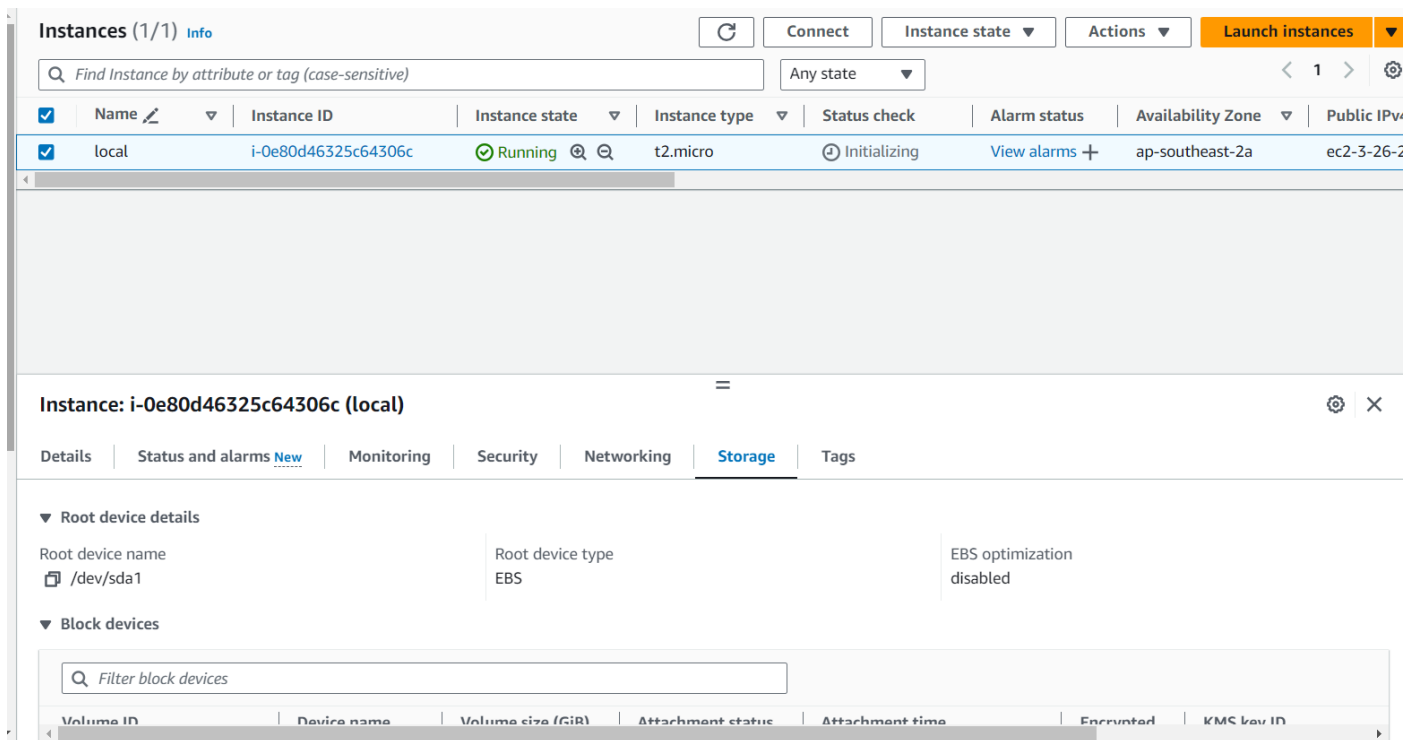


Attaching additional drive

1: Create an instance in ubuntu



The screenshot shows the AWS Management Console 'Instances' page. A single instance named 'local' with ID 'i-0e80d46325c64306c' is listed in a 'Running' state. Below the list, the 'Storage' tab for this instance is selected, showing 'Root device details' with a name of '/dev/sda1' and 'Block devices' section which is currently empty.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
local	i-0e80d46325c64306c	Running	t2.micro	Initializing	View alarms +	ap-southeast-2a	ec2-3-26-2...

