

Mount EBS to EC2

Attach and mount an EBS volume to an EC2 instance

Objectives:

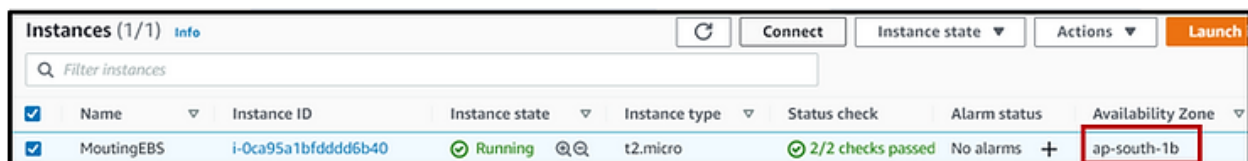
1. Learn to create an EBS Volume and attach.
2. Mount this instance to an existing EC2 instance.

Step 1: Create a **RED HAT SERVER** in subnet **us-east-1a**

You can choose the subnet in **Step3: Configure Instance Details** of the instance creation.

You can refer to our [step wise blog here](#) for launching EC2 Red Hat Server.

Confirm that the instance state is **Running**.

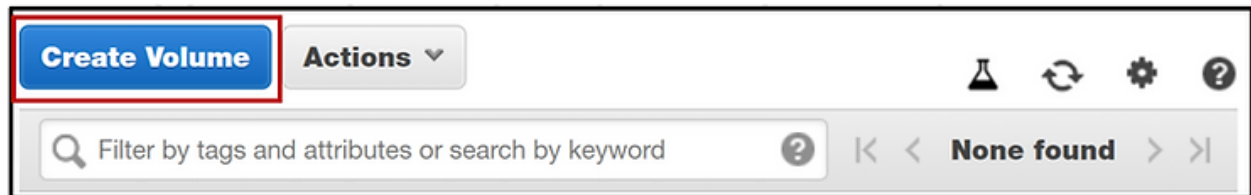


Instances (1/1) Info							
<input type="text" value="Filter instances"/>							
<input checked="" type="checkbox"/>	Name ▾	Instance ID	Instance state ▾	Instance type ▾	Status check	Alarm status	Availability Zone ▾
<input checked="" type="checkbox"/>	MoutingEBS	i-0ca95a1bfddd6b40	Running	t2.micro	2/2 checks passed	No alarms +	ap-south-1b

Step 2: Create an EBS volume and attach it to the EC2 instance.

From the Left Navigation Pane, open the dropdown for **Elastic Block Store** and click on **Volumes**.

Here, click on **Create Volume** for creating an EBS Volume.



Step 3: Fill the details as follows:

Make sure the **Volume Type** is General Purpose SSD (**gp2**)

Size (GiB): 10

Availability Zone: us-east-1a (This zone should be the same as your EC2 instance).

Click on Add Tag and set:

Key: Name

Value: Data

Volumes > Create Volume

Create Volume

Volume Type General Purpose SSD (gp2) ⓘ

Size (GiB) 20 ⓘ (Min: 1 GiB, Max: 16384 GiB)

IOPS 100 / 3000 ⓘ (Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS)

Throughput (MB/s) Not applicable ⓘ

Availability Zone* ap-south-1b ⓘ

Snapshot ID Select a snapshot ⓘ ↻ ⓘ

Encryption ☐ Encrypt this volume

Key	Value
Name	Data

Add Tag 49 remaining (Up to 50 tags maximum)

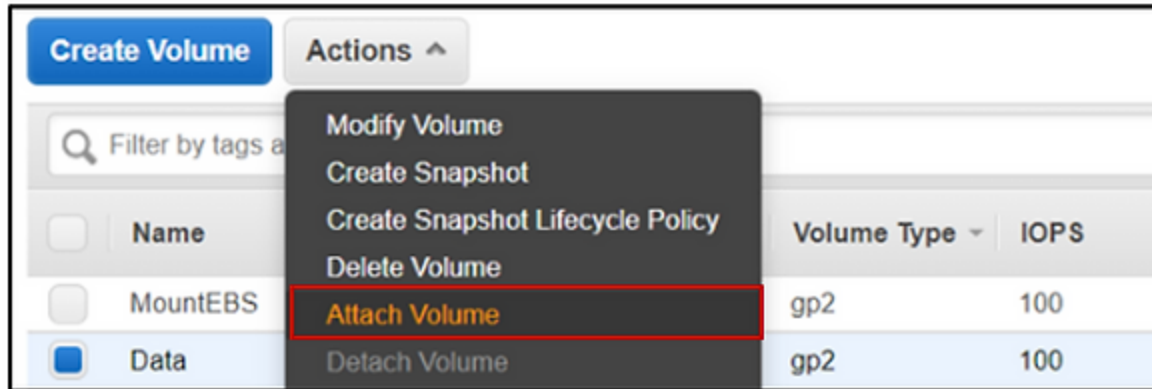
* Required

Cancel **Create Volume**

Click on **Create Volume**.

Step 4: After creating the volume, go back to your EBS volume page and select the volume named **Data**.

