# Module 2: Case Study - 1

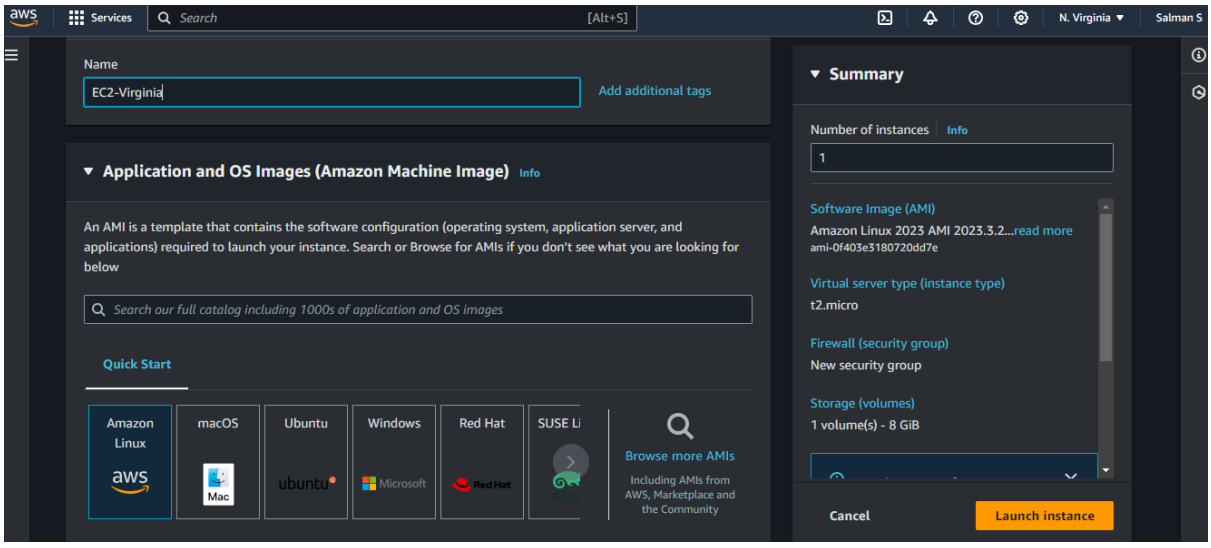
## Problem Statement:

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

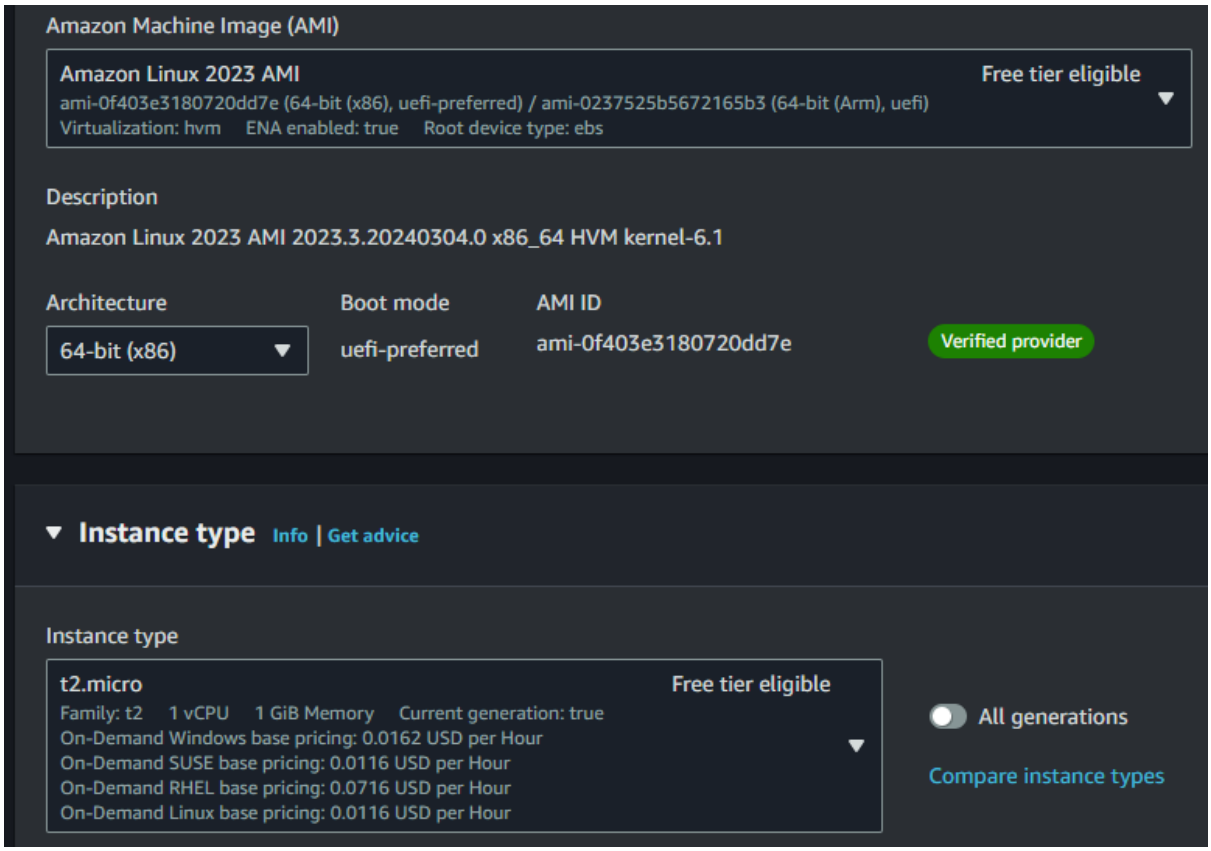
## Tasks To Be Performed:

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.

