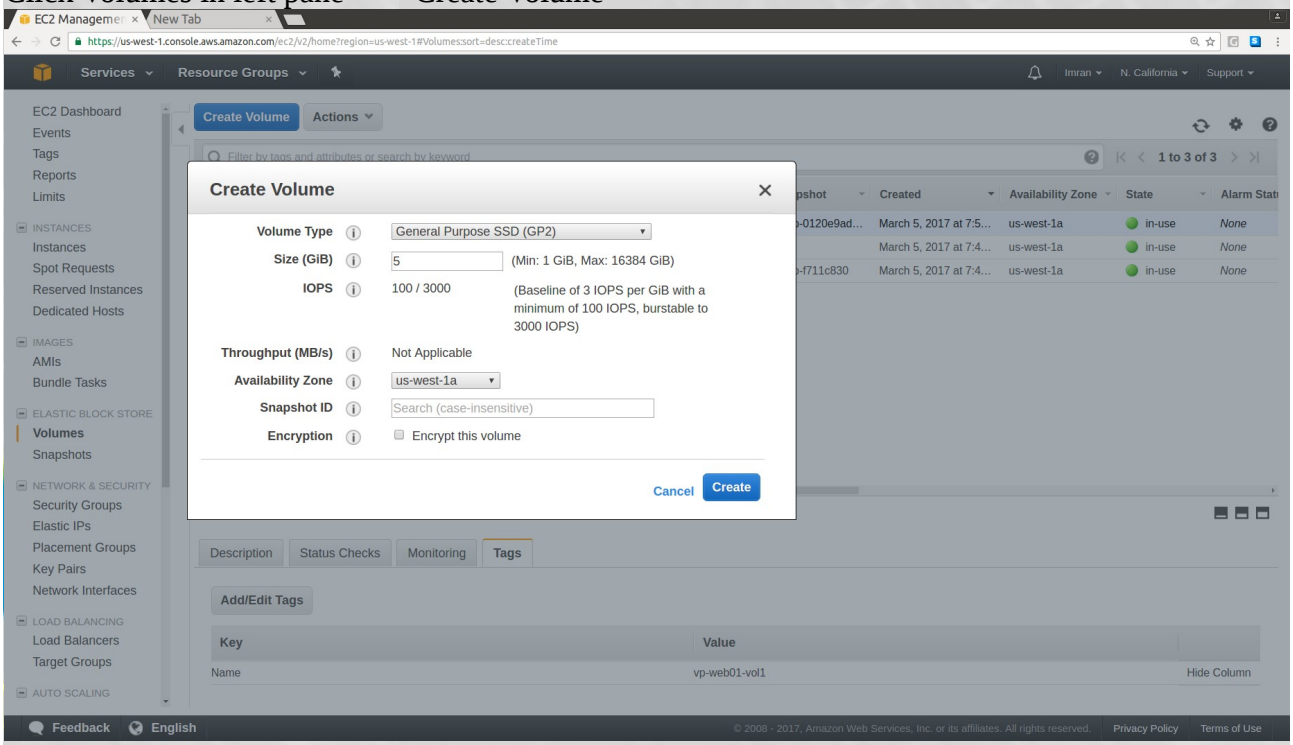
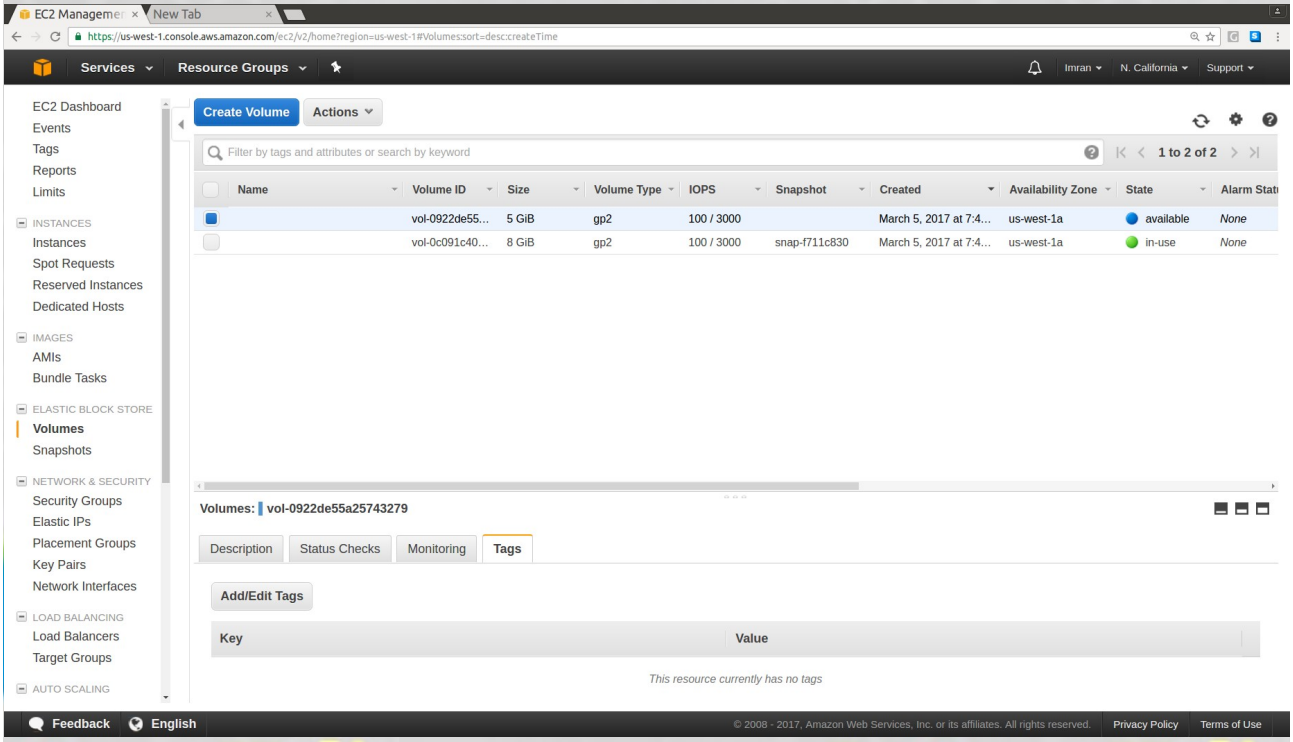
ELB Creation, Backup, Restore & Resize

Creating, attaching, formating & mounting.

