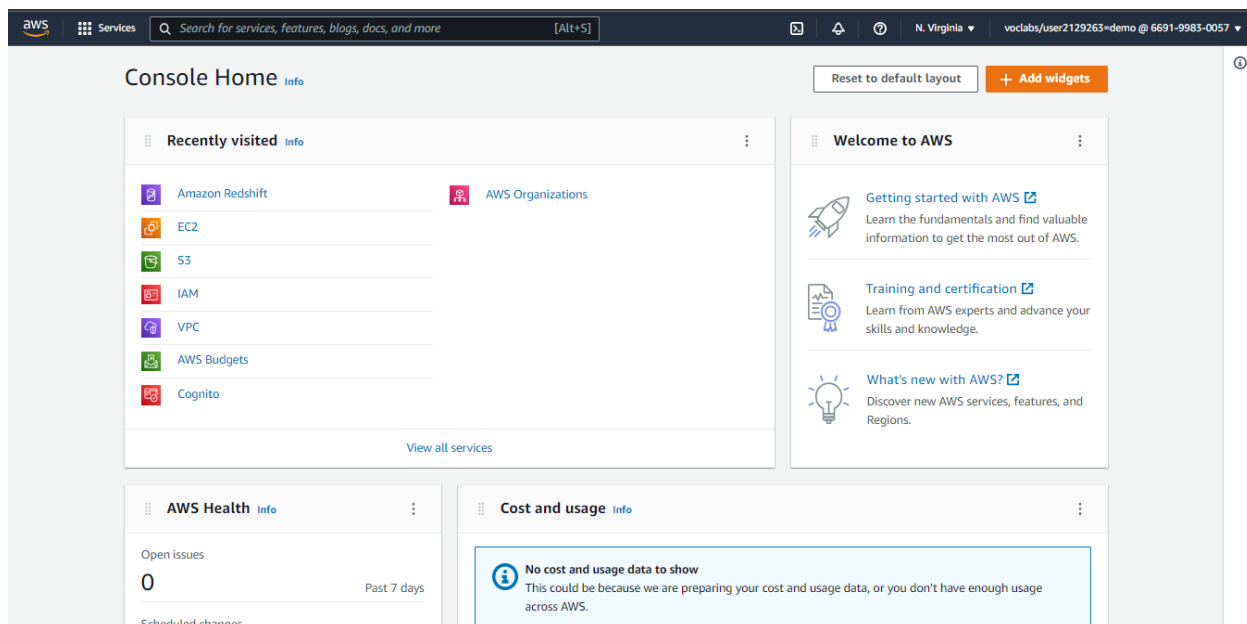
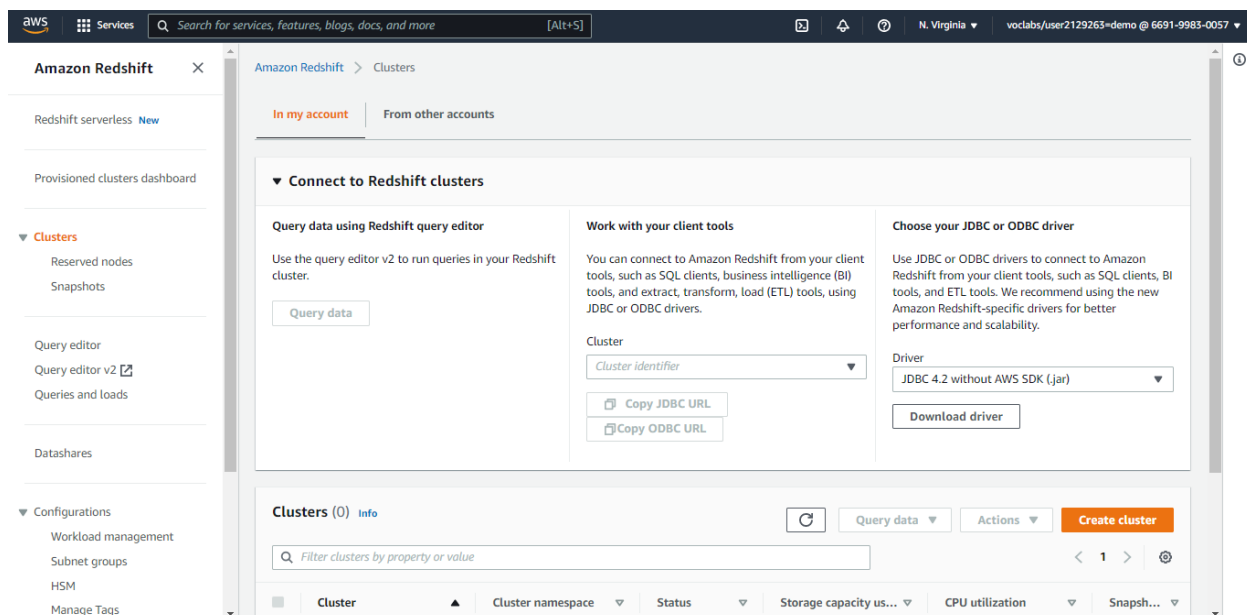


