Program 9a: Experiment to attach EBS to an EC2 instance

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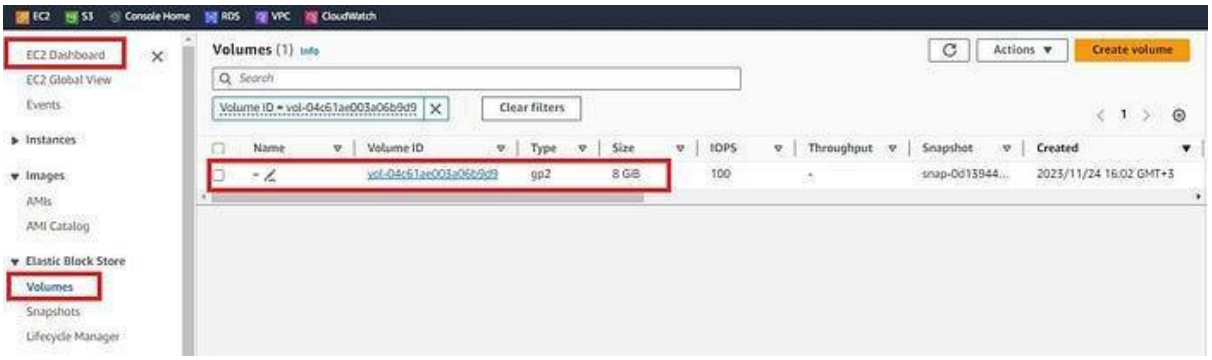
Prerequisites(jump to)

Create a Linux and Windows based EC2 Instance.

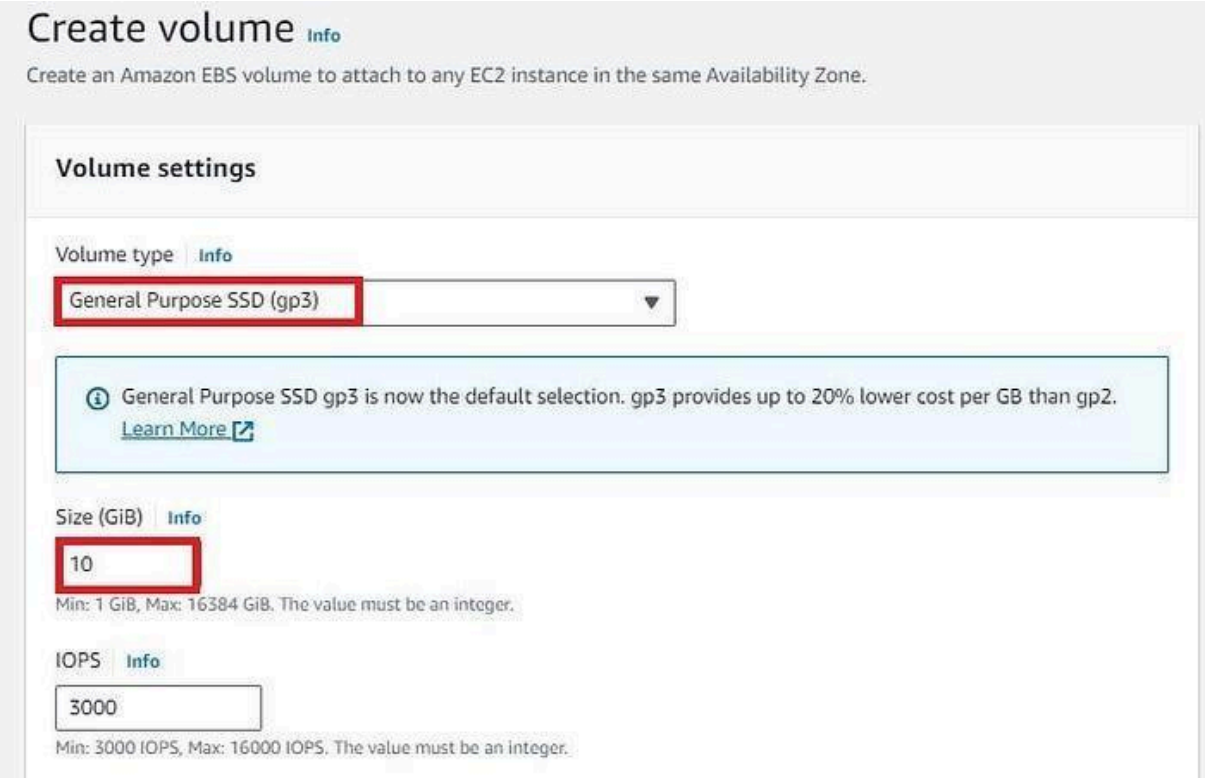
Step 1: Create an EBS Volume:

1. Open the AWS Management Console and navigate to the EC2 dashboard.
2. In the left navigation pane, choose “Volumes” under the “Elastic Block Store” section.
3. Take note of the existing volumes. In this example, we have an 8GB volume.

