**EFS (ELASTIC FILE SYSTEM):**

* Efs provide simple, scalable file storage to use with Amazon ec2. Efs storage will be growing and shrinking automatically as you remove and add files.
* Efs supports nfs v4 and v4.1 protocol. So, the applications you use today can with with efs seamlessly. Multiple ec2 instances can access efs at same time.
* With efs, you pay only for the storage you use. You don’t need to provision storage in advance.
* Amazon efs allows you to access file systems with POSIX(portable os interface) permissions.
* You have to create file system and mount it to ec2 to read and write to and from file systems.
* Instances an mount to ec2 only within the AZ’s of same region and within one VPC.
* It will create mount targets in all those selected AZ’s.

**CREATION OF EFS:**

* By default, efs only allowed in some regions.

**N.Virginia**

**N.california**

**Ohio**

**Oregon**

**Sydney**

**Frankfurt**

**Ireland**

* You can create efs file systems only in these regions.
* To create an efs file system.

**Go to EFS.**

**Click Create File System.**

**Select VPC.**

**Select AZ’s in that specific region.**

**Give a name to efs (key = efsdemo).**

**Choose performance mode.**

* **General** = select this mode for most of the file systems.
* **Max I/O** = select this mode if you have thousands of instances accessing the file system.

**Click Create file system.**

* As you can see in the console, it will create mount targets in all the selected AZ’s in that region.
* Once the mount target state are available, you will get an domain name to efs. With that you have to mount in ec2 instances.

**MOUNT EFS:**

**Login to ec2 instance.**

**On ec2 actions, select networking.**

**Click change SG.**

**Select your default SG along with the other SG.**

**Go to efs, copy the efs domain name.**

**Go to ec2 instance, create an empty dir and mount the efs.**

**mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2 fs-7e07cc36.efs.us-east-1.amazonaws.com:/ /mnt-point**

* check it whether it mounted (or) not with **df –h** command.
* **Rsize & wsize** = size of that data chunk that each rpc takes while reading and writing.
* **Hard =** Used for hard mounting**.**
* **Timeo =** 600 (min = 150desisec ) (150desisec=15 sec).
* **Retrans** = how many times an client tries to contact nfs server.
* You can also mount efs with ip address. Each AZ has different ip address, if you want to mount efs only in specific AZ, you can mount it with ipaddress of that AZ.
* **mount -t nfs -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2 mount-target-IP:/ /efs-mount-point**

**MONITORING:**

* You can monitor efs with
* Cloudwatch & Alarms.
* Cloud watch Logs.
* Cloudwatch Events.
* Cloud trail.
* You can also see how many clients connected to a efs file system.
* You can create alarms for specific efs metrics to get notifications.
* By default, cloud trail logs all the API calls. You can analyze those log entries.