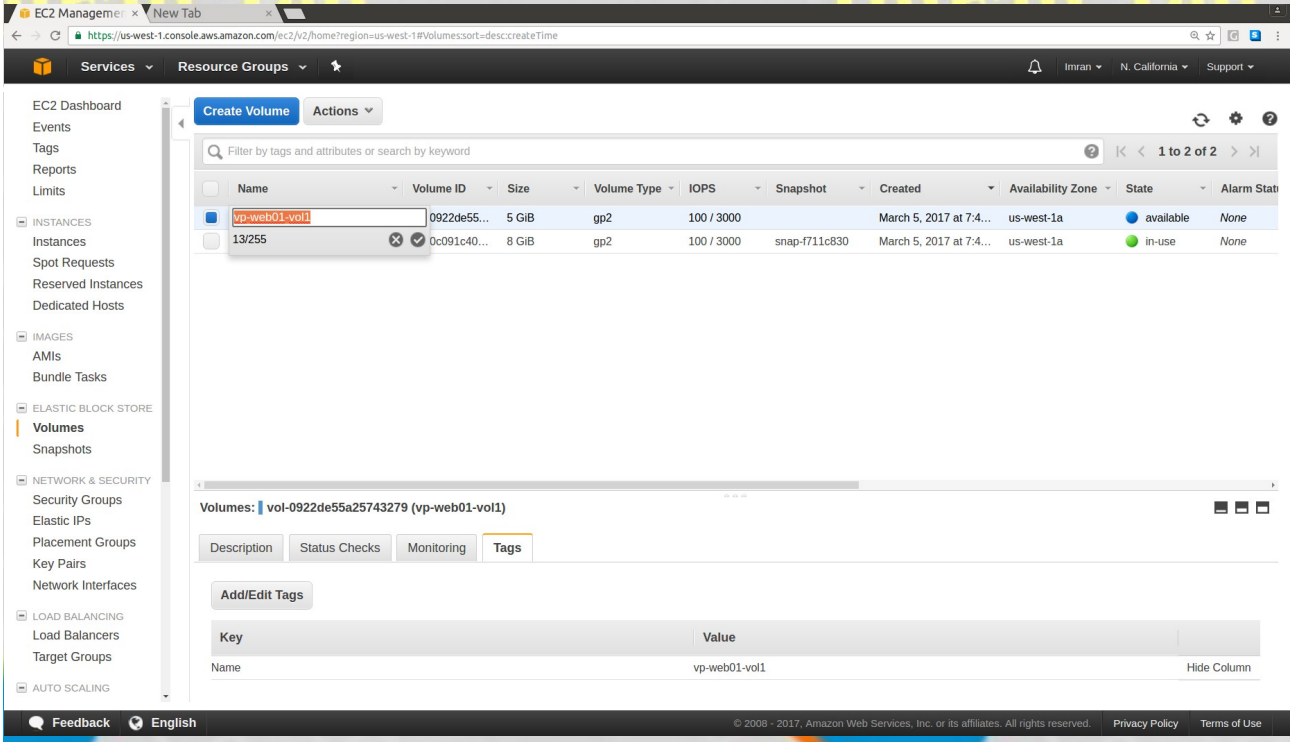
Create a centos 6 ec2 instance.

Click Volumes in left pane ==> Create Volume

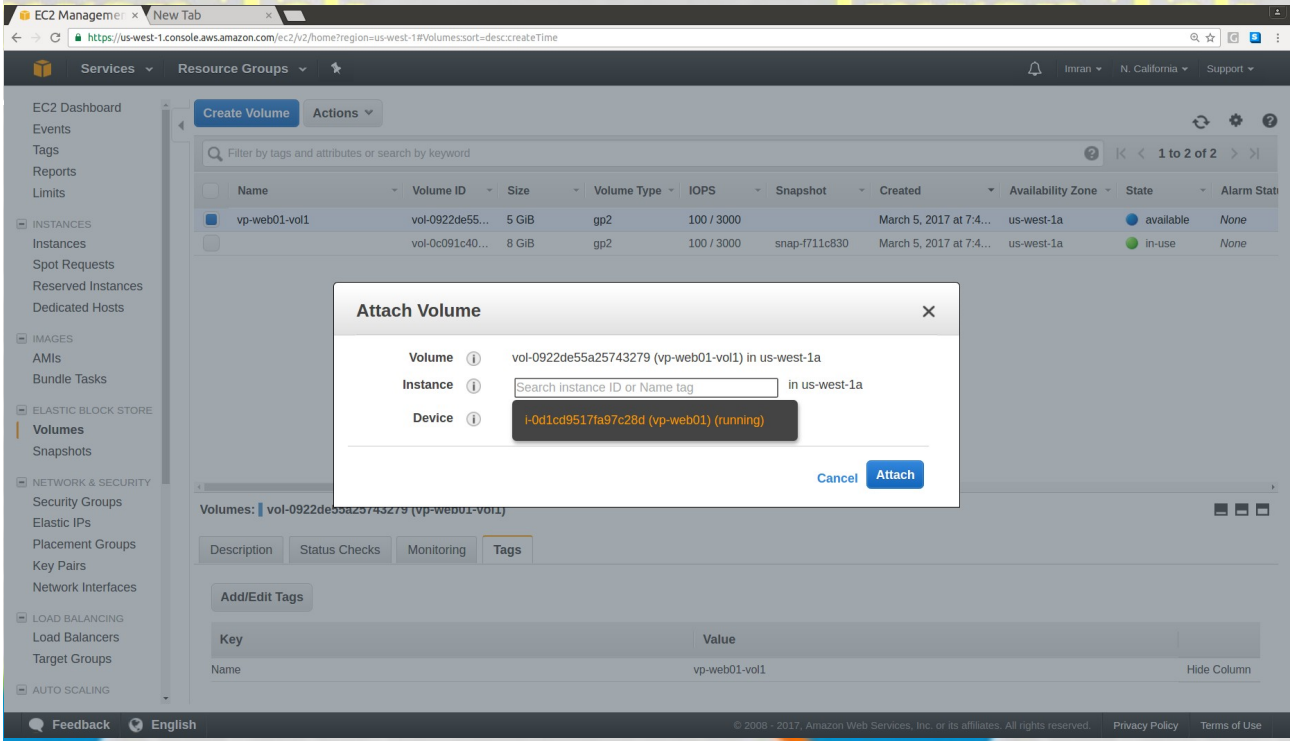


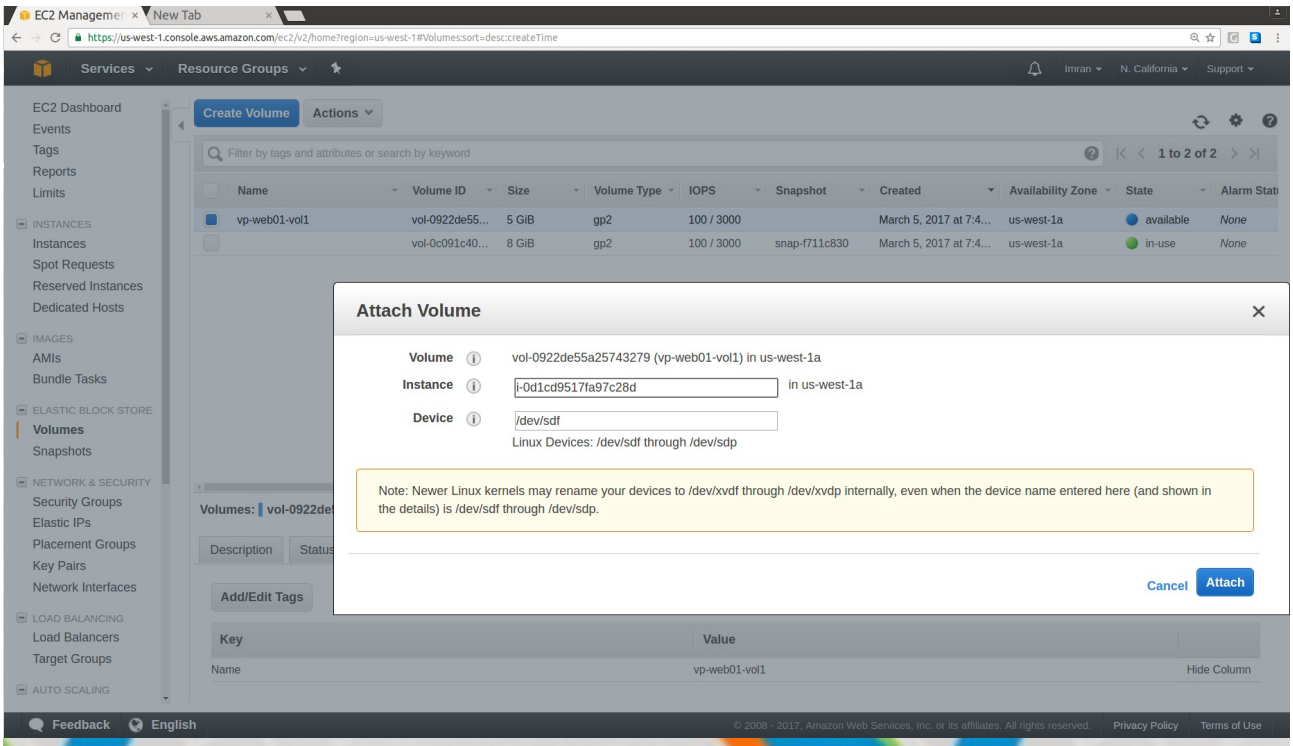


Tag the volume for future identification.