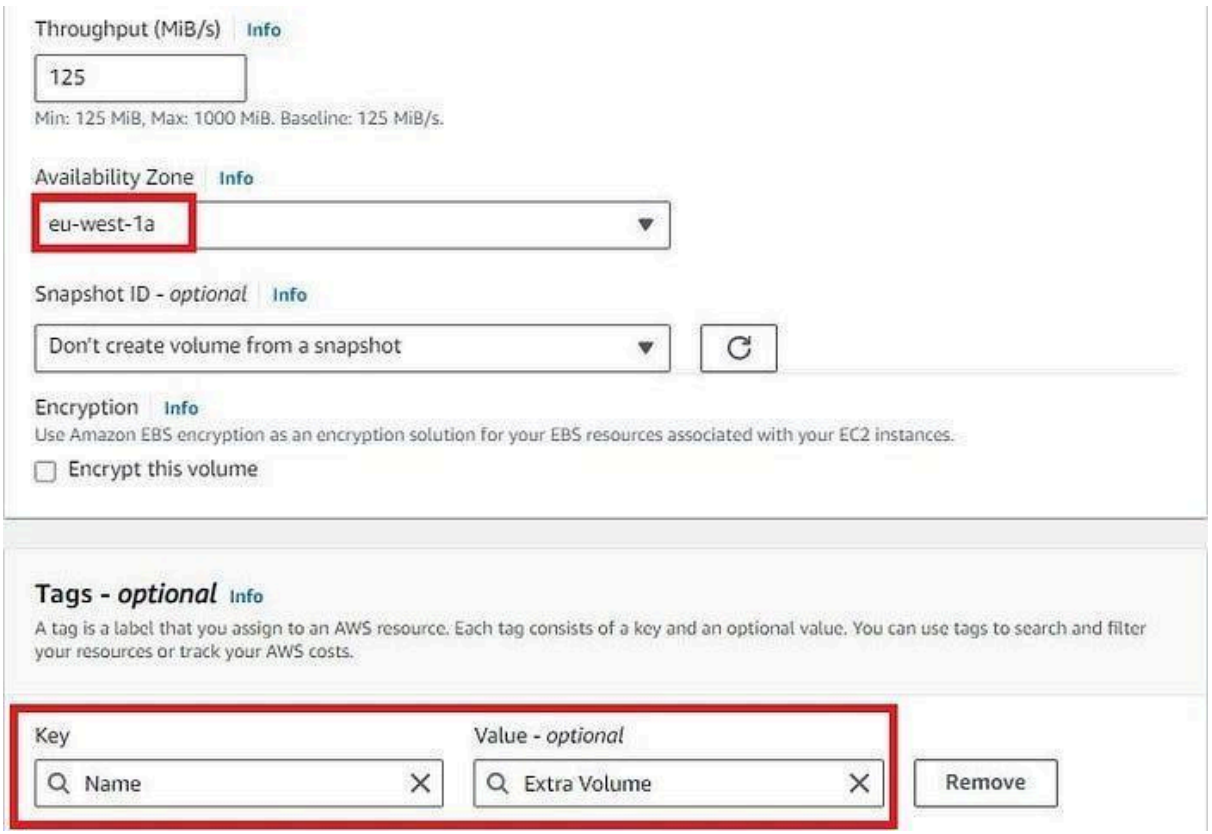


4. Click “Create Volume” to add a new EBS volume.

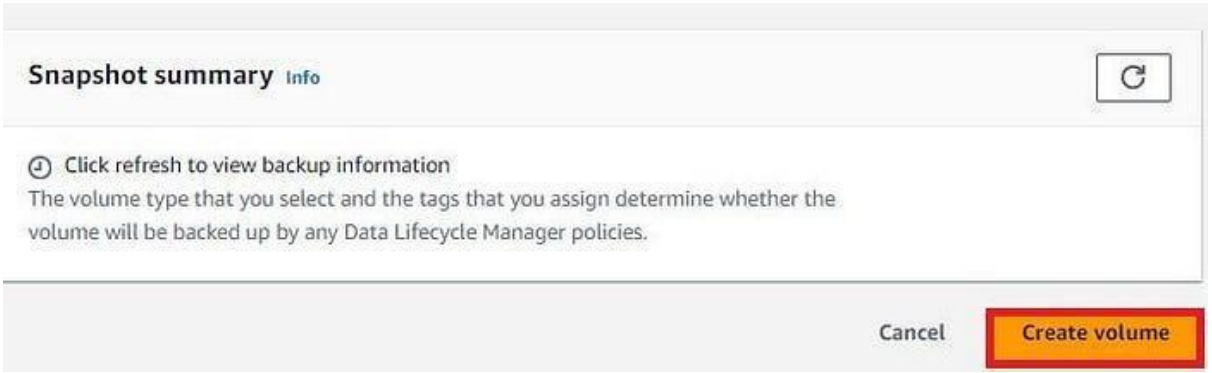
- Volume Type: General Purpose SSD (gp2)
- Size (GiB): Enter 10 for a 10GB volume.
- Availability Zone: Choose the same availability zone as your EC2 instance.



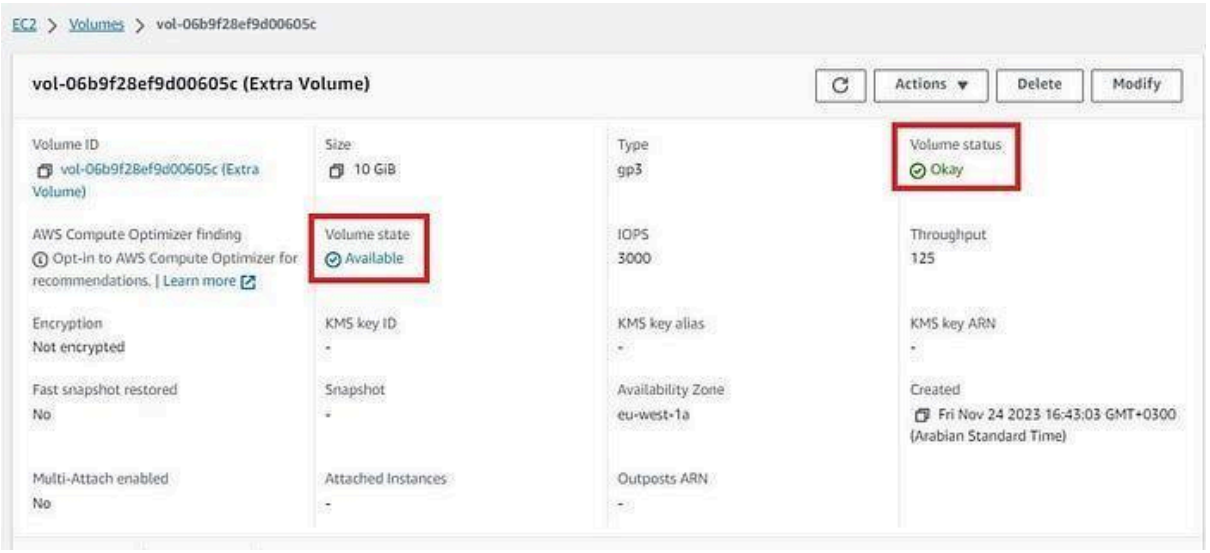
We can a tag which is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.



Finally, Click "Create" to create the EBS volume.

