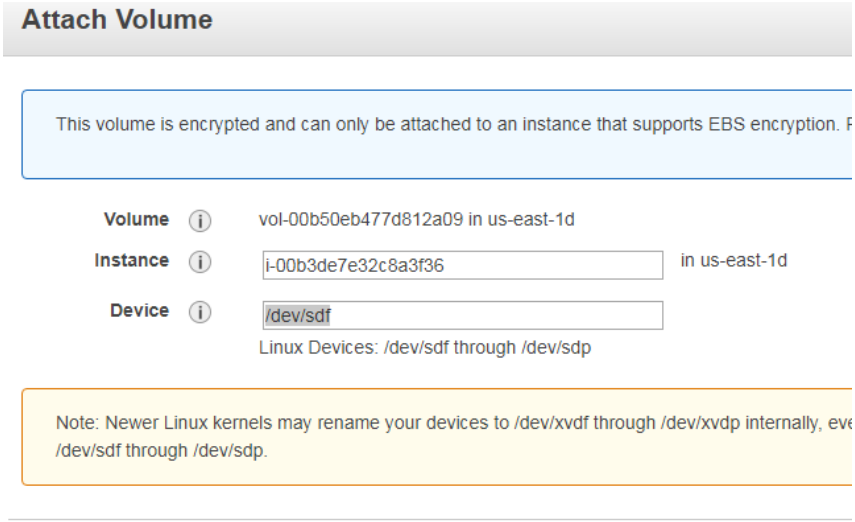
Move the Webserver with Data Volume to Another Region

1. Create a Data volume of 3 GB.
2. Attach it to the running instance on AWS console.



Note: -- Device is **"/dev/sdf"**

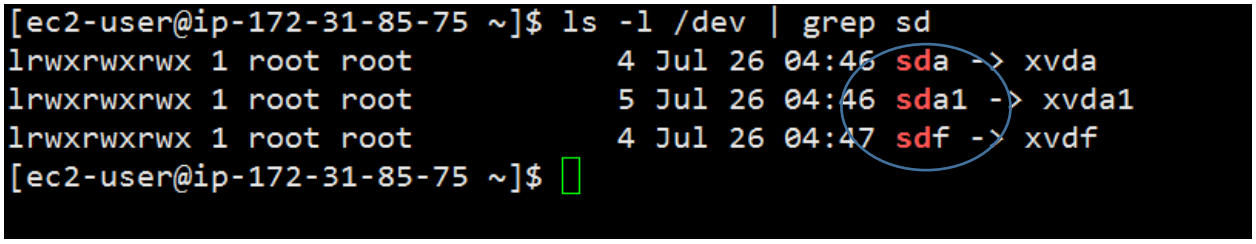
3. Format it and mount it and create some data in this Data Volume. (Inside the EC2 instance)

a.

Login to the EC2 instance

Run the below command to confirm that the new volume is attached to the instance

 # ls -l /dev | grep sd



The above screen shows that the disk is attached to the OS.

Ex: -- "**sdf**" in the above image.

b.

Run → "**fdisk /dev/sdf**"

If the command say "permission dined"

Run "**sudo su**"

```
[ec2-user@ip-172-31-85-75 ~]$ fdisk /dev/sdf

Welcome to fdisk (util-linux 2.30.2).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

fdisk: cannot open /dev/sdf: Permission denied
[ec2-user@ip-172-31-85-75 ~]$ sudo su
[root@ip-172-31-85-75 ec2-user]# fdisk /dev/sdf

Welcome to fdisk (util-linux 2.30.2).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Device does not contain a recognized partition table.
Created a new DOS disklabel with disk identifier 0x25cbdc78.

Command (m for help):
```

Press "n" for "new partition"

```
Command (m for help): n
Partition type:
   p   primary (0 primary, 0 extended, 4 free)
   e   extended
Select (default p):
```

