**EBS Volume and the EC2 instance.**

EBS volume stands for Elastic Book Store volume. It is a network drive you can attach to your EC2 instance while it runs. They persist data even after your EC2 instance have been terminated.

They are bound to a specific availability zone. But can moved around with the help of a snapshot.

They can be detached from one instance to another.

Think of the EBS volume as a USB stick.

**EBS Snapshots.**

EBS snapshot can also be referred to as backups. They make snapshots of the EBS volume at any point in time.

It not necessary to detach the volume to do snapshots but it is recommended.

We can move volume between availability zone by copying snapshots.

**AMI Overview.**

AMI stands for Amazon Machine Image. This represents a customizable EC2 instance. The configuration include:

- Operating system

- CPU

- Monitoring

- User data

AMI are built for specific region, but can be transferred to other region.

**EC2 Instance Store Overview.**

Unlike the EBS which is a good network ( although it works as a hard disk, it is virtual) drive, but are limited. EC2 Instance Store is a high performance hardware disk.

The Instance store has a better I/O throughput/performance.

It is ephemeral. If the EC2 instance is stopped a user will lose all information stored in the storage.

The EC2 Instance store is suitable for caching.

Make sure you back up your data before stopping the instance.

So any time you come across a high performance EC2 Instance, have it at the back of your mind that it is running on an Instance store.

For a long performance storage, always go with the Elastic Book Store.

**EBS Volume Types.**

They are 6 types:

- General purpose SSD:

- Cost Effective storage, low latency

- System boot volumes, Virtual Desktop, Dev and Test env.

- The general purpose volume consists of the GP3 and the GP2. GP3 have more benefits and less constraints that GP2.

- Provisioned IOPS SSD

- This is mostly used for critical jobs, databases workloads.

- This kind of volume ensures low latency.

- It is sub-divided into io1/io2

- the io2 has more benefits and less constraints.

- Hard Disk Drives HDD:

- They cannot be used as boot volumes.

- The throughput optimized HDD (stl) :

- Big Data, Log processing, Data warehousing

- Cold HDD (stc) :

- Used for data that is not frequently accessed.