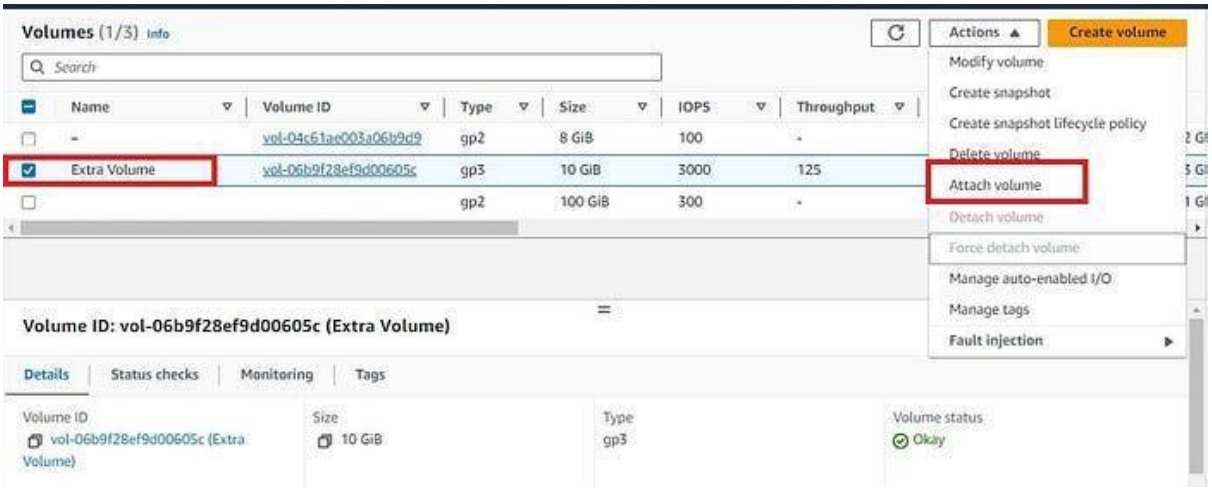


Now if we can check the status of the newly created volume will be available.

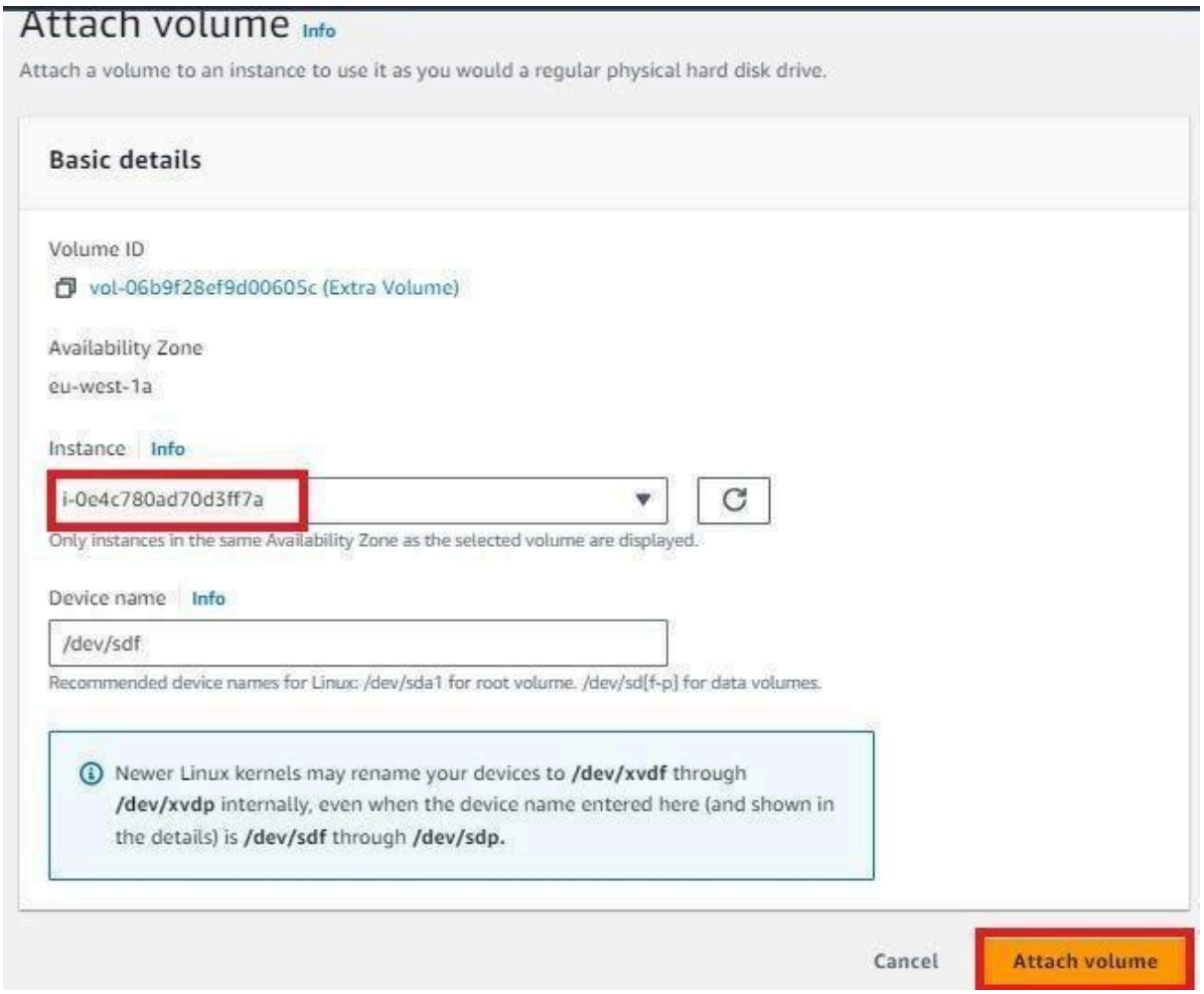


Step 2: Attach EBS Volume to EC2 Instance:

1. In the Volumes dashboard, select the newly created volume.
2. Click “Actions” > “Attach Volume” and choose your EC2 instance.
3. Confirm the attachment by clicking “Attach.”



Make sure to select the instance on which you have to attach the additional volume.



