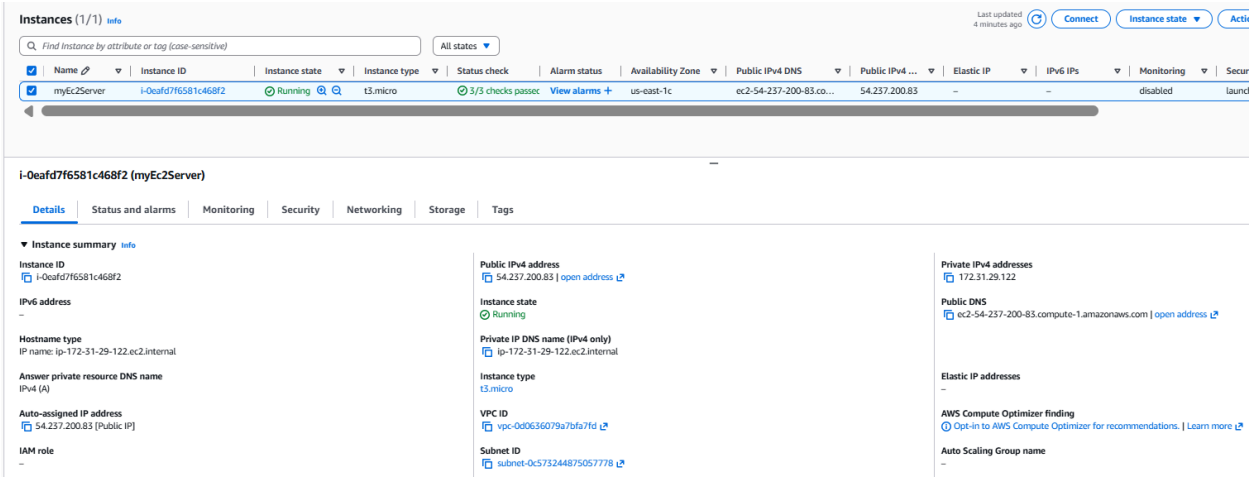
AWS Task-4

Task Description:

Launch an EC2 instance (Linux and Windows) along with a web server. Then, create an EBS volume of 5 GB, attach it to an EC2 machine (Linux and Windows), and take a snapshot. Finally, create an EBS volume using the taken snapshot.

Ec2 instance(Ubuntu) have been created:

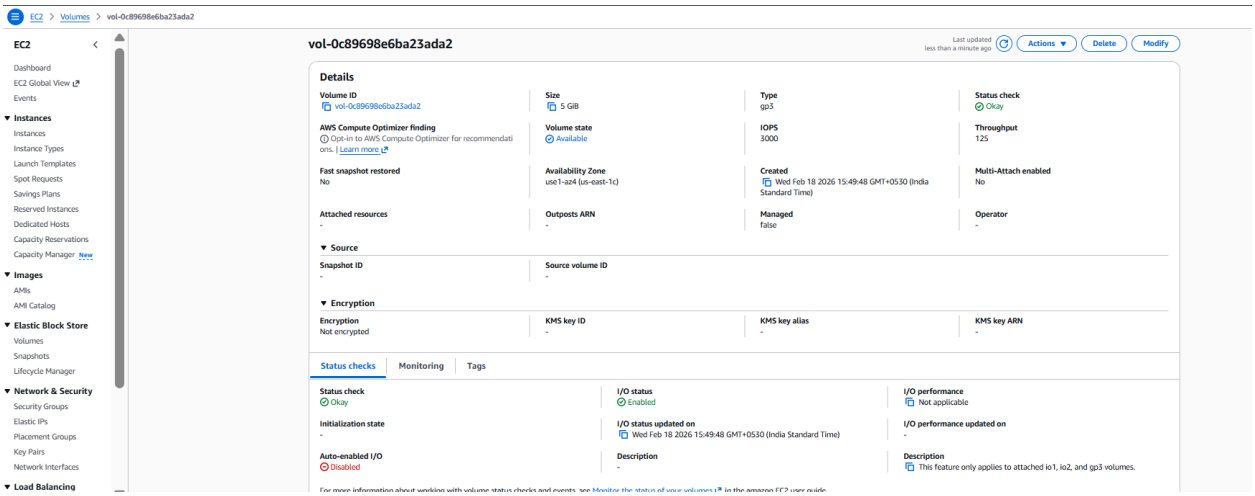


Installing Nginx server in instance(myEc2Server) and start/enable the Nginx:

