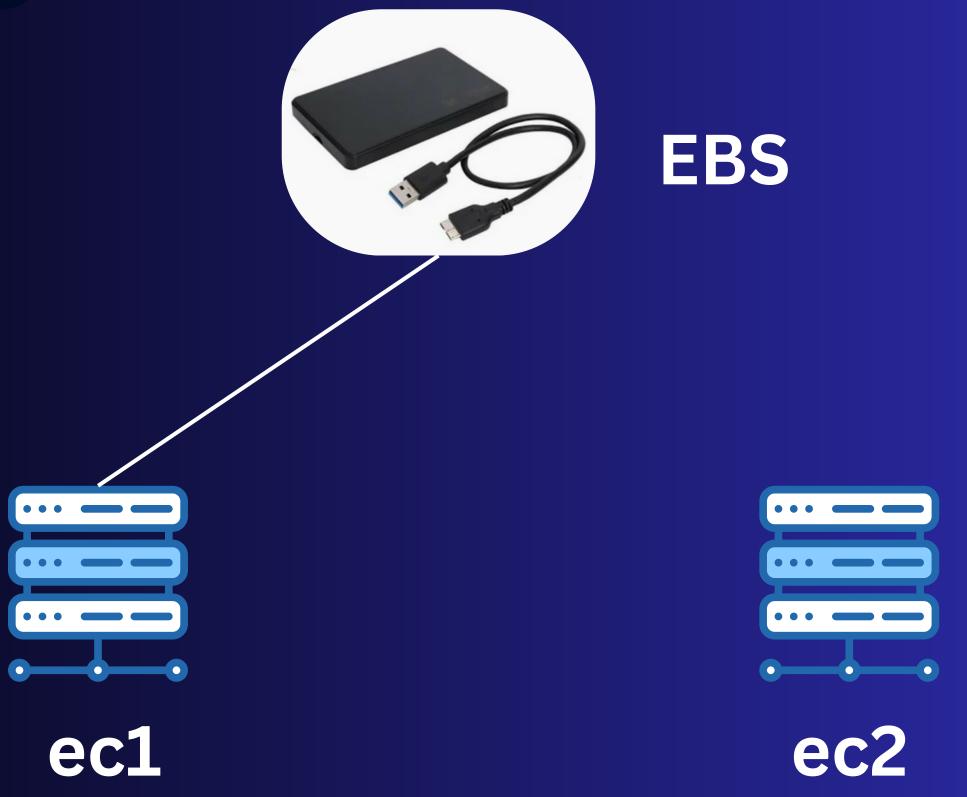aws

AWS EBS
Elastic Block Store

AWS EBS is a cloud-based storage service that provides durable, high-performance block storage for use with Amazon EC2 instances.
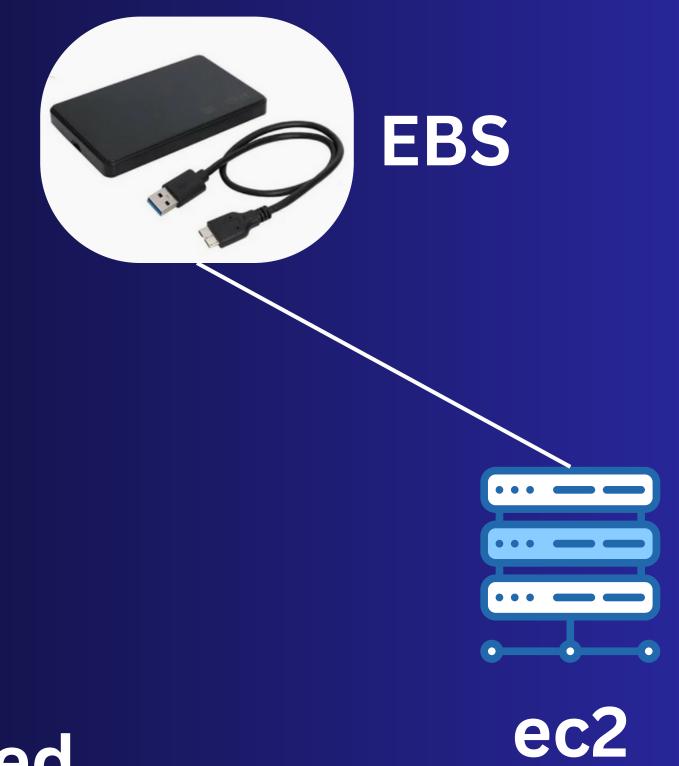
