#EBS – Elastic Block Store

EBS Volume is a network drive you can attach to your instances while they run

They can only be mounted to one instance at a time

Bound to a specific availability zone

Like a “network USB stick”

1. It’s a network drive
2. Locked to an availability zone
3. Have a provisioned capacity

\*EBS – Delete on Termination attribute

By default, the root EBS volume is deleted.

By default, any other attached EBS volume is not deleted

This can be controlled by AWS console/ AWS CLI

USE CASE: preserve root volume when instance is terminated, to save some data, you can disable delete on termination for the root volume.

#EBS Snapshots:backup

#AMI

Amazon Machine Image: are a customization of an EC2 instance / built for a specific region

#EC2 Instance Store

EBS network drives

EC2 need a high- performance hardware disk, use EC2 Instance Store

EC2 Instance Store lose their storage if they’re stopped

Good for buffer / cache / scratch data / temporary content

Risk of data loss if hardware fails

#EBS Volume types：

1. \*gp2 / gp3

General Purpose SSD

Cost effective storage, low latency

only gp2 / gp3 and io1 / io2 can be used as boot volumes

gp3 can independent set up IOPs and for gp2, they are linked together

1. io1 / io2

IO2 has more durability and more IOPS per GiB

1. st1(HDD)
2. sc1(HDD)Hard Disk Drives

Provisioned IOPS(PIOPS)SSD

#EBS Multi-Attach –only if io 1 /io 2 family

Attach the same EBS volume to multiple EC2 instance in the same AZ

Use case:

Achieve higher application availability

#EBS Encryption

Leverages keys from KMS (AES-256)

How to encrypt an unencrypted EBS volume?

#EBS RAID Options

RAID 0 – increase performance

RAID 1 – increase fault tolerance

RAID 5(not recommended)

RAID 6 (not recommended)

#EFS – Elastic File System

Managed NFS (network file system) that can be mounted on many EC@

Highly available, scalable, expensive, pay per use

\*!Compatible with Linux based AMI ( not Windows)

#EFS –performance &storage Classes

Performance mode(set at EFS creation time)

1. General purpose: latency-sensitive (web server, CMS)
2. Max I/O – high latency, throughput, highly parallel(big data, processing)

Throughput mode:

If have small size file, need very high throughput, need move into provision throughput mode for EFS.

Storage Tiers:

Standard : for frequently accessed files

Infrequent access: cost to retrieve files, lower price to stores

!!#EBS vs EFS