Select "p" and enter

Then press "enter" 3 times to come back to **Command**

```
Select (default p): p
Partition number (1-4, default 1):
First sector (2048-4194303, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-4194303, default 4194303):
Using default value 4194303
Partition 1 of type Linux and of size 2 GiB is set

Command (m for help):
```

Now save the configuration "**w**"

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

Calling ioctl() to re-read partition table.
Syncing disks.
[root@localhost ~]#
```

c. Format the disk "mkfs.ext4"

```
[root@localhost ~]# mkfs.ext4 /dev/sdb1
mke2fs 1.42.9 (28-Dec-2013)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
65536 inodes, 261888 blocks
13094 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=268435456
8 block groups
32768 blocks per group, 32768 fragments per group
8192 inodes per group
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376

Allocating group tables: done
Writing inode tables: done
Creating journal (4096 blocks): done
Writing superblocks and filesystem accounting information: done
```

d. Mount the disk "mount"

Create a new folder and mount the new partition

```
[root@localhost ~]# mkdir ed01
[root@localhost ~]# mount /dev/sdb1 ed01
[root@localhost ~]# ls
```

Create an File inside the new partition

```
[root@localhost ~]# cd ed01
[root@localhost ed01]# ls
lost+found
[root@localhost ed01]# vi file
[root@localhost ed01]# ls -l
total 20
-rw-r--r--. 1 root root    40 Nov 18 04:39 file
drwx------. 2 root root 16384 Nov 18 04:37 lost+found
```

vi file1
press "i"
*type "**This is a file in the DATA Volume**" (message)*
Press "esc"
Type ":wq" (lowercase)

```
[root@localhost ~]# ls -l
total 58600
-rw-------. 1 root root     1446 May 12  2018 anaconda-ks.cfg
drwxr-xr-x. 3 root root     4096 Nov 18 04:37 ed01
```

```
[root@localhost ed01]# df -h
Filesystem               Size  Used Avail Use% Mounted on
/dev/mapper/centos-root  6.2G  1.5G  4.8G  23% /
devtmpfs                 908M     0  908M   0% /dev
tmpfs                    920M     0  920M   0% /dev/shm
tmpfs                    920M  8.6M  911M   1% /run
tmpfs                    920M     0  920M   0% /sys/fs/cgroup
/dev/sda1               1014M  182M  833M  18% /boot
tmpfs                    184M     0  184M   0% /run/user/0
/dev/sdb1                991M  2.6M  922M   1% /root/ed01
```

4. Create the webserver on the above created instance
    a. Edit the Security Group with SSH and HTTP allowed
    b. Run the below command to enable webserver on the EC2 instance
        i. sudo yum install httpd
        ii. sudo service httpd start
        iii. sudo chkconfig httpd on
        iv. sudo vi /var/www/html/index.html
            press “i”
            type “**This is a TEST server ONE**” (message)
            Press “esc”
            Type “:wq” (lowercase)
    c. Now, Test the webserber by using the public ip of the ec2 instance on the web browser

    http://<public-ip-add of ec2>

5. Shutdown/Stop the EC2 instance. (For consistent Root Partition)
6. Create Image of the EC2 instance. (It should hve the 3GB data volume as well)
7. Terminate the EC2 instance once the AMI/Snapshot is successful
8. Copy the Image to another region (Oregon) (This should copy both the Root volume and 3gb Data volume).
9. Create the instance in the Oregon from this custom AMI with Security Group SSH and HTTP opened.
10. Login to the EC2 instance and **Mount** the Volume inside the Linux Machine and check the data.
11. Also check if the webserver is running and whether the page is getting hosted.
12. Delete the Complete Environment.
    a. Terminate the EC2 instance in Oregon Region
    b. “Deregister” the Ami in Oregon Region
    c. “Delete” the Snapshot in Oregon Region
    d. “Deregister” the Ami in N.virginia Region
    e. “Delete” the Snapshot in N.Virginia Region