Instance: i-0e80d46325c64306c (local)

Details | Status and alarms New | Monitoring | Security | Networking | **Storage** | Tags

▼ Root device details

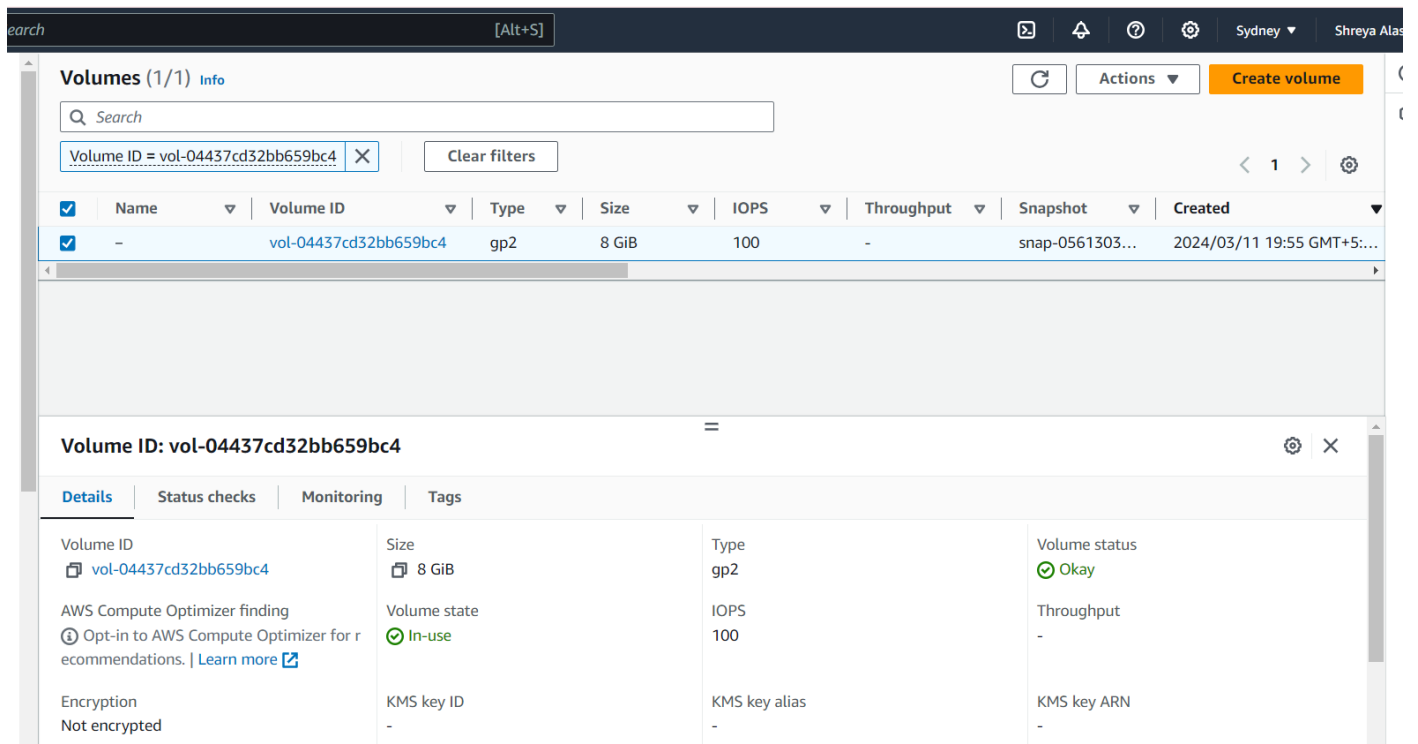
Root device name: /dev/sda1 | Root device type: EBS | EBS optimization: disabled

▼ Block devices

Filter block devices

Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID
-----------	-------------	-------------------	-------------------	-----------------	-----------	------------

2: Select the instance and go to storage block and create new volume



The screenshot shows the AWS Management Console 'Volumes' page. A single volume with ID 'vol-04437cd32bb659bc4' is listed, attached to the instance 'local'. The volume is in an 'In-use' state. Below the list, the 'Details' tab for this volume is selected, showing various attributes like size (8 GiB), type (gp2), and status (In-use).

Search [Alt+S]

Volumes (1/1) Info

Search

Volume ID = vol-04437cd32bb659bc4 | Clear filters

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created
-	vol-04437cd32bb659bc4	gp2	8 GiB	100	-	snap-0561303...	2024/03/11 19:55 GMT+5:...