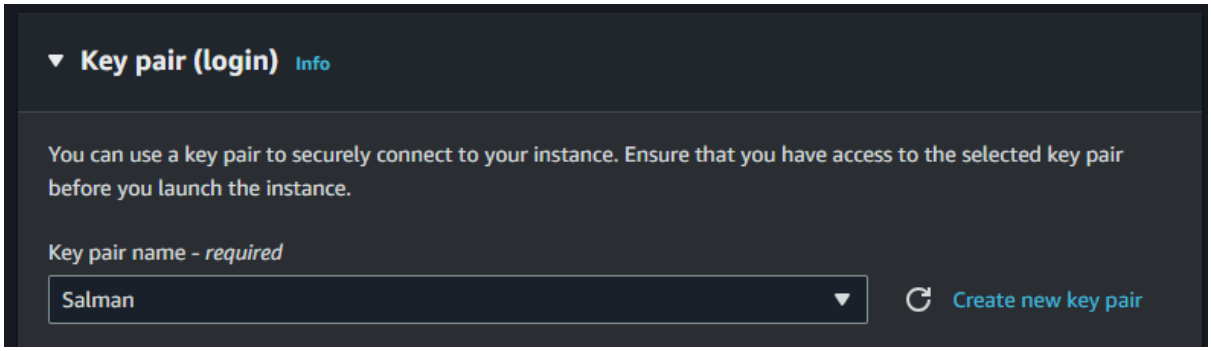
1. Creating Amazon Linux EC2



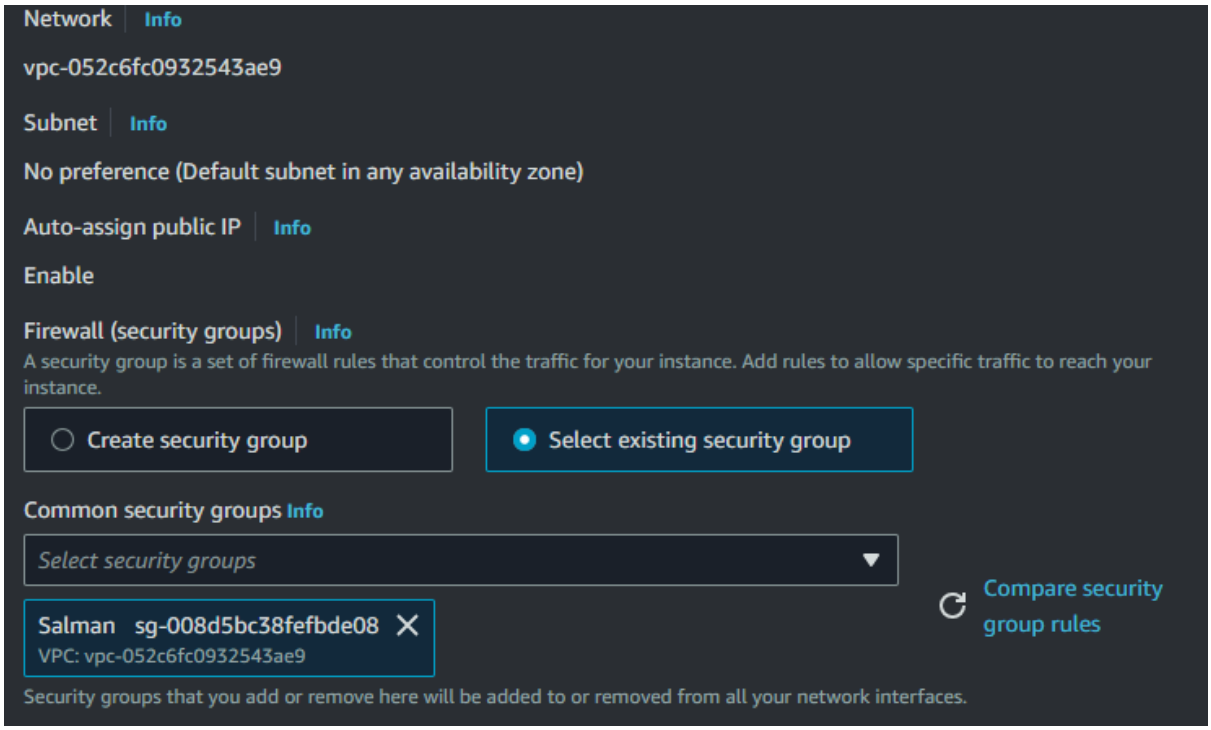
2. Select Free Tier AMI which provided by AWS and Select Free Instance Type