Attach the volume to ec2 instance





Login to the ec2 instance to format and mount the volume.

```
Last login: Sun Mar  5 14:13:03 2017 from 183.82.216.42
[centos@ip-172-31-11-88 ~]$ clear
[centos@ip-172-31-11-88 ~]$ sudo -i
[root@ip-172-31-11-88 ~]# fdisk -l

Disk /dev/xvda: 8589 MB, 8589934592 bytes
255 heads, 63 sectors/track, 1044 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00057cbb

    Device Boot      Start         End      Blocks   Id  System
/dev/xvda1   *           1        1045     8387584   83  Linux

Disk /dev/xvdf: 5368 MB, 5368709120 bytes
255 heads, 63 sectors/track, 652 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000

[root@ip-172-31-11-88 ~]#
```

```
[root@ip-172-31-11-88 ~]# fdisk /dev/xvdf
Device contains neither a valid DOS partition table, nor Sun, SGI or OSF disklabel
Building a new DOS disklabel with disk identifier 0xc5bae138.
Changes will remain in memory only, until you decide to write them.
After that, of course, the previous content won't be recoverable.

Warning: invalid flag 0x0000 of partition table 4 will be corrected by w(rite)

WARNING: DOS-compatible mode is deprecated. It's strongly recommended to
         switch off the mode (command 'c') and change display units to
         sectors (command 'u').

Command (m for help): n
Command action
   e   extended
   p   primary partition (1-4)
p
Partition number (1-4):
Value out of range.
Partition number (1-4): 2
First cylinder (1-652, default 1):
Using default value 1
Last cylinder, +cylinders or +size{K,M,G} (1-652, default 652):
Using default value 652

Command (m for help): w
The partition table has been altered!

Calling ioctl() to re-read partition table.
Syncing disks.
[root@ip-172-31-11-88 ~]#
```

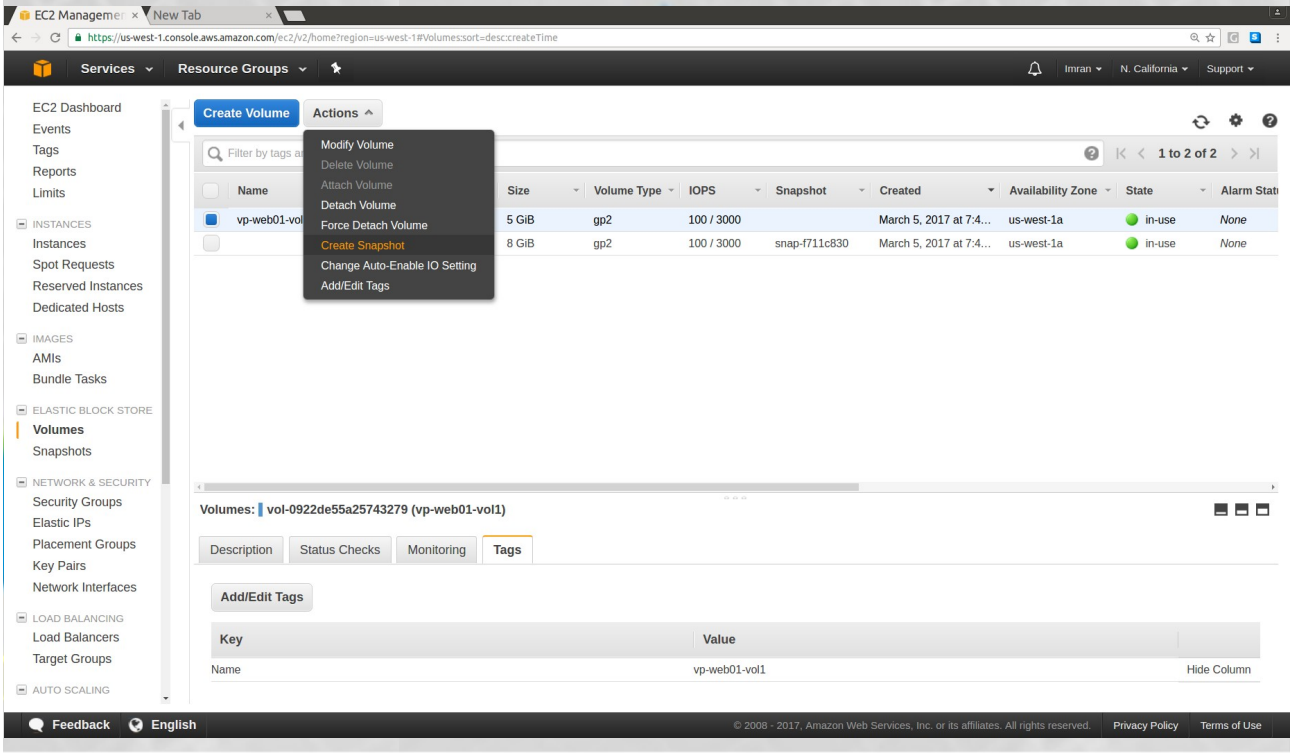
```
[root@ip-172-31-11-88 ~]# fdisk -l

Disk /dev/xvda: 8589 MB, 8589934592 bytes
255 heads, 63 sectors/track, 1044 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00057cbb

    Device Boot      Start         End      Blocks   Id  System
/dev/xvda1   *           1        1045     8387584   83  Linux

Disk /dev/xvdf: 5368 MB, 5368709120 bytes
255 heads, 63 sectors/track, 652 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0xc5bae138

    Device Boot      Start         End      Blocks   Id  System
/dev/xvdf2               1         652     5237158+  83  Linux
[root@ip-172-31-11-88 ~]# mkfs.ext4 /dev/xvdf2
mke2fs 1.41.12 (17-May-2010)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
327680 inodes, 1309289 blocks
65464 blocks (5.00%) reserved for the super user
First data block=0
```

