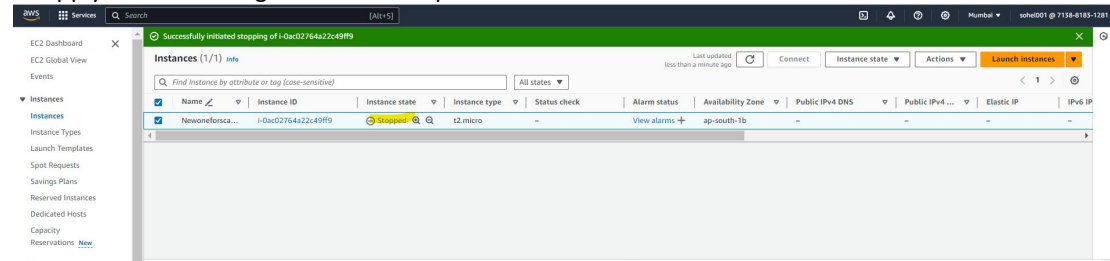


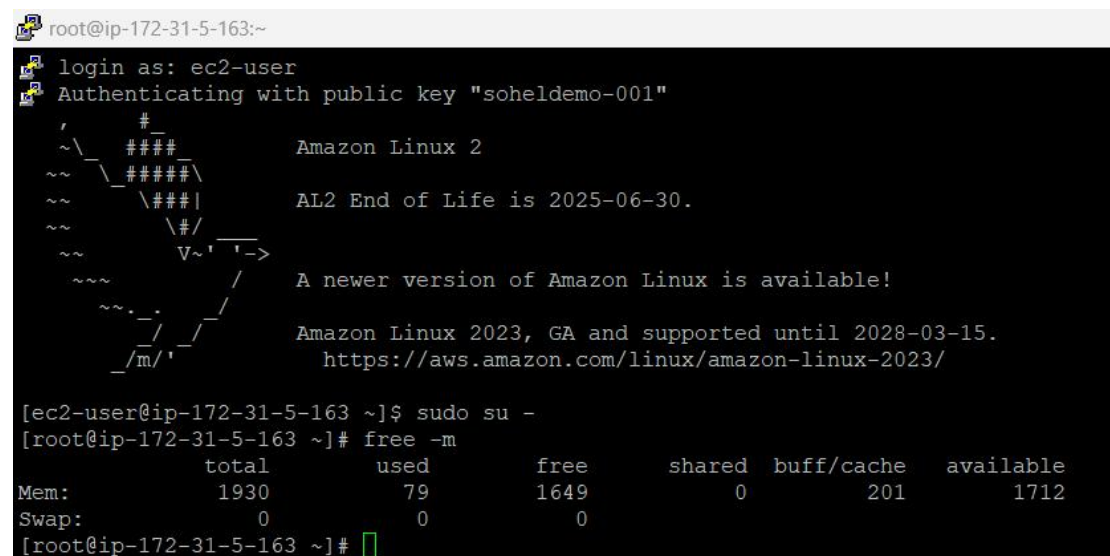
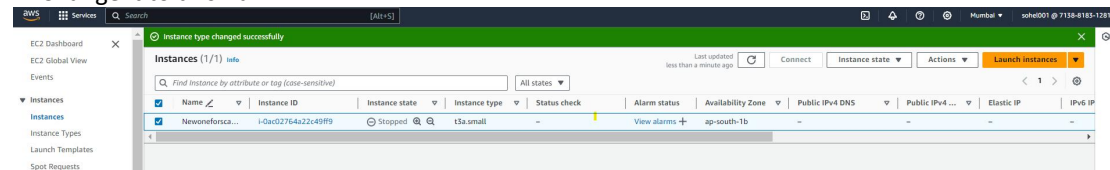
## AWS EC2 Vertical scaling practical 24 Aug 2024