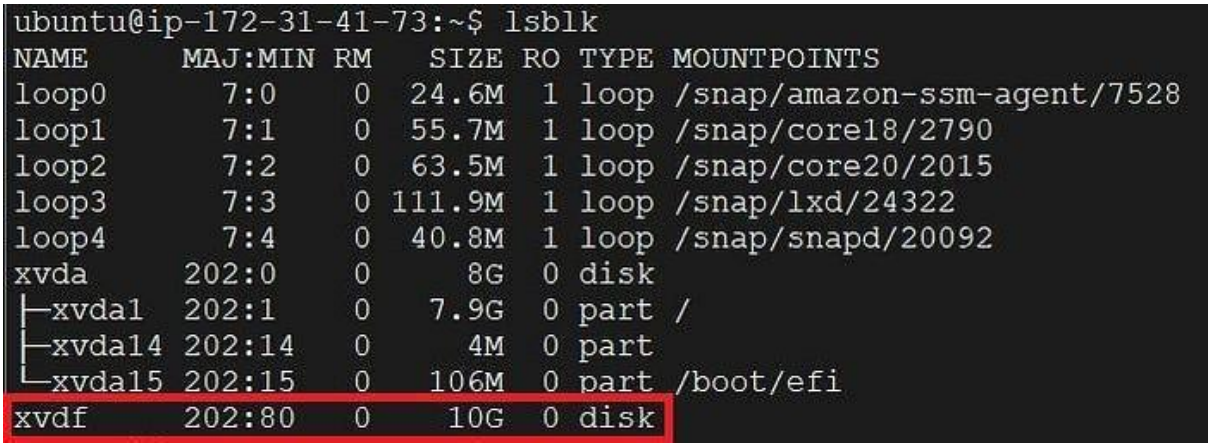
To verify that the volume has been successfully attached to the EC2 Instance you can go to the Volume section, select the newly created volume, and check the attached instance section as shown below:

Step 3: Connect to your EC2 Instance:

1. Use SSH to connect to your EC2 instance.
2. Use the following command to list the available block devices:

```
lsblk
```

Identify your attached volume (e.g., `/dev/xvdf`).



Step 4: Create a Filesystem on the EBS Volume:

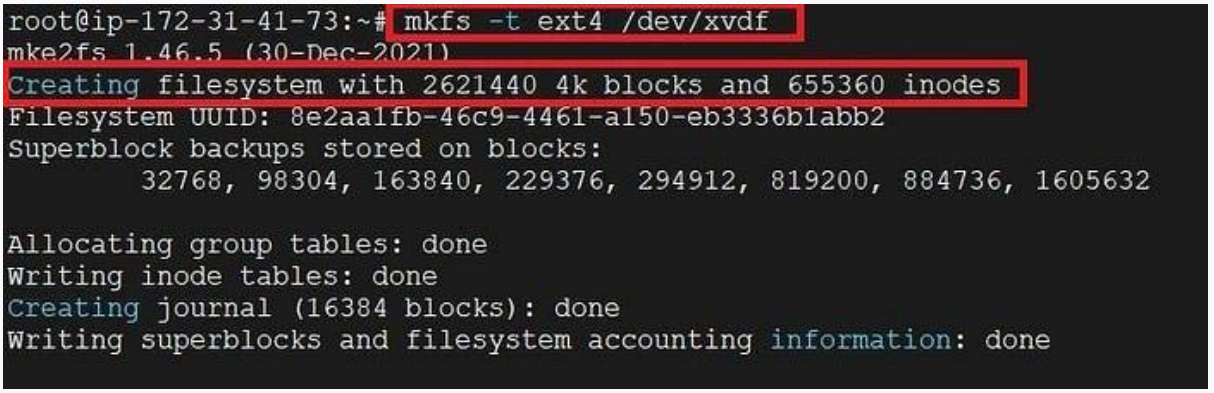
1. Let's first create a directory to be used as the mount point:

```
sudo -i
```

```
mkdir -p /mnt/ebs_volume
```

2. Now use the below command to create a filesystem on the attached volume:

mkfs -t ext4 /dev/xvdf



Now if we verify if the new file system exists use the below command and you should see the output:

file -s /dev/xvdf

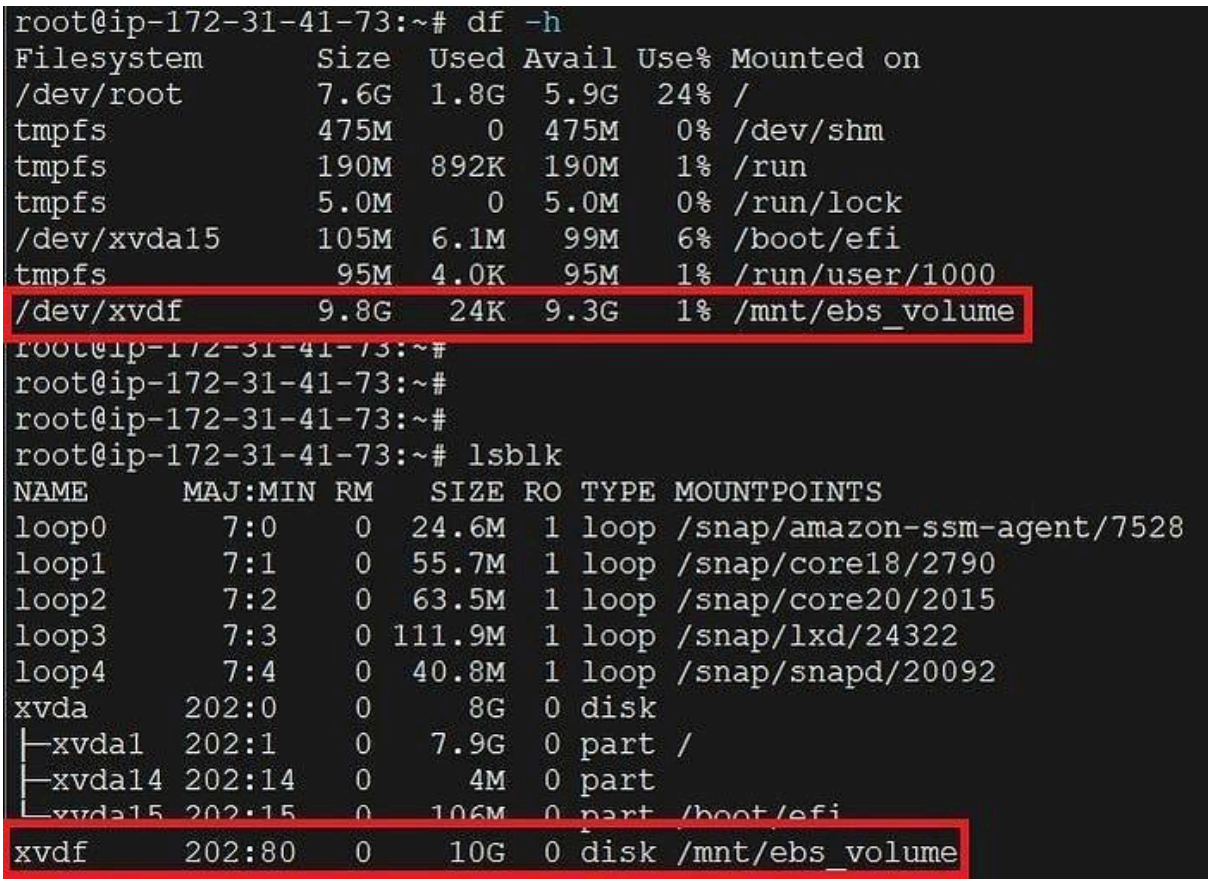
/dev/xvdf: Linux rev 1.0 ext4 filesystem data, UUID=8e2aa1fb-46c9-4461-a150-eb3336b1abb2 (extents) (64bit) (large files) (huge files)