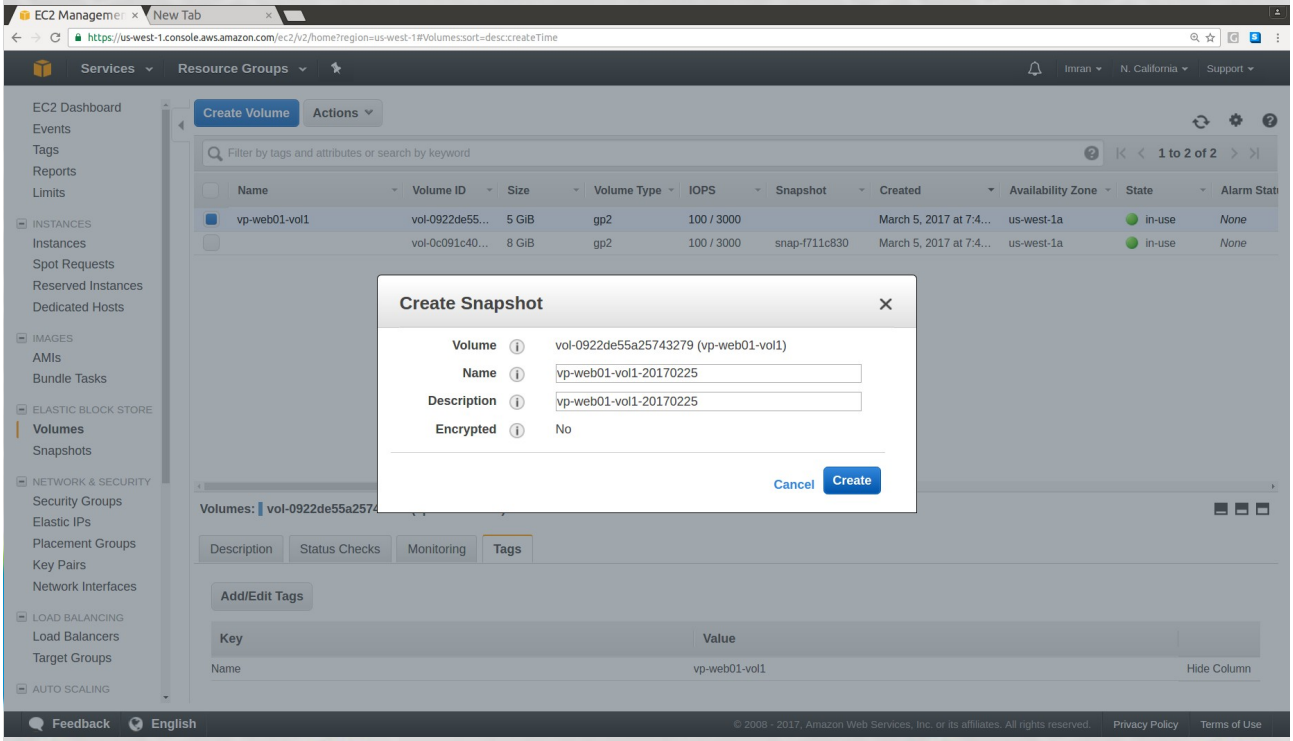
```
[root@ip-172-31-11-88 ~]# mkdir /datavol
[root@ip-172-31-11-88 ~]# mount /dev/xvdf2 /datavol/
[root@ip-172-31-11-88 ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/xvda1      7.8G  666M  6.7G   9% /
tmpfs           498M     0  498M   0% /dev/shm
/dev/xvdf2      4.8G   10M  4.6G   1% /datavol
[root@ip-172-31-11-88 ~]# cd /datavol/
[root@ip-172-31-11-88 datavol]# ls
lost+found
[root@ip-172-31-11-88 datavol]# mkdir chef ansible jenkins puppet
[root@ip-172-31-11-88 datavol]# ls
ansible  chef  jenkins  lost+found  puppet
[root@ip-172-31-11-88 datavol]# touch git nexus vagrant
[root@ip-172-31-11-88 datavol]# ls
ansible  chef  git  jenkins  lost+found  nexus  puppet  vagrant
[root@ip-172-31-11-88 datavol]#
```

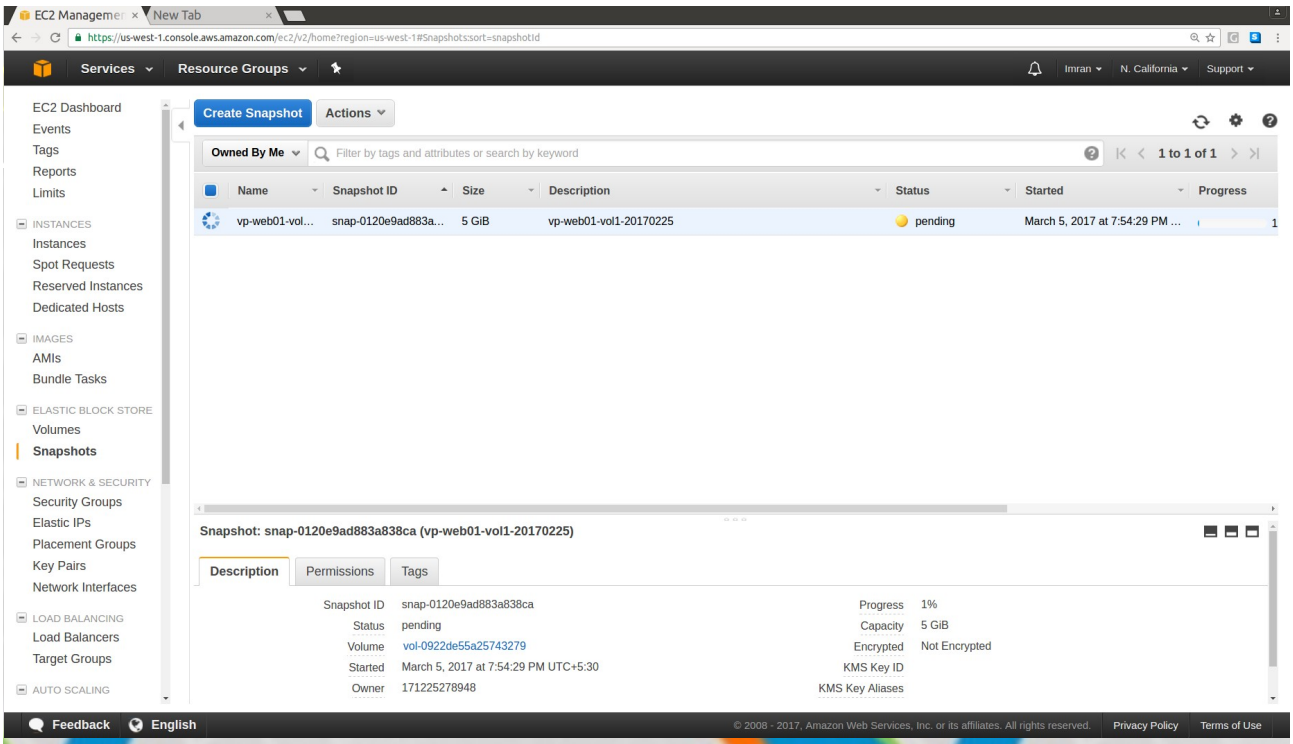
Backup & Restore

We will create a situation where we need to restore the lost data.
We will delete few files from the mount point after taking the backup and then restore the deleted data.

Backup the EBS volume by taking its snapshot.
Click volume ==> select the volume ==> Action ==> Create Snapshot







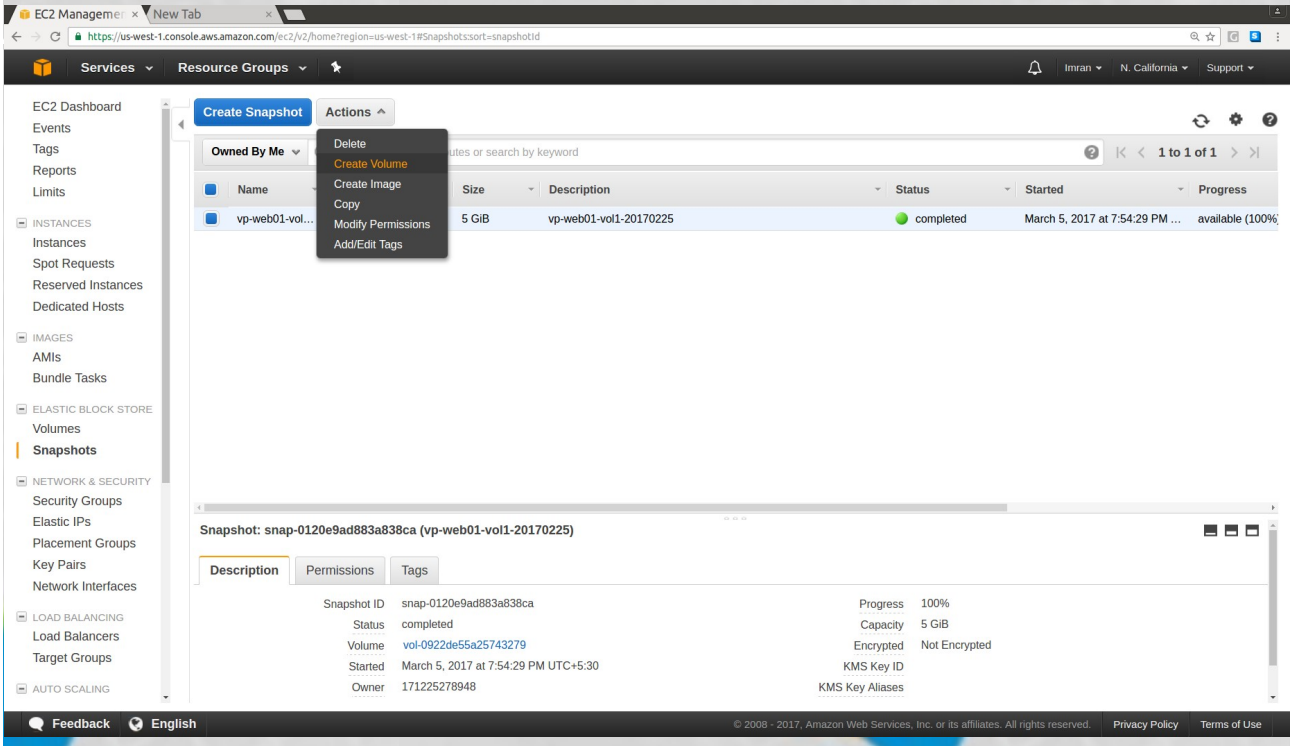
After the snapshot we will delete few files from the mountpoint.

