# Elastic File System(EFS)

# What is EFS ?

- Amazon Elastic File System (EFS) is a **file storage service** for Amazon EC2 instances.

- EFS is easy to use and provides a simple interface that allows you to create and configure file systems quickly and easily.

- With Amazon EFS storage capacity is elastic, growing and shrinking automatically  as you add and remove files.

- So your applications have the storage they need, when they need it.

# EFS

- Managed NFS(network file system) that can be mounted on many EC2.
- EFS works with EC2 instances in multi-AZ
- Uses NFSV4.1 protocol.
- Only for Linux
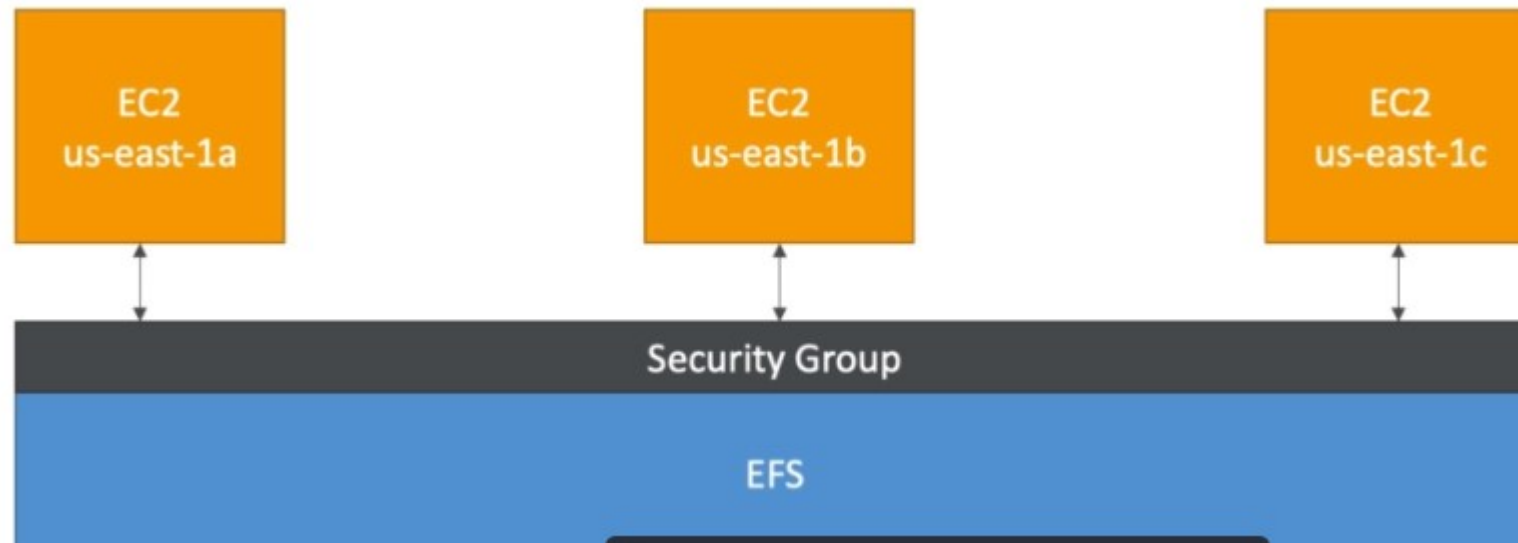
# Features

- **Simple** – Easy to setup
- **Scalable** – Scale up or down in terms of infrastructure
- **Elastic** – grow and shrink automatically as you add and remove files
- **Managed** – Managed by AWS
- **Less Complex** – deploying, patching, and maintaining complex file system deployments by AWS
- At a same time one or more than one Amazon EC2 instances can access an Amazon EFS file system.

# EFS Storage Classes

Amazon EFS file systems have two storage classes available:

- **Infrequent Access** – The Infrequent Access (IA) storage class is a lower-cost storage class that's designed for storing long-lived, infrequently accessed files cost-effectively.

- **Standard** – The Standard storage class is used to store frequently accessed files.

# EFS Throughput Mode

**There are 2 throughput modes on EFS**

- **Bursting**

- **Provisioned**

It is recommend **Bursting** throughput mode for most file systems.

Use **Provisioned** throughput mode for applications that require more throughput than allowed by **Bursting** throughput.

# EFS Performance Mode

**There are 2 Performance modes on EFS**

- **General Purpose**

- **Max I/O**

It is recommend **General Purpose** performance mode for most file systems.

**Max I/O** performance mode is optimized for applications where tens, hundreds, or thousands of EC2 instances are accessing the file system

# Encryption on EFS

**Enable Encryption**

If you enable encryption for your file system, all data on your file system will be encrypted at rest

# Exam Tips

- Number of file systems for each customer account in an AWS Region – 1000

- Up to 128 active user accounts for each client can have files open at the same time

- Up to 32,768 files open at the same time on the instance

# Exam Tips

- Supports the Network File System Version 4 (NFSv4) protocol.
- You only have to pay for the storage you use(No pre provisioning is required.)
- Can scale up to petabytes.
- Can support thousands of concurrent NFS connections
- Data is stored across multiple AZ's within a region
- Read After Write Consistency.

# Commands

- yum install nfs-utils

- Mkdir efs

-  mount -t nfs4 **fs-5f0fe18e.efs.ap-south-1.amazonaws.com**:/ efs/

- Cd efs

- Edit SG for NFS inbound rule