



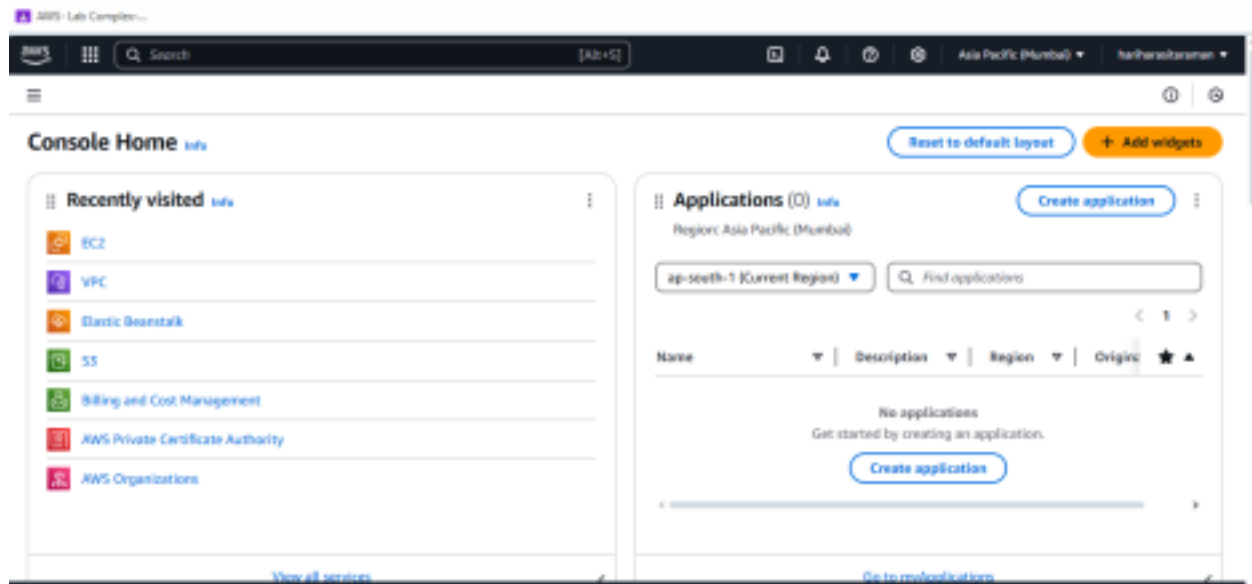
Practical 6

(Creation of Instance and EBS volume and attaching with the instance.)