## Creating a Redshift Cluster

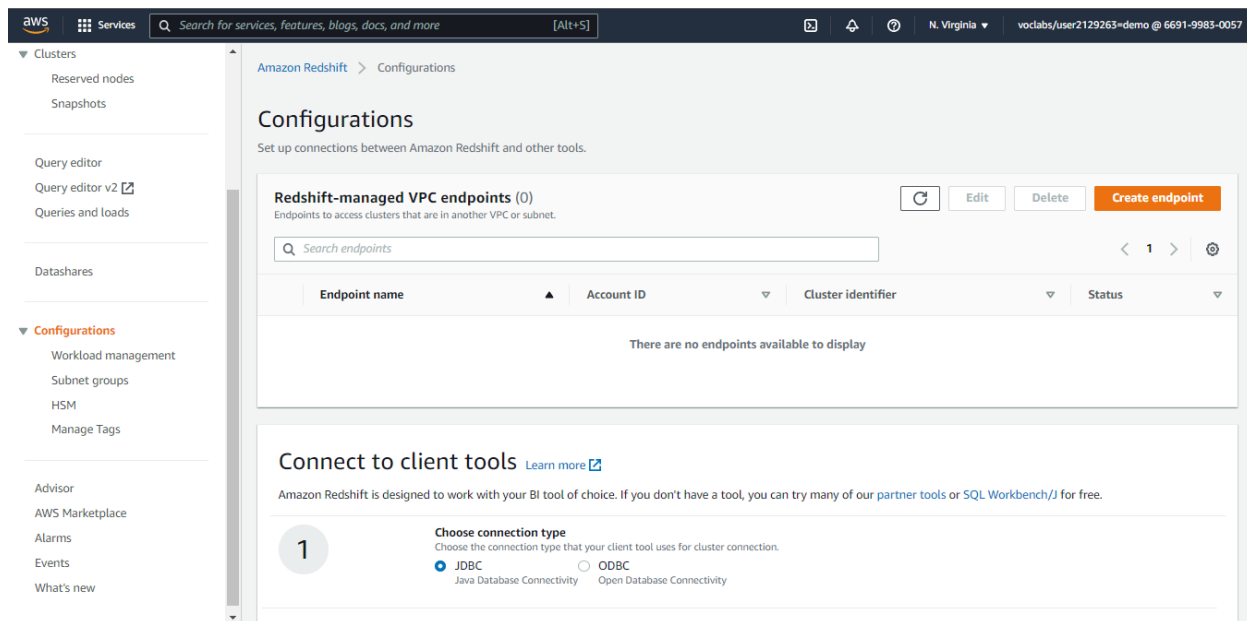
1. Choose the Redshift option from the Amazon Dashboard.