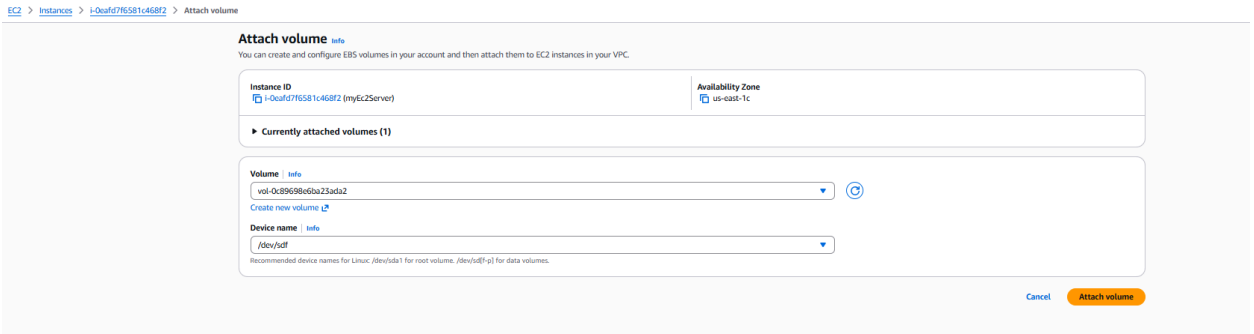
```
root@ip-172-31-29-122:/home/ubuntu# apt install nginx -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  nginx-common
Suggested packages:
  fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  nginx nginx-common
0 upgraded, 2 newly installed, 0 to remove and 93 not upgraded.
Need to get 565 kB of archives.
After this operation, 1596 kB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx-common all 1.24
B]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx amd64 1.24.0-2u
Fetched 565 kB in 0s (24.7 MB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 71752 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2ubuntu7.6_all.deb ...
Unpacking nginx-common (1.24.0-2ubuntu7.6) ...
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.24.0-2ubuntu7.6_amd64.deb ...
Unpacking nginx (1.24.0-2ubuntu7.6) ...
Setting up nginx-common (1.24.0-2ubuntu7.6) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /usr/lib/systemd/system
Setting up nginx (1.24.0-2ubuntu7.6) ...
 * Upgrading binary nginx
Processing triggers for man-db (2.12.0-4build2)
```

```
root@ip-172-31-29-122:/home/ubuntu# systemctl start nginx
root@ip-172-31-29-122:/home/ubuntu# systemctl enable nginx
Synchronizing state of nginx.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable nginx
root@ip-172-31-29-122:/home/ubuntu# echo "Hello from Linux Web Server" > /var/www/html/index.html
root@ip-172-31-29-122:/home/ubuntu# cat /var/www/html/index.html
Hello from Linux Web Server
root@ip-172-31-29-122:/home/ubuntu#
```

Created EBS Volume:



Attaching volume to Ec2: select the instance -> Actions -> storage -> attach volume




```
root@ip-172-31-29-122:/home/ubuntu# lsblk
NAME         MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0          7:0    0 27.6M  1 loop /snap/amazon-ssm-agent/11797
loop1          7:1    0   74M  1 loop /snap/core22/2163
loop2          7:2    0 50.9M  1 loop /snap/snapd/25577
nvme0n1      259:0    0    8G  0 disk
├─nvme0n1p1  259:1    0    7G  0 part /
├─nvme0n1p14 259:2    0    4M  0 part
├─nvme0n1p15 259:3    0  106M  0 part /boot/efi
├─nvme0n1p16 259:4    0  913M  0 part /boot
nvme1n1      259:5    0    5G  0 disk
```

Created a file system(Formatted the volume):

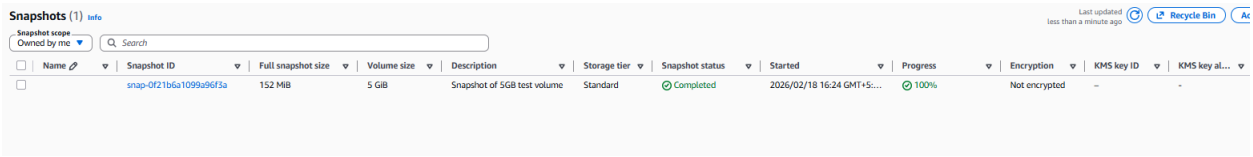
```
root@ip-172-31-29-122:/home/ubuntu# sudo file -s /dev/nvme1n1
/dev/nvme1n1: data
root@ip-172-31-29-122:/home/ubuntu# mkfs -t ext4 /dev/nvme1n1
mke2fs 1.47.0 (5-Feb-2023)
Creating filesystem with 1310720 4k blocks and 327680 inodes
Filesystem UUID: cc0f4cc7-0047-4f1a-99a6-06c61506bbaa
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376, 294912, 819200, 884736

Allocating group tables: done
Writing inode tables: done
Creating journal (16384 blocks): done
Writing superblocks and filesystem accounting information: done
```

Created the mount point and mounted the volume:

```
root@ip-172-31-29-122:/home/ubuntu# mkdir /data
root@ip-172-31-29-122:/home/ubuntu# mount /dev/nvme1n1 /data
root@ip-172-31-29-122:/home/ubuntu# df -h
Filesystem       Size  Used Avail Use% Mounted on
/dev/root        6.8G  2.0G  4.7G  30% /
tmpfs            458M     0  458M   0% /dev/shm
tmpfs            183M  908K  182M   1% /run
tmpfs            5.0M     0  5.0M   0% /run/lock
efivarfs         128K  3.6K  120K   3% /sys/firmware/efi/efivars
/dev/nvme0n1p16  881M   89M  730M  11% /boot
/dev/nvme0n1p15  105M  6.2M   99M   6% /boot/efi
tmpfs             92M   12K   92M   1% /run/user/1000
/dev/nvme1n1     4.9G   24K  4.6G   1% /data
root@ip-172-31-29-122:/home/ubuntu# lsblk
NAME         MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0          7:0    0 27.6M  1 loop /snap/amazon-ssm-agent/11797
loop1          7:1    0   74M  1 loop /snap/core22/2163
loop2          7:2    0 50.9M  1 loop /snap/snapd/25577
nvme0n1      259:0    0    8G  0 disk
├─nvme0n1p1  259:1    0    7G  0 part /
├─nvme0n1p14 259:2    0    4M  0 part
├─nvme0n1p15 259:3    0  106M  0 part /boot/efi
└─nvme0n1p16 259:4    0  913M  0 part /boot
nvme1n1      259:5    0    5G  0 disk /data
```

Create Snapshot:

- EC2 Console -> Volumes -> Actions -> Create Snapshot.



Create EBS Volume from Snapshot:

EC2 → Snapshots -> select Snapshot -> Actions -> create volume from snapshot