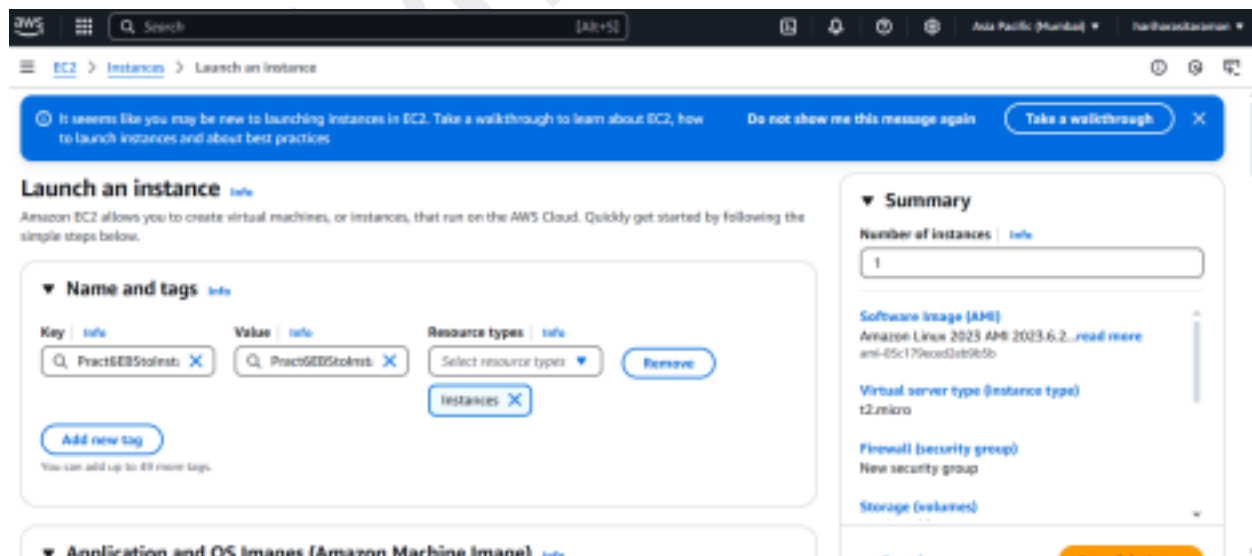
Name: Arpita Rajput
Reg. No. 22MIP10001

Practical 6: Creation of EBS volume, attach to the Instance and Mounting to the instance

