

AWS Certified Cloud Practitioner
Training Bootcamp

Elastic Block Store (EBS) Basics 101

Elastic Block Store (EBS) Basics

- Amazon Elastic Block Store (EBS) provides block level storage volumes for use with EC2 instances
- EBS volumes are highly available and reliable storage volumes that can be attached to any running instance that is in the same AZ
- EBS volumes that are attached to an EC2 instance are exposed as storage volumes that persist independently from the life of the instance



Amazon EBS

Amazon EBS Volume Types

- Amazon EBS provides two volume types, which differ in performance characteristics and price
 - SSD volumes – high IOPS
 - HDD volumes – throughput over IOPS
- SSD volumes come in two flavors:
 - General Purpose SSD (gp2)
 - Balance between price & performance
 - Provisioned IOPS SSD (io1)
 - Highest performance SSD volume



Amazon EBS

Amazon EBS Volume Types

- HDD volumes also come in two flavors:
 - Throughput optimized HDD (st1)
 - Low-cost HDD volume designed for frequently accessed, throughput-intensive workloads
 - Cold HDD (sc1)
 - Lowest cost HDD volume designed for less frequently accessed workloads



Amazon EBS

Amazon EBS Encryption

- For security reasons, data stored on EBS volumes may need to be encrypted; you can launch your EBS volumes as encrypted volumes
- If you choose to create an encrypted EBS volume and attach it to your EC2, data stored and snapshots are encrypted ("at rest")
- With data encrypted on your EBS volumes, you also ensure security for data "in-transit"



Amazon EBS

Amazon EBS Snapshots

- You can take point-in-time snapshots of data on your Amazon EBS volumes and store them in AWS S3
- Snapshots are incremental backups, which means that only data on the volume that has changed after your last snapshot is saved
- Each snapshot contains all of the information needed to restore your data to a new EBS volume



Amazon EBS

Amazon EBS Pricing

- Amazon EBS pricing depends on the following:
- Volumes
 - Total storage of all EBS volumes, charged as GB/month
- Snapshots
 - Total snapshot storage consumed in AWS S3
 - EBS snapshot copying between regions is charged
- Data Transfer – inbound is free, outbound is charged

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Thank you