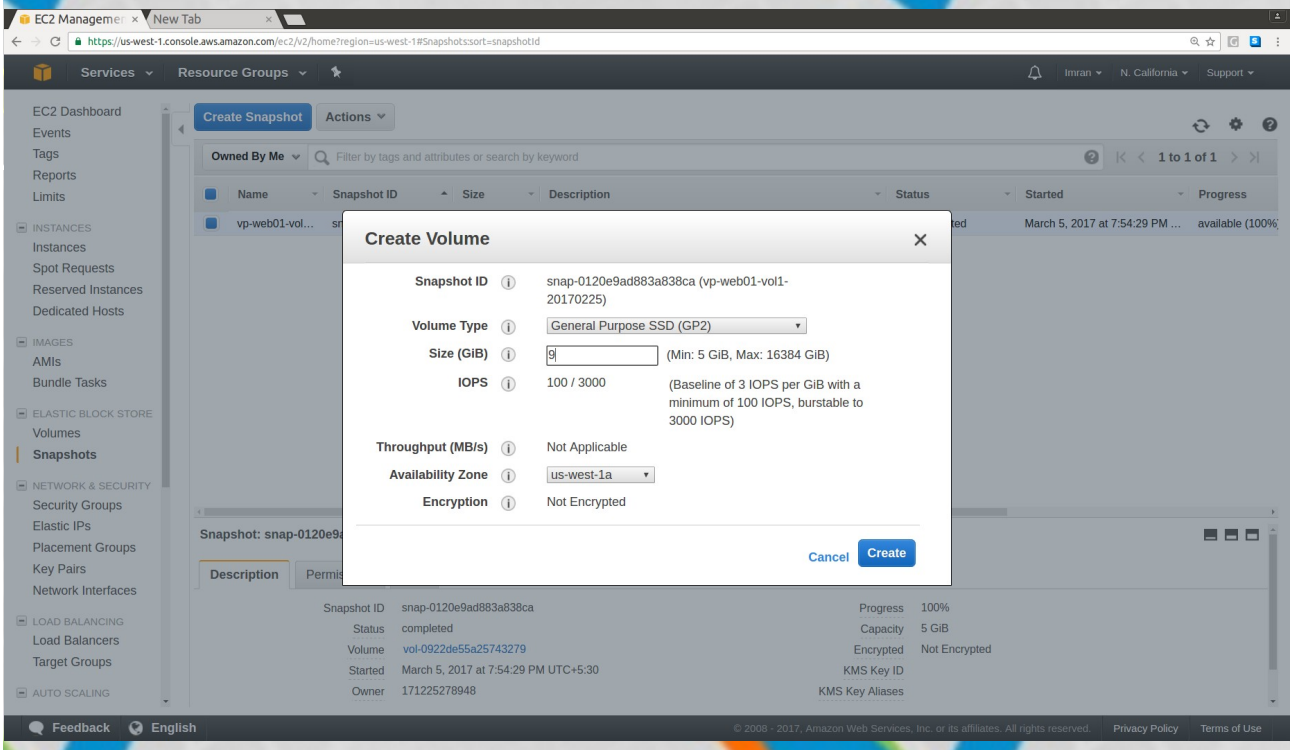
```
[root@ip-172-31-11-88 ~]# cd /datavol/
[root@ip-172-31-11-88 datavol]# ls
ansible  chef  git  jenkins  lost+found  nexus  puppet  vagrant
[root@ip-172-31-11-88 datavol]# rm -rf ansible/ chef/ jenkins/ vagrant
[root@ip-172-31-11-88 datavol]# ls
git  lost+found  nexus  puppet
[root@ip-172-31-11-88 datavol]# cd
[root@ip-172-31-11-88 ~]# clear
```

Create Volume from Snapshot & Resize.

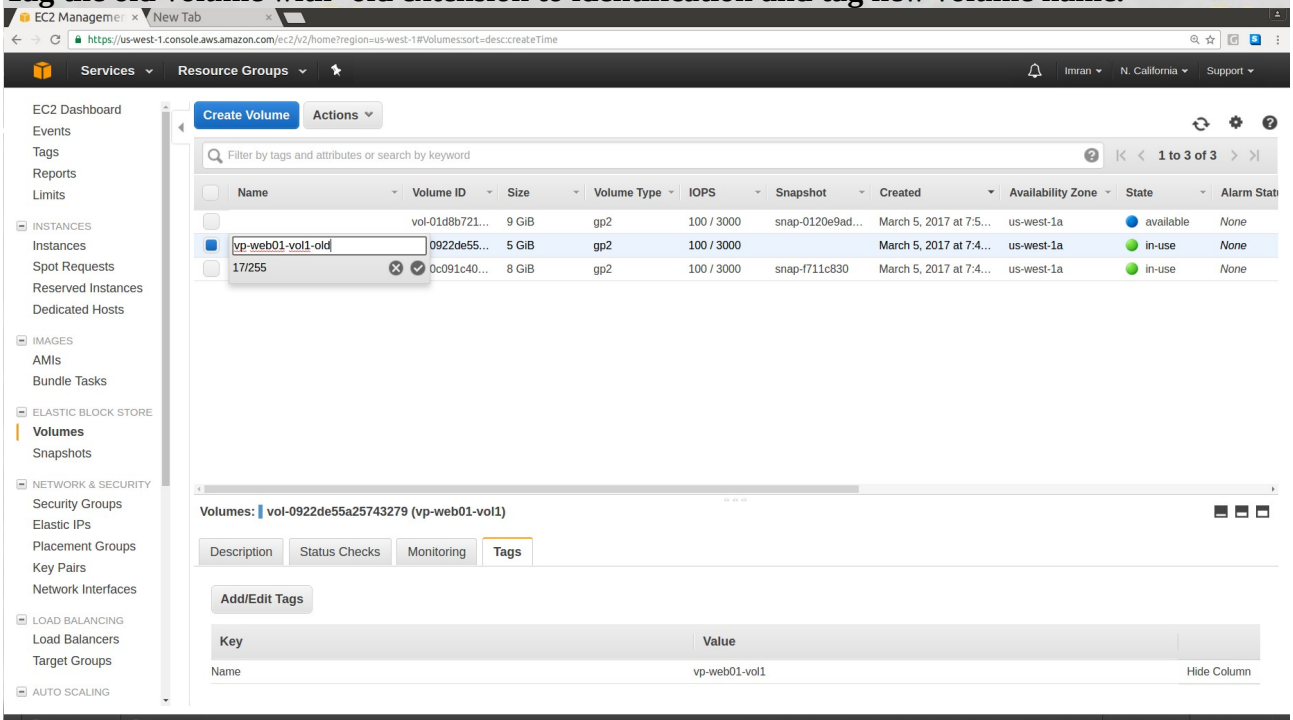
Now if we want to recover the lost data, we have to create a new volume from snapshot & replace old volume with the new one. We will also increase the volume size.

