



# AWS EC2 Volumes



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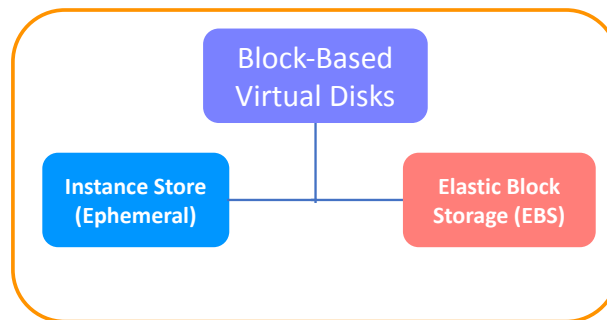
# EC2 Volumes

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# EC2 Volumes

## What is Volumes?

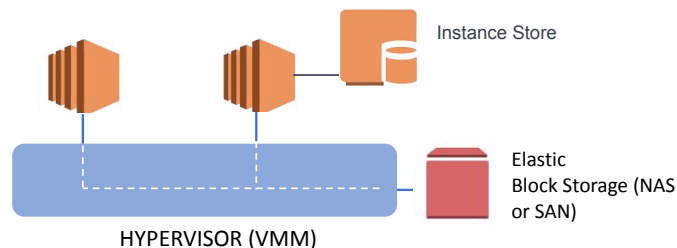


- Volumes are durable **storage devices (virtual)** that can be attached to EC2 instances.
- They are location in which the associated machine **stores its data or loads its applications**.
- There are two volume types in the block storage category. These are **Instance Stores (Ephemeral)** and **Elastic 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

- **Instance** attached
- **Non-persistent** data storage
  - (i.e. Terminated if you stop the instance )
- Snapshots are **not available**
- Used for Buffers, Cache, Temporary data
- No separate cost for storage



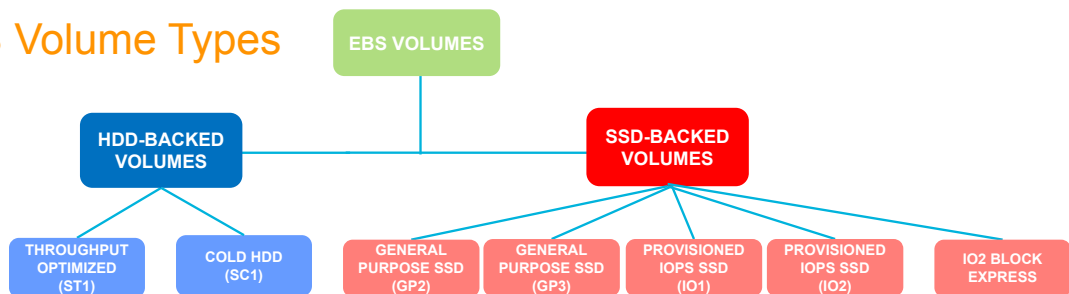
### ELASTIC BLOCK STORAGE

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



# EC2 Volumes

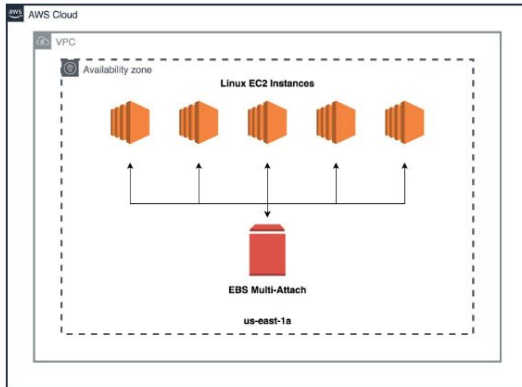
## EBS Volume Types



- 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.



## EBS Multi-Attach



- Introduced Dec, 2020
- Attach single EBS to multiple EC2
  - each instance has r/w ability
- Requirements:
  - must be “nitro” backed instances
  - io1, io2 volumes only
  - instances in same AZ
  - supported file system required
  - ... many more ...



## EC2 Volumes

Let's get our hands dirty!

- Managing EBS Volumes on Console and Terminal
  - attaching
  - detaching
  - mounting
  - partition
  - resizing (single-partition)



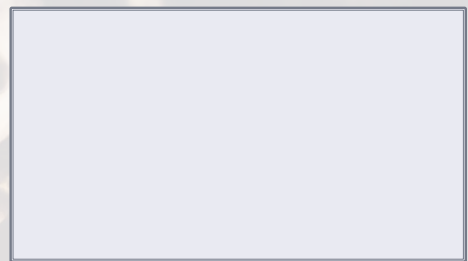
# THANKS!

## Any questions?



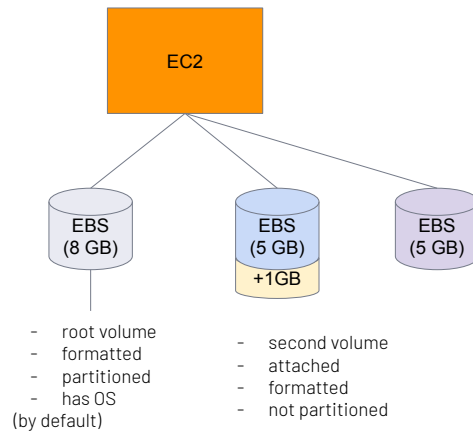
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9



**Break**  
return @ 11am





```
/
/dev
    /xvda
    /xvdf
/mnt
    /mnt1/ -> /xvdf
    /mnt/hello.txt
```



Break  
return @ 12pm