EBS [ELASTIC BLOCK STORE]

* It is a block level storage volumes to use with ec2 instances. EBS volumes can use like any other block volumes like creating file systems, make a snapshot from them, hosting os and applications.
* You can connect multiple ebs volumes to an instance. You can’t connect one ebs to multiple instances.
* You can attach volume to instances which are in same AZ.
* By default every instance has a root volume, you can store data in it but it will delete when the instance is terminated. For this purpose we recommend to use EBS.
* You can increase size of EBS anytime. You can encrypt the volume.
* You can create partitions in ebs volumes. But, you can't create partitions in root volume.
* To create a vol.

**Go to EBS.**

**Click create volume. Chose volume type.**

**Choose encryption (if you want).**

**choose (or) create a cmk key (only if you encrypt).**

**Select size, az & create.**

* To delete a vol.

**Go to EBS. Select your vol. Click Actions. Choose delete.**

* To attach a volume to instance,

**Select your vol.**

**Click actions.**

**Choose actions.**

**Click attach.**

**Select your instance and save.**

* Even after attaching volume to ec2 you can’t use it because you didn’t mounted it. Format it with a file system. Create a directory and mount it .
* To format = **mkfs.ext4 /dev/sda2**. Create a dir And mount = mount /dev/sda2 dirname.
* Make an entry of this volume in /etc/fstab for permanent mount.
* Go to **/etc/fstab** = **UUID mountpoint filesystem defaults 0 0**. And type **mount –a** to know whether it is mounted or not.
* After mounting you can use it like any other volumes in the machine.

MODIFY A VOLUME

* If you want to modify a volume like increasing the size, changing the volume type. You can do these by this method.
* Go to EBS,

**Select your volume.**

**Click Actions.**

**Select modify the volume.**

**Choose the modifications you want to make (size, type). Choose modify and click Yes.**

* After you attach an modified instance, it won’t show the updates. You have to update the volume with **resize2fs /dev/sda(name of disk)**.
* Search the disk size with df -h . Now it will show you the updated size.
* If you want to modify a normal volume, detach it from the instance and modify it. If you wanted to modify a boot(root) volume, stop the instance, detach the volume, modify it and attach it. Now start the instances.
* By default you can increase the size of volume, but you can’t decrease the size .
* If you have created partitions inside volume. After you modify the size of volume, it update only the size of the volume, not the size of partitions.

EBS SNAPSHOTS

* You can create a snapshots with existing volumes. It will have exact same data up to that particular time when we created snapshot.
* You can share snapshots to other aws accounts by giving them permissions. You can make copies of your own snapshots and share them.
* If you want to create a snapshot for normal volume, unmount it and create.
* If you want to create snapshot for root volume, stop the instance and create .
* To create a snapshot,

**Go to Snapshots.**

**Click Create snapshots.**

**Select your volume to create snapshot.**

**Click Save.**

* To delete a snapshot,

**Go to snapshots.**

**Select your snapshot.**

**Click delete.**

* To Copy a snapshot,

**Go to snapshots.**

**Select your snapshot.**

**Click copy.**

**Choose destination region.**

**Description.**

**Choose Copy.**

SHARING A SNAPSHOT

* You can share a snapshot to other aws users by modifying permissions of snapshot.
* When you share a encrypted snapshot for others, you also have to share the custom cmk key to use it. You have to use custom cmk key to share a snapshot. If you create a snapshot using default cmk key, you can’t share the snapshot.
* To share a snapshot,

**Go to snapshots.**

**Select snapshot.**

**Click Actions.**

**Select Modify Permissions.**

**To make public,**

**Change permissions to public.**

**For private,**

**Choose private and enter aws id, give permissions(r,w).**

**Click Save.**