3. Select Key Pair

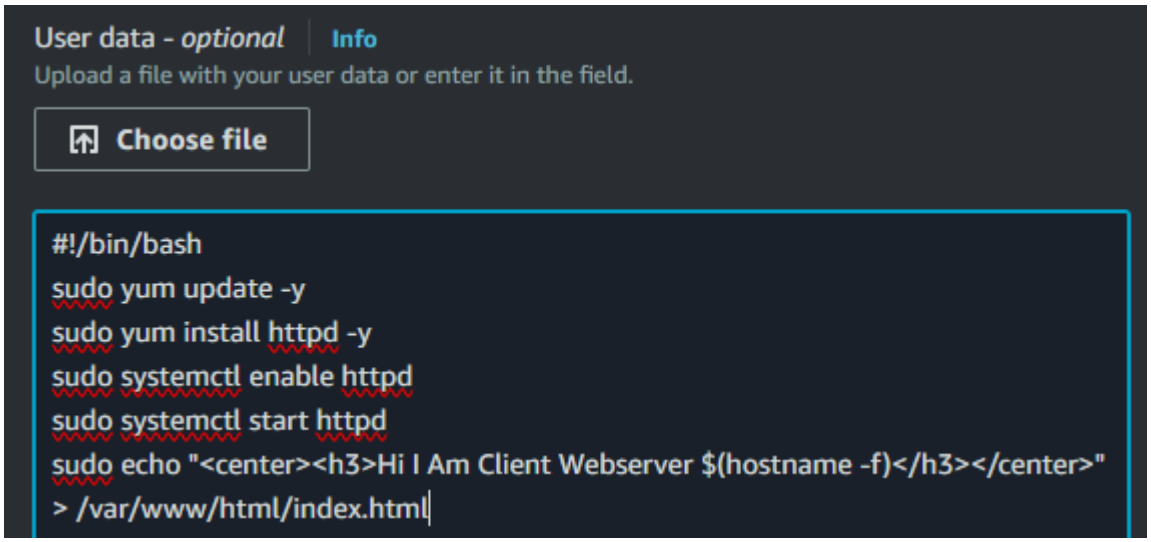


4. Enable Auto Public and Select your SG and Leave Default Subnet

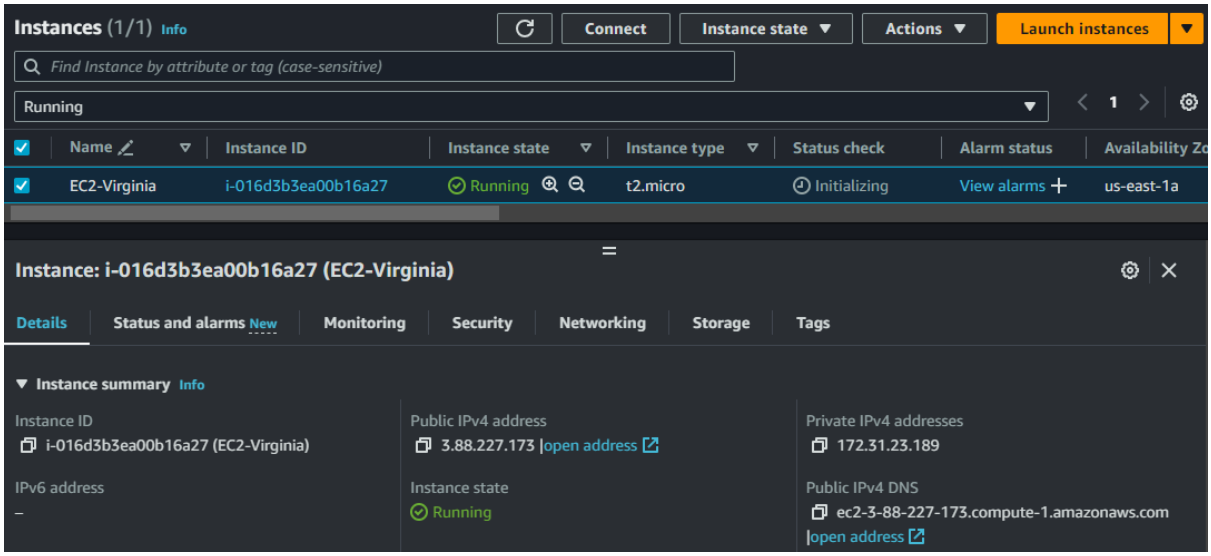



5. Click Advanced Details

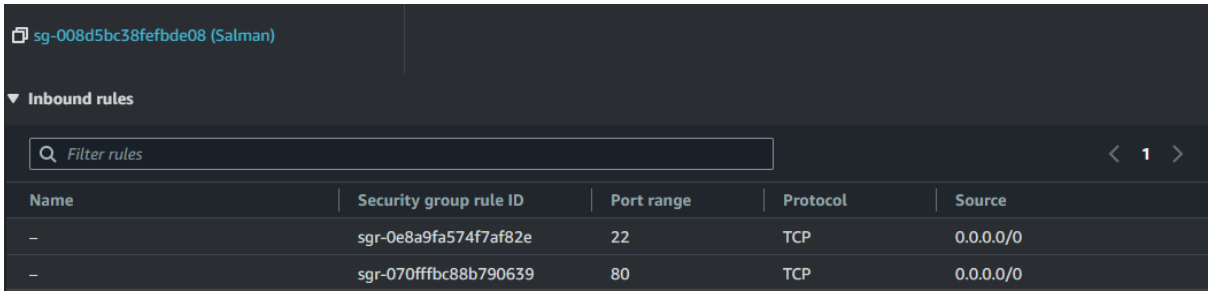

6. I am Going Write a Script to Install Webserver For Client with using of User Data



7. Successfully Launched and Remember Public IP to copy and past on browser



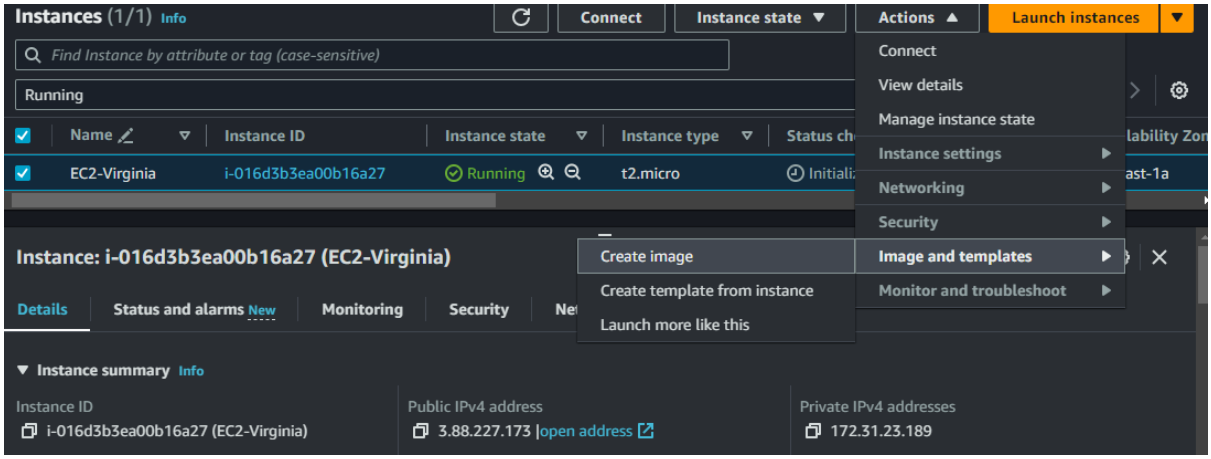

8. Before that Make sure u have allow http port 80 then only Browser will works



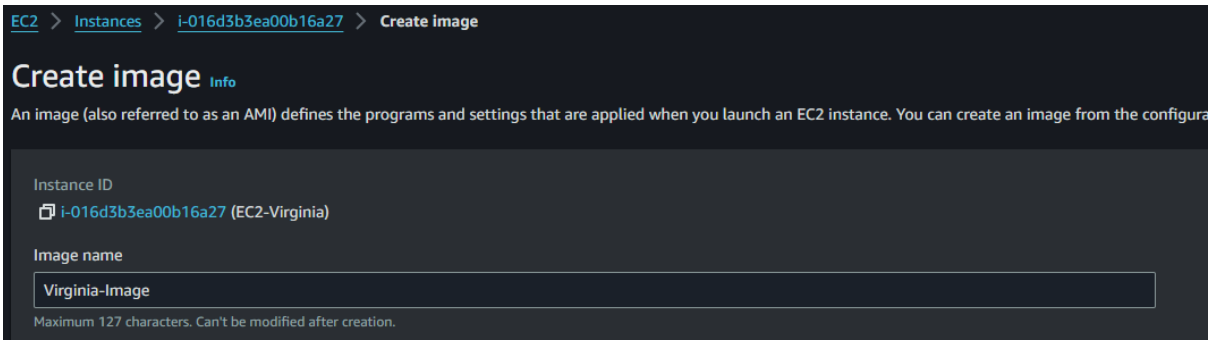

9. Now see what the Data we provides in user data its visible on browser so our script is correct


Hi I'm Client Webserver ip-172-31-23-189.ec2.internal

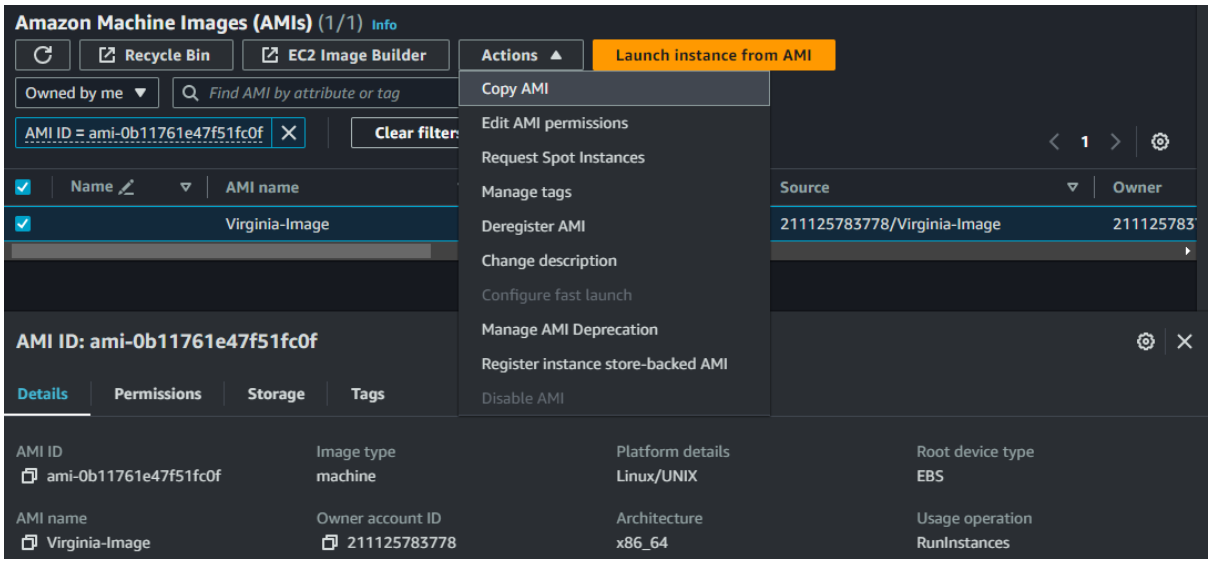
10. Click Instances and Go To Actions>Image and Templates>Create Image



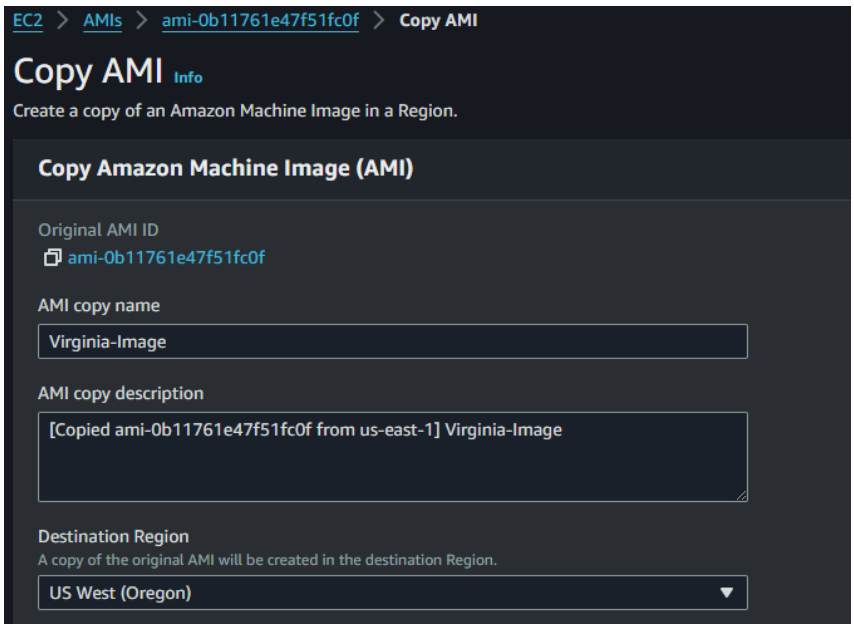
11. Give Image Name As Per ur wish and Click Created