2. You will be redirected to the AWS Redshift Console.

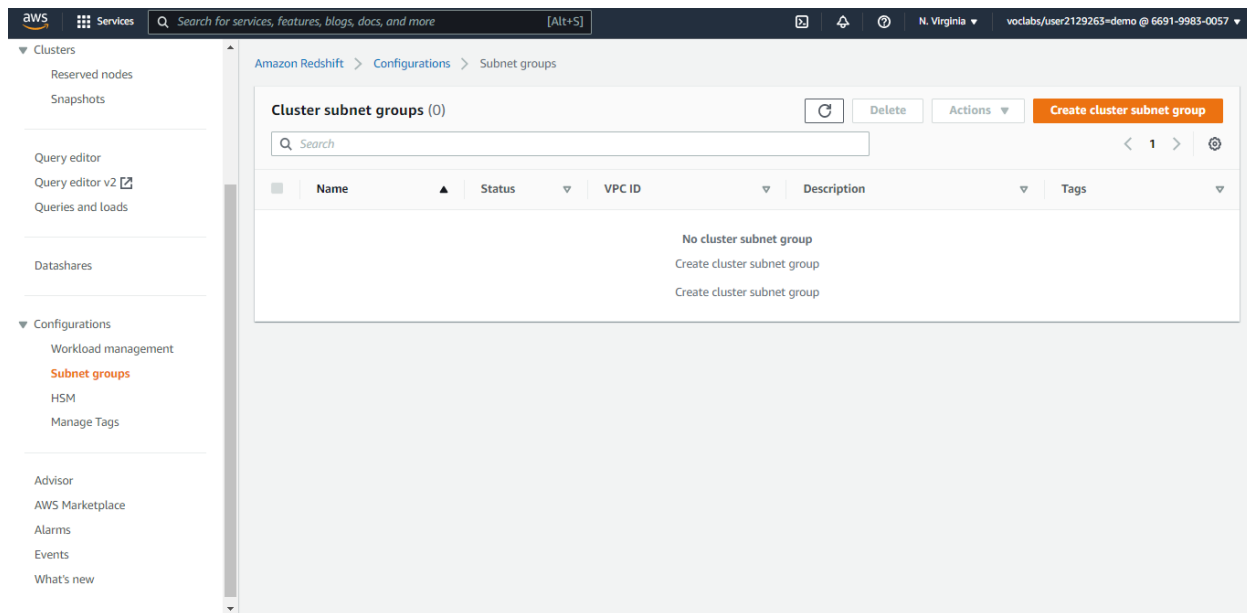


### 3. Go to Configurations.



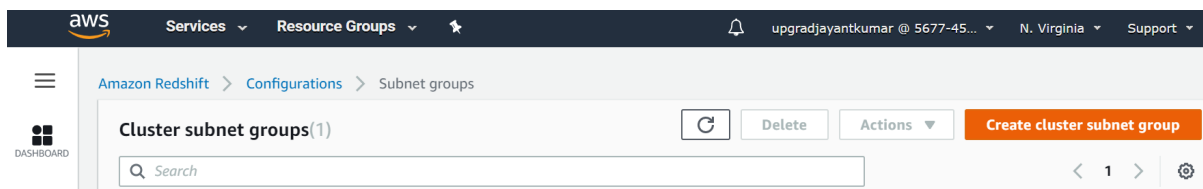
The screenshot shows the Amazon Redshift console interface. The left sidebar contains navigation options: Clusters (Reserved nodes, Snapshots), Query editor, Query editor v2, Queries and loads, Datashares, Configurations (Workload management, Subnet groups, HSM, Manage Tags), Advisor, AWS Marketplace, Alarms, Events, and What's new. The main content area is titled 'Configurations' and includes a search bar, a table of Redshift-managed VPC endpoints (currently empty), and a section for connecting to client tools with a 'Choose connection type' dropdown (JDBC selected).

