

Case Study

Problem Statement:

You work for XYZ Corporation. Your corporation is working on an application and they require secured web servers on Linux to launch the application.

Tasks To Be Performed:

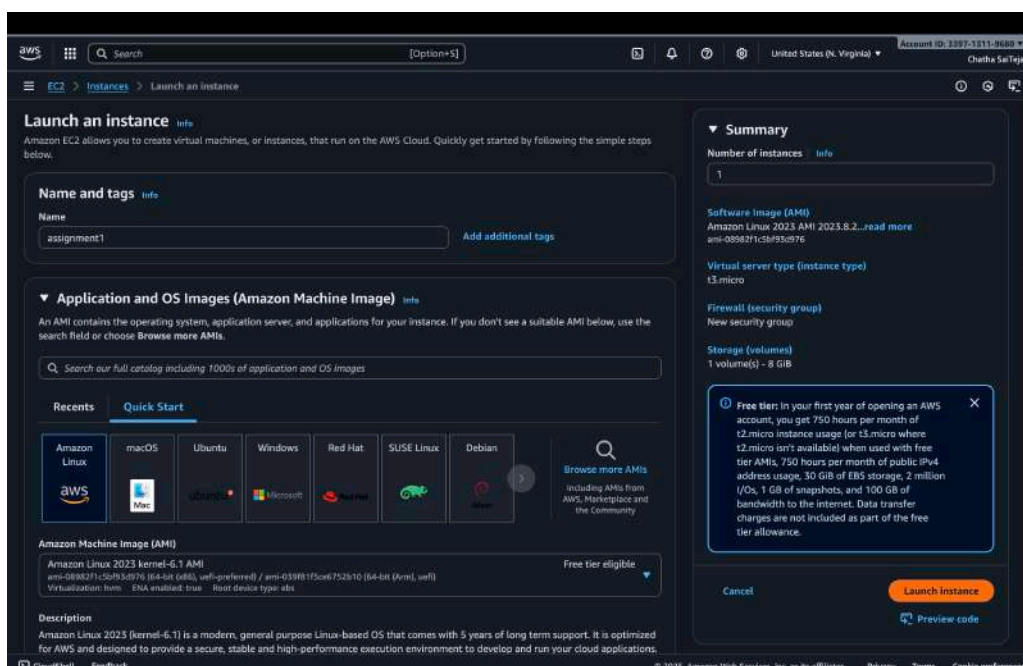
1. Create an instance in the US-East-1 (N. Virginia) region with Linux OS and manage the requirement of web servers of your company using AMI.
2. Replicate the instance in the US-West-2 (Oregon) region.
3. Build two EBS volumes and attach them to the instance in the US-East-1 (N. Virginia) region.
4. Delete one volume after detaching it and extend the size of the other volume.
5. Take backup of this EBS volume

Step-by-Step Procedure:-

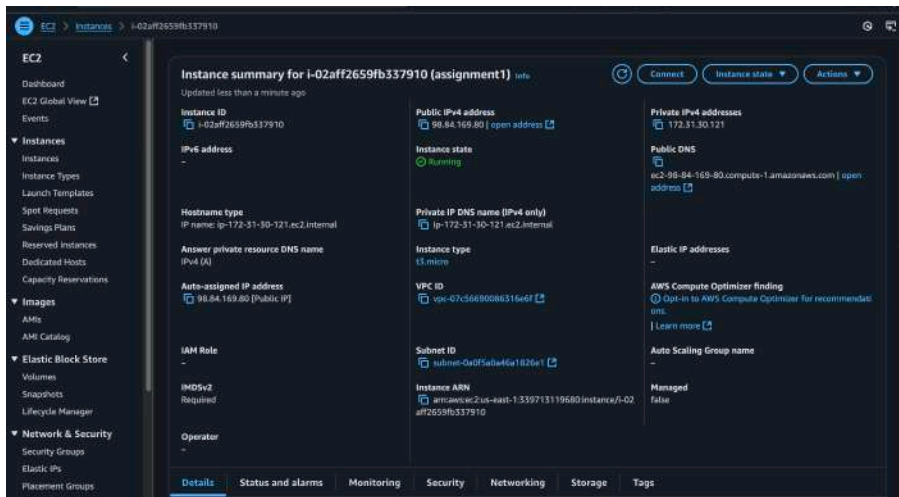
Step 1:- Open AWS console and sign in with root user, In home search For EC2 service.

Step 2:- As you open Ec2 change the region to US-East-1 (N. Virginia) region

Step 3:- click on launch an Instance and select linux os as mention in the case study, and provide other related details like key pair, security groups and volumes etc..

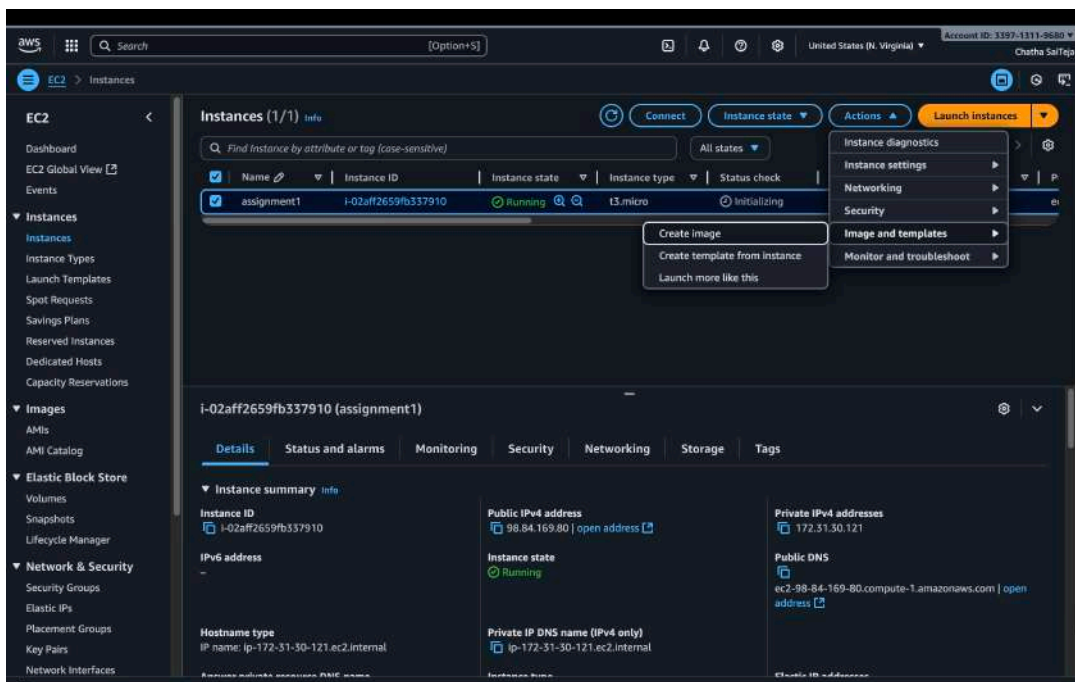


Creating an Instance



Instance Summary

Step 4:- Select the Running instance and Go to “Actions” then click on the “Image&Templates” and click on “create Image”.