Step 5: Mount the EBS Volume:

1. Mount the EBS volume to the specified mount point:

mount /dev/xvdf /mnt/ebs_volume

Now you should see the new EBS volume mounted to the directory you created in the earlier steps:



Step 6: Configure Automatic Mount on Boot:

1. Open the `/etc/fstab` file in a text editor:

```
vi /etc/fstab
```

2. Add the following line to the end of the file:

```
/dev/xvdf   /mnt/ebs_volume   ext4   defaults,nofail   0   2
```

Save and exit the editor.

You can also verify on the AWS console the new EBS volume has been successfully added and mounted:

Take a screenshot of the “added” and mounted” volume with /dev/xvdf seen in the AWS console

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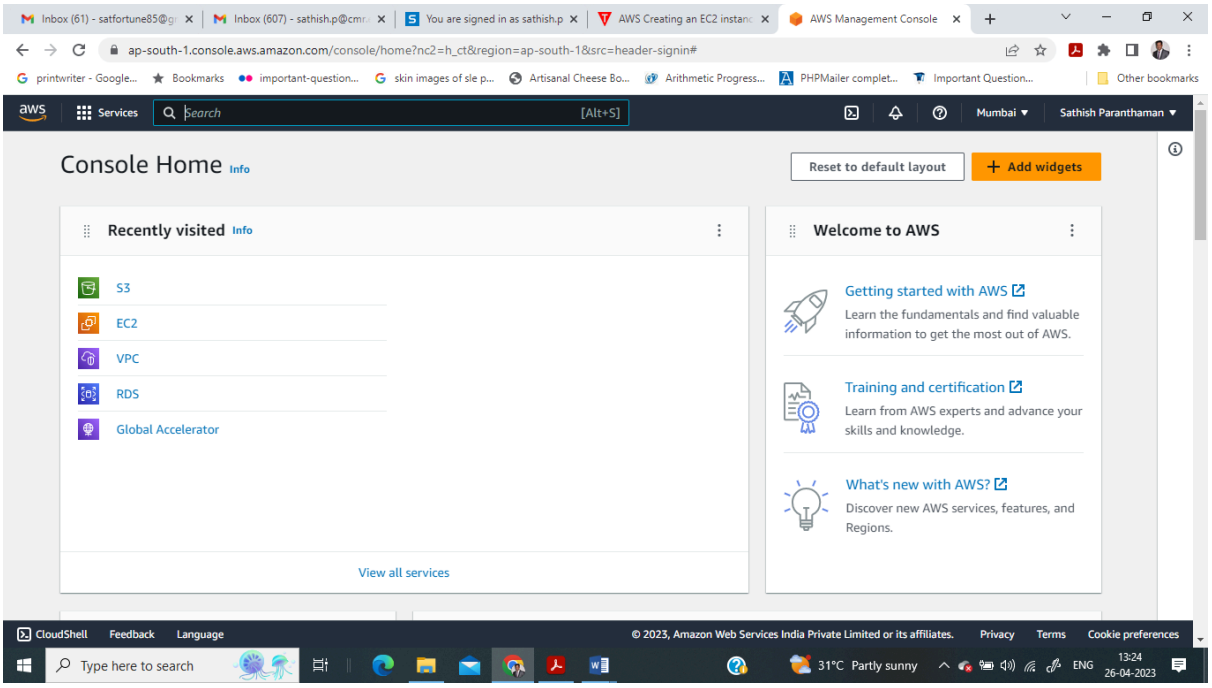
Step 7: Clean up resources like Volumes. EBS and EC2 to avoid incurring costs,.