### 4. In the Config dashboard, scroll down to the Subnet Groups. Click on 'Manage subnet groups'.

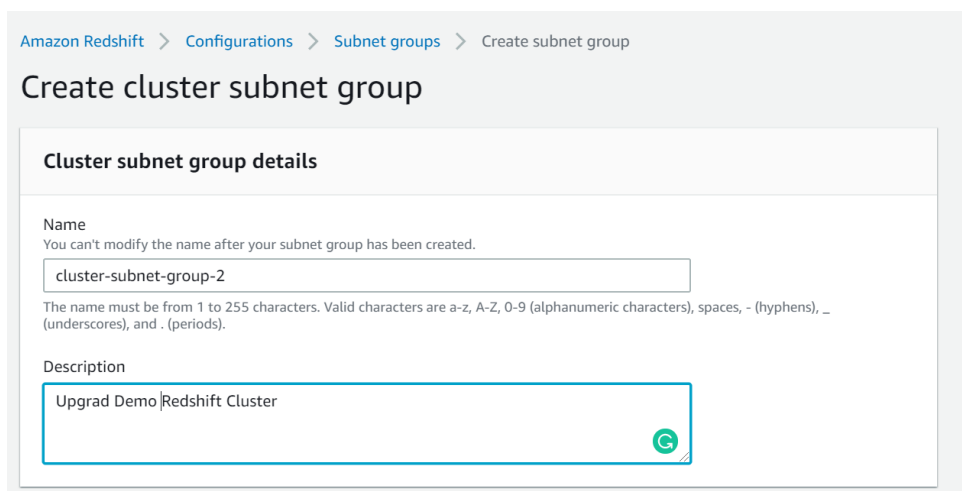


The screenshot shows the Amazon Redshift console interface, specifically the 'Subnet groups' page. The left sidebar is the same as in the previous screenshot. The main content area is titled 'Subnet groups' and includes a search bar, a table of cluster subnet groups (currently empty), and a 'Create cluster subnet group' button.

- Click on the **'Create cluster subnet group'** button.



- Assign a name for the Redshift cluster along with a brief description.



The screenshot shows the 'Create cluster subnet group' form. The breadcrumb trail is 'Amazon Redshift > Configurations > Subnet groups > Create subnet group'. The form title is 'Create cluster subnet group'. Under 'Cluster subnet group details', there are two fields: 'Name' and 'Description'. The 'Name' field contains 'cluster-subnet-group-2' and has a note: 'You can't modify the name after your subnet group has been created.' Below the name field, a note states: 'The name must be from 1 to 255 characters. Valid characters are a-z, A-Z, 0-9 (alphanumeric characters), spaces, - (hyphens), \_ (underscores), and . (periods).' The 'Description' field contains 'Upgrad Demo Redshift Cluster' and has a green checkmark icon.

- Scroll down until you reach the **Add subnets** option. Select your **VPC** from the drop-down list. After that available **Availability Zone** appears; select any one. Then, select the **Subnet** drop-down list that appears. Click on **Add subnet** button. Lastly, click on the **Create cluster subnet group**.

### Add subnets

**VPC**  
Choose the VPC that contains the subnets that you want to include in your cluster subnet group.

Default VPC  
vpc-078473a7150dfaf73

Add all the subnets for this VPC

Availability Zone  
us-east-1a (1)

Subnet  
subnet-08f16bd272ddec2e7

Add subnet

Subnets in this cluster subnet group (0)

Remove all

Availability Zone	Subnet ID	CIDR block	Action

Cancel

Create cluster subnet group

8. The cluster subnet has been created successfully.

Cluster subnet group cluster-subnet-group-1 was create successfully

Amazon Redshift > Configurations > Subnet groups

Cluster subnet groups (1)