Creating Ami

Step 5:- Enter Image (AMI) Details like image name, description here we can also add a volume ,click on create image

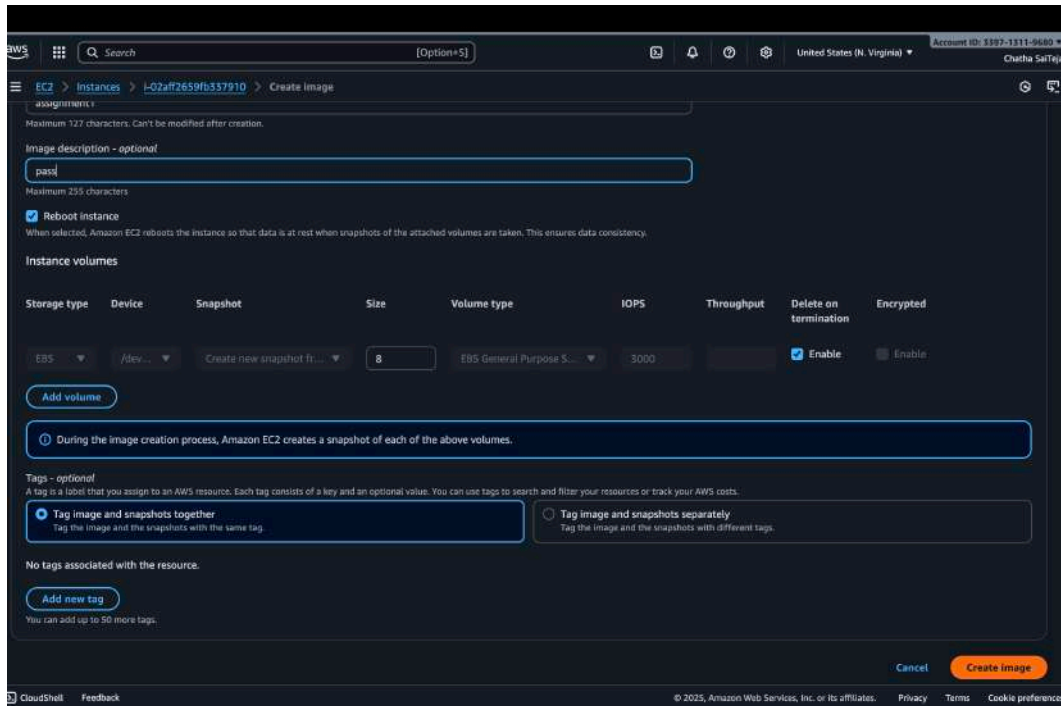
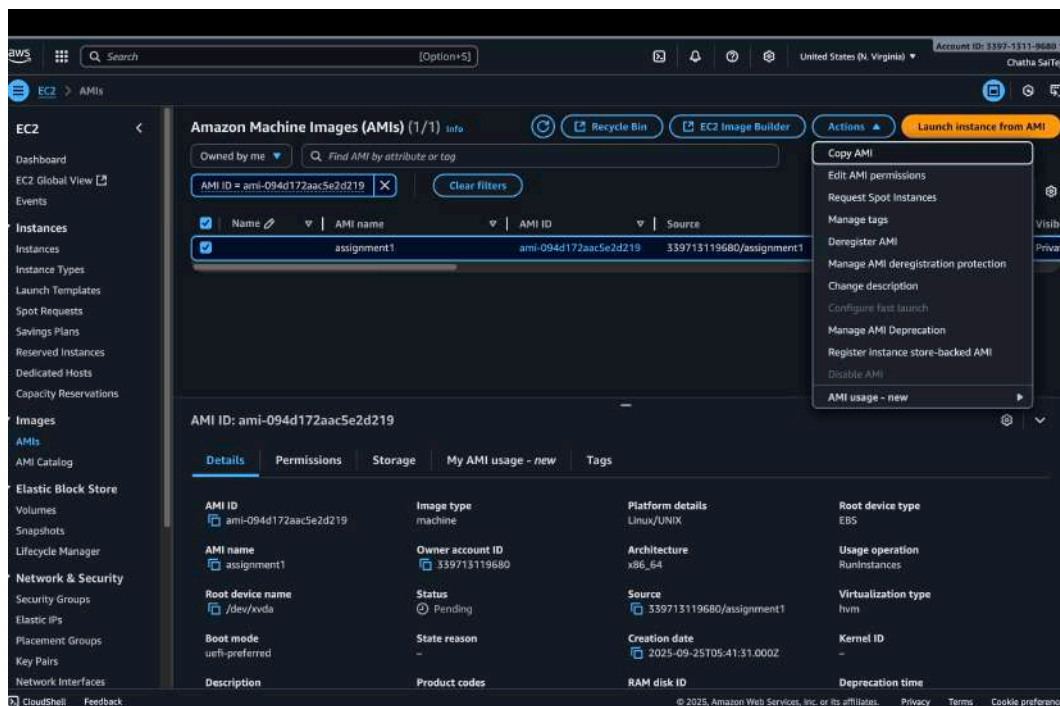