It works like a virtual hard drive, allowing you to store and access data even when your EC2 instances are stopped or terminated.
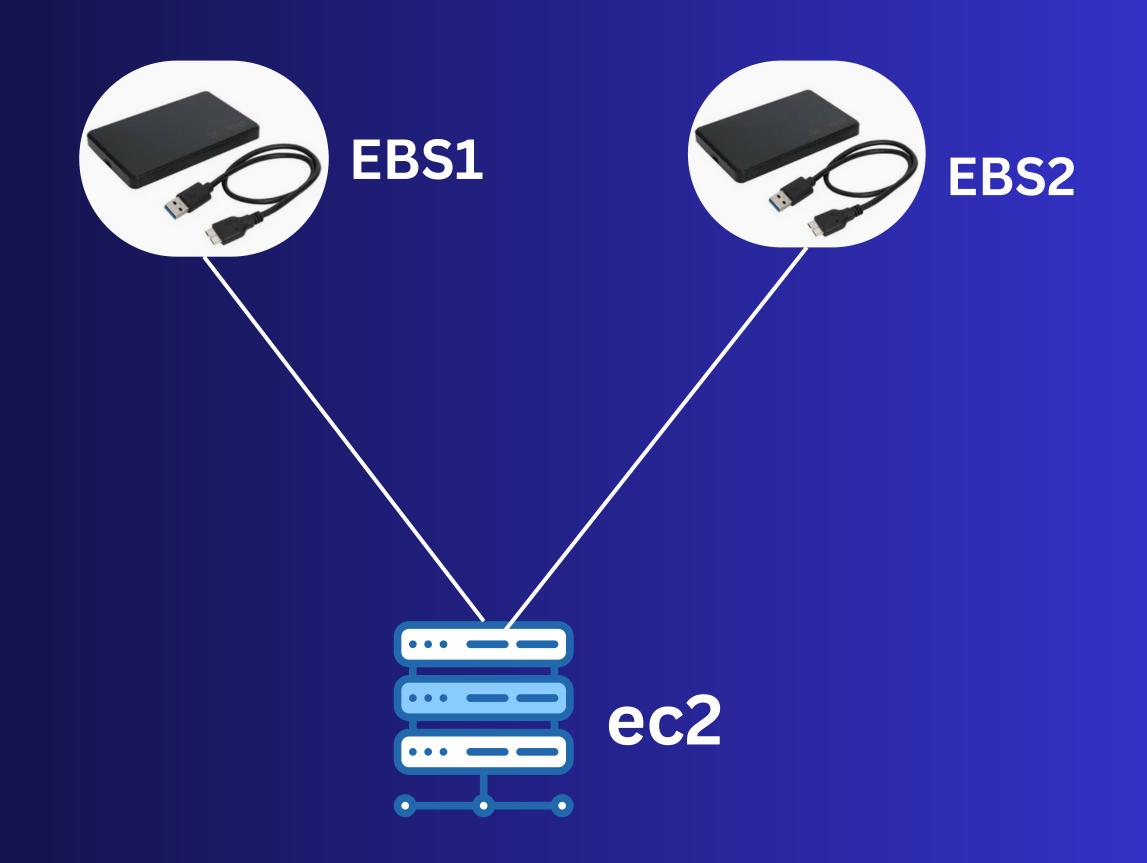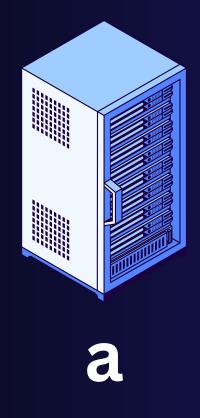
MPRASHANT