Refresh
Delete
Actions
Create cluster subnet group

Search

☐

Name

▲

Status

▼

VPC ID

▼

Description

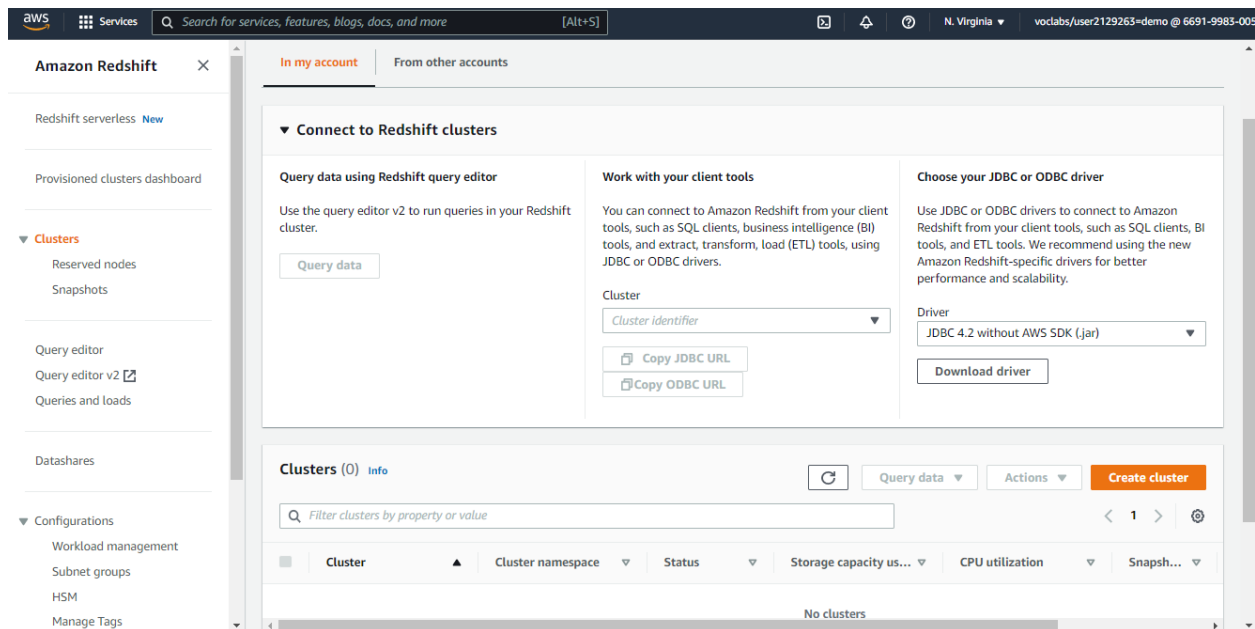
▼

Tags

▼

☐
cluster-subnet-group-1  
1 Subnets
Complete
vpc-078473a7150dfaf73
demo

9. Now, select the **Cluster** option from the AWS Redshift Console.



10. Click on **Create Cluster**, assign a name for your cluster and then scroll down.

### Cluster configuration

Cluster identifier

This is the unique key that identifies a cluster.

The identifier must be from 1-63 characters. Valid characters are a-z (lowercase only) and - (hyphen).

11. Choose a **Node type**. Here, you need to select the **dc2.large** cluster.

### Cluster identifier

This is the unique key that identifies a cluster.

redshift-cluster-1

The identifier must be from 1-63 characters. Valid characters are a-z (lowercase only) and - (hyphen).

### What are you planning to use this cluster for?



#### Production

Configure for fast and consistent performance at the best price.



#### Free trial

Configure for learning about Amazon Redshift. This configuration is free for a limited time if your organization has never created an Amazon Redshift cluster.

### Choose the size of the cluster

I'll choose

Help me choose

### Node type [Info](#)

Choose a node type that meets your CPU, RAM, storage capacity, and drive type requirements.

dc2.large

### Number of nodes

Enter the number of nodes that you need.

2

Range (1-32)

12. Scroll down, and set the number of nodes to **2**. If, by default, it is set to 2, then do not change it.

### Number of nodes

Enter the number of nodes that you need.

2

Range (1-32)

13. Scroll down, and perform **Database configuration**. Set a database name. The default port is **5439**, which is known globally. So, the best practice is to change the port number and set it to any one between **1150** and **65535**. This prevents any foreign attack or stops the entrance of intruders to your cluster. Set a password with the combination of **number**, **lowercase** letter and **uppercase** letter whose length should be **8–64** characters. You can reset the password once your cluster is created successfully.

### Database configurations

**Admin user name**  
Enter a login ID for the admin user of your DB instance.

awsuser

The name must be 1-128 alphanumeric characters, and it can't be a [reserved word](#).

☐ **Auto generate password**  
Amazon Redshift can generate a password for you, or you can specify your own password.


**Admin user password**

\*\*\*\*\*

☐ **Show password**  
Must be 8-64 characters long. Must contain at least one uppercase letter, one lowercase letter and one number. Can be any printable ASCII character except `"/`, `"`, `'`, or `@`.

## 14. Click on Associate IAM Roles

### Cluster permissions

 Create an IAM role as the default for this cluster that has the [AmazonRedshiftAllCommandsFullAccess](#) policy attached. This policy includes permissions to run SQL commands to COPY, UNLOAD, and query data with Amazon Redshift. The policy also grants permissions to run SELECT statements for related services, such as Amazon S3, Amazon CloudWatch logs, Amazon SageMaker, and AWS Glue.

### Associated IAM roles (0) [Info](#)

Create, associate, or remove an IAM role. You can associate up to 50 IAM roles. You can also choose an IAM role and set it as the default for this cluster.

Set default ▼

Manage IAM roles ▼

< 1 >

<input type="checkbox"/>	IAM roles <a href="#">↗</a>	Status ▼	Role type ▼
<p>No resources</p> <p>No associated IAM roles</p> <div>Associate IAM role</div>			



Select **myRedshift** Role from the list

Associate IAM roles

IAM roles (1/3)

Choose from existing IAM roles. You can associate up to 50 IAM roles with this cluster.