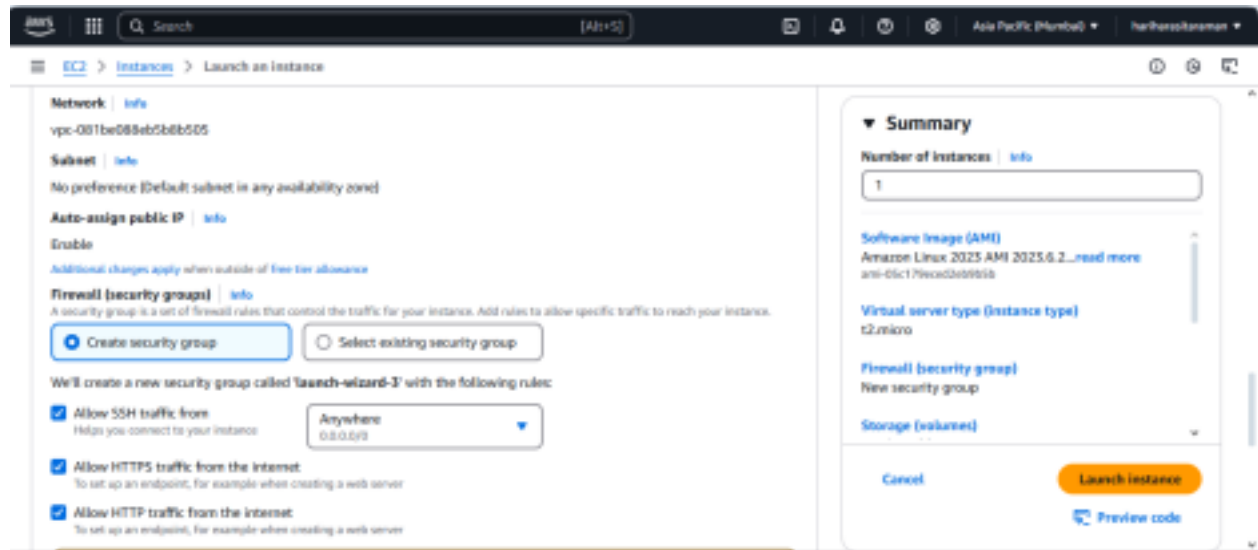
Step1: Login into the instance



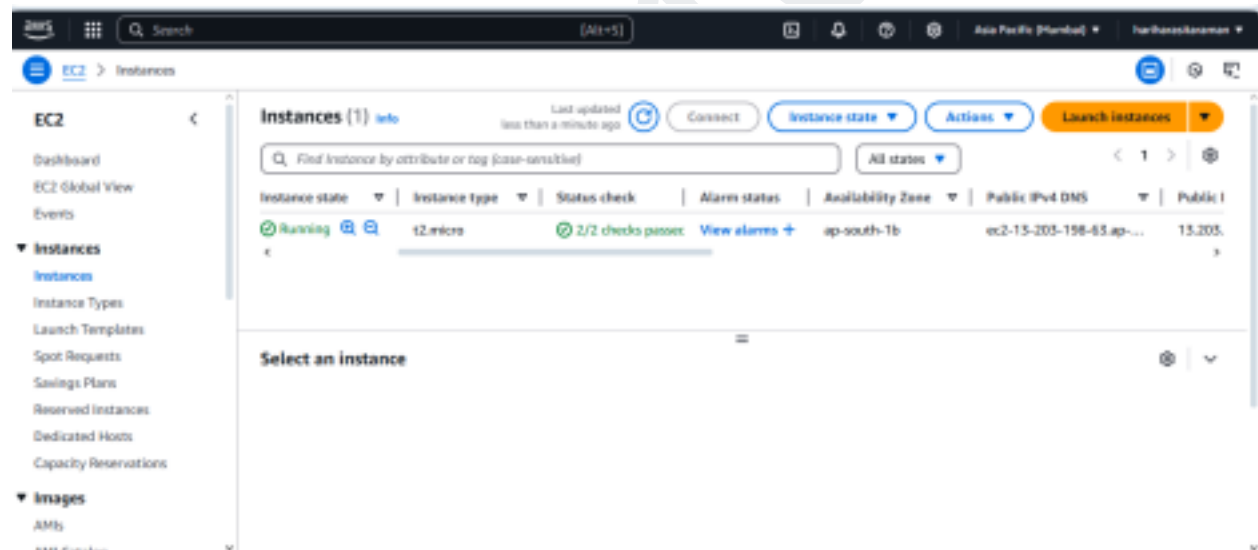
Step2: Create an Instance (Give a name and Tag name similar to identify the Instance easily)



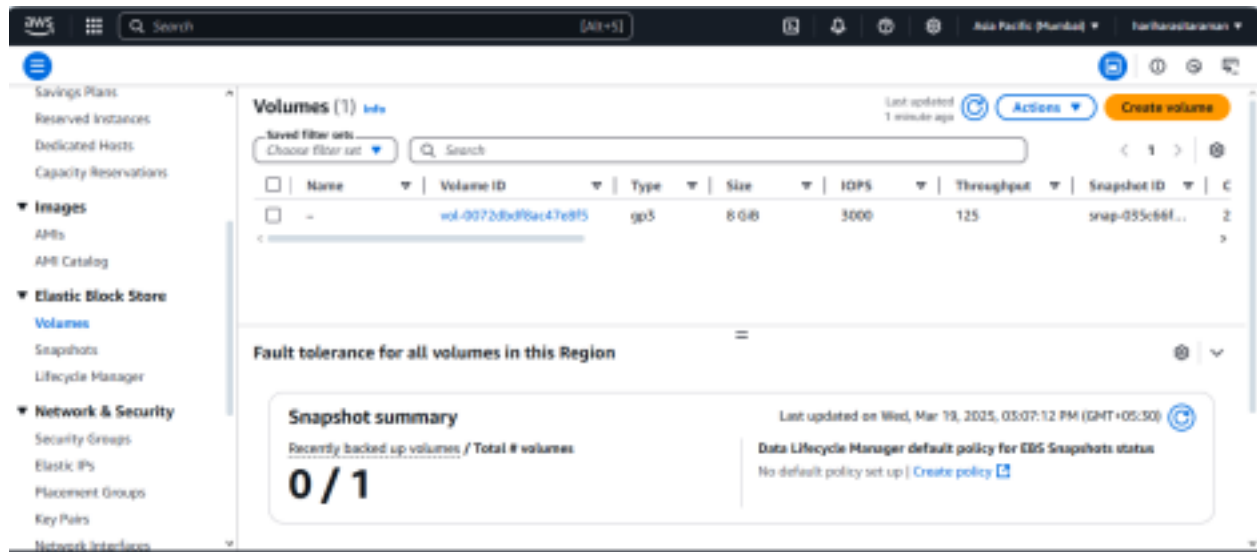
Step 3: Change Settings of Security Group



