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Practical 6

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

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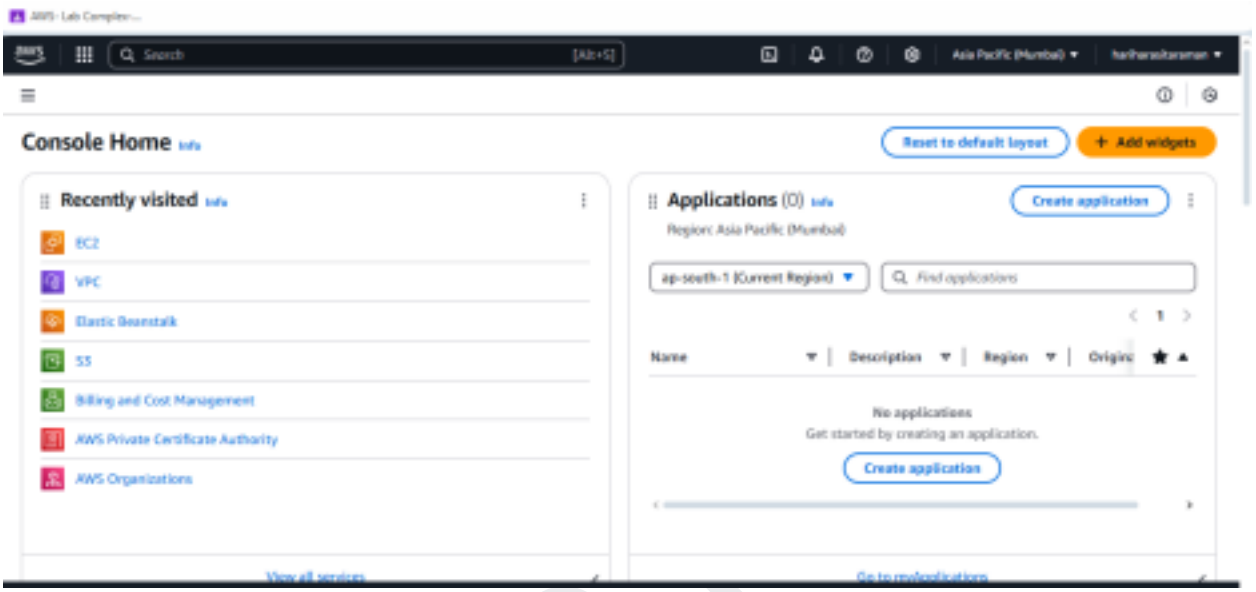
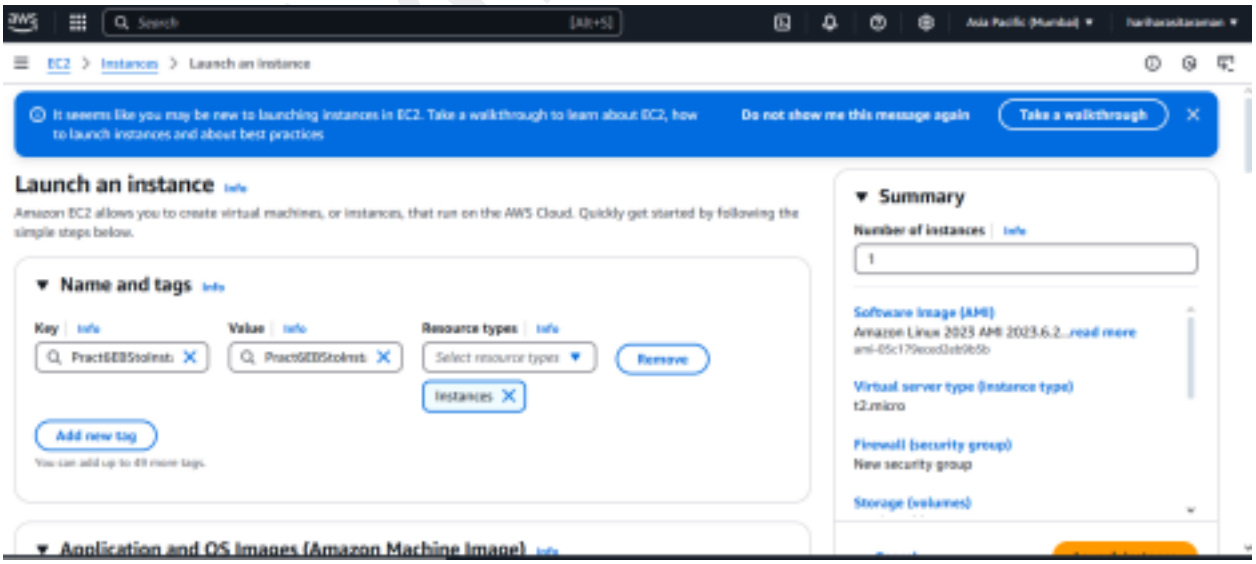
Practical 6: Creation of EBS volume, attach to the Instance and Mounting to the instance