aws

EBS

ec1 terminated

ec2

aws **UseCase**

For example, if you're hosting a MySQL or PostgreSQL database, you need reliable, high-performance storage to handle frequent read/write operations.
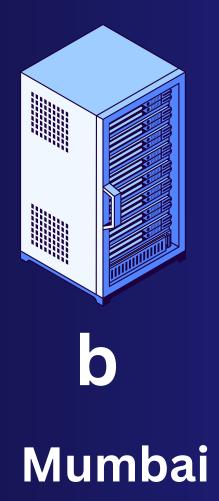
EBS provides persistent, fast storage that ensures your data is saved even if the EC2 instance is stopped or restarted, making it ideal for database workloads.
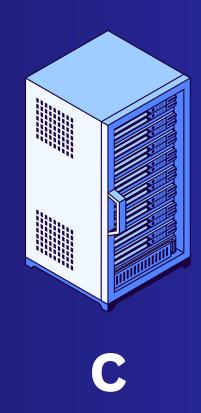
Important points about EBS

- **Region & AZ specific**
- **Build-in Redundancy**
  - **EBS volumes are automatically replicated within the same Availability Zone to prevent data loss due to hardware failures.**

- **Different Volume Types**
  - **gp2/3, io1/2, st1, sc1**
- **Allow Encryption & Snapshot for backup**

- **Scalable (Volume can be resizeable)**
  - **No data loss will occur during resizing.**
  - **No need to restart the EC2 instance during the process.**

EBS2

a

b

c

Mumbai

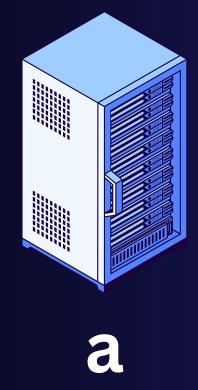# Termination on Delete

Practical
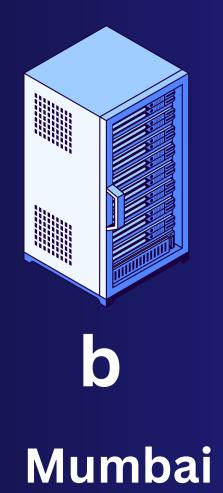
Creating EBS and Attaching to EC2 Instance
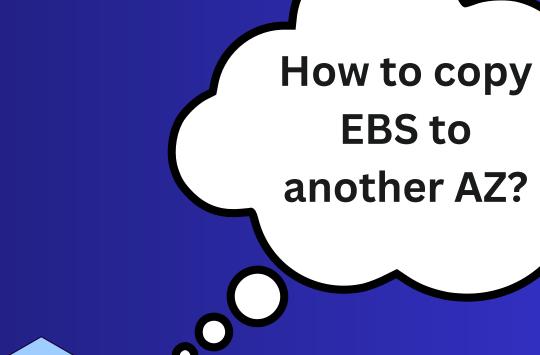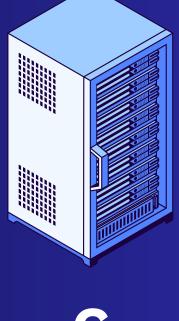
EBS Snapshot

What if we want to copy our data to
- New AZ
- New Region

snapshot

EBS1

snapshot

EBS1

EBS2

Types of EBS Volumes:

- **General Purpose** SSD (gp2, gp3): Balances price and performance.

- **Provisioned IOPS** SSD (io1, io2): Designed for I/O-intensive workloads (databases, critical applications).

- **Throughput Optimized HDD** (st1): Ideal for big data and log processing.

- **Cold HDD** (sc1): Cost-efficient for infrequent access.