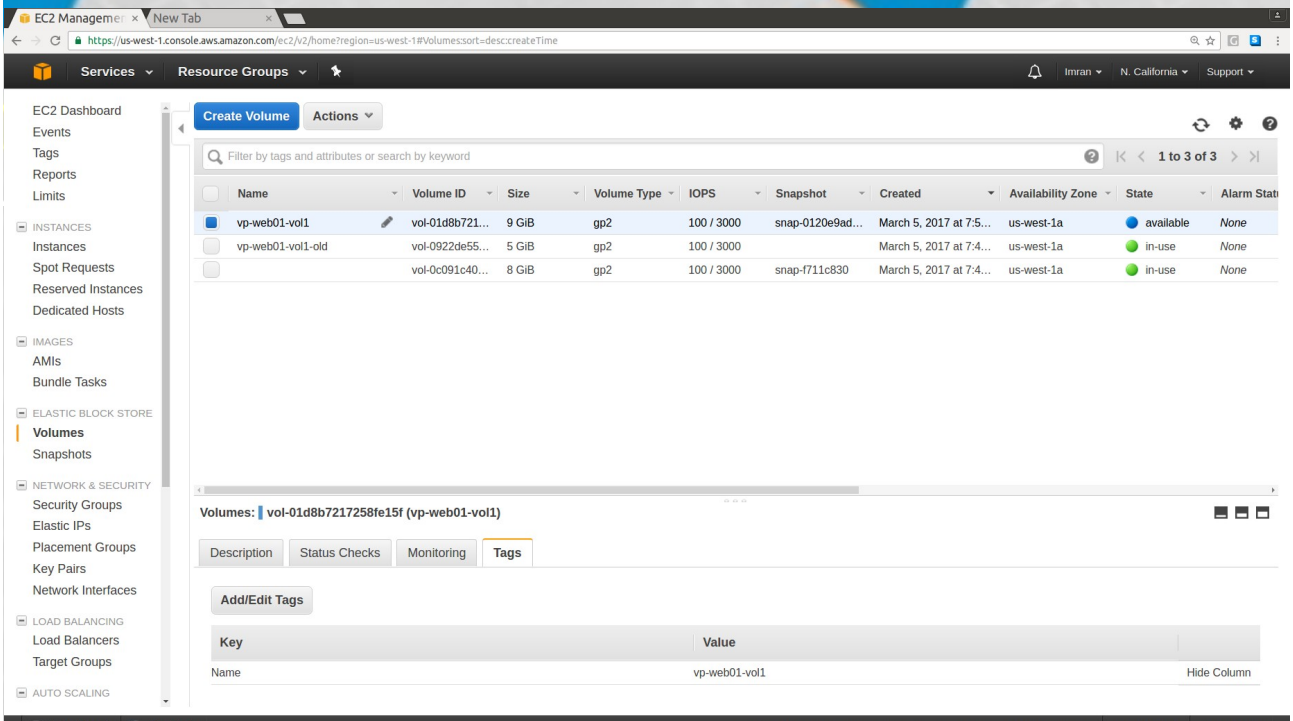
Click Snapshots in left pane ==> Select snapshot ==> Action ==> Create volume.



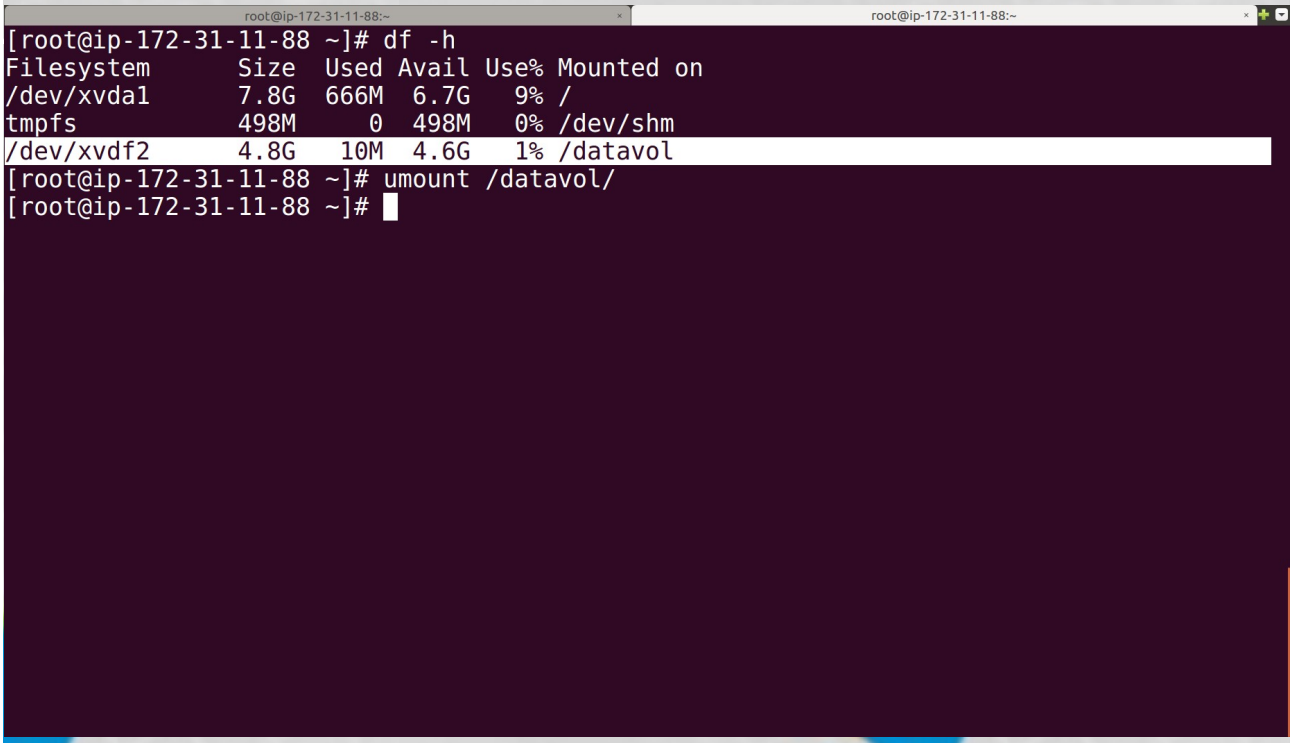


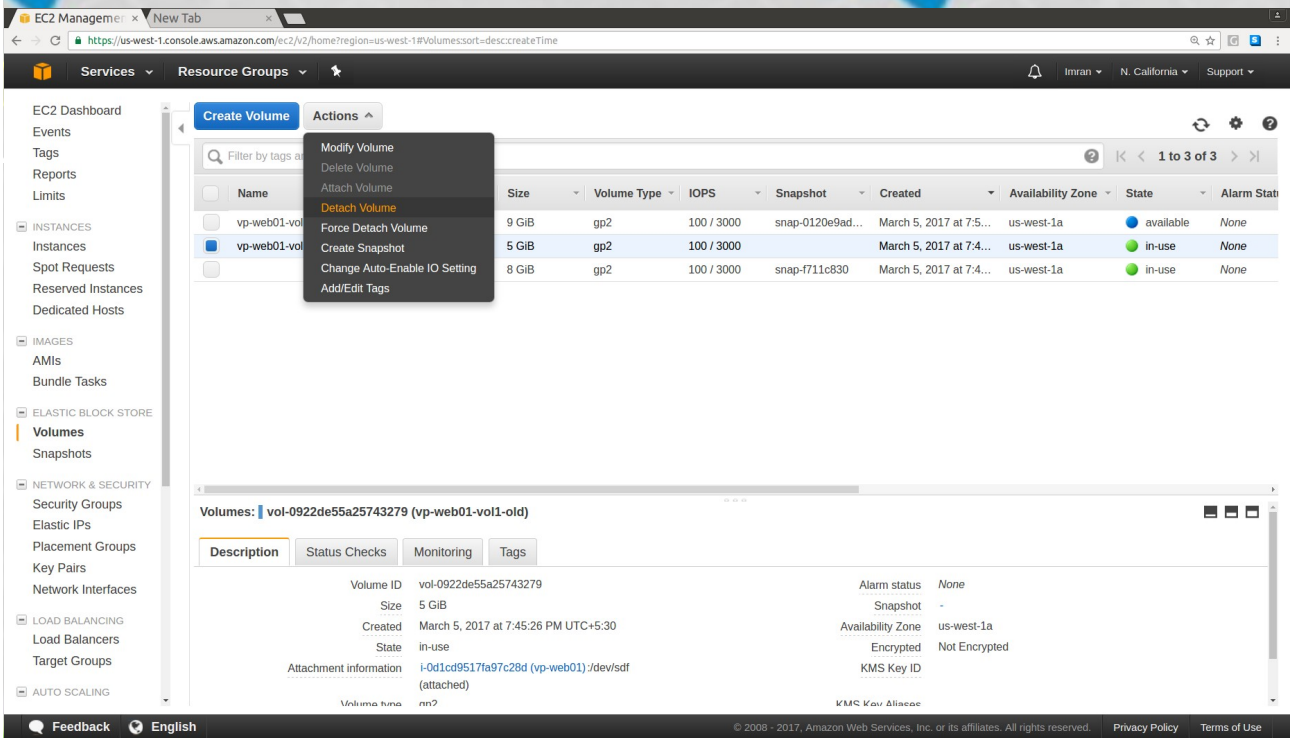
Tag the old volume with -old extension to identification and tag new volume name.