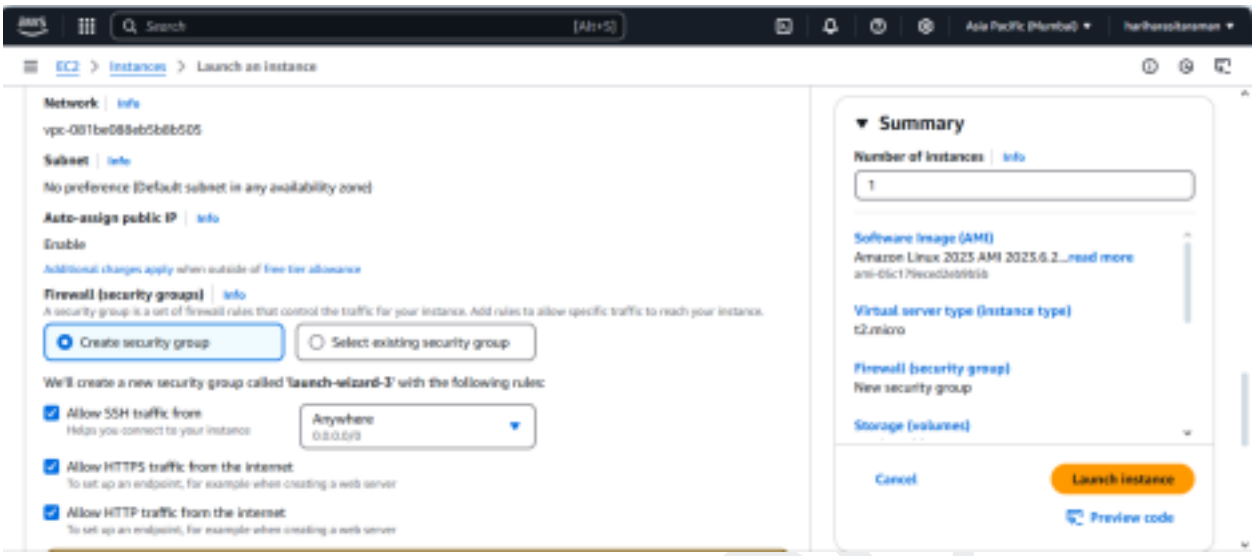
Step1: Login into the instance



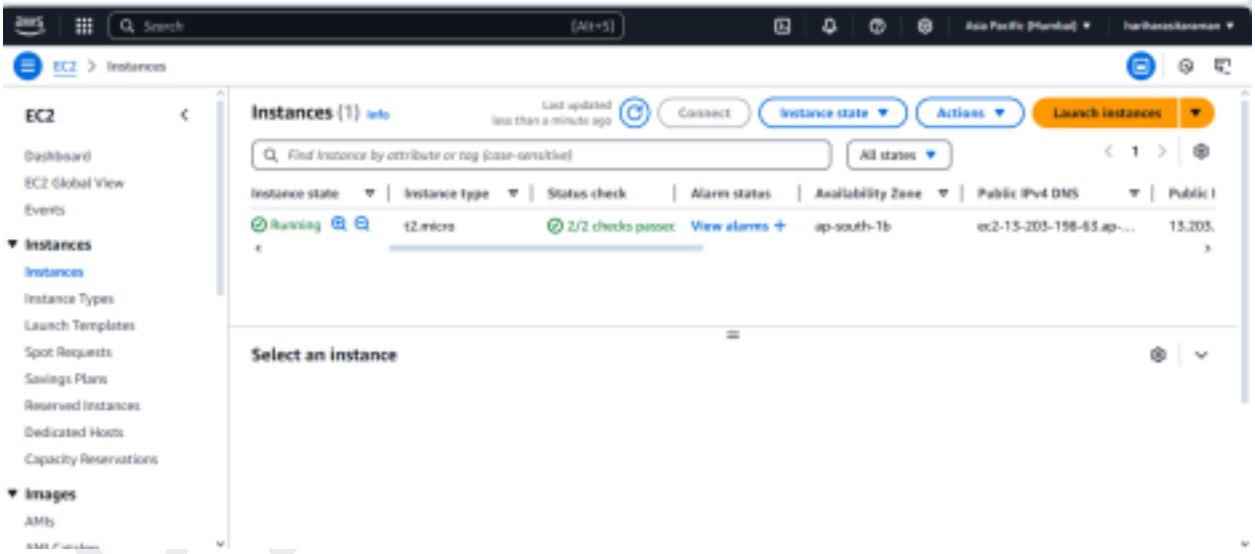
Step2: Create an Instance (Give