Q Search for IAM role to associate

< 1 >

IAM roles

☐

AWSServiceRoleForRedshift

☐

LabRole

☒

myRedshiftRole

Cancel

Associate IAM roles

15. Scroll down, and add the **Cluster subnet** in **Additional Configuration > Network and Security**. Here, you need to select the **VPC**, followed by the **Security Group** and then the subnet group that you created in step 8. Scroll down, and click on the **Create Cluster**.

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## Additional configurations ☒ Use defaults



These configurations are optional, and default settings have been defined to help you get started with your cluster. Turn off "Use defaults" to modify these settings now.

### ▼ Network and security [Info](#)

#### Virtual private cloud (VPC)

This VPC defines the virtual networking environment for this cluster.

Default VPC  
vpc-078473a7150dfaf73

 You can't change the VPC associated with this cluster after the cluster has been created. [Learn more](#) 

#### VPC security groups

This VPC security group defines which subnets and IP ranges the cluster can use in the VPC.

Choose one or more security groups

default  
sg-0e5e8c99d950aeb19

#### Cluster subnet group

Choose the Amazon Redshift subnet group to launch the cluster in.

cluster-subnet-group-1

#### Availability Zone

Specify the Availability Zone to create the cluster in. Otherwise, Amazon Redshift chooses an Availability Zone for you.

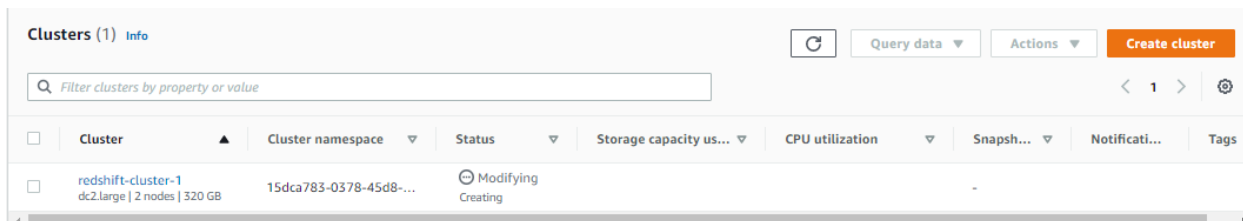
No preference

#### Enhanced VPC routing

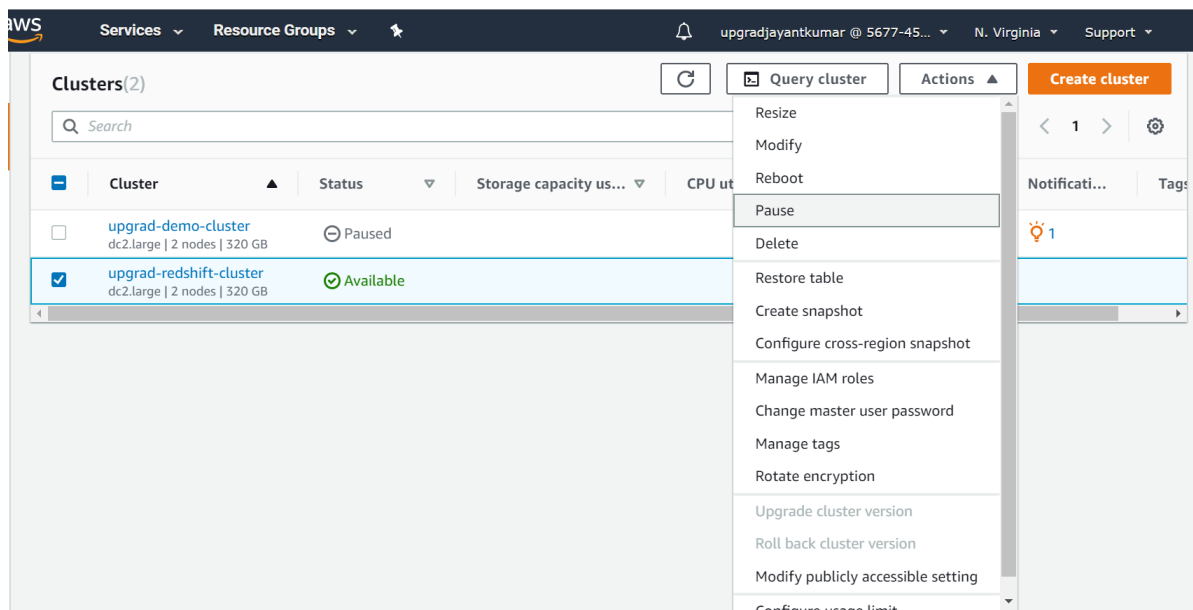
Enabling this option routes network traffic between your cluster and data repositories through a VPC, instead of through the internet. [Learn more](#)