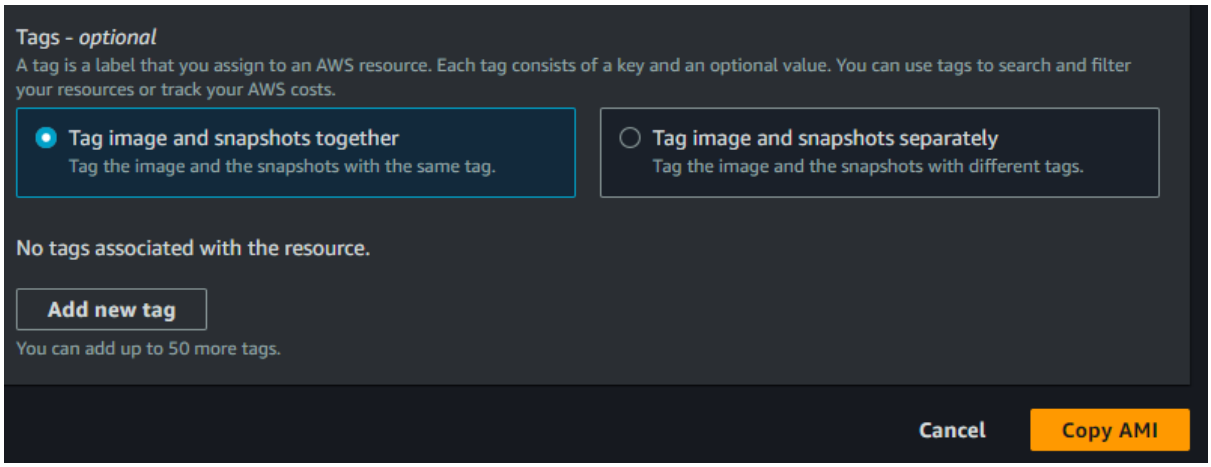

12. Ang Go AMI's section and Select Created Image go to Actions and Copy AMI



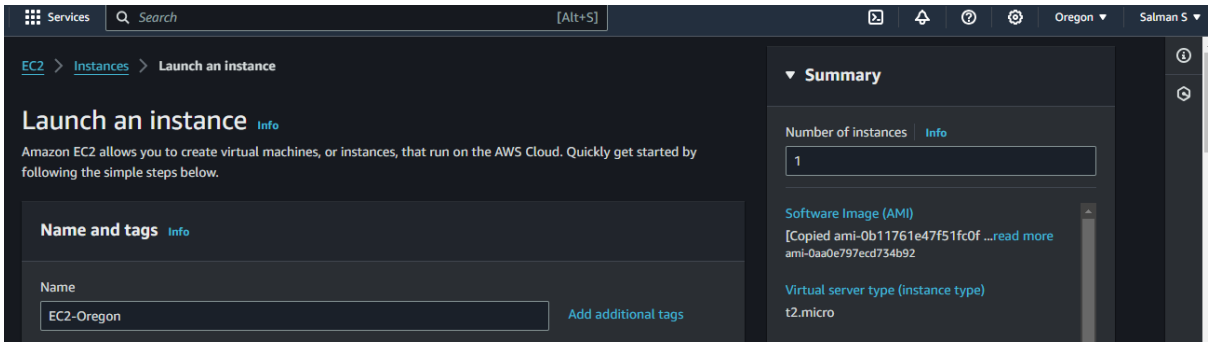

13. As Per Our Task We have Copy Oregon then Select Destination as a Oregon



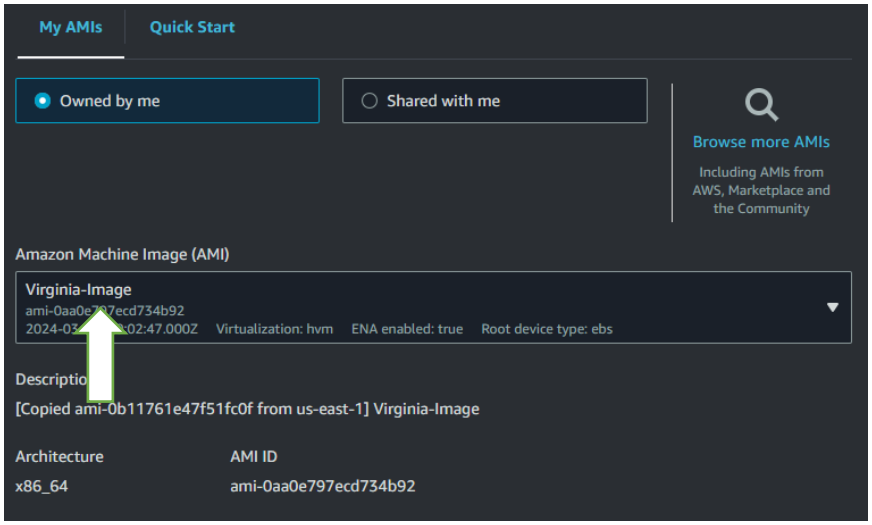
14. Create Copy AMI



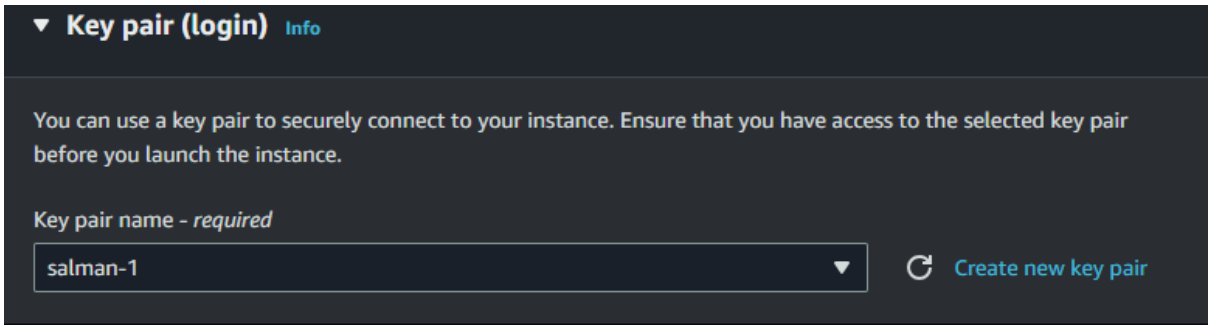

15. And Go To Oregon Region and Create Instances



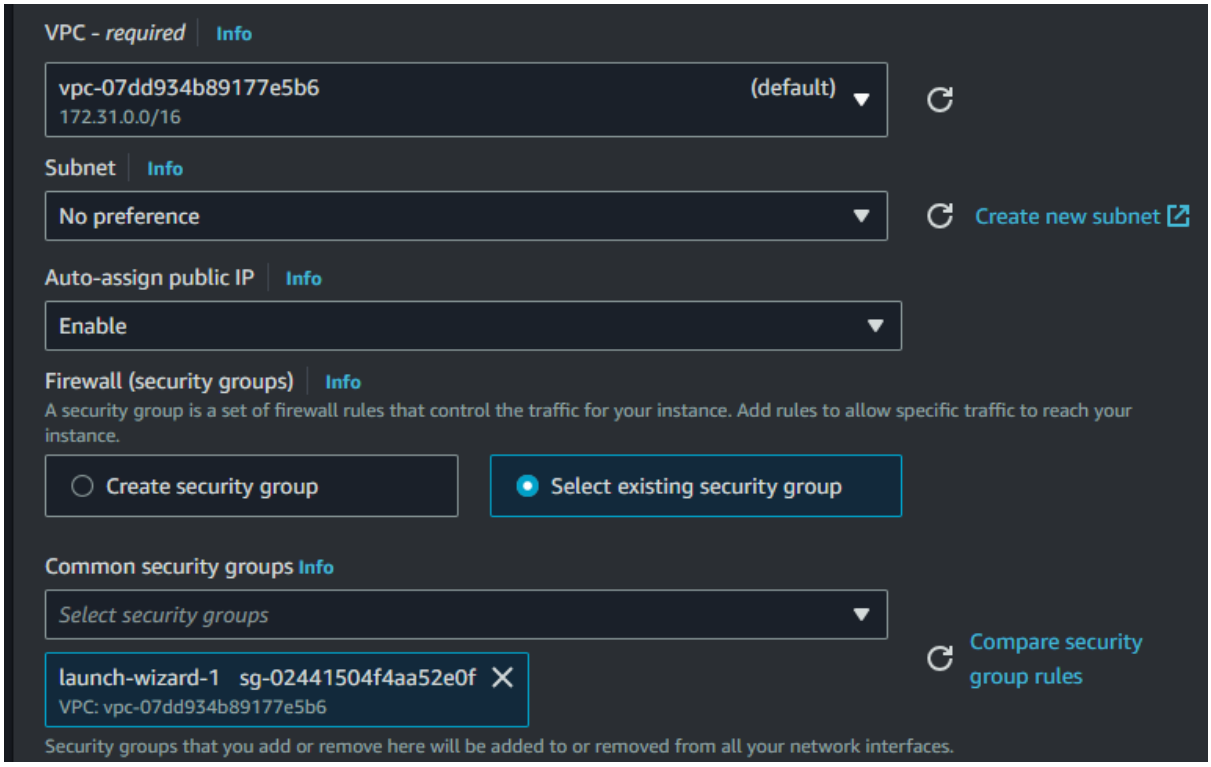

16. Go To My AMI's and Select Our Copied AMI



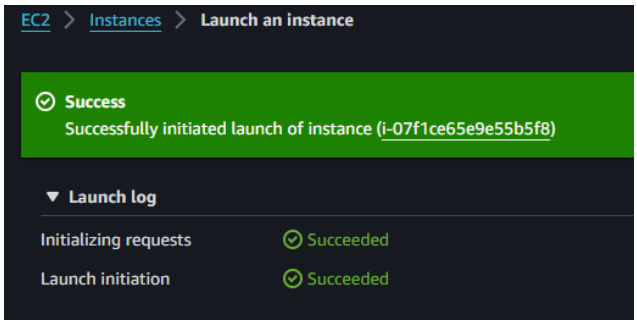