Image Details

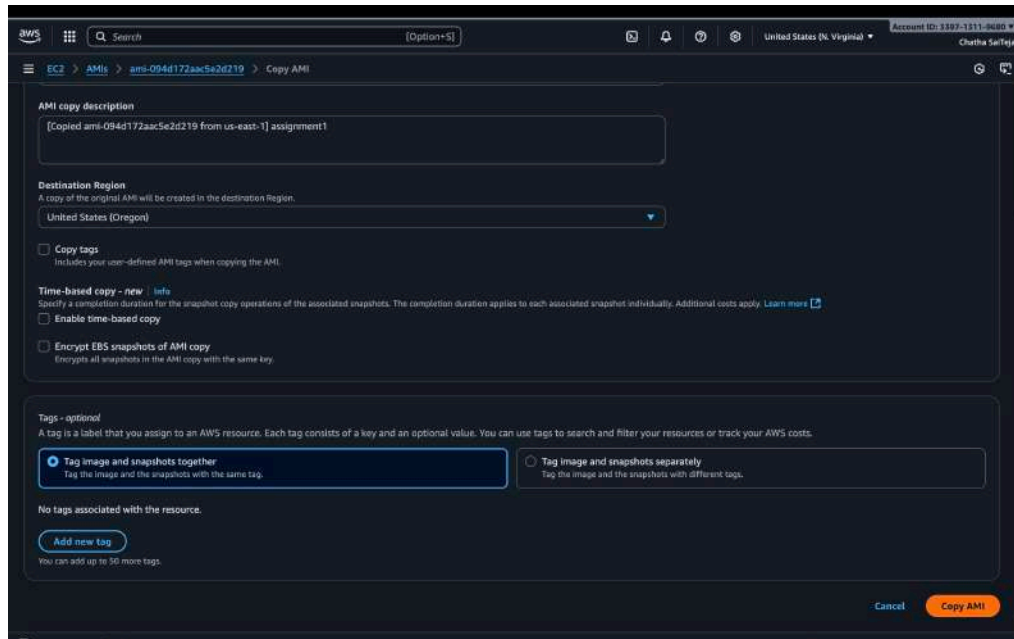
Step 6:- Now we have to Replicate the Instance that we created in US-East-1 (N. Virginia) region to US-West-2 (Oregon) region, so we have to copy the AMI (image). As we created the image N-V region in previous step.



Copy Ami

So we have to select the AMI(image) then Go to “Actions” ,click on ” Copy AMI”

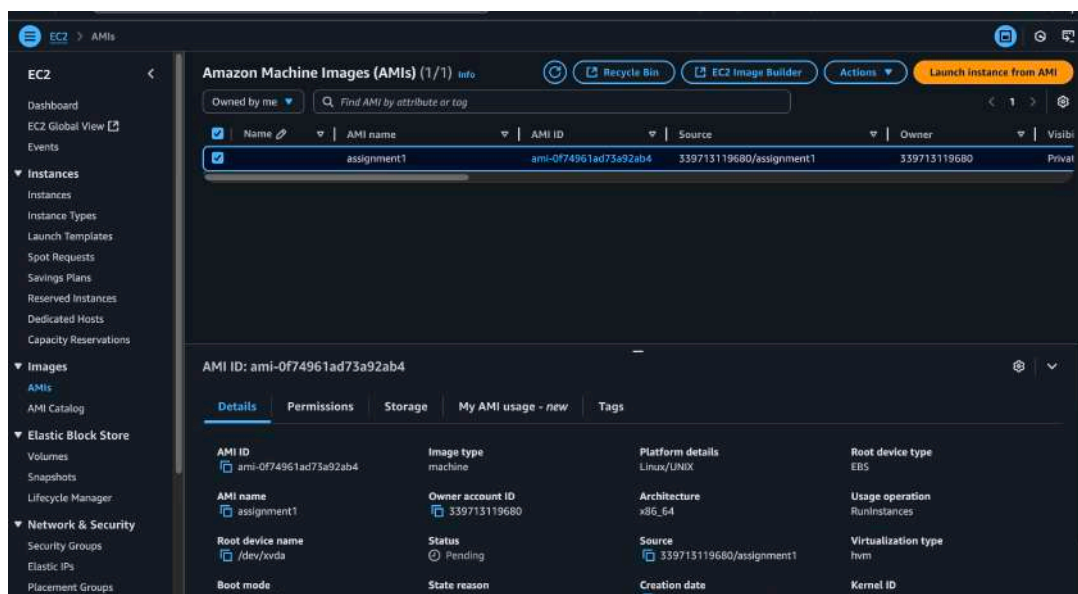
Step 7:- After Clicking on Copy Ami we have to specify the destination region which is US-West-2 (Oregon) region.



The screenshot shows the 'Copy AMI' dialog box in the AWS Management Console. The 'Destination Region' is set to 'United States (Oregon)'. The 'Copy tags' checkbox is checked. The 'Time-based copy' section has 'Enable time-based copy' checked. The 'Encrypt EBS snapshots of AMI copy' checkbox is unchecked. The 'Tags' section shows 'Tag image and snapshots together' selected. The 'Copy AMI' button is highlighted in orange.

Providing the destination

Step 8:- it takes some minutes to copy ,After it we can go to US-West-2 (Oregon) region, click on AMI ,then we can able to see the Copied AMI from US-East-1 (N. Virginia) region



The screenshot shows the 'Amazon Machine Images (AMIs)' page in the AWS Management Console for the 'United States (Oregon)' region. The table lists the copied AMI with the following details:

AMI ID	AMI name	AMI ID	Source	Owner	Visibility
ami-0f74961ad73a92ab4	assignment1	ami-0f74961ad73a92ab4	339713119680/assignment1	339713119680	Private

Below the table, the 'Details' tab for the selected AMI is shown:

AMI ID	Image type	Platform details	Root device type
ami-0f74961ad73a92ab4	machine	Linux/UNIX	EBS

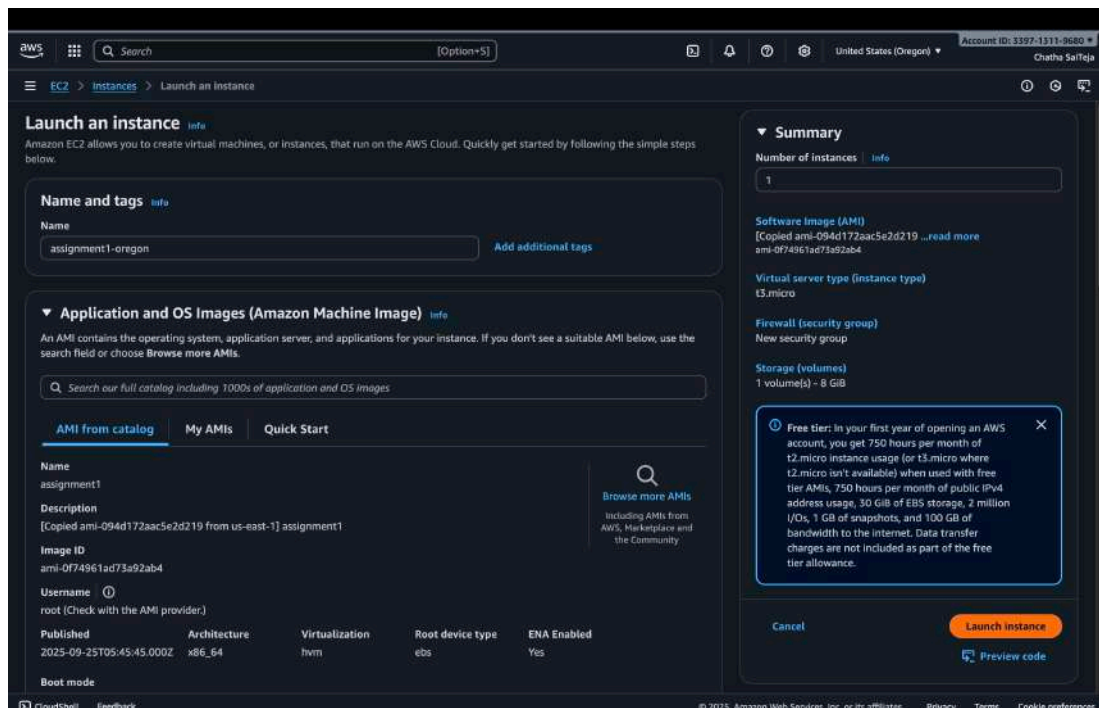
AMI name	Owner account ID	Architecture	Usage operation
assignment1	339713119680	x86_64	RunInstances

