

To create an EBS volume, attach it to an EC2 instance, and mount it permanently

1: Create EC2 Instance.

The screenshot shows the AWS Management Console with the EC2 Instances page. A table lists the instances, with the selected instance 'i-0391e3410a7df1e4e' (Web-server) in a 'Running' state. Below the table, the 'Instance summary' for 'i-0391e3410a7df1e4e (Web-server)' is displayed, showing details like Instance ID, Public IPv4 address, Private IPv4 addresses, and Public DNS.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
Web-server	i-0391e3410a7df1e4e	Running	t2.micro	Initializing	View alarms +	ap-south-1b	ec2-13-232-75-106.ap-south-1.compute.amazonaws.com

i-0391e3410a7df1e4e (Web-server)

Instance summary

Instance ID: i-0391e3410a7df1e4e

Public IPv4 address: 13.232.75.106 | [open address](#)

Private IPv4 addresses: 172.31.11.56

Public DNS: ec2-13-232-75-106.ap-south-1.compute.amazonaws.com | [open address](#)

Instance state: Running

2: Create EBS Volume.

The screenshot shows the AWS Management Console with the EBS Volumes page. A table lists the volumes, with the selected volume 'vol-06c7894cba22572e2' (Additional Volume) in an 'Available' state. Below the table, the 'Volume details' for 'vol-06c7894cba22572e2 (Additional Volume)' are displayed, showing details like Volume ID, Size, Type, Status check, and Throughput.

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created
Additional Volume	vol-06c7894cba22572e2	gp3	5 GiB	3000	125	-	2025/06/12 13:22 GMT+5:30

Volume ID: vol-06c7894cba22572e2 (Additional Volume)

Details

Volume ID: vol-06c7894cba22572e2 (Additional Volume)

Size: 5 GiB

Type: gp3

Status check: Okay

Throughput: 125

AWS Compute Optimizer finding: Opt-in to AWS Compute Optimizer for recommendations. | [Learn more](#)

Fast snapshot restored

Availability Zone: Created

Multi-Attach enabled

3: Attach Volume to EC2 Instance.

The screenshot shows the AWS Management Console with the EC2 Instances page. A table lists the instances, with the selected instance 'i-0391e3410a7df1e4e' (Web-server) in a 'Running' state. Below the table, the 'Volume monitoring' for 'i-0391e3410a7df1e4e (Web-server)' is displayed, showing details like Volume ID, Device name, Volume size, Volume State, Attachment status, and Attachment time.

Volume ID	Device name	Volume size (GiB)	Volume State	Attachment status	Attachment time
vol-073453677e751bdf3	/dev/sda1	8	In-use	Attached	2025/06/12 13:13 GMT+5:30
vol-06c7894cba22572e2	/dev/sdf	5	In-use	Attached	2025/06/12 13:25 GMT+5:30

Volume monitoring (1)

[Investigate with AI - new](#) | 3h | 1d | 1w | 1h | UTC timezone | [Explore related](#)

4: SSH into EC2 and Mount the EBS.

```
root@ip-172-31-11-56:~# 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  876K  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
root@ip-172-31-11-56:~#
```

```
root@ip-172-31-11-56:~# 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      202:16   0   813M  0 part /boot
xvdf         202:80   0    5G   0 disk
```

5: Format The EBS Volume and Create Partition.

CMD: `mkfs -t ext4 /dev/xvdf`

```
root@ip-172-31-11-56:~# mkfs -t ext4 /dev/xvdf
mke2fs 1.47.0 (5-Feb-2023)
Creating filesystem with 1310720 4k blocks and 327680 inodes
Filesystem UUID: c57e5450-2fbf-4b24-801a-66c64589df18
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-172-31-11-56:~#
```

6: Create a Mount Point & Mount the Volume.