Step5: Instance launched



Step 7: Creation of Volume in Ec2

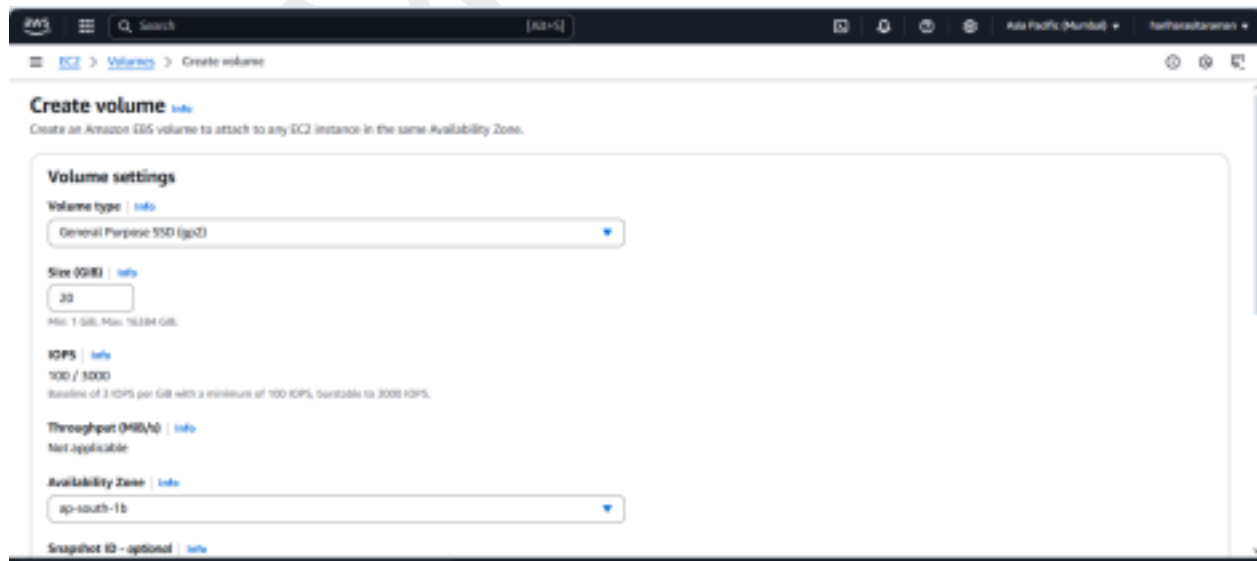


Step 7: Important Settings in Volume Creation

a) Select Volume type: General Purpose SSD(gp2)

b) Size(GiB): 20

c) Availability Zone: Should Be the same as your Instance Availability Zone (e.g: ap-south-1b)



d) In the Tags (Give some names similar to Instance name for identification)

Tags - optional [info](#)

A tag 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.

Key **Value - optional**

You can add 49 more tags.

Snapshot summary [info](#)

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.

Step 8: EBS Created

Successfully created volume vol-0f46c85b4826e2e7c.

Volumes (1/2) [info](#)

Last updated 1 minute ago

Saved filter sets: Choose filter set

<input type="checkbox"/>	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created
<input type="checkbox"/>	-	vol-0072dbcf8ac47e0f5	gp3	8 GiB	3000	125	snap-035c6d4...	2025/03/19 14:51 GMT
<input checked="" type="checkbox"/>	EBScreateand...	vol-0f46c85b4826e2e7c	gp2	20 GiB	100	-	-	2025/03/19 15:16 GMT

Step 9: Attach the EBS to instance we have created already

Successfully created volume vol-0f46c85b4826e2e7c.