a name and Tag name similar to identify the Instance easily)



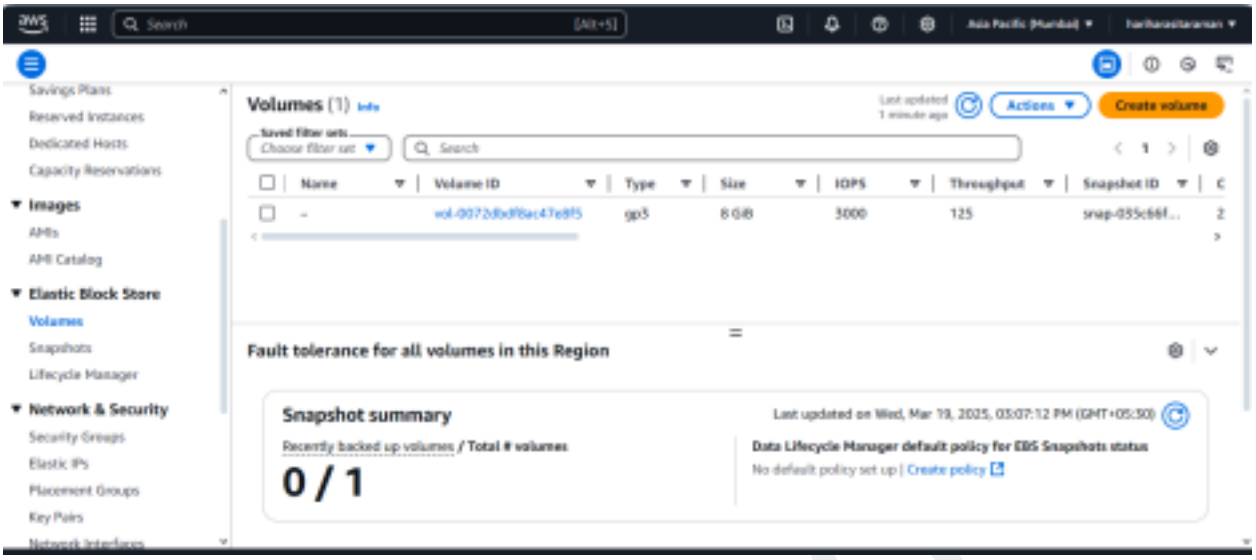
Step 3: Change Settings of Security Group



