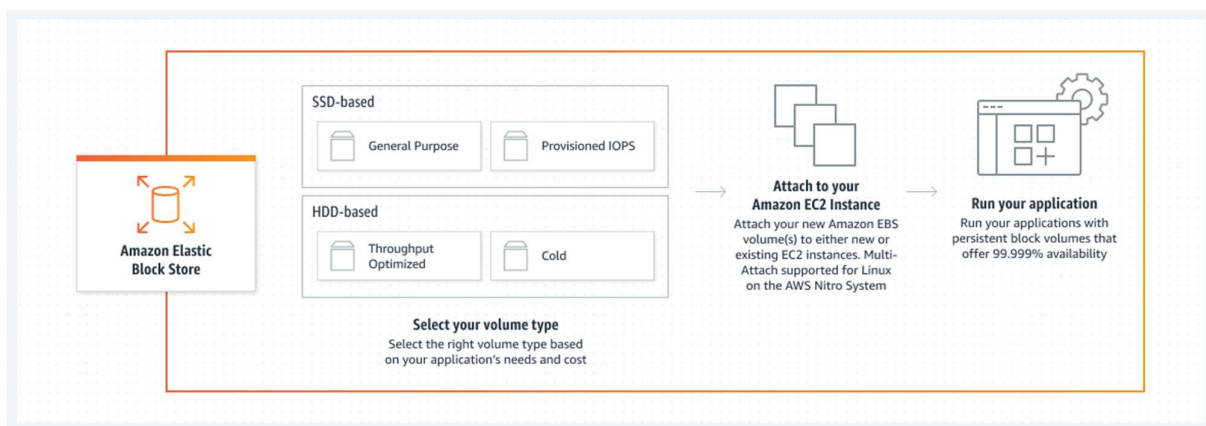


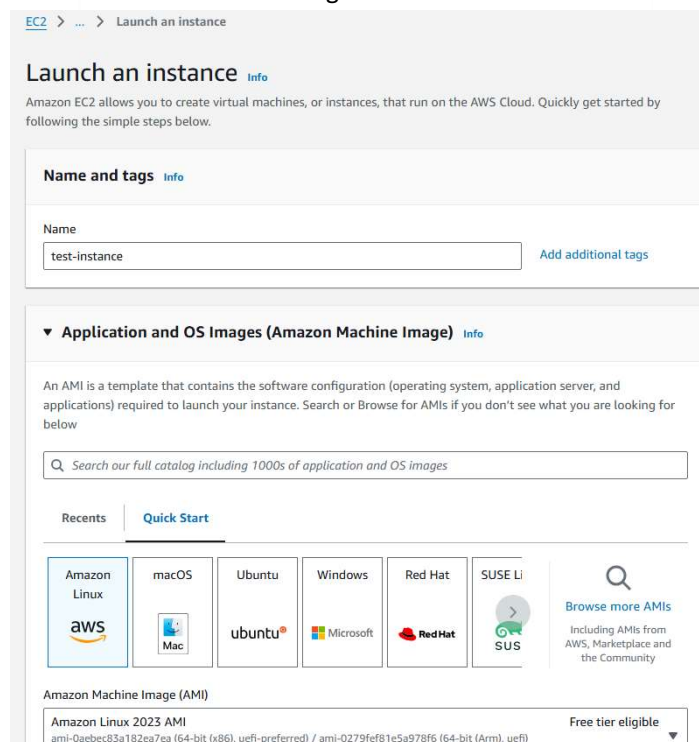
Amazon Elastic Block Store (EBS):

- Amazon Elastic Block Store (Amazon EBS) is an easy-to-use, scalable, high-performance block-storage service designed for Amazon Elastic Compute Cloud (Amazon EC2).
- It provides virtual hard drives for your cloud servers on AWS.
- You can use these virtual hard drives to store data, install software and many more.
- It is like having a storage solution which is flexible and can be easily adjusted to your needs, like adding or removing hard drives from/to a computer system.
- Root volume is the storage in EC2 where our OS gets installed. This is called as EBS.
- We can attach multiple EBS volumes to a single EC2 instance.
- EBS volumes are created under availability zones, this can be attached to the instances running under the same availability zones.