Volumes (1/2) [info](#)

Last updated 3 minutes ago

Saved filter sets: Choose filter set

<input type="checkbox"/>	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created
<input type="checkbox"/>	-	vol-0072dbcf8ac47e0f5	gp3	8 GiB	3000	125	snap-035c6d4...	2025/03/19 14:51 GMT
<input checked="" type="checkbox"/>	EBScreateand...	vol-0f46c85b4826e2e7c	gp2	20 GiB	100	-	-	2025/03/19 15:16 GMT

Volume ID: vol-0f46c85b4826e2e7c (EBScreateandmount)

- Modify volume
- Create snapshot
- Create snapshot lifecycle policy
- Delete volume
- Attach volume**
- Detach volume
- Force detach volume
- Manage auto-enabled I/O
- Manage tags
- Fault injection

Step 10: Settings in attach volume

a) Select the instance from Drop down box

EC2 > Volumes > vol-0f46c85b4826e2e7c > Attach volume

Attach volume [Info](#)

Attach a volume to an instance to use it as you would a regular physical hard disk drive.

Basic details

Volume ID
vol-0f46c85b4826e2e7c (EBSCreateandmount)

Availability Zone
ap-south-1b

Instance [Info](#)

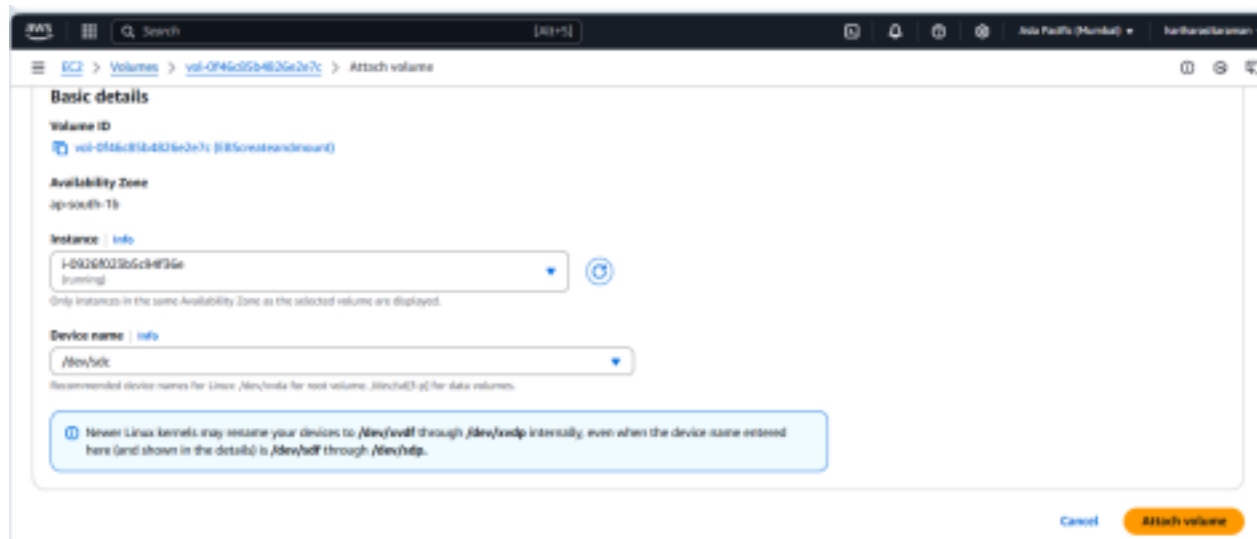
i-0926f023b5c94f36e
(running)