17. Select Key Pair



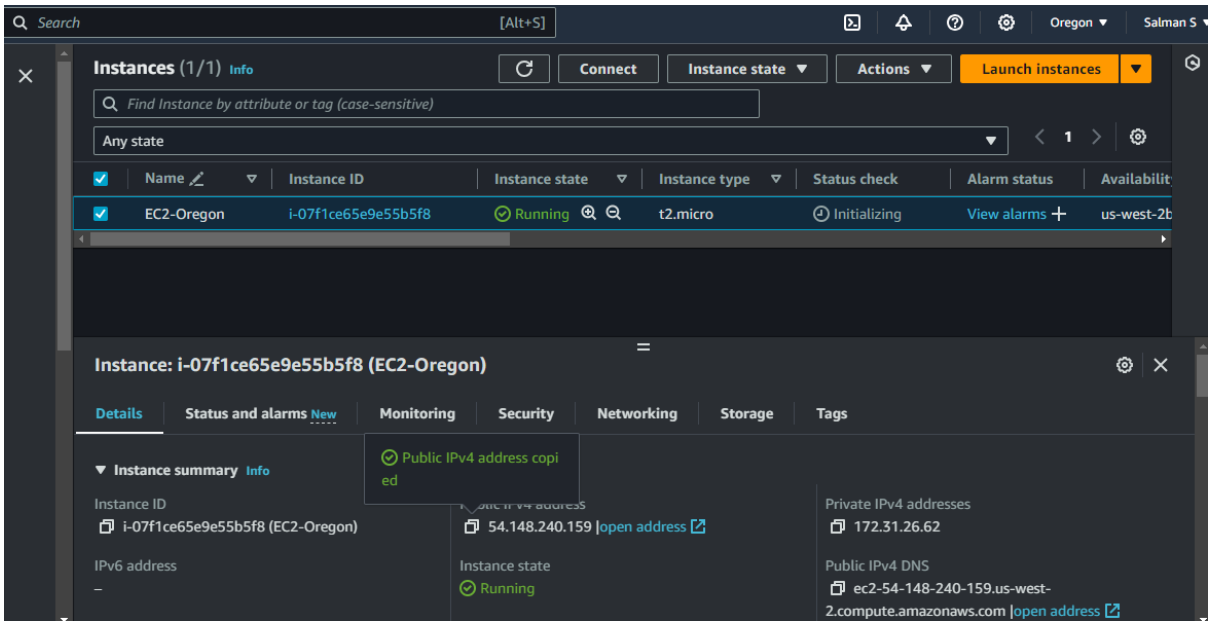

18. Select Security Group



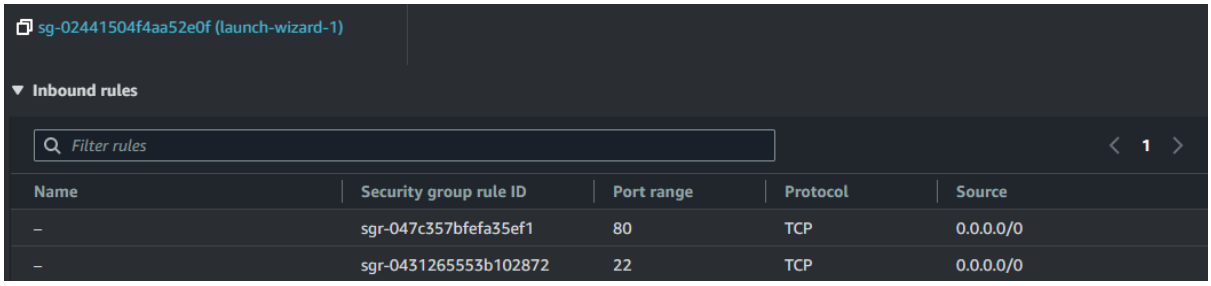

19. And Wait for AMI is Copying and after some time click again launch and it will Launch Successfully



20. Click Instances and Copy Public IP

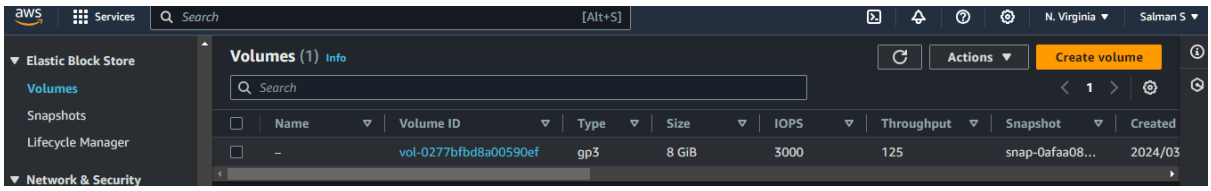



21. Allow Http Port

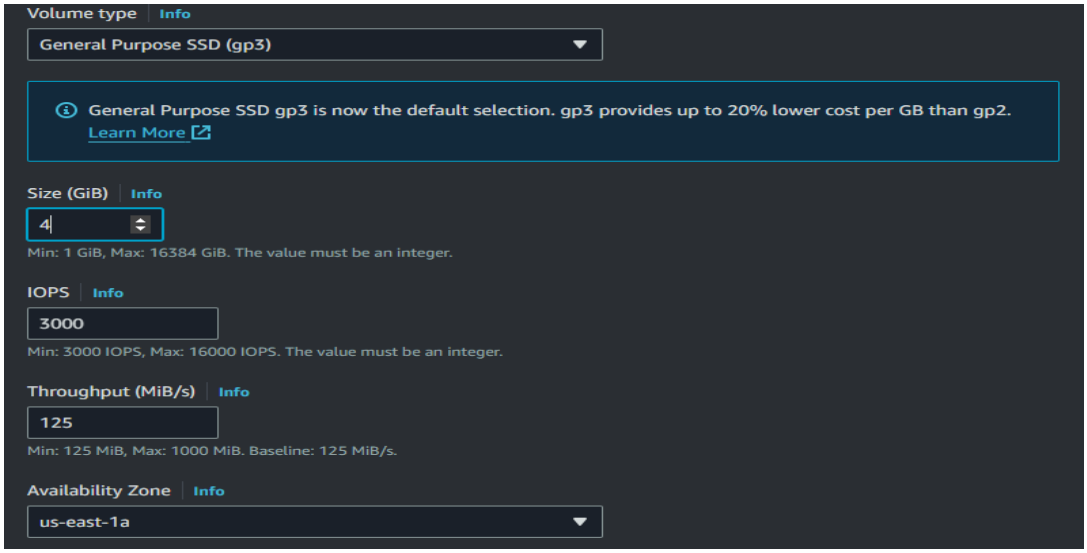



22. Now Our AMI Successfully Copied from Virginia

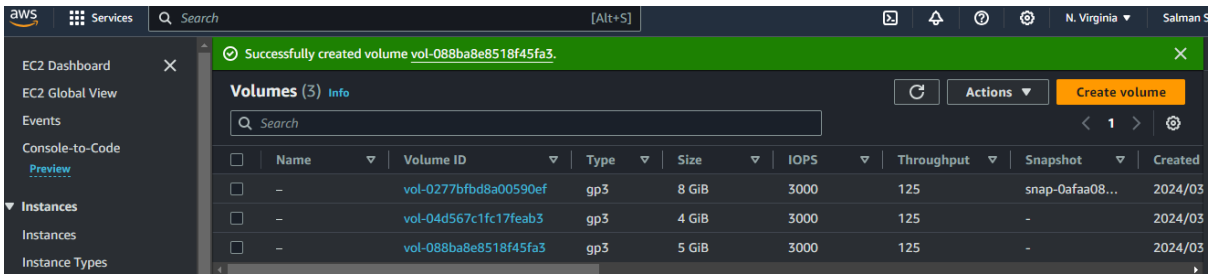