Step5: Instance launched



Step 7: Creation of Volume in Ec2



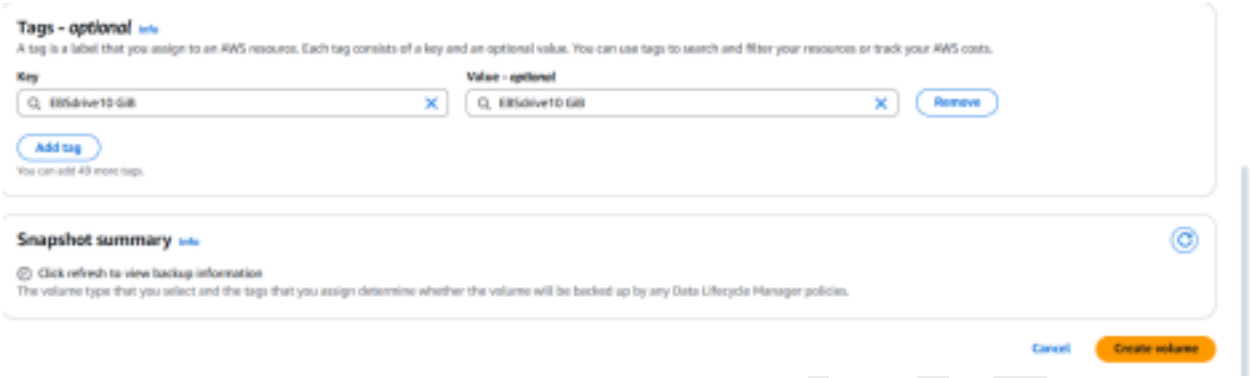
Step 7: Important Settings in Volume Creation

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

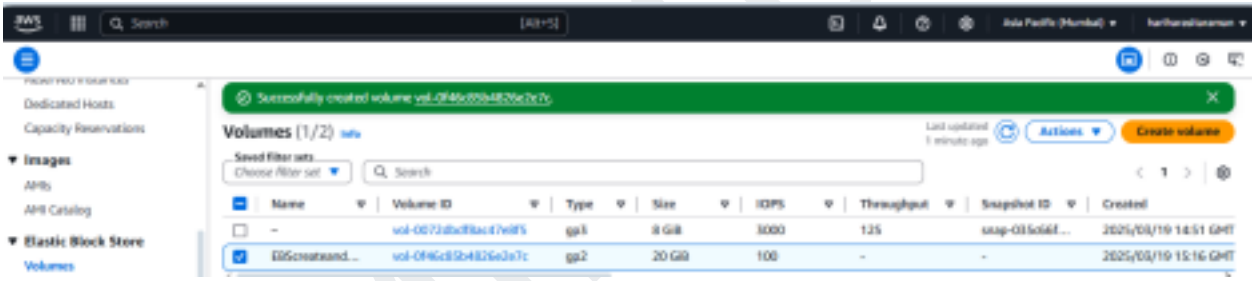
b) Size(GiB): 20

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

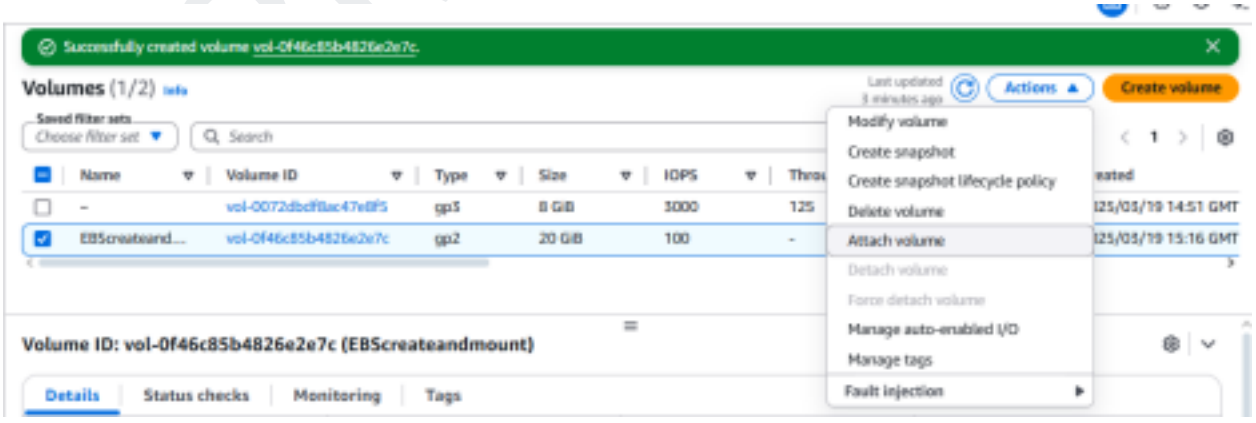
d) In the Tags (Give some names similar to Instance name for identification