Q |

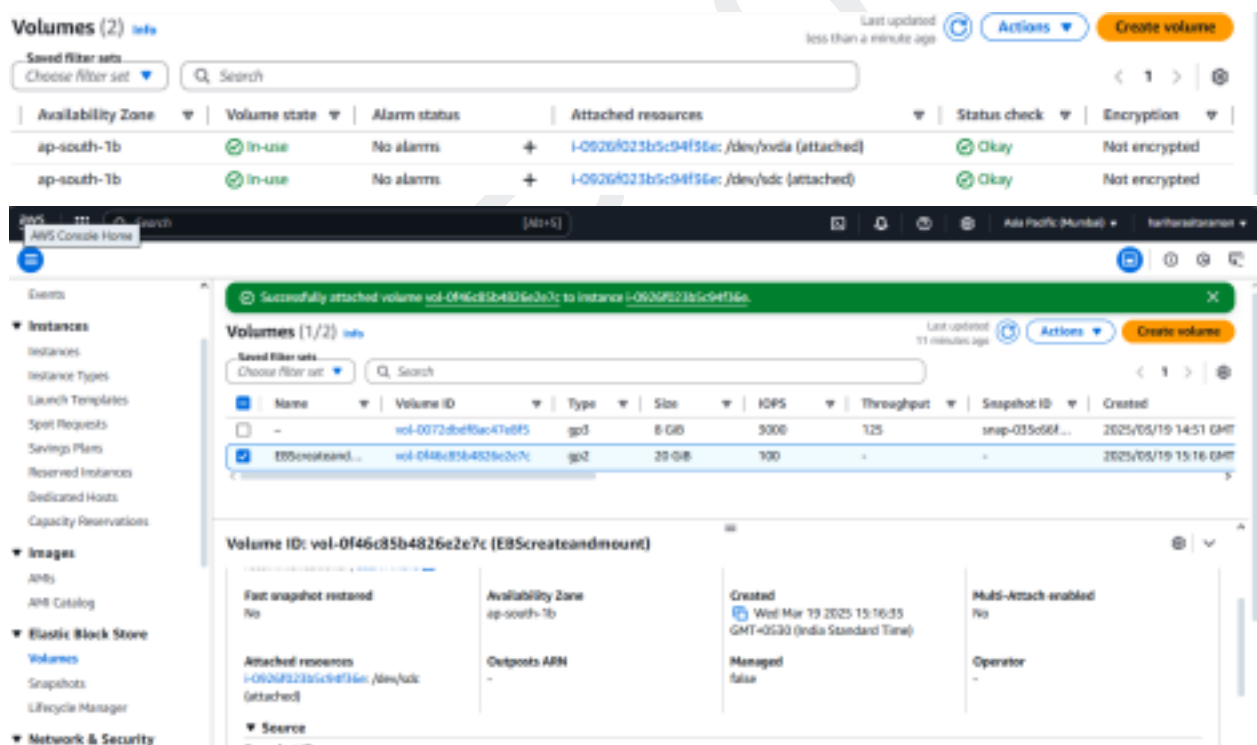
i-0926f023b5c94f36e
(running) ✓

b)

Select the device status(e.g /dev/sdc) and click the attach volume



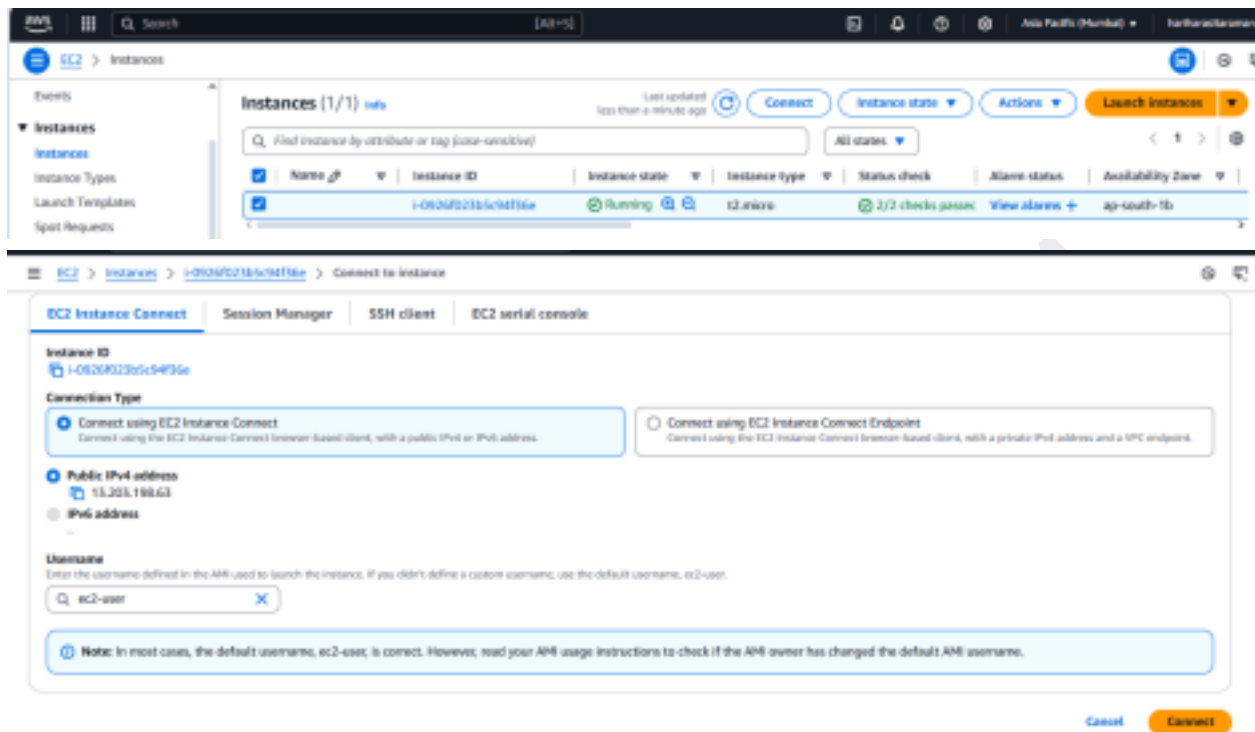
c) Check the status in the Volume dash board