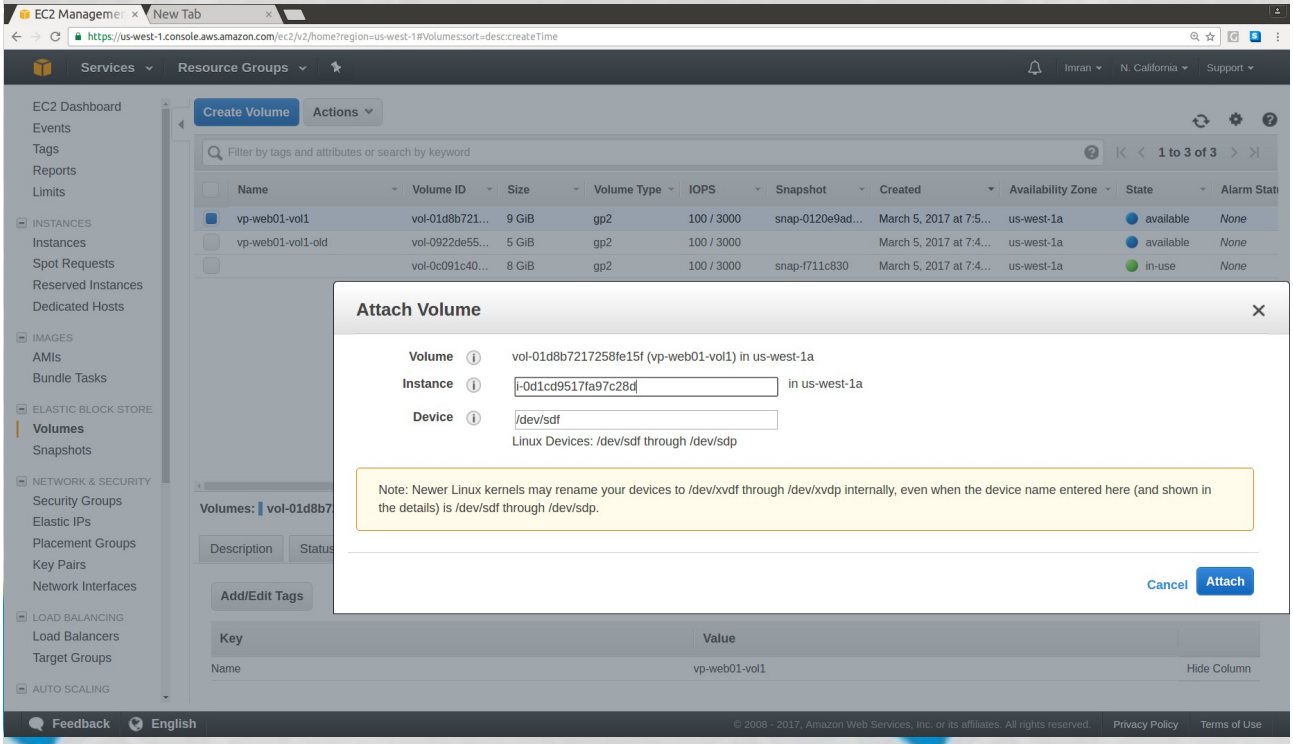
Unmount & detach Old Volume.





Attach and mount new volume.