Prerequisites

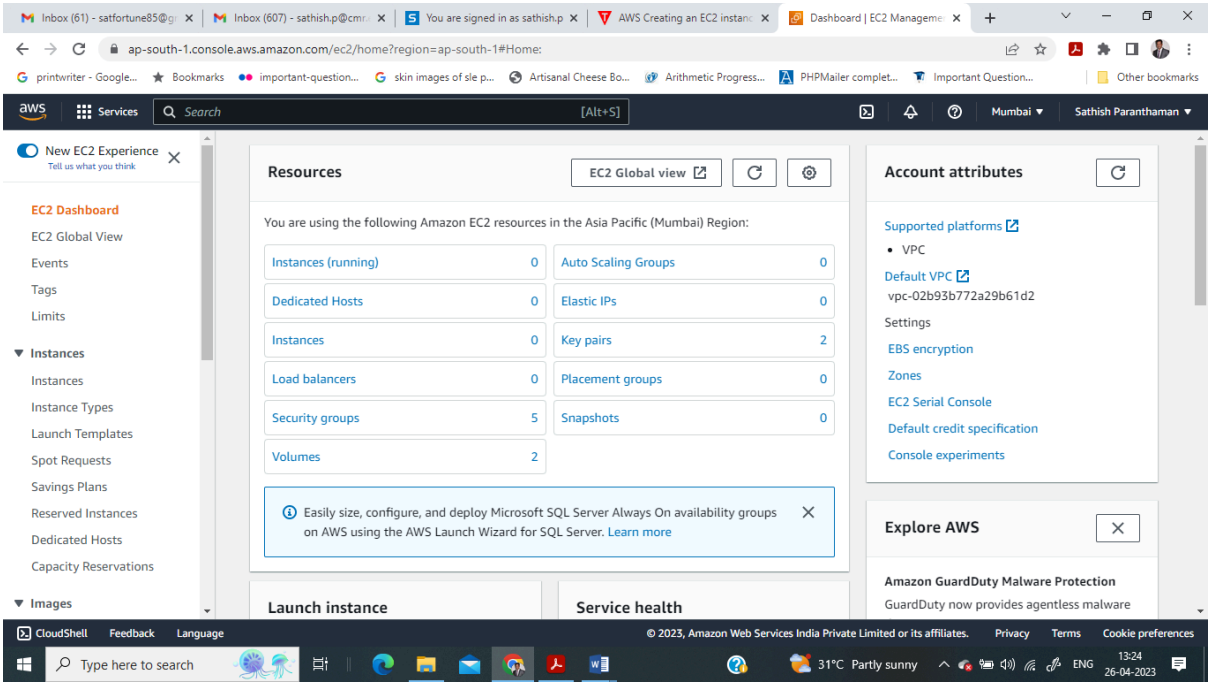
Create a Linux and Windows based EC2 Instance.

Create a Linux based EC2 Instance

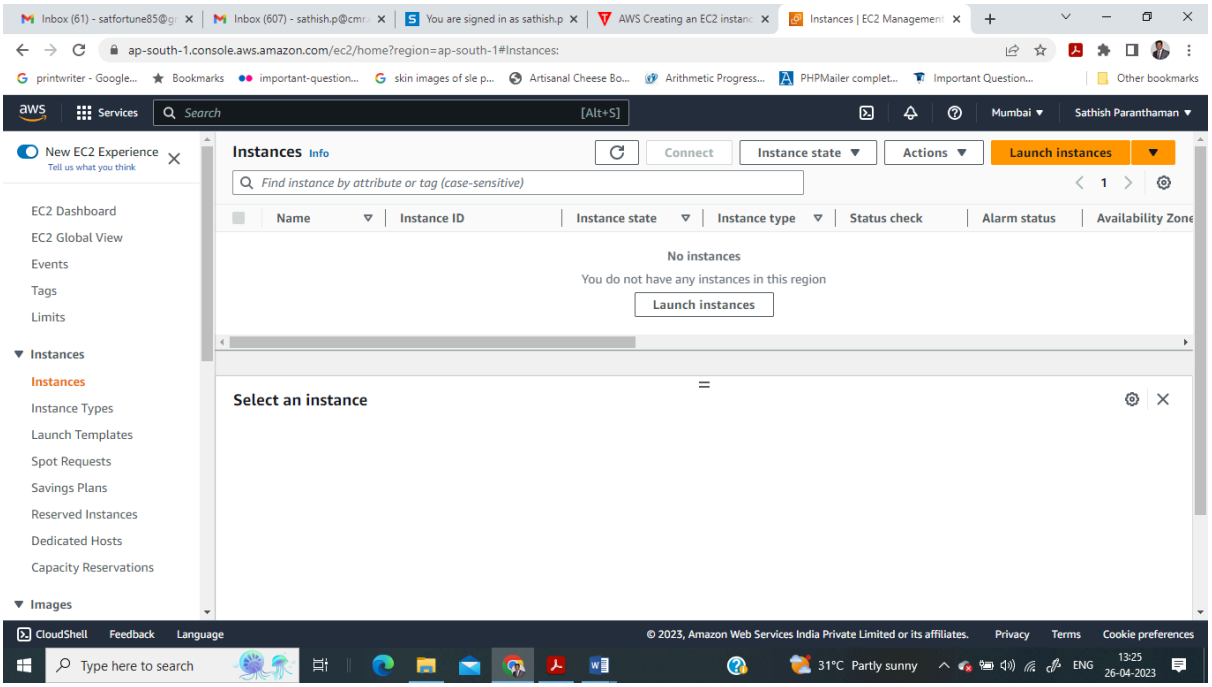
Step 1: Sign in to the AWS Management Console.



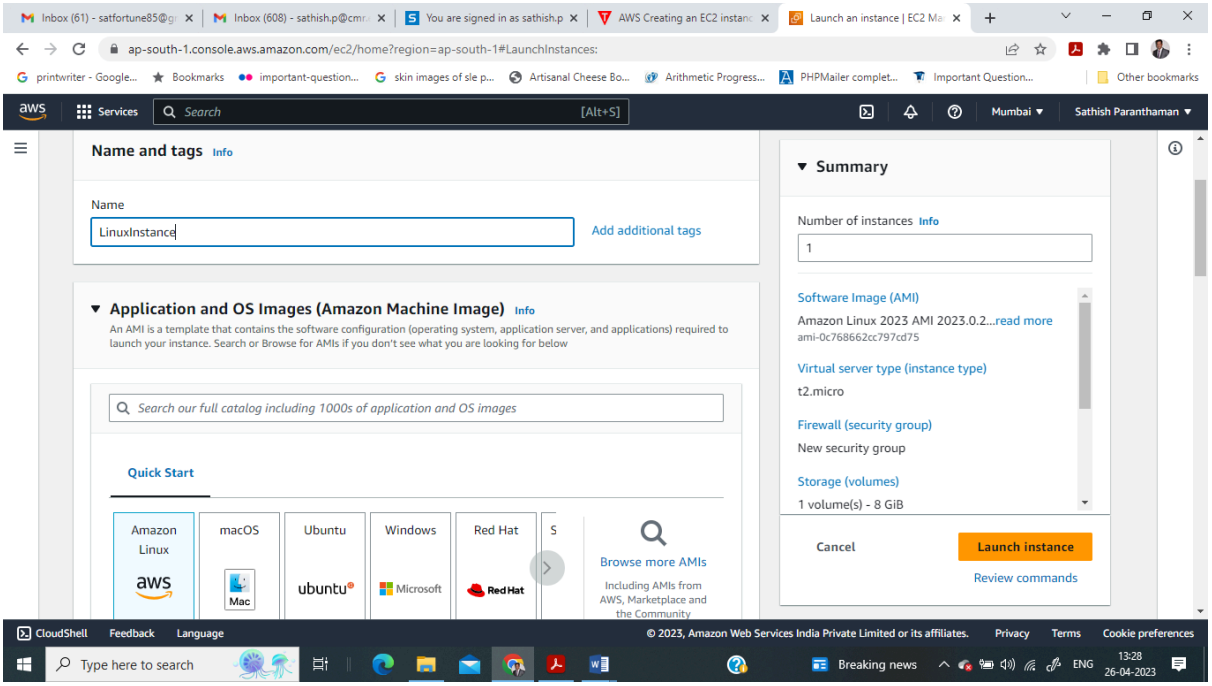
Step 2: Click on the EC2 service. Select instances.