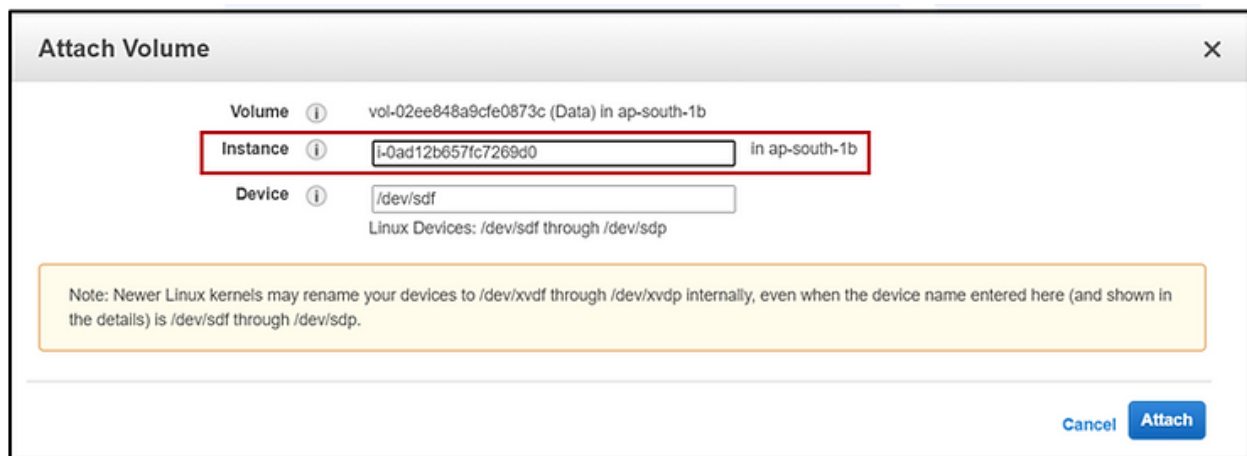
Open the dropdown for **Actions** and click on **Attach Volume**.



Click on the textbox for **Instance**.

It will show all the EC2 Instances we have in that particular availability zone.

Select the instance in us-east-1a created above.



Click on **Attach** and now your EBS Volume is attached to your EC2 instance.

Step 5: Go back to Instances.

Select your EC2 instance and click on **Connect**.

Instances (1/1) Info							Refresh	Connect	Instance state ▼
<input type="text"/> Filter instances									
<input checked="" type="checkbox"/>	Name ▼	Instance ID	Instance state ▼	Instance type ▼	Status check	Alarm stat			
<input checked="" type="checkbox"/>	MoutingEBS	i-0ca95a1bfddddd6b40	Running 🔍	t2.micro	2/2 checks passed	No alarms			

Confirm the User name **ec2-user**. Click on **Connect**.

Connect to instance [Info](#)

Connect to your instance i-00a20f5c2678a9ab7 (MountEBS) using any of these options

EC2 Instance Connect

Session Manager

SSH client

Instance ID

i-00a20f5c2678a9ab7 (MountEBS)

Public IP address

User name

Connect using a custom user name, or use the default user name ec2-user for the AMI used to launch the instance.

Note: In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.

Cancel

Connect

Step 6: Once you're in the SSH run the following command for getting any system updates.

`sudo yum -y update`

Run the command **`lsblk`** to get a list of all the block storage modules associated with the instance.

```
[ec2-user@ip-172-31-15-13 ~]$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
xvda        202:0    0   8G  0 disk
└─xvda1     202:1    0   8G  0 part /
xvdf        202:80    0  20G  0 disk
```

Now check if the volume has any data using the following command:

```
sudo file -s /dev/xvdf
```

```
[ec2-user@ip-172-31-15-13 ~]$ sudo file -s /dev/xvdf
/dev/xvdf: data
```

If your volume is named something like **dev/xvdb** you might need to change the command with your respective storage name.

If the above command output shows **/dev/xvdf: data** it means your volume is empty.

Step 7: **Format** the volume to the “**ext4**” filesystem using the following command:

```
sudo mkfs -t ext4 /dev/xvdf
```

```
Allocating group tables: done
Writing inode tables: done
Creating journal (32768 blocks): done
Writing superblocks and filesystem accounting information: done
```

Again, Run the command `sudo file -s /dev/xvdf` to check if the file system has been mounted on the Block or not.

```
[ec2-user@ip-172-31-15-13 ~]$ sudo file -s /dev/xvdf
/dev/xvdf: Linux rev 1.0 ext4 filesystem data, UUID=c974dbe3-f086-49d0-aacc-13e5cb5f1bda (extents)
(64bit) (large files) (huge files)
```

As you can see now we have the file system mounted on our EBS volume.

Step 8: Create a new directory named **newvolume** with the command

```
sudo mkdir newvolume
```

Now mount your EBS volume in this directory using the command

```
sudo mount /dev/xvdf newvolume/
```

Note: this command has no output text

Change directory into **newvolume** directory and check the disk space to validate the volume mount.

```
cd newvolume
```

This following command is used to display the disk space used in filesystem in a human readable format

```
df -h
```

```
[ec2-user@ip-172-31-15-13 ~]$ cd newvolume/
[ec2-user@ip-172-31-15-13 newvolume]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        482M   0    482M   0% /dev
tmpfs           492M   0    492M   0% /dev/shm
tmpfs           492M  476K   492M   1% /run
tmpfs           492M   0    492M   0% /sys/fs/cgroup
/dev/xvda1      8.0G  1.5G   6.6G  19% /
tmpfs           99M    0     99M   0% /run/user/1000
/dev/xvdf       20G   45M   19G    1% /home/ec2-user/newvolume
[ec2-user@ip-172-31-15-13 newvolume]$
```

As you can see here the Block Volume dev/xvdf is successfully mounted on your EC2 Instance

Step 9: To unmount the EBS volume, first we need to go back to the main working directory using following command:

```
cd ..
```

After that put the following command to unmount the volume:

```
sudo umount /dev/xvdf
```

```
[ec2-user@ip-172-31-14-174 newvolume]$ cd ..
[ec2-user@ip-172-31-14-174 ~]$ sudo umount /dev/xvdf
[ec2-user@ip-172-31-14-174 ~]$
```

Note: Close the session, terminate the instance and delete the elastic volume if you no longer need it.

Document Done by Arun tiyyari , Trinadh , Manikanta.