23. Now Go To EBS Volumes and Click Create Volume



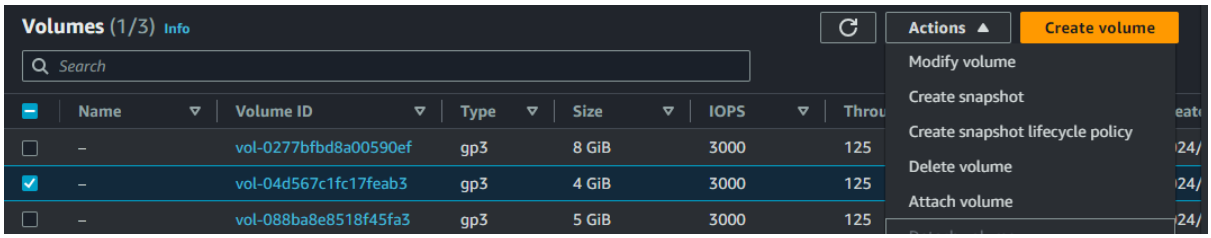
24. Now Select Volume as Per Ur Wish and Select Availability Zone were Instances launched



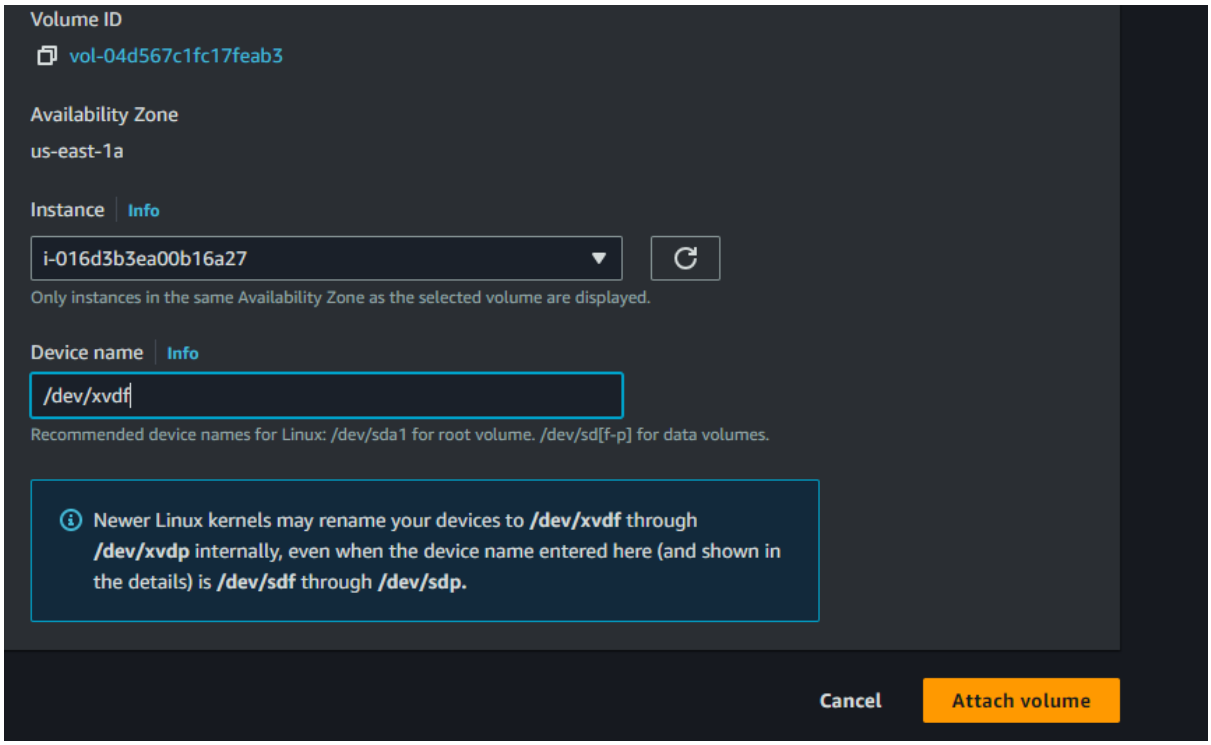

25. Like Repeat Twice and Create 2 Volumes Totally I Created 4 GIB and 5 GIB




26. And Select Volume and Go To Actions and Click Attach Volume



27. Select Instances ID and Give Name As Per Ur Wish and Attach the Both The Volume like this One I Gave Device Name /dev/xdvf and another /dev/xvdg