Step 8: EBS Created

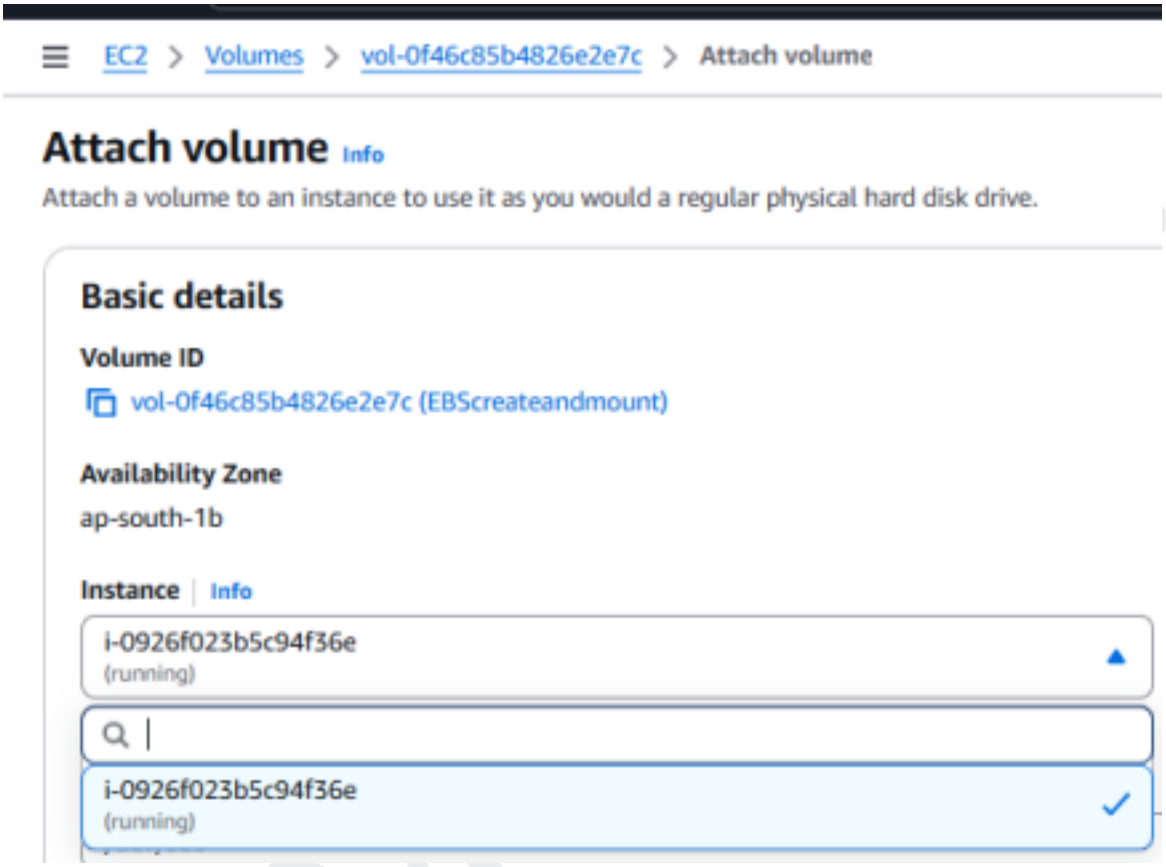


Step 9: Attach the EBS to instance we have created already