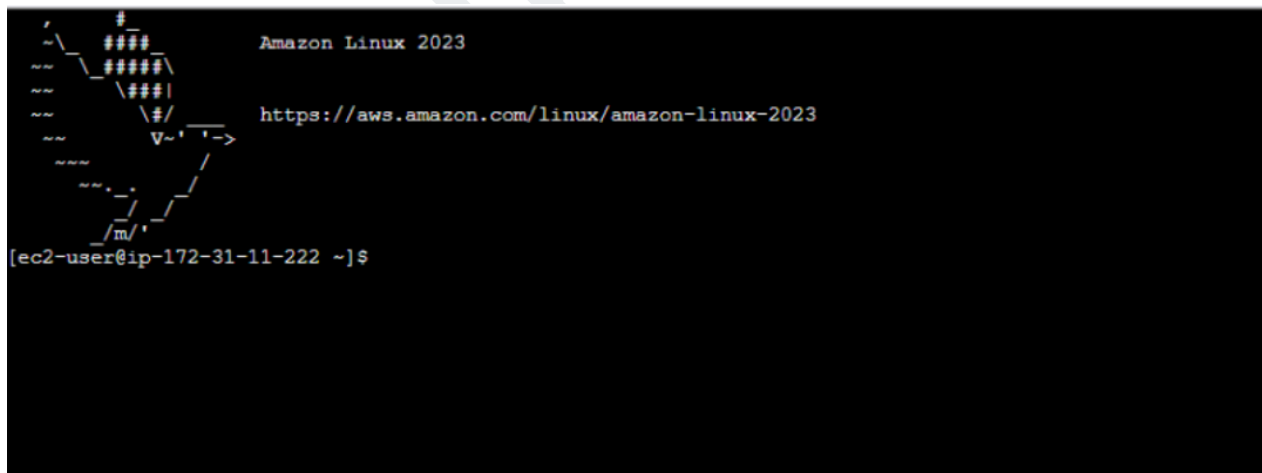
Now we will see the steps to mount the volume into instance,

Step1:

Goto instance Dashboard, click connect.



Step2: after clicking the connect , you will get the terminal access of your instance.



Step 3: Type the command **sudo su -**(It will give the root/admin access to the instance so that we can install /run some system-level commands)

After this, the command prompt will be changed like this

[root@ip-172-31-11-222 ~]#

Step 4: Type the command **df -h** . This command displays the disk space usage in a human-readable format, useful for checking available storage.

```
[ec2-user@ip-172-31-11-222 ~]$ sudo su -
[root@ip-172-31-11-222 ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        4.0M   0    4.0M   0% /dev
tmpfs            475M   0    475M   0% /dev
tmpfs            190M  444K   190M   1% /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
tmpfs            95M   0     95M   0% /run
```

The system has one volume **/dev/xvda1** which is already attached and mounted with the instance.