Login to AWS console and navigate to EC2 Dashboard.

Launch an EC2 instance and add a volume while creating the instance.



Edit network settings.

Choose a subnet type – ex- ap-south-1a

▼
Network settings
Info

VPC - required
Info

vpc-0ae7fd134c8d2696c
172.31.0.0/16
(default)
▼

Subnet
Info

subnet-0f4f3c2ce9c2d1f55
VPC: vpc-0ae7fd134c8d2696c
Owner: 834362069350
Availability Zone: ap-south-1a
Zone type: Availability Zone
IP addresses available: 4091
CIDR: 172.31.32.0/20
▼

Create new subnet

Auto-assign public IP
Info

Enable
▼

Additional charges apply when outside of free tier allowance

Firewall (security groups)
Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☐ Create security group
☒ Select existing security group

Common security groups
Info

Select security groups
▼

ec2-sg sg-0b0e46ba953101b16
X
VPC: vpc-0ae7fd134c8d2696c

Compare security group rules

Security groups that you add or remove here will be added to or removed from all your network interfaces.

▶ Advanced network configuration

Add new EBS volume under storage.

▼
Configure storage
Info
Advanced

1x
8
GiB
gp3
▼
Root volume (Not encrypted)

1x
3
GiB
gp3
▼
EBS volume (Not encrypted)
Remove

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage
X

Add new volume

Click refresh to view backup information
The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems
Edit

Now launch the instance.

Login to the instance and check the block storage devices by using the **list block**(lsblk) command.

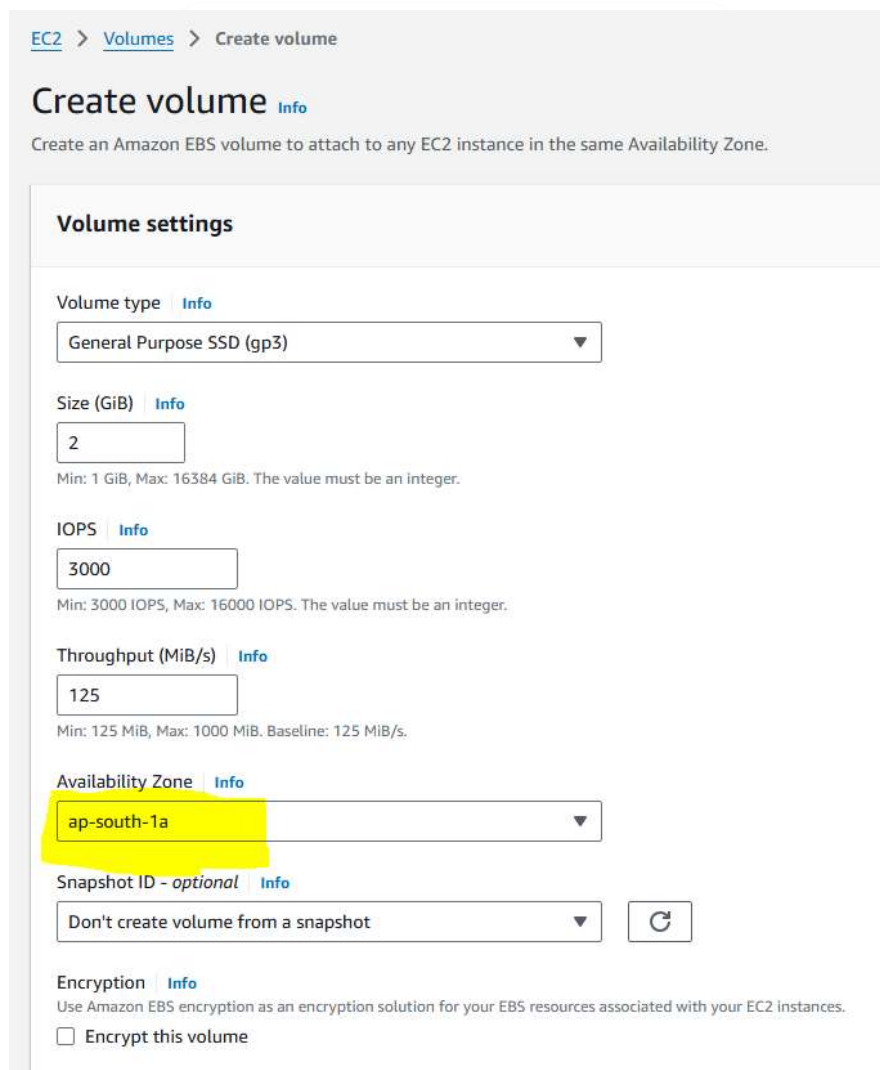
```
[ec2-user@ip-172-31-41-155 ~]$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
xvda        202:0    0   8G  0 disk
├─xvda1     202:1    0   8G  0 part /
├─xvda127   259:0    0    1M  0 part
└─xvda128   259:1    0   10M  0 part /boot/efi
xvddb       202:16   0    3G  0 disk
```