Step 3: Click on the **Launch Instance** button to create a new instance.

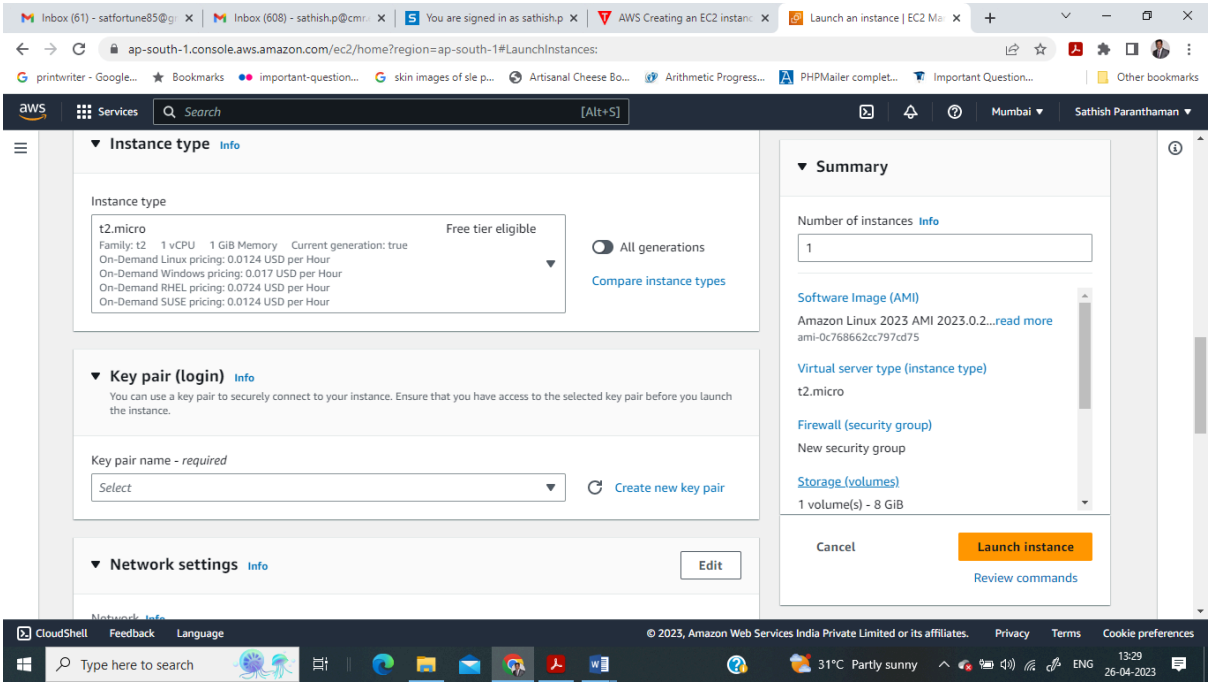


Step 4: Enter the name of the instance and select Amazon Linux AMI

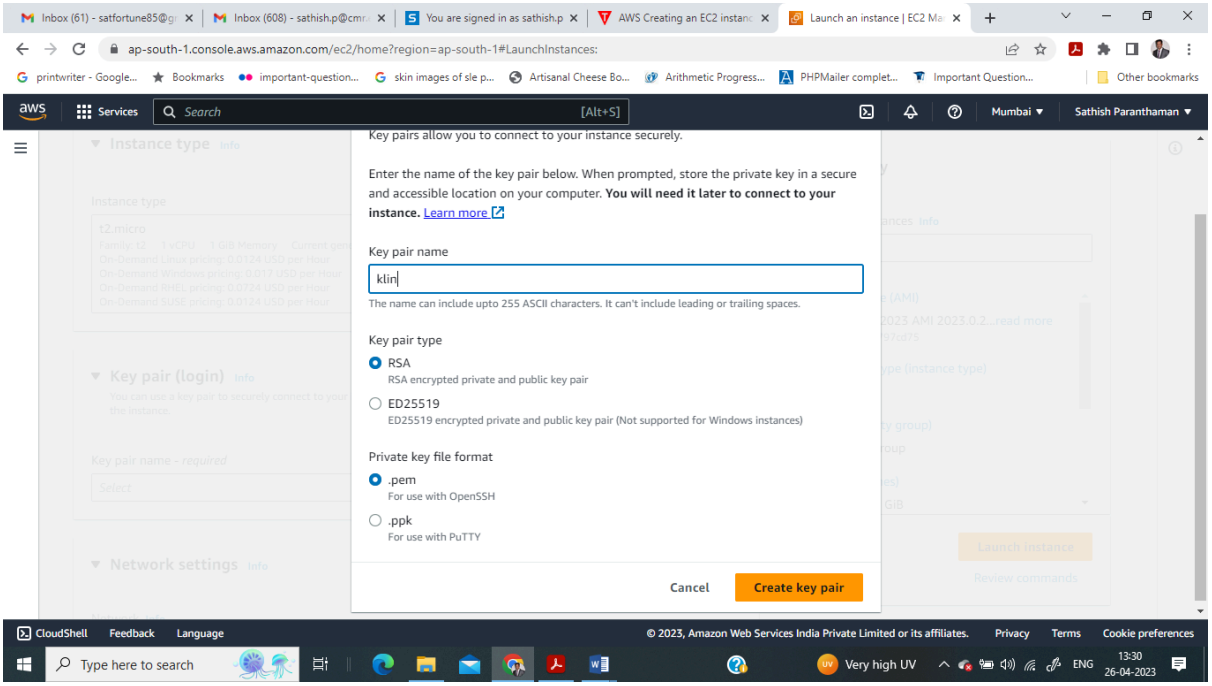


Step 5: Under instance type select free tier eligible instance.

