# EBS

## Elastic Block Storage

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Amazon Elastic Block Store (Amazon EBS) provides block level storage volumes for use with EC2 instances. EBS volumes behave like raw, unformatted block devices. You can mount these volumes as devices on your instances.

EBS volumes that are attached to an instance are exposed as storage volumes that persist independently from the life of the instance. You can create a file system on top of these volumes, or use them in any way you would use a block device (such as a hard drive).

You can dynamically change the configuration of a volume attached to an instance.

# Mounting commands

#df -h

- #lsblk (to check all hdd detail ) for mounting
- # file -s /dev/xvdf1
- # mkfs -t ext3 /dev/sdf (to create ext3 file system)
- # file -s /dev/xvdf (to check file system again)
- #mkdir my-data (creating directory to mount volume)
- # mount /dev/xvdf /home/ec2-user/database-backup
- # umount /home/ec2-user/database-backup (to unmount ebs)

| | Provisioned IOPS SSD (io2 Block Express) | Provisioned IOPS SSD (io2) | Provisioned IOPS SSD (io1) | EBS General Purpose SSD (gp3) | EBS General Purpose SSD (gp2) | Throughput Optimized HDD (st1) | Cold HDD (sc1) |
|---|---|---|---|---|---|---|---|
| Volume size | 4 GB–64 TB | 4 GB–16 TB | 4 GB–16 TB | 1 GB–16 TB | 1 GB–16 TB | 125 GB–16 TB | 125 GB–16 TB |
| Max IOPS/volume | 256,000 | 64,000 | 64,000 | 16,000 | 16,000 | 500 | 250 |
| Max throughput/volume | 4,000 MBps | 1,000 MBps | 1,000 MBps | 1,000 MBps | 250 MBps | 500 MBps | 250 MBps |
| Price calculated by | GB per month and Provisioned IOPS per month | GB per month and Provisioned IOPS per month | GB per month and Provisioned IOPS per month | GB per month and Provisioned IOPS per month | GB per month | GB per month | GB per month |

# EBS types & Use Cases 1/2

- **1- SSD**
  - **Provisioned IOPS**
    - I/O intensive workloads
    - Relational Databases
    - NoSQL Databases
  - **General Purpose**
    - Recommended option for most workloads
    - System boot volumes
    - Virtual desktops
    - Low-latency interactive apps
    - Development and test environments

# EBS types & Use Cases 2/2

- **1- HDD**
  - **Throughput-optimized**
    - Streaming workloads that require consistent, fast throughput at a low price
    - Big data
    - Data warehouses
    - Log processing
    - Not a boot volume
  - **Cold**
    - Throughput-oriented storage for large volumes of data that are infrequently accessed
    - Scenarios where the lowest storage cost is important
    - Not a boot volume