Select new volume ==> Action ==> Attach

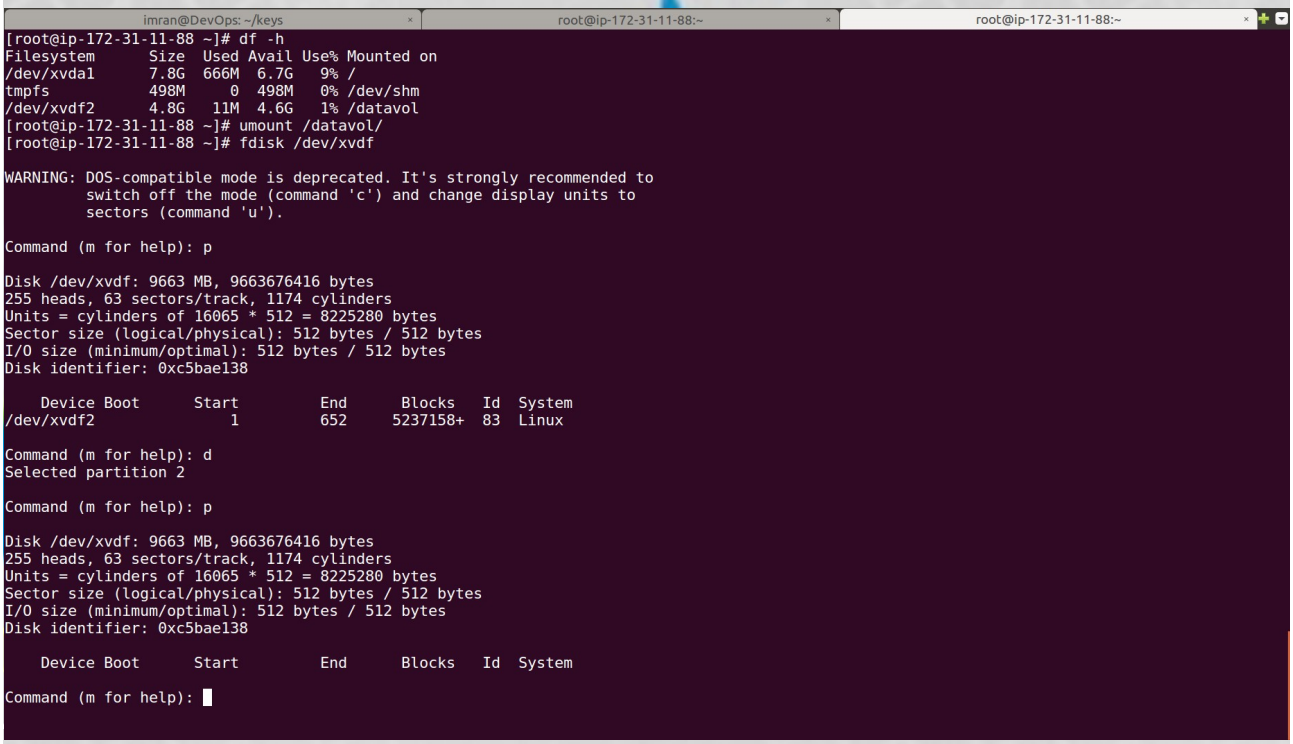


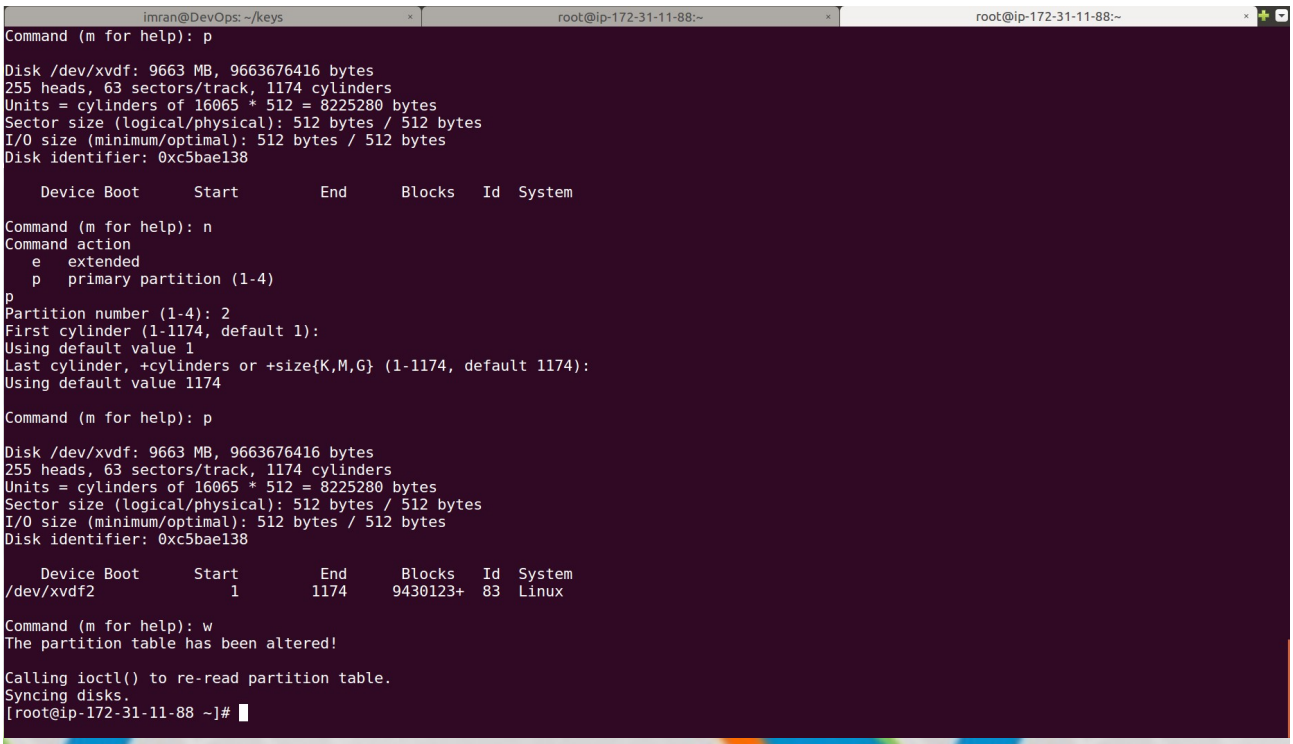

```
root@ip-172-31-11-88:~   root@ip-172-31-11-88:~   root@ip-172-31-11-88:~
[root@ip-172-31-11-88 ~]# fdisk -l

Disk /dev/xvda: 8589 MB, 8589934592 bytes
255 heads, 63 sectors/track, 1044 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00057cbb

    Device Boot      Start         End      Blocks   Id  System
/dev/xvda1   *           1        1045     8387584   83  Linux

Disk /dev/xvdf: 9663 MB, 9663676416 bytes
255 heads, 63 sectors/track, 1174 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0xc5bae138

    Device Boot      Start         End      Blocks   Id  System
/dev/xvdf2               1         652     5237158+  83  Linux
[root@ip-172-31-11-88 ~]# mount /dev/xvdf2 /datavol/
[root@ip-172-31-11-88 ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/xvda1      7.8G  666M  6.7G   9% /
tmpfs           498M     0  498M   0% /dev/shm
/dev/xvdf2      4.8G   11M  4.6G   1% /datavol
[root@ip-172-31-11-88 ~]# ls /datavol/
ansible  chef  git  jenkins  lost+found  nexus  puppet  vagrant
[root@ip-172-31-11-88 ~]#
```

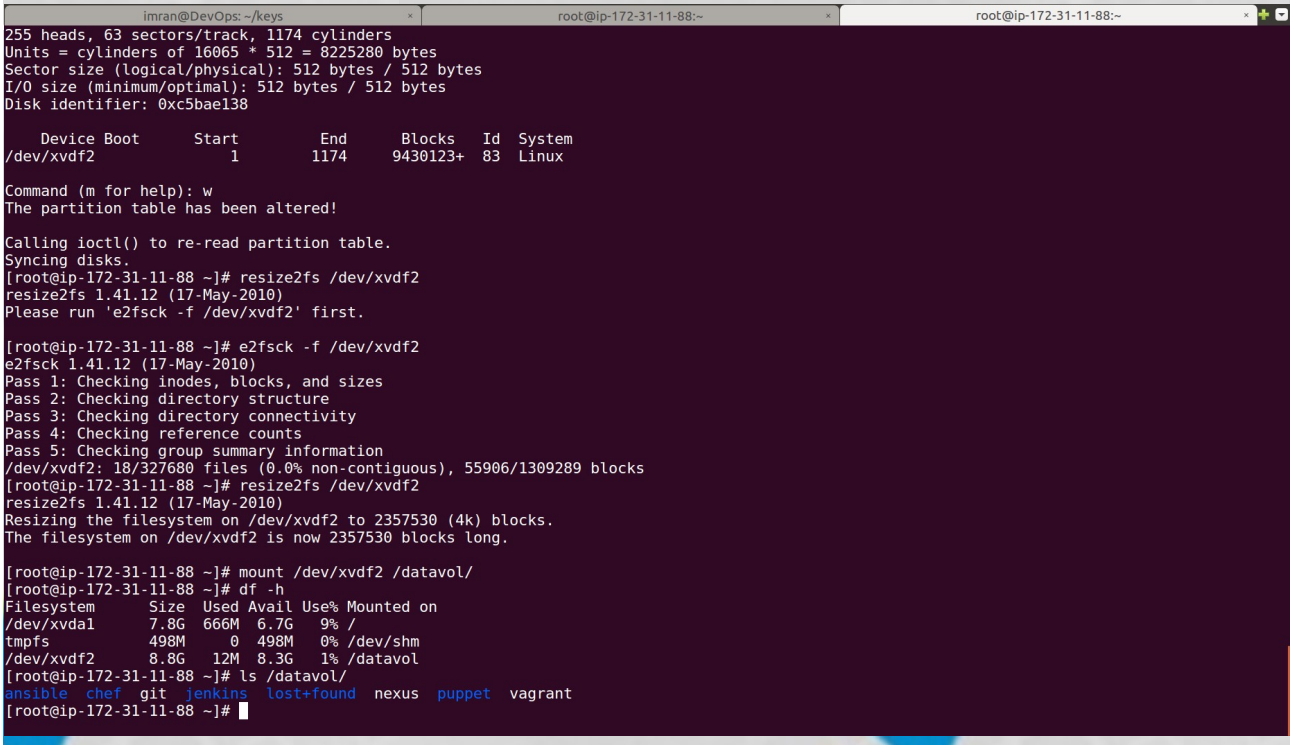
In the above screeshot you see the data is restored.
But the mount point size is still around 5 GB even though we changed the EBS volume size to 9 GB.
This is because the rest of the volume in still unformated and we need to format it.

Resizing the the increased volume.

We have already mounted the new volume but to resize it we need to umount, delete partition, recreate it with new size, resize the format and mount it.







Now the Volume size is increased and data is also restored.