Root device name	Status	Source	Virtualization type
/dev/xvda	Pending	339713119680/assignment1	hvm

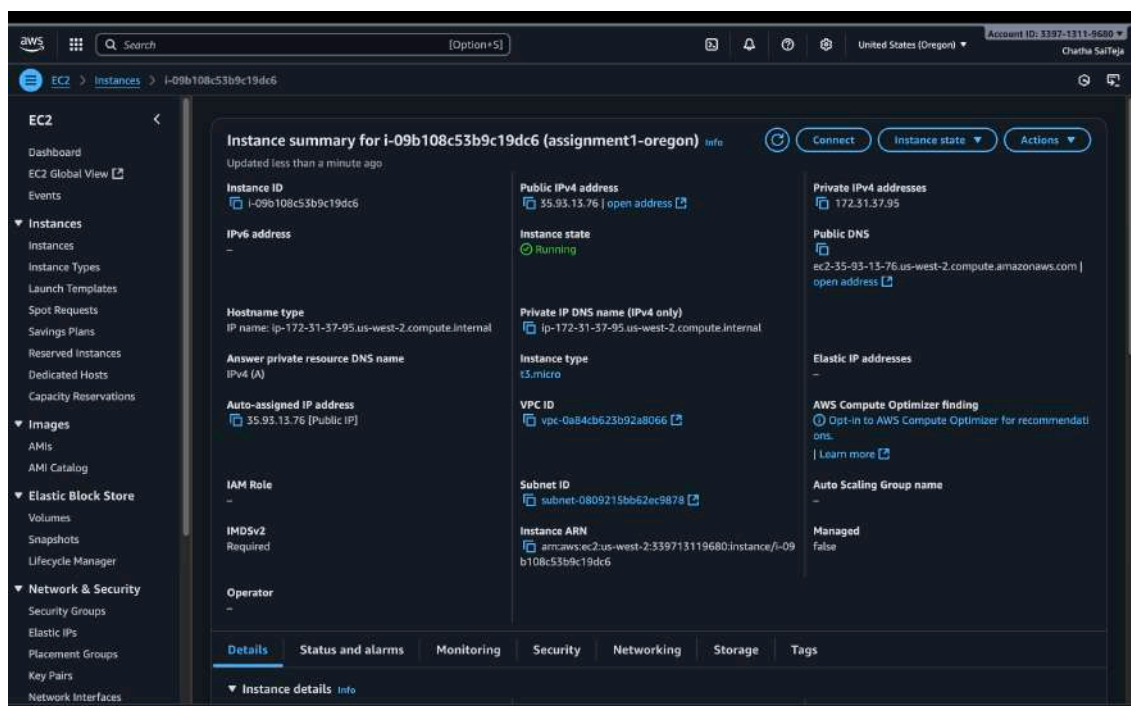
Boot mode	State reason	Creation date	Kernel ID
uEFI-preferred	-	2025-09-25T09:45:45.000Z	-

AMI in Oregon region

Step 9:- Click on “Launch Instance from AMI” in Oregon region



Launching Instance From AMI



Instance Summary

Step 10:- Now we have to change the region to US-East-1 (N. Virginia) ,In that Go to “EBS Volumes” ,we have to create two volumes, So click on create a volume.

The screenshot shows the AWS Management Console interface for creating a new EBS volume. The page is titled 'Create volume' and is located under the 'EC2' > 'Volumes' menu. The configuration options are as follows:

- Throughput (MiB/s):** 125 (Min: 125 MiB, Max: 1000 MiB, Baseline: 125 MiB/s)
- Availability Zone:** us-east-1b
- Snapshot ID - optional:** Don't create volume from a snapshot
- Encryption:** ☐ Encrypt this volume
- Tags - optional:** No tags associated with the resource. (Add tag button)
- Snapshot summary:** Click refresh to view backup information. The volume type that you select and the tags that you assign determine whether the volume will be backed up by any Data Lifecycle Manager policies.

At the bottom right, there are 'Cancel' and 'Create volume' buttons.

Creating a volume1 with size 10 GIB

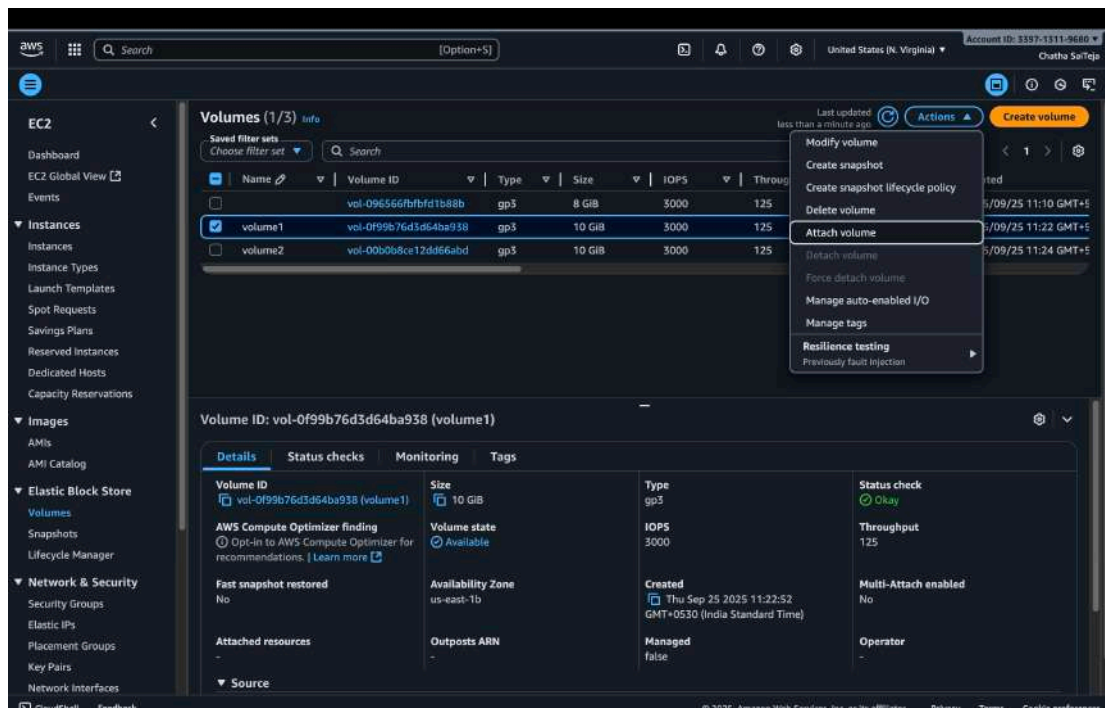
This screenshot is identical to the one above, showing the AWS Management Console 'Create volume' page. The configuration options are the same:

- Throughput (MiB/s):** 125
- Availability Zone:** us-east-1b
- Snapshot ID - optional:** Don't create volume from a snapshot
- Encryption:** ☐ Encrypt this volume
- Tags - optional:** No tags associated with the resource. (Add tag button)
- Snapshot summary:** Click refresh to view backup information.

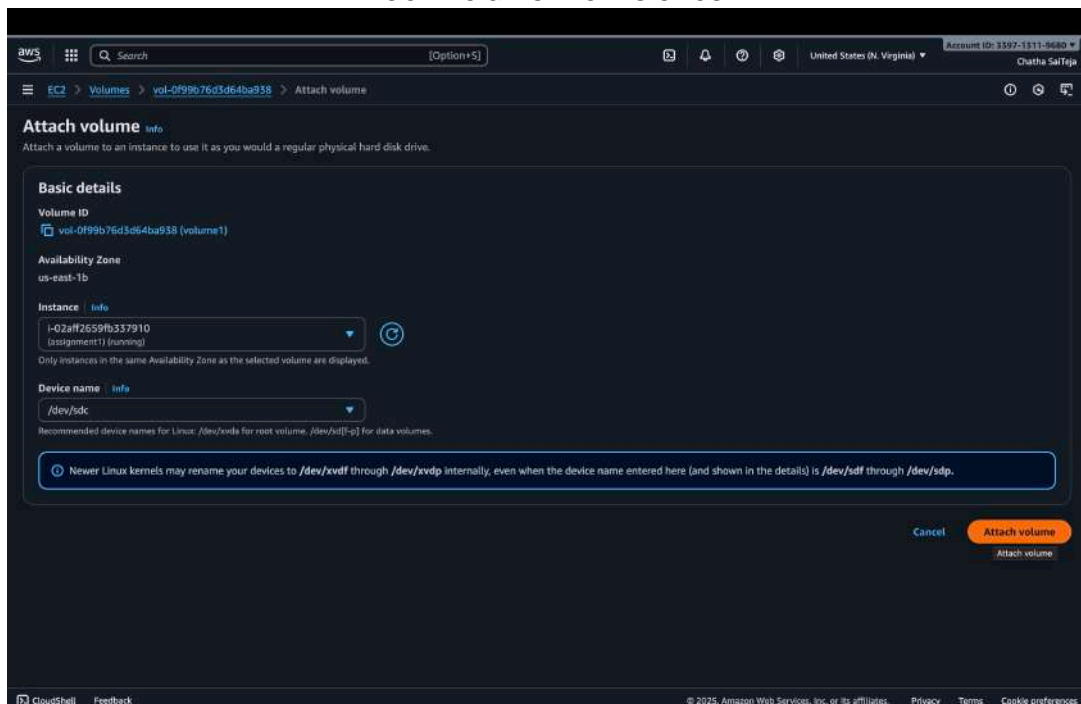
The 'Create volume' button is highlighted in orange at the bottom right.

Volume 2 with 10 GIB

Step 11:- Attach the volume 1 to the running instance by selecting the volume1 then click on “Actions” and Click on “Attach Volume”