28. This Are Commands to Mount Ur EBS Volume to Your Server

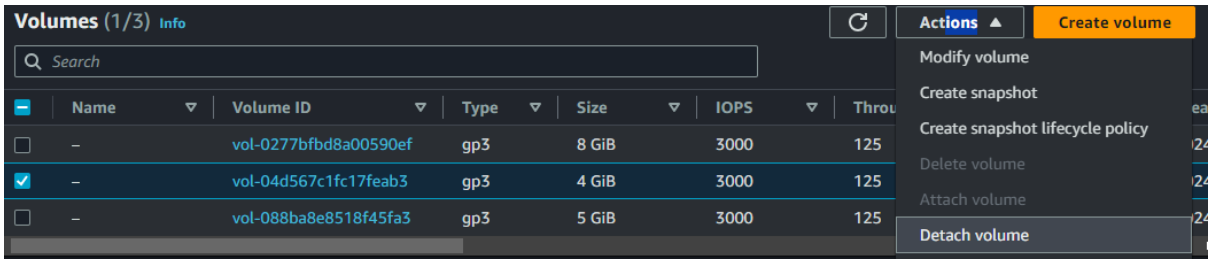
```
1. lsblk
2. sudo mkfs -t ext4 /dev/xvdf
3. sudo mkdir ebs
4. sudo mount /dev/xvdf ebs
```

```
1. lsblk
2. sudo mkfs -t ext4 /dev/xvdg
3. sudo mkdir ebs-1
4. sudo mount /dev/xvdg ebs-1
```

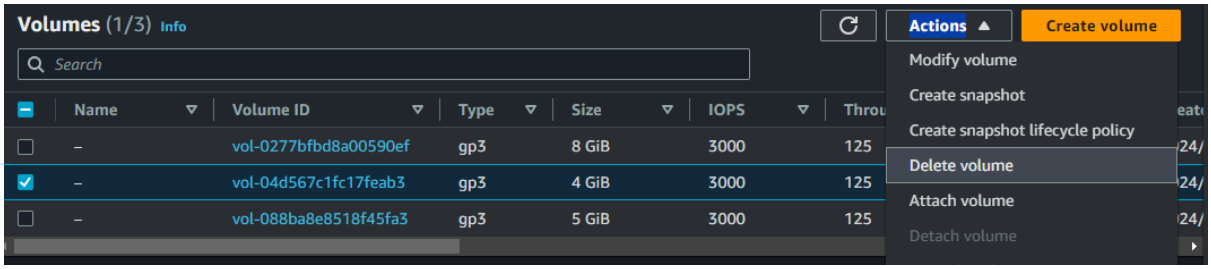
29. After Implementing the Commands Successfully Mounted

```
[ec2-user@ip-172-31-23-189 ~]$ df -h
Filesystem       Size  Used Avail Use% Mounted on
devtmpfs         4.0M     0  4.0M   0% /dev
tmpfs            475M     0  475M   0% /dev/shm
tmpfs            190M  2.9M  188M   2% /run
/dev/xvda1       8.0G  1.6G  6.4G  20% /
tmpfs            475M     0  475M   0% /tmp
/dev/xvda128      10M  1.3M  8.7M  13% /boot/efi
tmpfs             95M     0   95M   0% /run/user/1000
/dev/xvdf        3.9G   24K  3.7G   1% /home/ec2-user/ebs
/dev/xvdg        4.9G   24K  4.6G   1% /home/ec2-user/ebs-1
[ec2-user@ip-172-31-23-189 ~]$ lsblk
NAME      MAJ:MIN RM SIZE RO TYPE MOUNTPOINTS
xvda      202:0    0   8G  0 disk
├─xvda1   202:1    0   8G  0 part /
├─xvda127 259:0    0   1M  0 part
└─xvda128 259:1    0  10M  0 part /boot/efi
xvdf      202:80   0   4G  0 disk /home/ec2-user/ebs
xvdg      202:96   0   5G  0 disk /home/ec2-user/ebs-1
[ec2-user@ip-172-31-23-189 ~]$
```

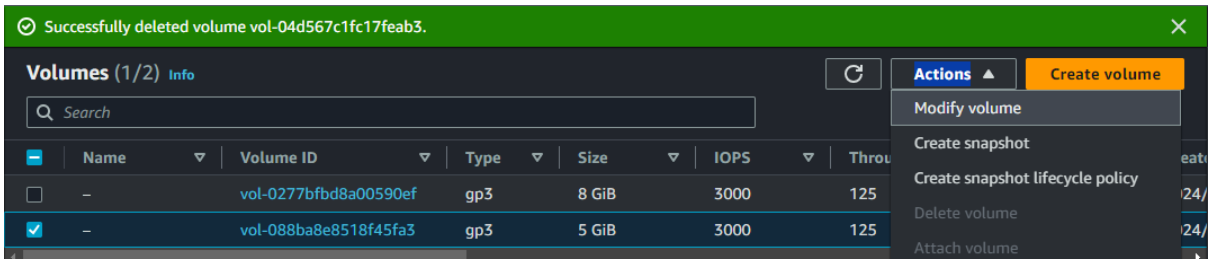
30. As Per The Task One Volume Need to Detach Volume