### 1. Vertical scaling

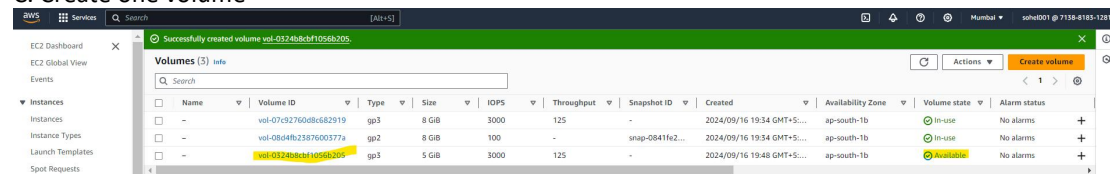
#### A. Apply vertical scaling we need to stop the instance



#### B. Change it to t2.small



#### C. Create one volume



#### D. Attach EBS volume to instance

aws Services Search [Alt+S]

EC2 > Volumes > vol-012ae0249c9aecabc > 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-012ae0249c9aecabc

Availability Zone  
ap-south-1b

Instance Info  
i-0ac02764a22c49ff9

Device name Info  
/dev/sdc

Only instances in the same Availability Zone as the selected volume are displayed.

Recommended device names for Linux: /dev/xvda for root volume, /dev/sd[f-p] for data volumes.

ⓘ Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.

Cancel Attach volume

### E. Successfully attached volume to the instance

aws Services Search [Alt+S]

EC2 Dashboard  
EC2 Global View  
Events

Instances  
Instance Types  
Launch Templates  
Spot Requests  
Savings Plans

Successfully attached volume vol-012ae0249c9aecabc to instance i-0ac02764a22c49ff9.

Volumes (3) Info

Search

<input type="checkbox"/>	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created	Availability Zone	Volume state	Alarm status	
<input type="checkbox"/>	-	vol-07c92760d8c682919	gp3	8 GiB	3000	125	-	2024/09/16 19:34 GMT+5:30	ap-south-1b	In-use	No alarms	+
<input type="checkbox"/>	-	vol-08d4fb2387600377a	gp2	8 GiB	100	-	snap-0841fe2...	2024/09/16 19:34 GMT+5:30	ap-south-1b	In-use	No alarms	+
<input type="checkbox"/>	-	vol-012ae0249c9aecabc	gp3	5 GiB	3000	125	-	2024/09/16 19:53 GMT+5:30	ap-south-1b	In-use	No alarms	+

```
root@ip-172-31-5-163:~
login as: ec2-user
Authenticating with public key "soheldemo-001"
Last login: Mon Sep 16 14:27:03 2024 from 152.57.2.140

#_
~\##### Amazon Linux 2
~~~\#####
~~~\###| AL2 End of Life is 2025-06-30.
~~~\#/
~~~V~'-'>
~~~
~~~_-'
~~~/_/'-/_-'
      /m/'-/_-'

A newer version of Amazon Linux is available!

Amazon Linux 2023, GA and supported until 2028-03-15.
https://aws.amazon.com/linux/amazon-linux-2023/

[ec2-user@ip-172-31-5-163 ~]$ sudo su -
Last login: Mon Sep 16 14:27:10 UTC 2024 on pts/0
[root@ip-172-31-5-163 ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        956M   0  956M   0% /dev
tmpfs           966M   0  966M   0% /dev/shm
tmpfs           966M 412K  965M   1% /run
tmpfs           966M   0  966M   0% /sys/fs/cgroup
/dev/nvme0n1p1  8.0G  1.8G  6.3G  23% /
tmpfs           194M   0  194M   0% /run/user/1000
[root@ip-172-31-5-163 ~]#
```

```

root@ip-172-31-46-93:~# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0        7:0      0 25.2M  1 loop /snap/amazon-ssm-agent/7993
loop1        7:1      0 55.7M  1 loop /snap/core18/2829
loop2        7:2      0 38.8M  1 loop /snap/snapd/21759
xvda         202:0    0   8G   0 disk
├─xvda1      202:1    0   7G   0 part /
├─xvda14     202:14   0   4M   0 part
├─xvda15     202:15   0 106M   0 part /boot/efi
└─xvda16     259:0    0 913M   0 part /boot
xvdf         202:80    0   5G   0 disk
root@ip-172-31-46-93:~# file -s /dev/xvdf
/dev/xvdf: data
root@ip-172-31-46-93:~# mkfs -t ext4 /dev/xvdf
mke2fs 1.47.0 (5-Feb-2023)
Creating filesystem with 1310720 4k blocks and 327680 inodes
Filesystem UUID: 3f819d02-228e-4bbe-81b5-0f18clac7a85
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