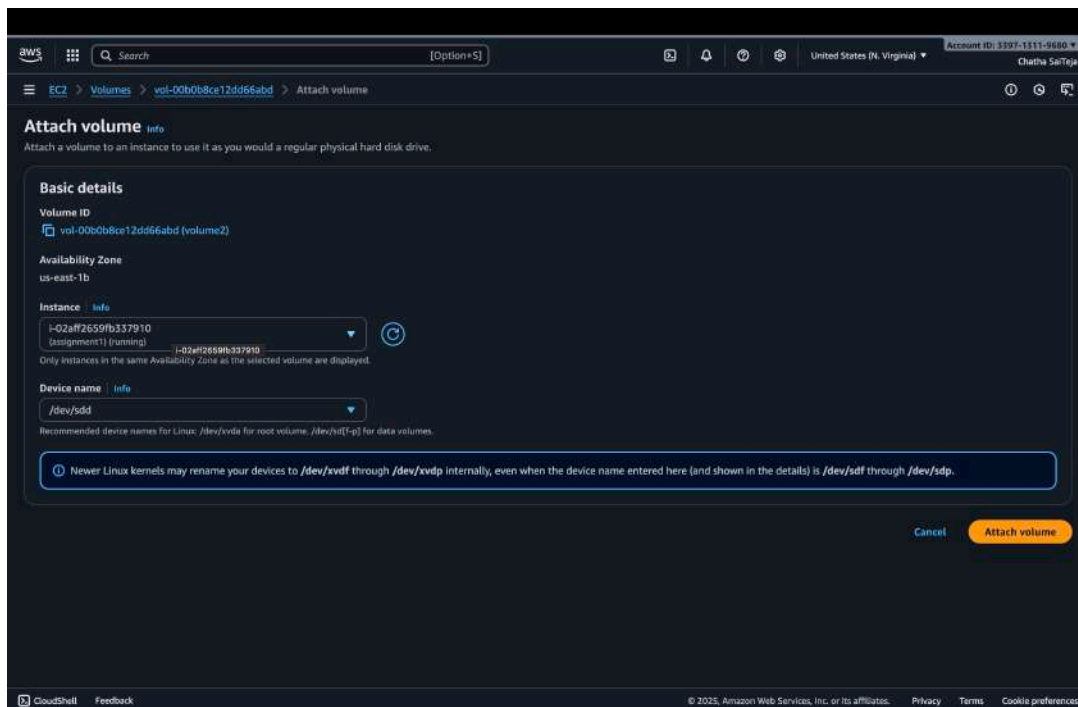


Attach Volume1 to Instance



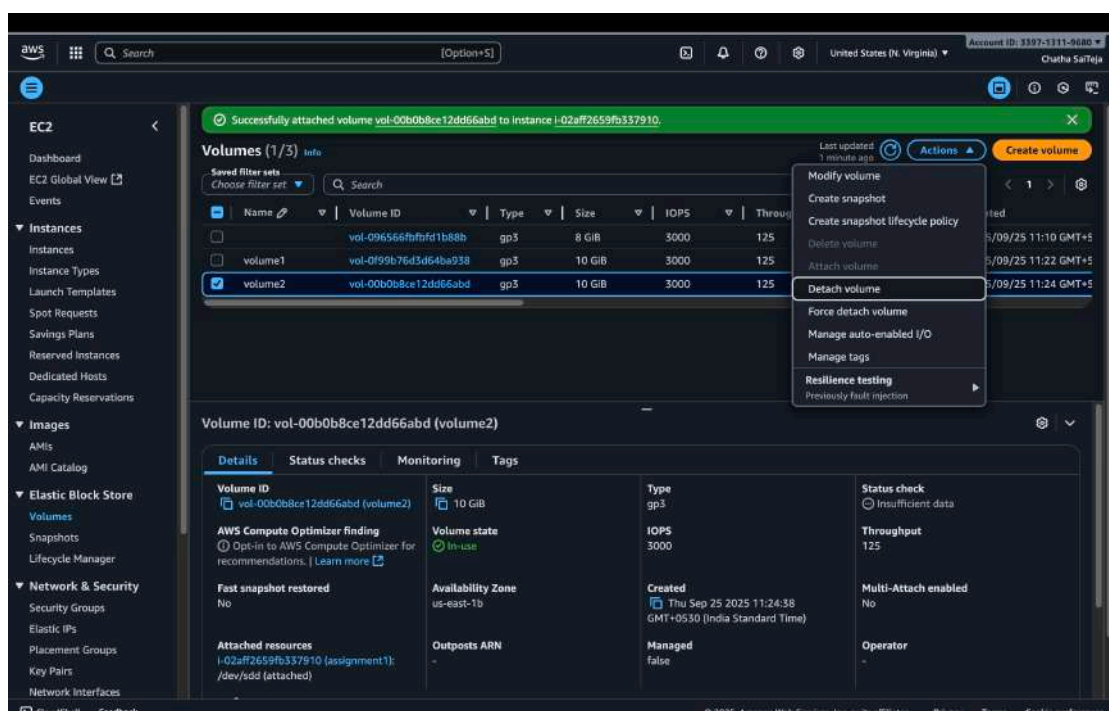
Details to Attach

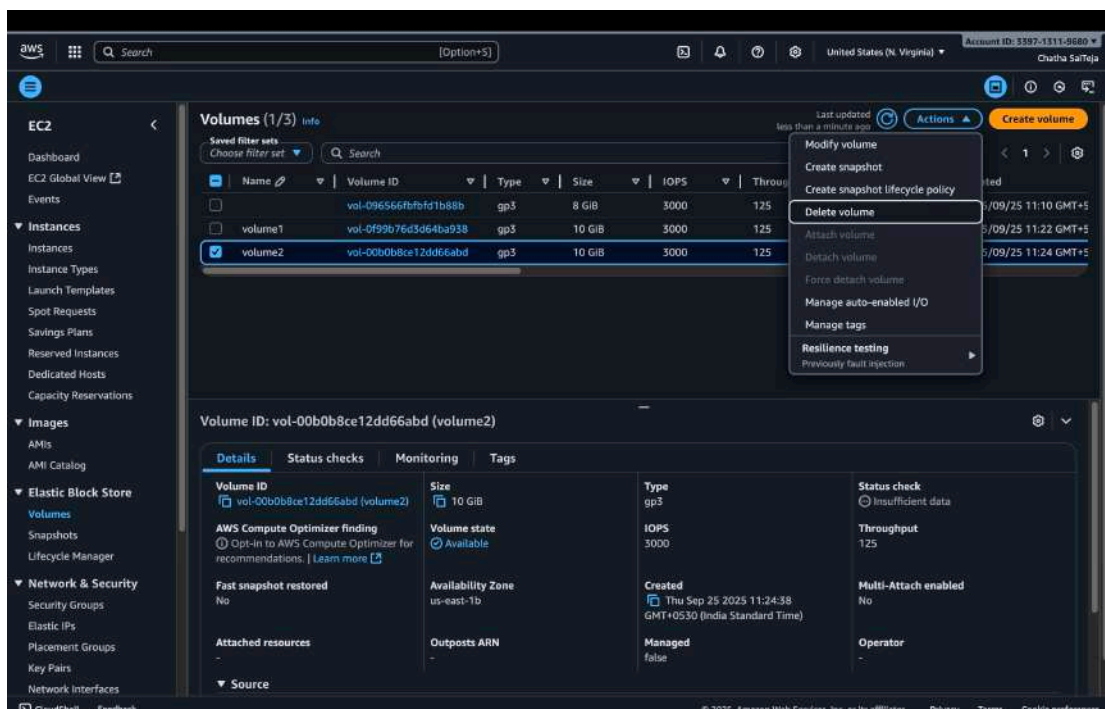
Step 12:- Attach the volume 2 to the running instance by selecting the volume2 then click on “Actions” and Click on “Attach Volume”