Now create a new EBS volume.

Login to AWS console and navigate to EC2 Dashboard.

Click on Volumes present under Elastic Block Store.

Click on Create Volume.



EC2 > Volumes > Create volume

Create volume [Info](#)

Create an Amazon EBS volume to attach to any EC2 instance in the same Availability Zone.

Volume settings

Volume type [Info](#)

General Purpose SSD (gp3) ▼

Size (GiB) [Info](#)

2

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

IOPS [Info](#)

3000

Min: 3000 IOPS, Max: 16000 IOPS. The value must be an integer.

Throughput (MiB/s) [Info](#)

125

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

Availability Zone [Info](#)

ap-south-1a ▼

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.

☐ Encrypt this volume

Successfully created volume vol-0b2d62ada394056e1.

Volumes (1/3) Info

Search

	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created	Availability Zone	Volume state	Alarm state
<input checked="" type="checkbox"/>	new-vol	vol-0b2d62ada394056e1	gp3	2 GiB	3000	125	-	2024/11/20 05:36 GMT+5:30	ap-south-1a	Available	No alarm
<input type="checkbox"/>	-	vol-0eec6aa8cff0fac39	gp3	8 GiB	3000	125	snap-0a84311...	2024/11/20 05:29 GMT+5:30	ap-south-1a	In-use	No alarm
<input type="checkbox"/>	-	vol-0d153b1ae22a5dd31	gp3	3 GiB	3000	125	-	2024/11/20 05:29 GMT+5:30	ap-south-1a	In-use	No alarm

Let's attach this volume with the existing EC2 instance.

Successfully created volume vol-0b2d62ada394056e1.

Volumes (1/3) Info

Search

	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created	Availability Zone	Volume state	Alarm state
<input checked="" type="checkbox"/>	new-vol	vol-0b2d62ada394056e1	gp3	2 GiB	3000	125	-	2024/11/20 05:36 GMT+5:30	ap-south-1a	Available	No alarm
<input type="checkbox"/>	-	vol-0eec6aa8cff0fac39	gp3	8 GiB	3000	125	snap-0a84311...	2024/11/20 05:29 GMT+5:30	ap-south-1a	In-use	No alarm
<input type="checkbox"/>	-	vol-0d153b1ae22a5dd31	gp3	3 GiB	3000	125	-	2024/11/20 05:29 GMT+5:30	ap-south-1a	In-use	No alarm

Actions

- 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

EC2 > Volumes > vol-0b2d62ada394056e1 > Attach volume

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-0b2d62ada394056e1 (new-vol)

