Homework | Cycle 08: Mount an EBS Volume on a Linux EC2 Instance

Step-by-Step Guide

Step 1: Create an EBS Volume

1. Go to the AWS Management Console.
2. Navigate to **EC2 → Elastic Block Store → Volumes**.
3. Click on **"Create Volume"**.
   - Set the **Size** (e.g., 1 GiB for Free Tier).
   - Ensure the **Availability Zone (AZ)** matches your EC2 instance (e.g., `ap-south-1a`).
   - Select the **Volume Type** as `gp2` or `gp3`.
4. Click **Create Volume**.

Step 2: Attach the Volume to EC2

1. After creating the volume, go back to the **Volumes** page.
2. Select your volume → Click **Actions → Attach volume**.
3. Choose your running EC2 instance from the dropdown.
4. Set the device name as `/dev/sdf` (inside Linux it will likely appear as `/dev/xvdf`).
5. Click **Attach**.

Volume settings

Volume type | Info

General Purpose SSD (gp3)

Size (GiB) | Info

5

Min: 1 GiB, Max: 16384 GiB.

IOPS | Info

3000

Min: 3000 IOPS, Max: 16000 IOPS.

Throughput (MiB/s) | Info

125

Min: 125 MiB, Max: 1000 MiB. Baseline: 125 MiB/s.

Availability Zone | Info

ap-south-1b

Snapshot ID - *optional* | Info

Don't create volume from a snapshot

```
ubuntu@ip-172-31-12-246:~$ history
    1  df -h
    2  lsblk
    3  df -h
    4  sudo mkfs -t ext4 /dev/xvdf
    5  sudo mkdir /mnt/mydata
    6  sudo mount /dev/xvdf /mnt/mydata
    7  df -h
    8  lsblk
    9  history
```

```
ubuntu@ip-172-31-12-246:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/root       6.8G  1.8G  5.0G  26% /
tmpfs           479M     0  479M   0% /dev/shm
tmpfs           192M  868K  191M   1% /run
tmpfs           5.0M     0  5.0M   0% /run/lock
/dev/xvda16     881M   86M  734M  11% /boot
/dev/xvda15     105M  6.2M   99M   6% /boot/efi
tmpfs            96M   12K   96M   1% /run/user/1000
ubuntu@ip-172-31-12-246:~$ lsblk
NAME     MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0      7:0    0 27.2M  1 loop /snap/amazon-ssm-agent/11320
loop1      7:1    0 73.9M  1 loop /snap/core22/1981
loop2      7:2    0 50.9M  1 loop /snap/snapd/24505
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
```

```
ubuntu@ip-172-31-12-246:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/root       6.8G  1.8G  5.0G  26% /
tmpfs           479M     0  479M   0% /dev/shm
tmpfs           192M  872K  191M   1% /run
tmpfs           5.0M     0  5.0M   0% /run/lock
/dev/xvda16     881M   86M  734M  11% /boot
/dev/xvda15     105M  6.2M   99M   6% /boot/efi
tmpfs            96M   12K   96M   1% /run/user/
/dev/xvdf       4.9G   24K  4.6G   1% /mnt/mydat
```

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Filesystem      Size  Used Avail Use% Mounted on
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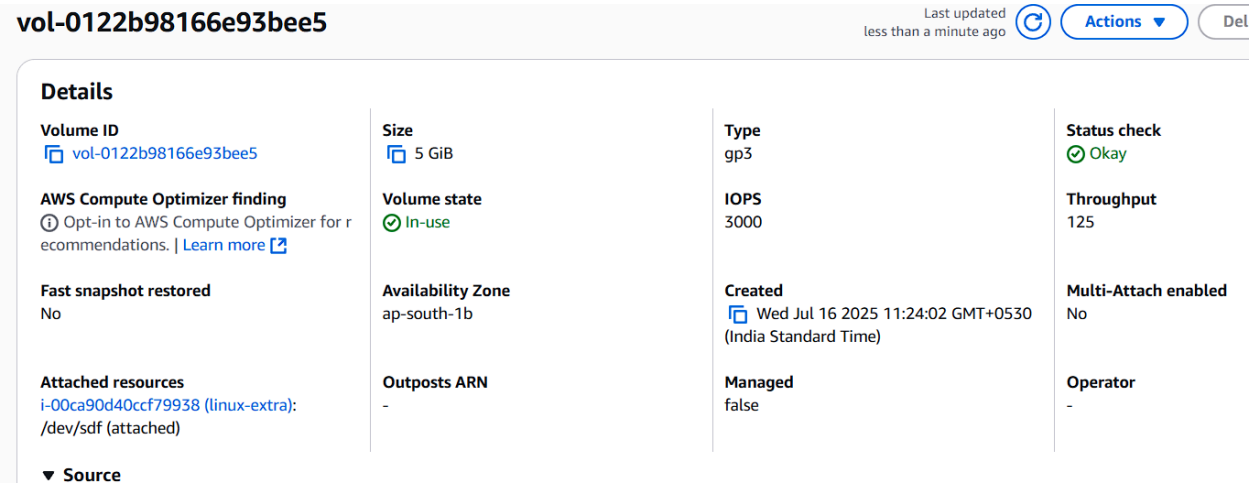
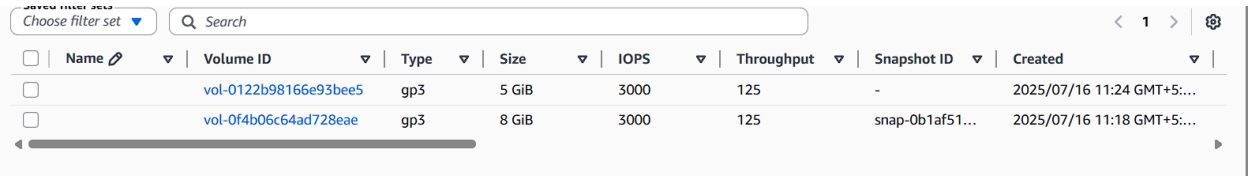
xvda     202:0    0    8G  0 disk
├─xvda1  202:1    0    7G  0 part /
├─xvda14 202:14   0    4M  0 part
├─xvda15 202:15   0  106M  0 part /boot/efi
└─xvda16 259:0    0  913M  0 part /boot
xvdf     202:80   0    5G  0 disk /mnt/mydata
```





Step 3: Connect to Your EC2 Linux Instance

Use SSH to connect to your instance:

```
bash
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ssh -i "your-key.pem" ubuntu@<your-ec2-public-ip>
```

Step 4: Check for New Disk

Run the following command to list all attached block devices:

```
bash
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lsblk
```

Look for a disk that is not yet mounted, typically `/dev/xvdf`.

Step 5: Format the EBS Volume

Use the `mkfs` command to format the volume with an ext4 file system:

```
bash
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sudo mkfs.ext4 /dev/xvdf
```

Step 6: Mount the Volume

1. Create a directory to use as a mount point:

   ```
   bash
   CopyEdit
   sudo mkdir /mnt/ebs
   ```

2. Mount the volume:

```
bash
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sudo mount /dev/xvdf /mnt/ebs
```

Step 7: Verify the Mount

To check if the volume is mounted correctly, run:

```
bash
CopyEdit
df -h
```

You should see `/dev/xvdf` mounted on `/mnt/ebs`.