- ☒ Turn off  
☐ Turn on

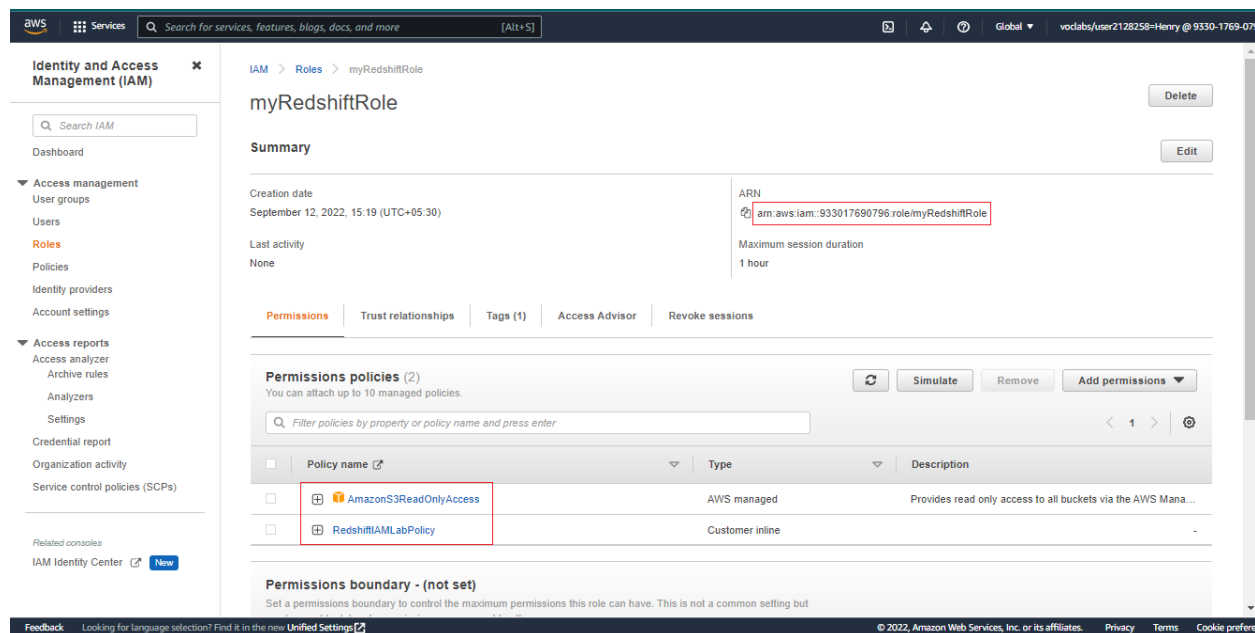
14. The creation of the cluster will take some time



15. While configuring the node type dc2.large, you saw that the pricing tag is for per hour. So, as a best practice and for cost-cutting, pause your cluster if you are not using it.



**NOTE:** You can view the permissions of the myRedshiftRole from the IAM dashboard. You will redirect to the IAM Role dashboard.



**myRedshiftRole**

**Summary**

Creation date: September 12, 2022, 15:19 (UTC+05:30)

ARN: `arn:aws:iam::933017690796:role/myRedshiftRole`

Last activity: None

Maximum session duration: 1 hour

**Permissions policies (2)**

You can attach up to 10 managed policies.

Policy name	Type	Description
AmazonS3ReadOnlyAccess	AWS managed	Provides read only access to all buckets via the AWS Mana...
RedshiftIAMLabPolicy	Customer inline	-

**Permissions boundary - (not set)**

Set a permissions boundary to control the maximum permissions this role can have. This is not a common setting but