Availability Zone

ap-south-1a

Instance Info

i-0f02dafb20940d043

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

Device name Info

/dev/sdf

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

i 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

<input type="checkbox"/>	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created	Availability Zone	Volume state	Alarm status
<input type="checkbox"/>	new-vol	vol-0b2d62ada394056e1	gp3	2 GiB	3000	125	-	2024/11/20 05:36 GMT+5:30	ap-south-1a	In-use	No alarm
<input type="checkbox"/>	-	vol-0eec6aa8cfff0ac39	gp3	8 GiB	3000	125	snap-0a84311...	2024/11/20 05:29 GMT+5:30	ap-south-1a	In-use	No alarm
<input type="checkbox"/>	-	vol-0d153b1ae22a5dd31	gp3	3 GiB	3000	125	-	2024/11/20 05:29 GMT+5:30	ap-south-1a	In-use	No alarm

```

NAME      MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
xvda      202:0    0   8G  0 disk
└─xvda1    202:1    0   8G  0 part /
└─xvda127 259:0    0   1M  0 part
└─xvda128 259:1    0  10M  0 part /boot/efi
xvdb      202:16   0   3G  0 disk
xvdf      202:80   0   2G  0 disk
[ec2-user@ip-172-31-41-155 ~]$

```

To unmount, we will choose the detach option, we cannot detach the root volume.

Successfully attached volume vol-0b2d62ada394056e1 to instance i-0f02dafb20940d043.

Volumes (1/3) Info

Search

<input type="checkbox"/>	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created	Availability Zone	Volume state	Alarm status
<input checked="" type="checkbox"/>	new-vol	vol-0b2d62ada394056e1	gp3	2 GiB	3000	125	-	2024/11/20 05:36 GMT+5:30	ap-south-1a	In-use	No alarm
<input type="checkbox"/>	-	vol-0eec6aa8cfff0ac39	gp3	8 GiB	3000	125	snap-0a84311...	2024/11/20 05:29 GMT+5:30	ap-south-1a	In-use	No alarm
<input type="checkbox"/>	-	vol-0d153b1ae22a5dd31	gp3	3 GiB	3000	125	-	2024/11/20 05:29 GMT+5:30	ap-south-1a	In-use	No alarm

Actions

- 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

Successfully detached volume.

Volumes (3) Info

Search

<input type="checkbox"/>	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created	Availability Zone	Volume state	Alarm status
<input type="checkbox"/>	new-vol	vol-0b2d62ada394056e1	gp3	2 GiB	3000	125	-	2024/11/20 05:36 GMT+5:30	ap-south-1a	Available	No alarm
<input type="checkbox"/>	-	vol-0eec6aa8cfff0ac39	gp3	8 GiB	3000	125	snap-0a84311...	2024/11/20 05:29 GMT+5:30	ap-south-1a	In-use	No alarm
<input type="checkbox"/>	-	vol-0d153b1ae22a5dd31	gp3	3 GiB	3000	125	-	2024/11/20 05:29 GMT+5:30	ap-south-1a	In-use	No alarm

```

[ec2-user@ip-172-31-41-155 ~]$ lsblk
NAME      MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
xvda      202:0    0   8G  0 disk
└─xvda1    202:1    0   8G  0 part /
└─xvda127 259:0    0   1M  0 part
└─xvda128 259:1    0  10M  0 part /boot/efi
xvdb      202:16   0   3G  0 disk
[ec2-user@ip-172-31-41-155 ~]$

```

If you terminate the instance, root volume attached to it will get deleted automatically, but other volumes we created will remain as it is.

Volumes (2) Info

Search

<input type="checkbox"/>	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created	Availability Zone	Volume state	Alarm status
<input type="checkbox"/>	new-vol	vol-0b2d62ada394056e1	gp3	2 GiB	3000	125	-	2024/11/20 05:36 GMT+5:30	ap-south-1a	Available	No alarms
<input type="checkbox"/>	-	vol-0d153b1ae22a5dd31	gp3	3 GiB	3000	125	-	2024/11/20 05:29 GMT+5:30	ap-south-1a	Available	No alarms