CMD: `mkdir /data`

CMD: `mount /dev/xvdf /data`

```
root@ip-172-31-11-56:~# mkdir /data
root@ip-172-31-11-56:~# mount /dev/xvdf /data
root@ip-172-31-11-56:~# 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  880K  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
/dev/xvdf        4.9G   24K  4.6G   1% /data
root@ip-172-31-11-56:~#
```

7: For Permanent Mount After Reboot (Edit fstab)

Check the UUID of the volume:

CMD: blkid /dev/xvdf

```
root@ip-172-31-11-56:~# blkid /dev/xvdf
/dev/xvdf: UUID="c57e5450-2fbf-4b24-801a-66c64589df18" BLOCK_SIZE="4096"
TYPE="ext4"
root@ip-172-31-11-56:~# vi /etc/fstab
```

Edit the /etc/fstab file:

CMD: vi /etc/fstab

Insert into file at last:

UUID=(UUID) /data ext4 defaults,nofail 0 2

```
root@ip-172-31-11-56:~# cat /etc/fstab
LABEL=cloudimg-rootfs / ext4 discard,commit=30,errors=remount-ro 0 1
LABEL=BOOT /boot ext4 defaults 0 2
LABEL=EFISTEM /boot/efi vfat umask=0077 0 1
UUID=c57e5450-2fbf-4b24-801a-66c64589df18 /data ext4 defaults,nofail 0 2
root@ip-172-31-11-56:~#
```

8: Test fstab (Don't Reboot Yet!)

CMD: mount -a : no error found, it means the entry is correct. we can safely reboot

```
root@ip-172-31-11-56:~# mount -a
root@ip-172-31-11-56:~#
```

8: Test the volume.

```
root@ip-172-31-11-56:~# mount -a
root@ip-172-31-11-56:~# 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  880K  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
/dev/xvdf        4.9G   24K  4.6G   1% /data
root@ip-172-31-11-56:~#
```


9: Test the volume after reboot instance.

Successfully initiated rebooting of i-0391e3410a7df1e4e

Instances (1/1) last updated less than a minute ago [Connect](#) [Instance state](#) [Actions](#) [Launch instances](#)

Find Instance by attribute or tag (case-sensitive) [All states](#)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
Web-server	i-0391e3410a7df1e4e	Running	t2.micro	2/2 checks passed	View alarms	ap-south-1b	ec2-13-232-75-106

i-0391e3410a7df1e4e (Web-server)

Volume ID	Device name	Volume size (GiB)	Volume State	Attachment status	Attachment time	En
vol-073453677e751bdf3	/dev/sda1	8	In-use	Attached	2025/06/12 13:13 GMT+5:30	No

```
root@ip-172-31-11-56:~#  
Broadcast message from root@ip-172-31-11-56 (Thu 2025-06-12 08:17:10 UT  
C):  
  
The system will power off now!  
  
Broadcast message from root@ip-172-31-11-56 (Thu 2025-06-12 08:17:10 UT  
C):  
  
The system will power off now!  
  
Connection to 13.232.75.106 closed by remote host.  
Connection to 13.232.75.106 closed.  
  
SHAM@Shams-PC MINGW64 ~/Downloads  
$ |
```

```
SHAM@Shams-PC MINGW64 ~/Downloads  
$ ssh -i "Demo-priacc.pem" ubuntu@13.232.75.106  
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-1029-aws x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/pro  
  
system information as of Thu Jun 12 08:18:42 UTC 2025  
  
System load:  0.23          Processes:            107  
Usage of /:   25.8% of 6.71GB Users logged in:      0  
Memory usage: 20%          IPv4 address for enx0: 172.31.11.56  
Swap usage:   0%  
  
Expanded Security Maintenance for Applications is not enabled.  
  
0 updates can be applied immediately.  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
Last login: Thu Jun 12 07:47:38 2025 from 223.185.43.92  
ubuntu@ip-172-31-11-56:~$ sudo -i  
root@ip-172-31-11-56:~# 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  880K  191M   1% /run  
tmpfs           5.0M   0   5.0M   0% /run/lock  
/dev/xvda10     881M  88M  793M  11% /boot  
/dev/xvdf       4.9G   24K  4.6G   1% /data  
/dev/xvda15    105M   8.2M   99M   8% /boot/efi  
tmpfs           96M   12K   96M   1% /run/user/1000  
root@ip-172-31-11-56:~# |
```