Details to attach to the Volume

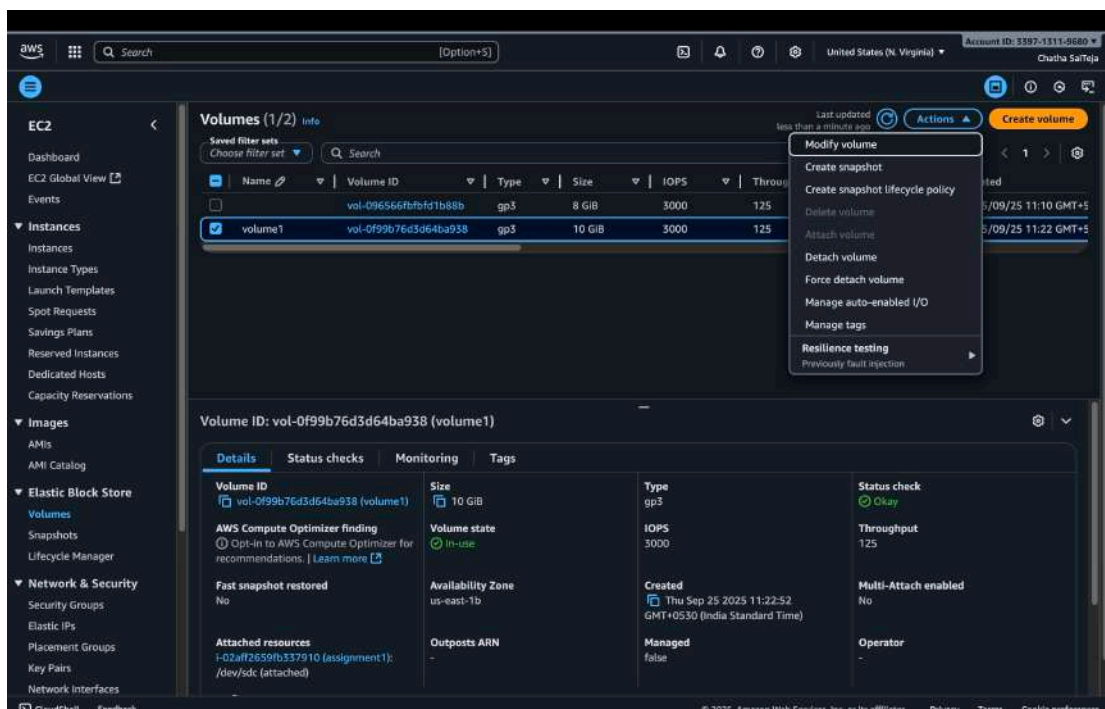
Step 13:- Now we have to delete one volume(volume2) after detaching it to the Instance



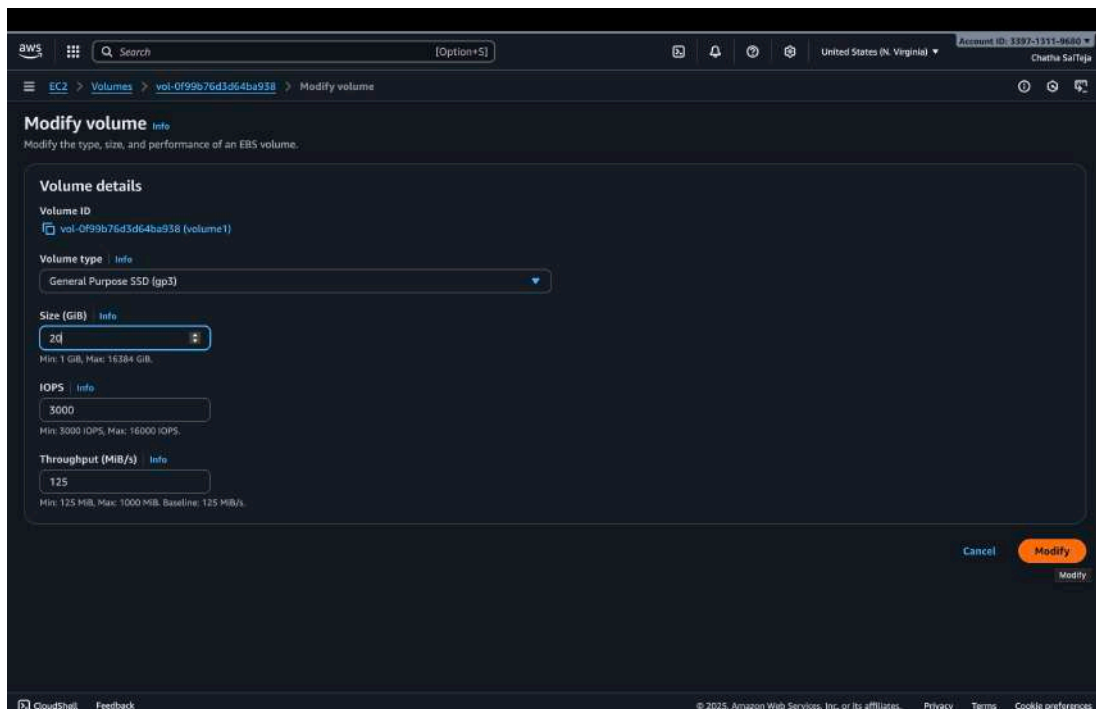


Deleting the Volume 2

Step 14:- Now we have to modify the volume1 as it has to extend by clicking on modify the volume.