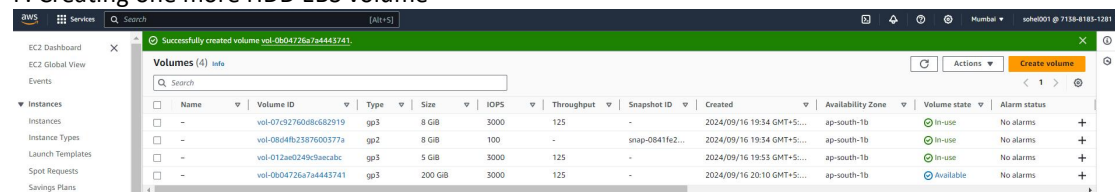
```

```

root@ip-172-31-46-93:~# mount /dev/xvdf /home/cpp
root@ip-172-31-46-93:~# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0        7:0      0 25.2M  1 loop /snap/amazon-ssm-agent/7993
loop1        7:1      0 55.7M  1 loop /snap/core18/2829
loop2        7:2      0 38.8M  1 loop /snap/snapd/21759
xvda         202:0    0   8G   0 disk
├─xvda1      202:1    0   7G   0 part /
├─xvda14     202:14   0   4M   0 part
├─xvda15     202:15   0 106M   0 part /boot/efi
└─xvda16     259:0    0 913M   0 part /boot
xvdf         202:80    0   5G   0 disk /home/cpp

```

#### F. Creating one more HDD EBS volume



#### G. Successfully added to the instance

```

root@ip-172-31-46-93:~# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0        7:0      0 25.2M  1 loop /snap/amazon-ssm-agent/7993
loop1        7:1      0 55.7M  1 loop /snap/core18/2829
loop2        7:2      0 38.8M  1 loop /snap/snapd/21759
xvda         202:0    0   8G   0 disk
├─xvda1      202:1    0   7G   0 part /
├─xvda14     202:14   0   4M   0 part
├─xvda15     202:15   0 106M   0 part /boot/efi
└─xvda16     259:0    0 913M   0 part /boot
xvdf         202:80    0   5G   0 disk /home/cpp
xvdg         202:96    0 200G   0 disk
root@ip-172-31-46-93:~#

```

#### H. Format the new added HDD

```

root@ip-172-31-46-93:~# mkfs -t ext4 /dev/xvdg
mke2fs 1.47.0 (5-Feb-2023)
Creating filesystem with 52428800 4k blocks and 13107200 inodes
Filesystem UUID: 482b016c-468a-445a-940e-cd266e82e636
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,
    4096000, 7962624, 11239424, 20480000, 23887872

Allocating group tables: done
Writing inode tables: done

```

I. Create directory and mount on it

```

root@ip-172-31-46-93:~# mkdir /home/python-app
root@ip-172-31-46-93:~# mount /dev/xvdg /home/python-app
root@ip-172-31-46-93:~# lsblk

```

NAME	MAJ:MIN	RM	SIZE	RO	TYPE	MOUNTPOINTS
loop0	7:0	0	25.2M	1	loop	/snap/amazon-ssm-agent/7993
loop1	7:1	0	55.7M	1	loop	/snap/core18/2829
loop2	7:2	0	38.8M	1	loop	/snap/snapd/21759
xvda	202:0	0	8G	0	disk	
├─xvda1	202:1	0	7G	0	part	/
├─xvda14	202:14	0	4M	0	part	
├─xvda15	202:15	0	106M	0	part	/boot/efi
└─xvda16	259:0	0	913M	0	part	/boot
xvdf	202:80	0	5G	0	disk	/home/cpp
xvdg	202:96	0	200G	0	disk	/home/python-app

```

root@ip-172-31-46-93:~#

```