But, Our Volume **/dev/sdc** is not showing up, even though we have created and attached to the instance. To check that ,

Step 5: type **lsblk** (Lists all the block devices in the Linux Machine:), Now the attached volume is showing in the name **xvdc 202:32 0 20G 0 disk** but not added to the device directory structure

Step 6: For that, we need to **mount the created volume into the directory structure of the instance**, before doing mounting Check if there is any file system on the new EBS Volume:

Type the command :**file -s /dev/xvdc**

```
[root@ip-172-31-11-222 ~]# lsblk
NAME          MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
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
xvdc          202:32    0  20G  0 disk
```

```
[root@ip-172-31-11-222 ~]# fdisk -l /dev/xvdc
/dev/xvdc: data
```

If it shows **data** means, you need to setup the file system for this block device(**/dev/xvdc**)

Step 6: Create a file system **xfs** for the on the new EBS Volume:

Type the command: **mkfs -t /dev/xvdc**

```
[root@ip-172-31-11-222 ~]# file -s /dev/xvdc
/dev/xvdc: data
[root@ip-172-31-11-222 ~]# mkfs -t xfs /dev/xvdc
meta-data=/dev/xvdc             isize=512    agcount=4, agsize=1310720 blks
=                               sectsz=512   attr=2, projid32bit=1
=                               crc=1       finobt=1, sparse=1, rmapbt=0
=                               reflink=1   bigtime=1 inobtcount=1
data      =                     bsize=4096  blocks=5242880, imaxpct=25
=                               sunit=0        swidth=0 blks
naming    =version 2           bsize=4096  ascii-ci=0, ftype=1
log       =internal log       bsize=4096  blocks=16384, version=2
=                               sectsz=512   sunit=0 blks, lazy-count=1
realtime  =none               extsz=4096  blocks=0, rtextents=0
[root@ip-172-31-11-222 ~]#
```

Step 7: after creating the file system, we need to create one directory in the instance and attach our device **/dev/xvdc** to it.

Type the command for directory creation

mkdir -p /apps/my-data/apps/volume/new-volume

```
[root@ip-172-31-11-222 ~]# mkdir -p /apps/my-data/apps/volume/new-volume
[root@ip-172-31-11-222 ~]# cd /apps/my-data/apps/volume/new-volume
[root@ip-172-31-11-222 new-volume]# |
```

Get into the directory

Type the command: **cd /apps/my-data/apps/volume/new-volume**

```
[root@ip-172-31-11-222 ~]# mkdir -p /apps/my-data/apps/volume/new-volume
[root@ip-172-31-11-222 ~]# cd /apps/my-data/apps/volume/new-volume
[root@ip-172-31-11-222 new-volume]# |
```

Step 8:

To Mount volume to EC2 Instance created directory:

mount /dev/xvdc /apps/my-data/apps/volume/new-volume

```
[root@ip-172-31-11-222 new-volume]# ^[[200-Mount volume to EC2 Instance:
-bash: $'\E[200-Mount': command not found
[root@ip-172-31-11-222 new-volume]# mount /dev/xvdc /apps/my-data/apps/volume/new-volume
[root@ip-172-31-11-222 new-volume]#
```

Step 9: To check the new EBS volume is mounted into directory of the instance,

Type the command to check **df-h**

```
[root@ip-172-31-11-222 new-volume]# ^[[200-Mount volume to EC2 Instance:
-bash: $'\E[200-Mount': command not found
[root@ip-172-31-11-222 new-volume]# mount /dev/xvdc /apps/my-data/apps/volume/new-volume
[root@ip-172-31-11-222 new-volume]#
```

We have successfully created an EBS volume, attached with the instance and mounted it into the instance directory.