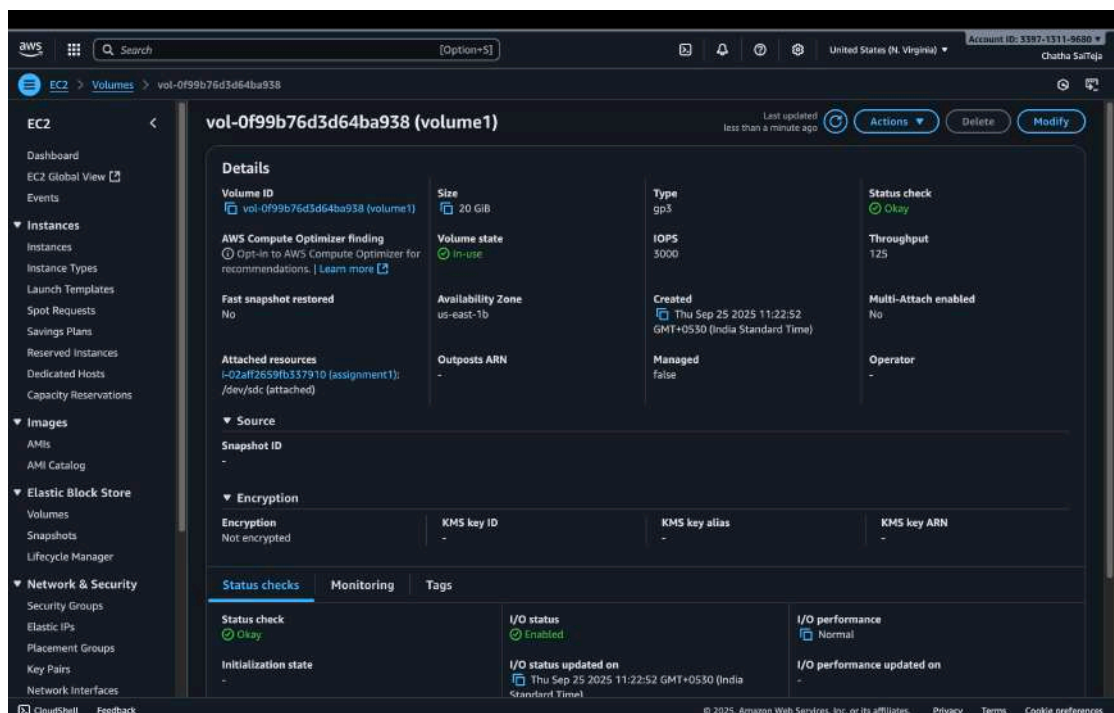


Modifying the Volume



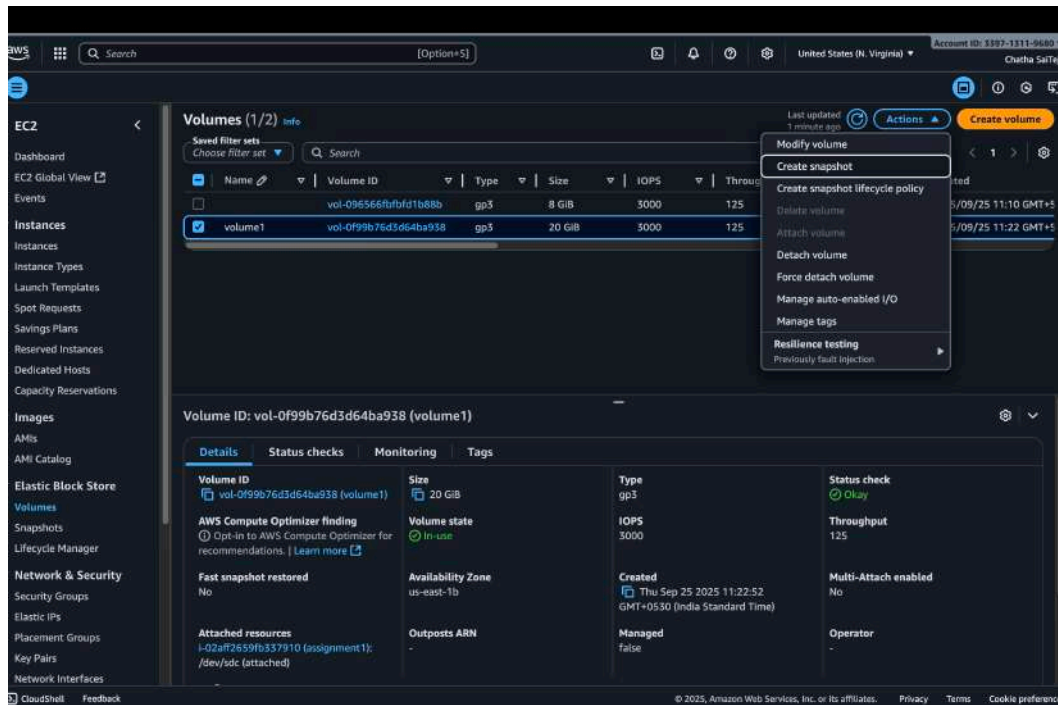
Size extended to 20 GiB

Here we extended the size of vol1 from 10 GiB to 20 GiB

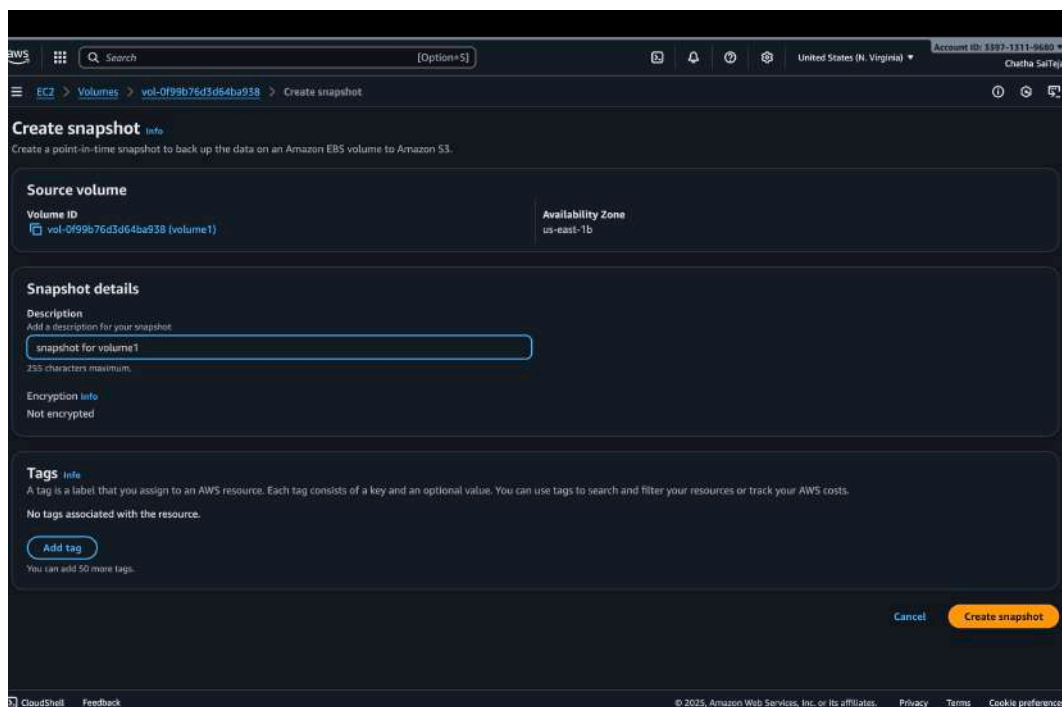


Volume 1 Summary

Step 15:- Take the Backup of EBS Volume(volume1) i.e we have to create a snapshot for Volume 1. So select the volume and Go to “Actions” then Click On Create Snapshot



Creating a Snapshot



Details of snapshot

EC2 > Snapshots > snap-0951bd34aef61a447

snap-0951bd34aef61a447

Last updated less than a minute ago [Delete](#) [Actions](#)

Details

Snapshot ID
snap-0951bd34aef61a447

Owner
339713119680

Description
snapshot for volume1

Source volume

Volume ID
vol-0f99b76d3d64ba938

Volume size
20 GiB

Encryption

Encryption
Not encrypted

KMS key ID
-

KMS key alias
-

KMS key ARN
-

Snapshot settings **Storage tier** **Tags**

Snapshot Lock - new

Lock mode
Not locked

Share permissions

Snapshot share permissions
Private [Modify permissions](#)

Full snapshot size
0 B

Started
Thu Sep 25 2025 11:32:14 GMT+0530 (India Standard Time)

Progress
100%

Product codes
-

Snapshot status
Completed

Fast snapshot restore
-

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Snapshot summary