Volume ID: vol-04437cd32bb659bc4

Details | Status checks | Monitoring | Tags

Volume ID: vol-04437cd32bb659bc4	Size: 8 GiB	Type: gp2	Volume status: Okay
AWS Compute Optimizer finding: Opt-in to AWS Compute Optimizer for recommendations. Learn more	Volume state: In-use	IOPS: 100	Throughput: -
Encryption: Not encrypted	KMS key ID: -	KMS key alias: -	KMS key ARN: -

3: Size will be 10 gb and then scroll down and click on create volume

Volume settings

Volume type

[Info](#)

General Purpose SSD (gp2)

Size (GiB)

[Info](#)

10

Min: 1 GiB, Max: 16384 GiB. The value must be an integer.

IOPS

[Info](#)

100 / 3000

Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS.

Throughput (MiB/s)

[Info](#)

Not applicable

Availability Zone

[Info](#)

ap-southeast-2a

Snapshot ID - optional

[Info](#)

Don't create volume from a snapshot

Encryption

[Info](#)

Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.

Successfully created volume vol-0e17760e7d9ba4b07.

Volumes (1/3)

[Info](#)

Search

Actions

Create volume

<

1

>

	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created
<input type="checkbox"/>	-	vol-036fb3e520a68b5b8	gp3	8 GiB	3000	125	-	2024/03/06 23:50 GMT+5:...
<input type="checkbox"/>	-	vol-04437cd32bb659bc4	gp2	8 GiB	100	-	snap-0561303...	2024/03/11 19:55 GMT+5:...
<input checked="" type="checkbox"/>	-	vol-0e17760e7d9ba4b07	gp2	10 GiB	100	-	-	2024/03/11 19:58 GMT+5:...

Volume ID: vol-0e17760e7d9ba4b07

Details

Status checks

Monitoring

Tags

Volume ID vol-0e17760e7d9ba4b07	Size 10 GiB	Type gp2	Volume status Okay
AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more	Volume state Available	IOPS 100	Throughput -
Encryption Not encrypted	KMS key ID -	KMS key alias -	KMS key ARN -
Fast snapshot restored	Snapshot	Availability Zone	Created

4: Select the volume you want to attach > Actions > Attach Volume

Successfully created volume vol-0e17760e7d9ba4b07.

Volumes (1/3) Info

Q Search

	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshots
<input type="checkbox"/>	-	vol-036fb3e520a68b5b8	gp3	8 GiB	3000	125	-
<input type="checkbox"/>	-	vol-04437cd32bb659bc4	gp2	8 GiB	100	-	snap-05
<input checked="" type="checkbox"/>	-	vol-0e17760e7d9ba4b07	gp2	10 GiB	100	-	-

Volume ID: vol-0e17760e7d9ba4b07

Details | Status checks | Monitoring | Tags

Actions

Create volume

Modify volume

Create snapshot

Create snapshot lifecycle policy

Delete volume

Attach volume

Detach volume

Force detach volume

Manage auto-enabled I/O

Manage tags

Fault injection

Attach a volume to an instance to use it as you would a regular physical hard disk drive.

Basic details

Volume ID

vol-0e17760e7d9ba4b07

Availability Zone

ap-southeast-2a

Instance

Info

i-0e80d46325c64306c

Only instances in the same Availability Zone as the selected volume are displayed.

Device name

Info

/dev/sdf

Recommended device names for Linux: /dev/sda1 for root volume. /dev/sd[f-p] for data volumes.

ⓘ

Newer Linux kernels may rename your devices to **/dev/xvdf** through **/dev/xvdp** internally, even when the device name entered here (and shown in the details) is **/dev/sdf** through **/dev/sdp**.

Cancel

Attach volume

5: Connect to first instance using SSH

```

ubuntu@ip-172-31-39-214: ~
shrey@Shreya MINGW64 ~
$ ssh -i ec2ssh.pem ubuntu@ec2-3-26-216-159.ap-southeast-2.compute.amazonaws.com
The authenticity of host 'ec2-3-26-216-159.ap-southeast-2.compute.amazonaws.com (64:ff9b::31a:d89f)' can't be established.
ED25519 key fingerprint is SHA256:tCzu18VNoPAkY5x7DeYXFNko16pqwFypq7fkVfnSdx4.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-3-26-216-159.ap-southeast-2.compute.amazonaws.com' (ED25519) to the list of known hosts.
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1018-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Mon Mar 11 14:32:26 UTC 2024

System load:  0.0          Processes:           97
Usage of /:   20.3% of 7.57GB Users logged in:       0
Memory usage: 20%         IPv4 address for eth0: 172.31.39.214
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

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

