AWS EC2 Volumes

EC2 Volumes

EC2 Volumes

What is Volumes?
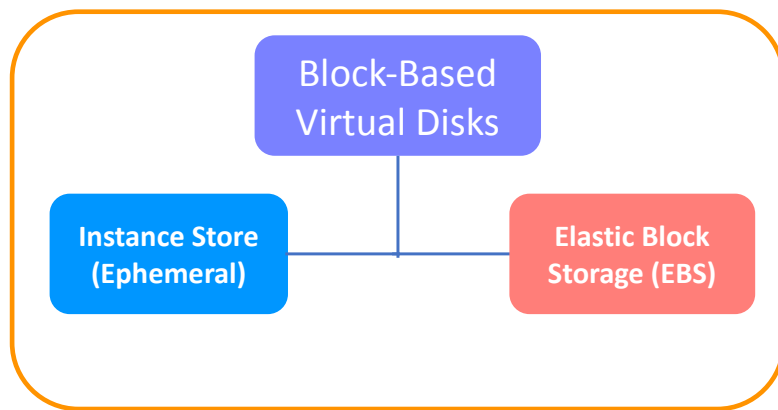
- Volumes are durable storage devices (virtual) that can be attached to EC2 instances.

- They are location in which the associated machine stores its data or loads its applications.

- There are two volume types in the block storage category. These are Instance Stores (Ephemeral) and Elastic Block Storage (EBS).

EC2 Volumes

Instance Store and Elastic Block Storage
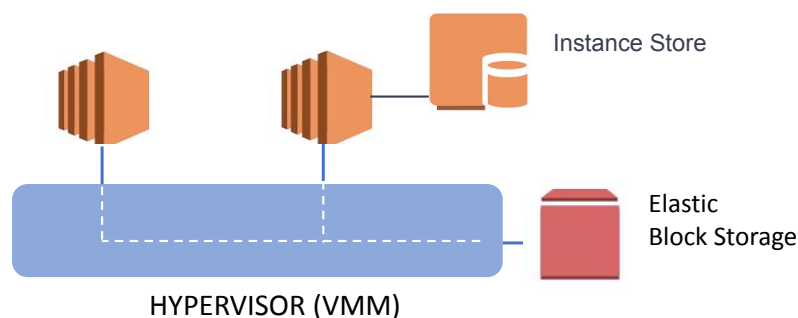
- The storage connected directly to the hypervisor and accessible to each machine associated with the hypervisor is called the Instance Store.

- Instance Storage can be connected to only one instance. And is the closest storage device to your instance.

EC2 Volumes

Instance Store (Ephemeral) vs. Elastic Block Storage (EBS).

EC2 INSTANCE STORE

- Hardware attach
- Non-persistent data storage/ Terminated if you
  stop the instance
- Snapshots are not available
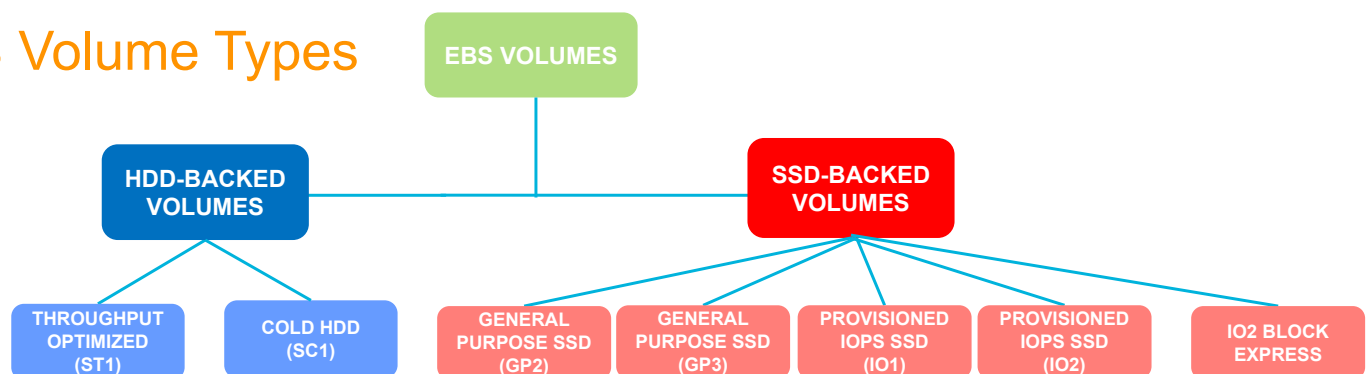- Used for Buffers, Cache, Temporary data
- No separate cost for storage

ELASTIC BLOCK STORAGE

- Network attached storage
- Persistent data storage
- Snapshots are available
- Separate cost for EBS even EC2 is stopped

EC2 Volumes

EBS Volume Types

EBS VOLUMES

HDD-BACKED VOLUMES

SSD-BACKED VOLUMES

- **THROUGHPUT OPTIMIZED (ST1)**
- **COLD HDD (SC1)**
- **GENERAL PURPOSE SSD (GP2)**
- **GENERAL PURPOSE SSD (GP3)**
- **PROVISIONED IOPS SSD (IO1)**
- **PROVISIONED IOPS SSD (IO2)**
- **IO2 BLOCK EXPRESS**

- There are 6 types of volumes in 2 categories for the different use cases.

- HDD-backed volumes are used for large streaming workloads where throughput is a better performance measure than IOPS.

- SSD-backed volumes are used for frequent read/write operations where the dominant performance attribute is IOPS.

EC2 Volumes

Let's get our hands dirty!

- Managing EBS Volumes on Console and Terminal

  - attaching
  - detaching
  - mounting
  - partition
  - resizing (single-partition)

THANKS!

Any questions?