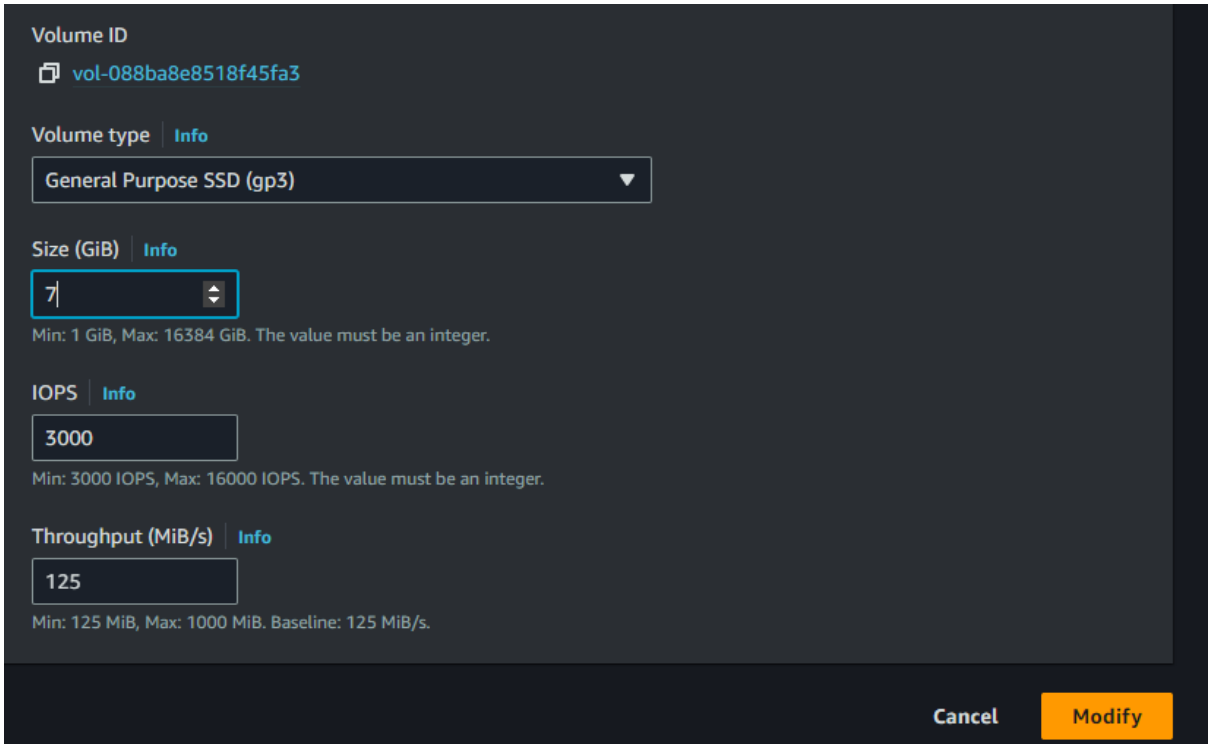

31. After Detaching and Go Same Actions Again and U will Get the Delete Volume and Click Delete



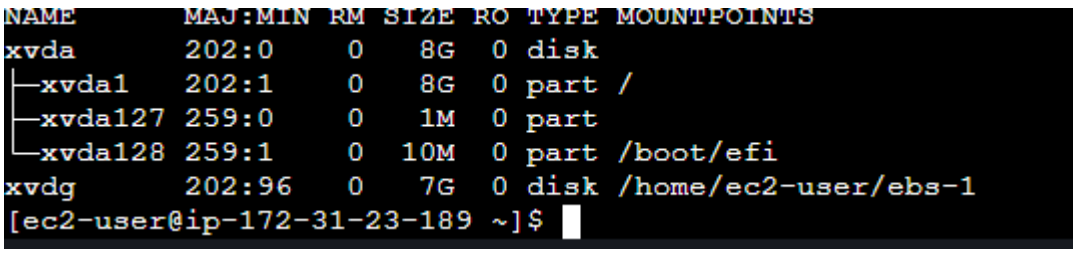
32. Now Modifying Another Volume Go Actions and Click Modify Volume



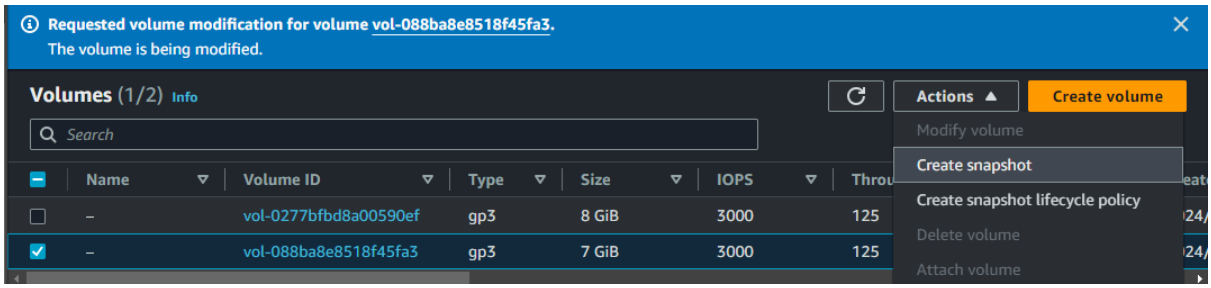

33. I Modified 5 to 7 GIB and Click Modify



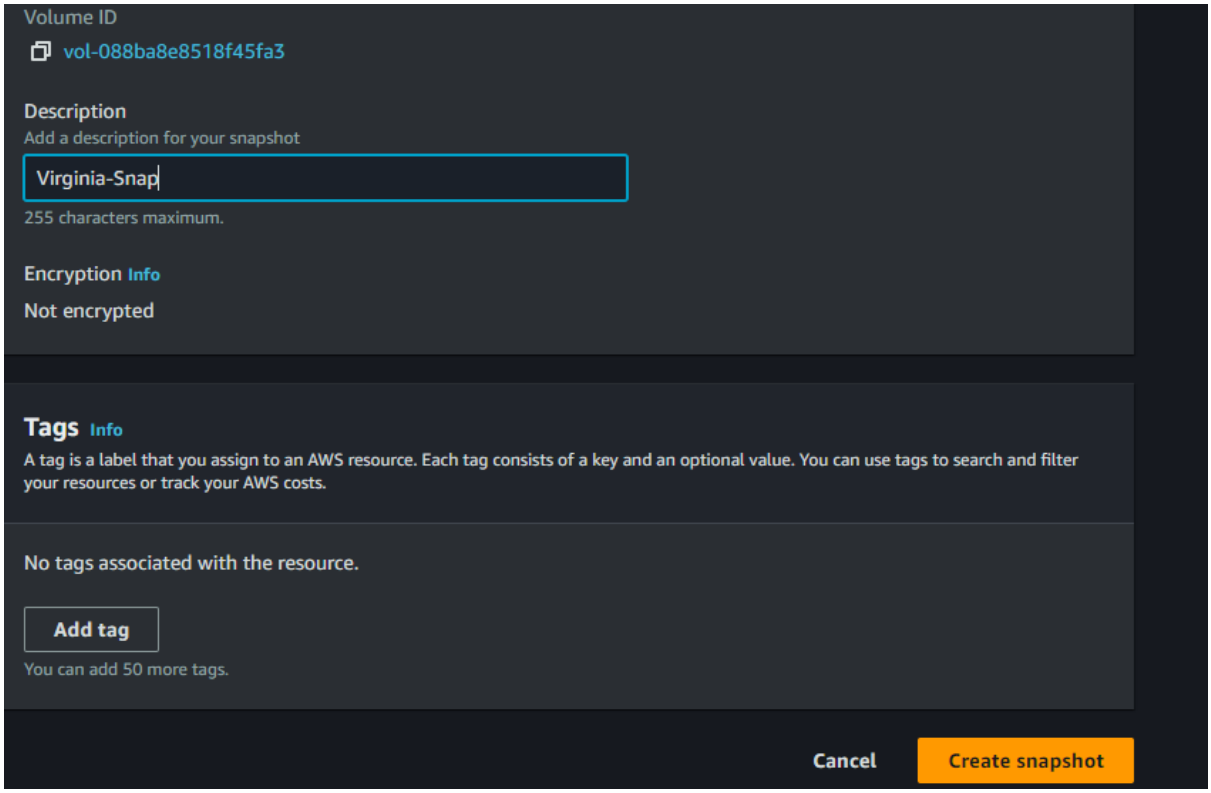

34. Now Check df -h and Now its Updated Successfully and also Previous one Deleted.



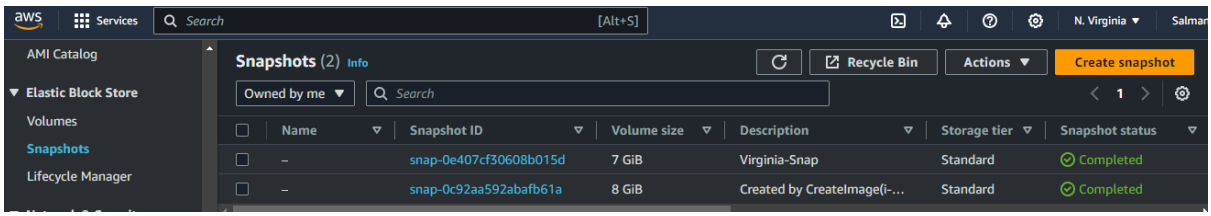
35. Now Again Go To Volume and Go To Actions and Select Create Snapshot




36. Snap Name and Click Create




37. Now We can See the Snapshot of our Volume, What We have Stored in this Volume we can Backup Our Data Like this.



# Thank You