```

- To mount the additional drive and to add file

1: List the available disks to find the new volume using command “lsblk”

```

See "man sudo_root" for details.

ubuntu@ip-172-31-39-214:~$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0       7:0      0   24.9M  1 loop /snap/amazon-ssm-agent/7628
loop1       7:1      0   55.7M  1 loop /snap/core18/2812
loop2       7:2      0   63.9M  1 loop /snap/core20/2105
loop3       7:3      0    87M  1 loop /snap/lxd/26881
loop4       7:4      0   40.4M  1 loop /snap/snapd/20671
xvda        202:0    0    8G   0 disk
├─xvda1     202:1    0    7.9G  0 part /
├─xvda14    202:14   0     4M   0 part
└─xvda15    202:15   0   106M  0 part /boot/efi
xvdf        202:80   0   10G   0 disk
ubuntu@ip-172-31-39-214:~$ sudo mkfs -t ext4 /dev/xvdf

```

2: Format the new volume > sudo mkfs -t ext4 /dev/xvdf

```

xvdf        202:80   0   10G   0 disk
ubuntu@ip-172-31-39-214:~$ sudo mkfs -t ext4 /dev/xvdf
mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 2621440 4k blocks and 655360 inodes
Filesystem UUID: 18060a79-8f34-4184-9666-c8c25c63c4ab
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632

Allocating group tables: done
Writing inode tables: done
Creating journal (16384 blocks): done
Writing superblocks and filesystem accounting information: done

```

3: Create a directory to mount the new volume > sudo mkdir /mnt/mydrive

4: Mount the created volume to directory > sudo mount /dev/xvdf /mnt/mydrive

5: Add a file to mounted directory > echo "This is a sample file" | sudo tee /mnt/mydrive/sample.txt

6: Unmount the drive when file is added > sudo umount /mnt/mydrive

```
Writing Superblocks and filesystem accounting information: done
ubuntu@ip-172-31-39-214:~$ sudo mkdir /mnt/mydrive
ubuntu@ip-172-31-39-214:~$ sudo mount /dev/xvdf /mnt/mydrive
ubuntu@ip-172-31-39-214:~$ touch S.txt
ubuntu@ip-172-31-39-214:~$ ls
S.txt
ubuntu@ip-172-31-39-214:~$ vi S.txt
ubuntu@ip-172-31-39-214:~$ cat S.txt
Creating an extra volume of 10 gb and attaching it to instance
ubuntu@ip-172-31-39-214:~$ echo "This is a sample file" | sudo tee /mnt/mydrive/S.txt
This is a sample file
ubuntu@ip-172-31-39-214:~$ sudo umount /mnt/mydrive
ubuntu@ip-172-31-39-214:~$
```

7: Detach the volume from first instance

- i. Go to EC2 Dashboard
- ii. Select first instance
- iii. Storage block > Click on volume > Actions > Detach volume

The screenshot displays two panels from the AWS Management Console. The top panel shows the 'Volumes (1/1)' page with a table containing one volume: 'vol-0e17760e7d9ba4b07' of type 'gp2', size '10 GiB', and IOPS '100'. An 'Actions' dropdown menu is open, showing options like 'Attach volume', 'Detach volume', and 'Force detach volume'. Below the table, the 'Details' tab for the selected volume shows its state as 'In-use' and other attributes like 'Not encrypted' and 'Fast snapshot restored'.

The bottom panel shows the 'Instances (1/3)' page with a table of three instances. The first instance, 'new' with ID 'i-0d4bb5b5c515b0b82', is in a 'Running' state and 'Initializing'. The 'Storage' tab for this instance is selected, showing 'Root device details' (device name '/dev/sda1', type 'EBS', optimization 'disabled') and 'Block devices' (a table with one entry: volume 'vol-01a4b3b975ef7fbc7' attached to '/dev/sda1' with status 'Attaching').