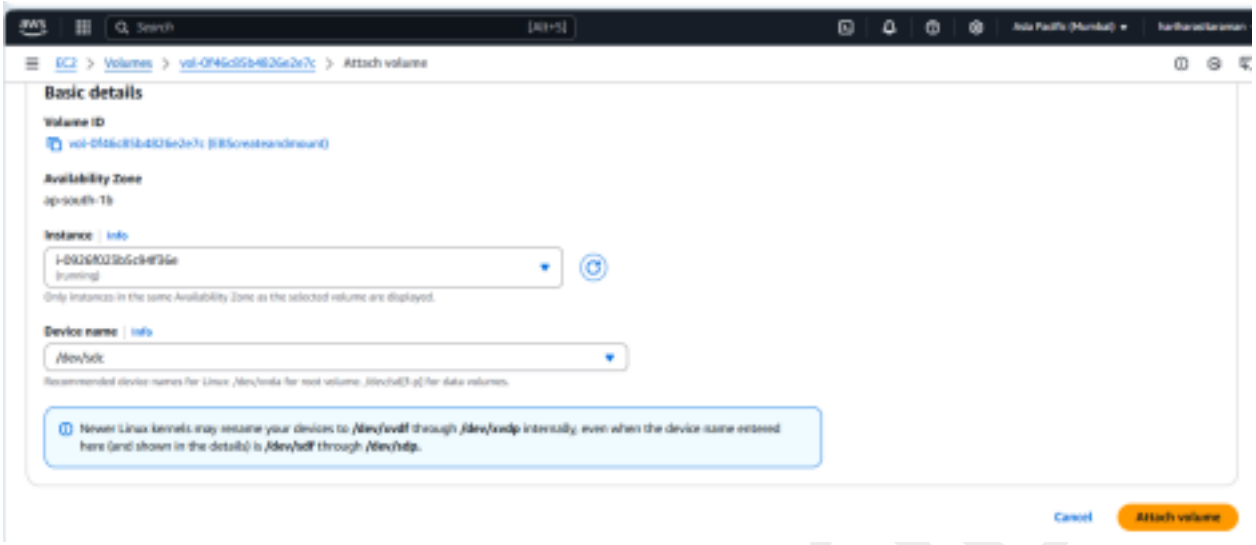
Step 10: Settings in attach volume

a)Select the instance from Drop down box

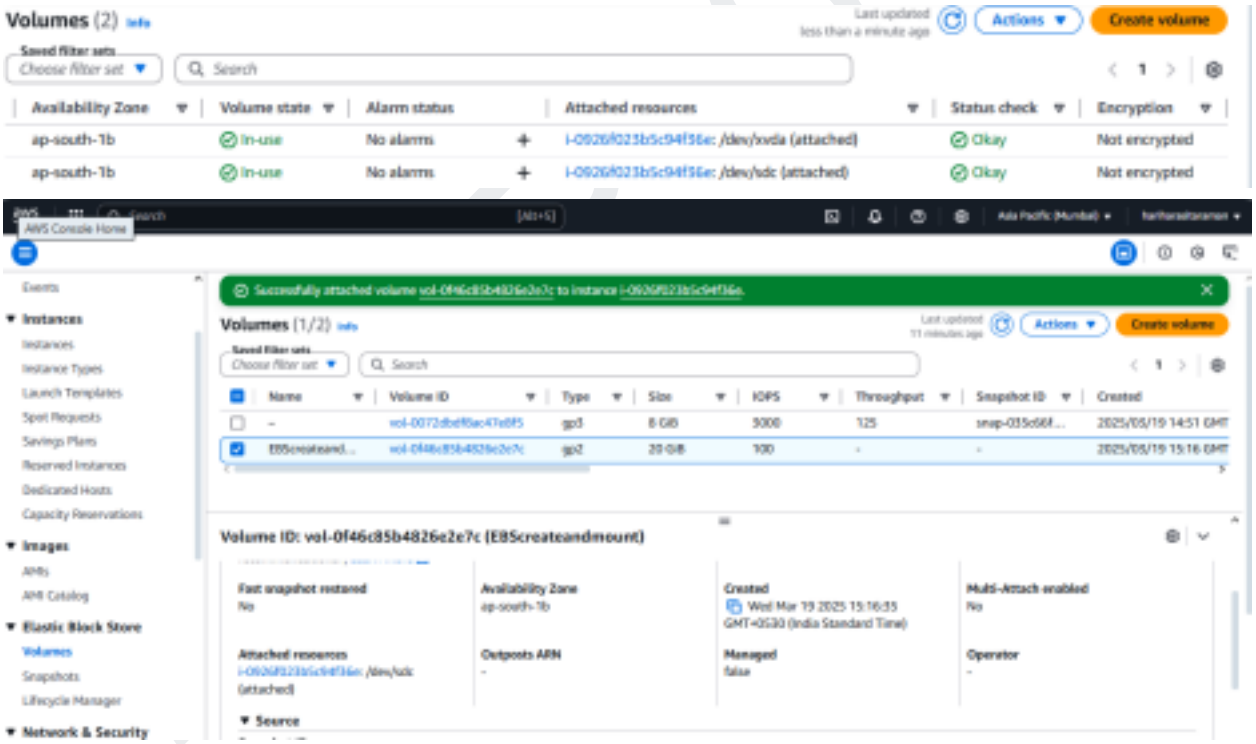


b)