Click on create new key pair to generate the .pem file



Step 6: Enter the name of the key pair and click create key pair. Now .pem file is created and downloaded to the local computer.



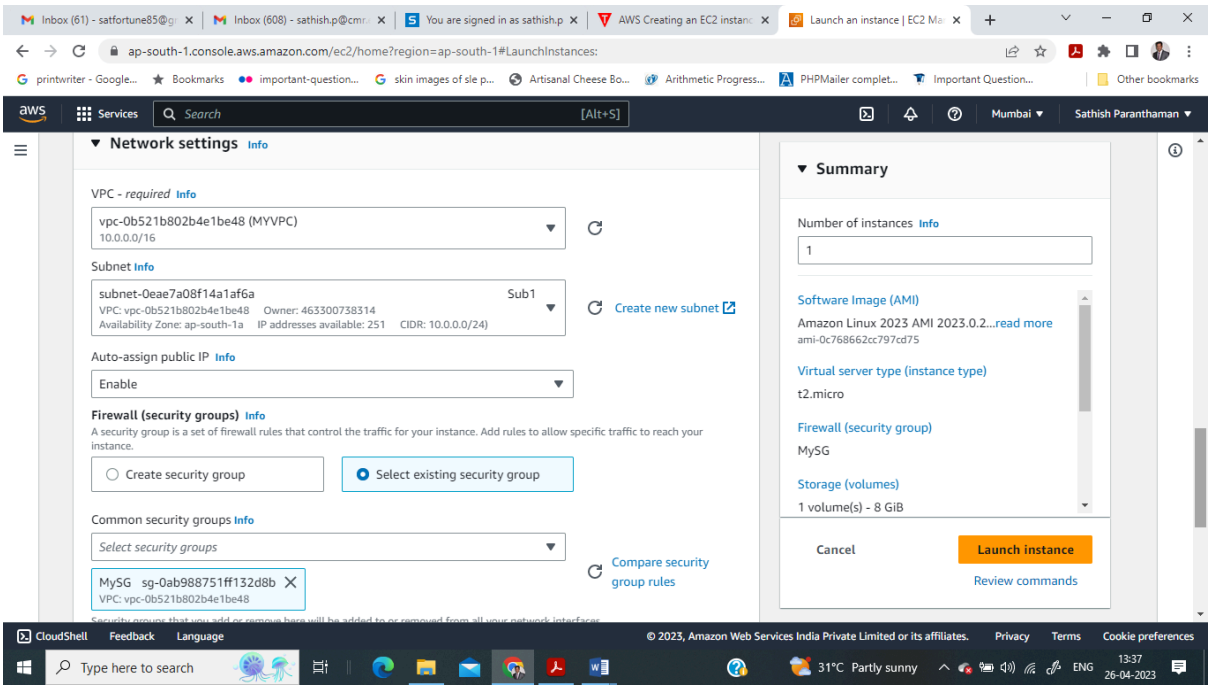
Step 7: Network settings

Click on edit button to edit the network details as follows

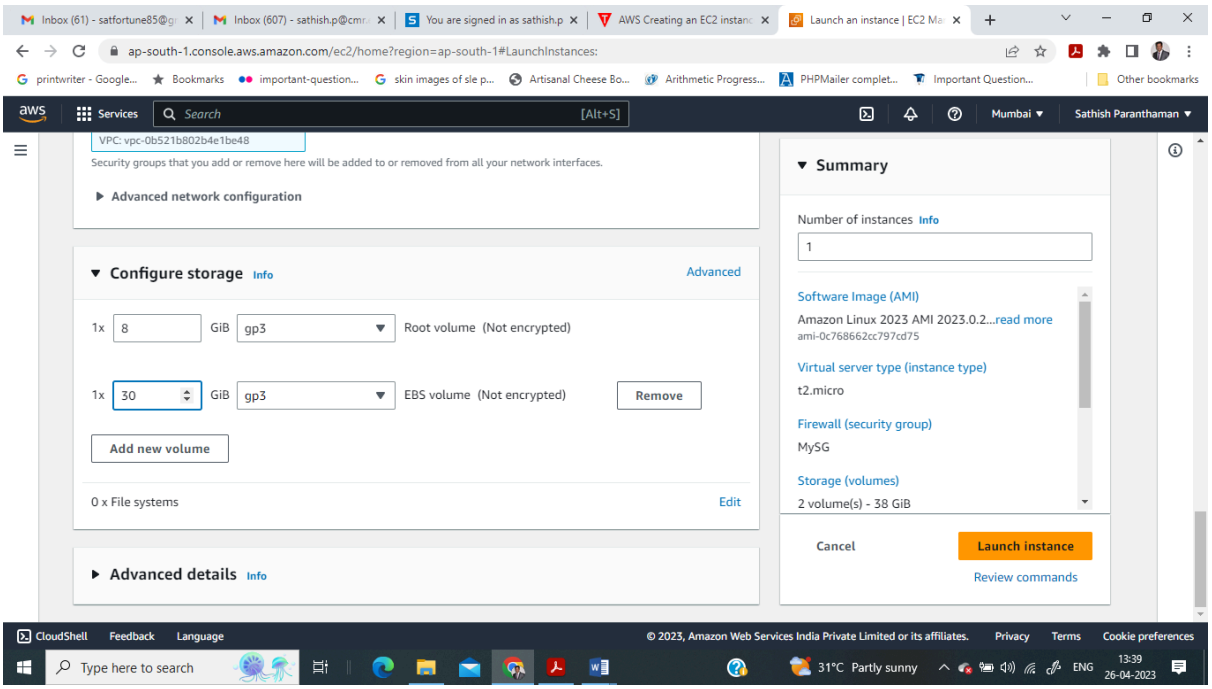
Select the custom VPC which was created

Select the appropriate subnet

Select the security group which was assigned to VPC



Step 8: Add required elastic block storages(EBS) under Configure storage section. Click on Launch Instance



Step 9: Now instance has been created successfully