8: Attach volume to second instance

- i. Go to EC2 Dashboard
- ii. Select second instance
- iii. In storage block, click on create volume and select the detached volume

Search

[Alt+S]

Sydney

Shreya Alas

Volumes (1/4) Info

Q Search

	Name	Volume ID	Type	Size	IOPS	Throughput	Snapsh
<input type="checkbox"/>	-	vol-036fb3e520a68b5b8	gp3	8 GiB	3000	125	-
<input type="checkbox"/>	-	vol-04437cd32bb659bc4	gp2	8 GiB	100	-	snap-05
<input checked="" type="checkbox"/>	-	vol-0e17760e7d9ba4b07	gp2	10 GiB	100	-	-
<input type="checkbox"/>	-	vol-01a4b3b975ef7fbc7	gp2	8 GiB	100	-	snap-05

Volume ID: vol-0e17760e7d9ba4b07

Details

Status checks

Monitoring

Tags

Volume ID

vol-0e17760e7d9ba4b07

AWS Compute Optimizer finding

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

Encryption

Not encrypted

Fast snapshot restored

Size

10 GiB

Volume state

Available

KMS key ID

-

Snapshot

Type

gp2

IOPS

100

KMS key alias

-

Availability Zone

Volume status

Okay

Throughput

-

KMS key ARN

-

Created

Actions

Create volume

Modify volume

Create snapshot

Create snapshot lifecycle policy

Delete volume

Attach volume

Detach volume

Force detach volume

Manage auto-enabled I/O

Manage tags

Fault injection

aws

Services

Q Search

[Alt+S]

Attach volume Info

Attach a volume to an instance to use it as you would a regular physical hard disk drive.

Basic details

Volume ID

vol-0e17760e7d9ba4b07

Availability Zone

ap-southeast-2a

Instance Info

i-0d4bb5b5c515b0b82

Only instances in the same Availability Zone as the selected volume are displayed.

Device name Info

/dev/sdf

Recommended device names for Linux: /dev/sda1 for root volume. /dev/sd[f-p] for data volumes.

Info

Newer Linux kernels may rename your devices to **/dev/xvdf** through **/dev/xvdp** internally, even when the device name entered here (and shown in the details) is **/dev/sdf** through **/dev/sdp**.

Cancel

Attach volume

Successfully attached volume vol-0e17760e7d9ba4b07 to instance i-0d4bb5b5c515b0b82.

Volumes (1/4) Info

Search

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created
-	vol-036fb3e520a68b5b8	gp3	8 GiB	3000	125	-	2024/03/06 23:50 GMT+5:...
-	vol-04437cd32bb659bc4	gp2	8 GiB	100	-	snap-0561303...	2024/03/11 19:55 GMT+5:...
<input checked="" type="checkbox"/>	vol-0e17760e7d9ba4b07	gp2	10 GiB	100	-	-	2024/03/11 19:58 GMT+5:...
-	vol-01a4b3b975ef7fbc7	gp2	8 GiB	100	-	snap-0561303...	2024/03/11 20:21 GMT+5:...

Volume ID: vol-0e17760e7d9ba4b07

Details | Status checks | Monitoring | Tags

Volume ID vol-0e17760e7d9ba4b07	Size 10 GiB	Type gp2	Volume status Okay
AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more	Volume state In-use	IOPS 100	Throughput -
Encryption Not encrypted	KMS key ID -	KMS key alias -	KMS key ARN -
Fast snapshot restored	Snapshot	Availability Zone	Created

Instances (1/3) Info

Find Instance by attribute or tag (case-sensitive) Any state

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
<input checked="" type="checkbox"/> new	i-0d4bb5b5c515b0b82	Running	t2.micro	2/2 checks passed	View alarms +	ap-southeast-2a	ec2-13-
<input type="checkbox"/> new	i-00b10422787f4d4c9	Terminated	t2.micro	-	View alarms +	ap-southeast-2a	-
<input type="checkbox"/> local	i-0e80d46325c64306c	Running	t2.micro	2/2 checks passed	View alarms +	ap-southeast-2a	ec2-3-2

Instance: i-0d4bb5b5c515b0b82 (new)

Root device name: /dev/sda1 Root device type: EBS EBS optimization: disabled

Block devices

Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID
vol-01a4b3b975ef7fbc7	/dev/sda1	8	Attached	2024/03/11 20:21 GMT+5:30	No	-
vol-0e17760e7d9ba4b07	/dev/sdf	10	Attached	2024/03/11 20:23 GMT+5:30	No	-

Recent root volume replacement tasks

Filter tasks Replace root volume

- Connect to second instance using SSH and mount then view file

- 1: Connect to instance using SSH
- 2: List the available disks to find a new volume "lsblk"
- 3: Create directory to mount the new volume
sudo mkdir /mnt/mydrive
- 4: Mount the volume to directory > "sudo mount /dev/xvdf /mnt/mydrive"
- 5: To view the file, go to mounted directory > "cd /mnt/mydrive"

6: View the file content > “cat sample.txt”