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



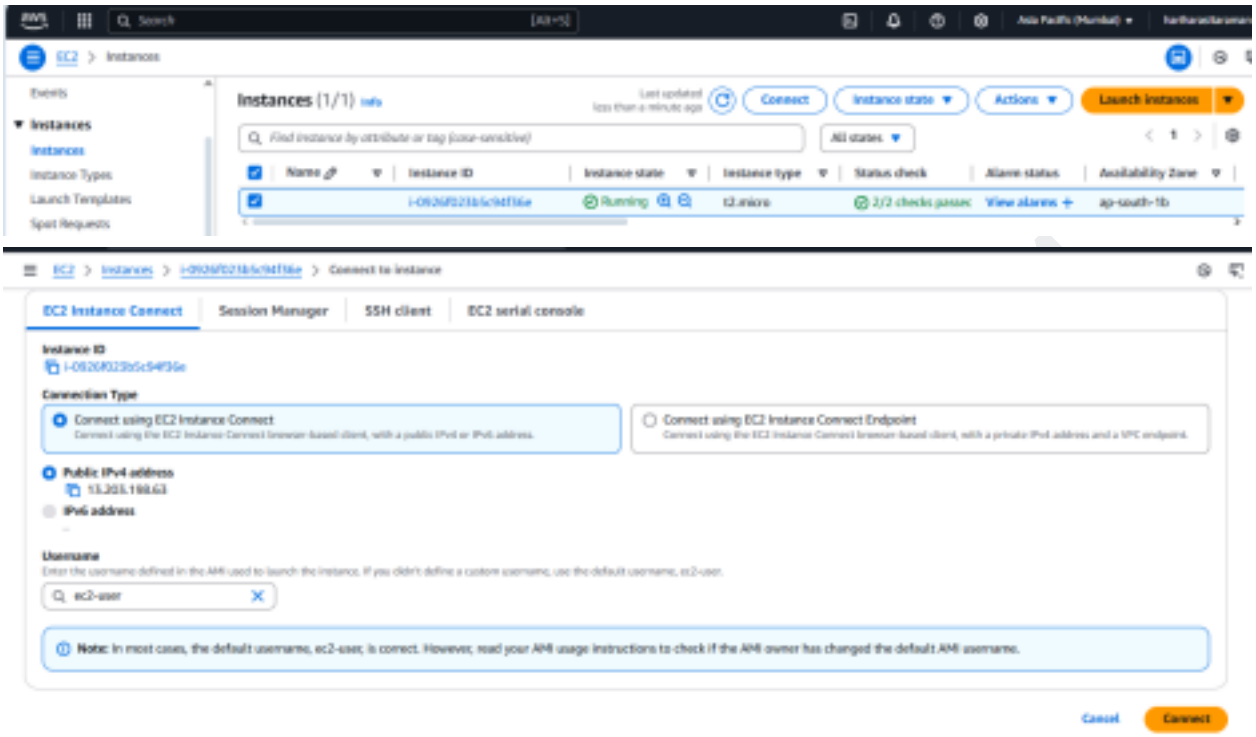
c) Check the status in the Volume dash board



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% Mo
devtmpfs        4.0M     0  4.0M   0% /d
tmpfs           475M     0  475M   0% /d
tmpfs           190M  444K  190M   1% /r
/dev/xvda1      8.0G  1.6G  6.4G  20% /
tmpfs           475M     0  475M   0% /t
/dev/xvda128     10M  1.3M  8.7M  13% /b
tmpfs            95M     0   95M   0% /r
[root@ip-172-31-11-222 ~]#
```

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 MO
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 /b
xvdc      202:32   0  20G  0 disk
[root@ip-172-31-11-222 ~]#
```

```
[root@ip-172-31-
/dev/xvdc: data
[root@ip-172-31-
```

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.