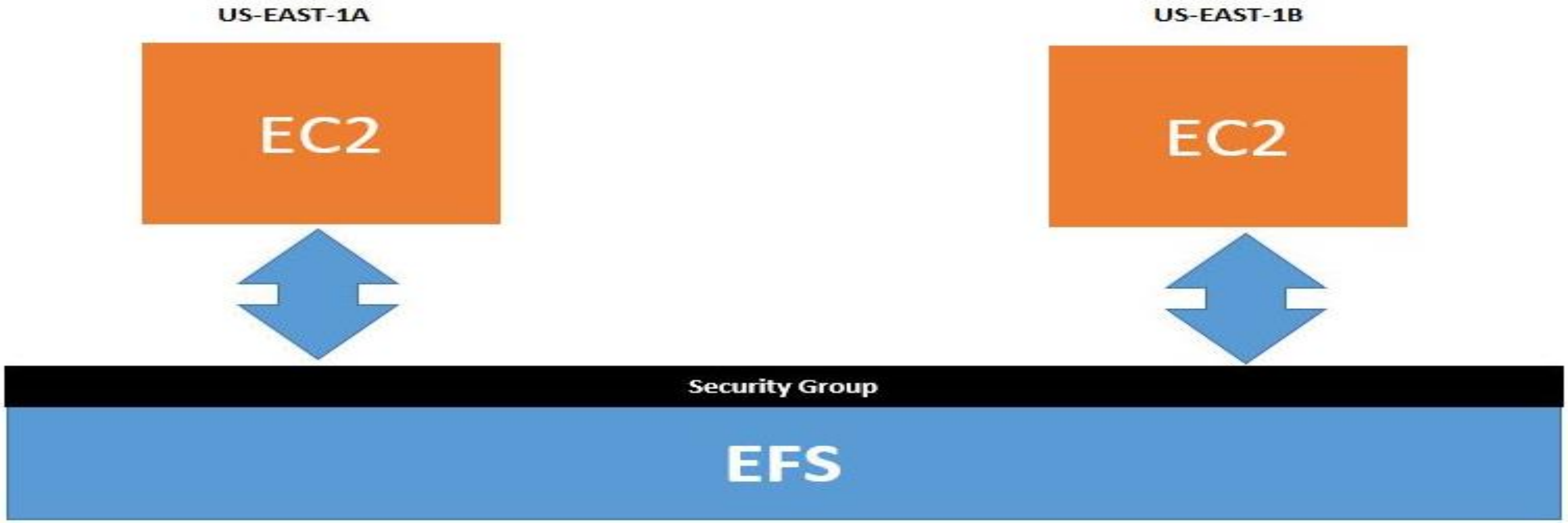
Amazon Web Services

Elastic File System

Elastic File System

- Elastic File System is simple, scalable and elastic file storage system for our EC2 instances. An EFS is a Network File System (NFS) that organizes data in a logical file hierarchy. Data is stored in a path-based system, where data files are organized in folders and sub-folders. Compatible with only Linux Based EC2 Machine



Elastic File System - Features

- EFS Works with EC2 Instances in multi availability Zone
- Storage capacity (and cost) is automatically scaled up or down as we add or remove files.
- Like most AWS services, we pay only for what we use.
- Highly Available, scalable, Expensive
- The cost of storage is based on the average monthly storage space used, at a rate of $0.30/GB-month (about twice the charge for a standard EBS volume).
- Uses Security group to control Access to EFS
- Amazon EFS supports one to thousands of Amazon EC2 instances connecting to a file system.
- We can create up to 1,000 file systems per region.

Elastic File System - Performance Modes

- General Purpose
- Max I/O

- **General Purpose**: General Purpose performance mode is appropriate for most file systems, and is the mode selected by default when you create a file system. Use Cases: Web Servers

- **Max I/O**: Max I/O performance mode is optimized for applications where tens, hundreds, or thousands of EC2 instances are accessing the file system — it scales to higher levels of aggregate throughput and operations per second with a tradeoff of slightly higher latencies for file operations. Use Cases: Big data, Media processing

Elastic File System - Throughput Mode

- Bursting
- Provisioned

- **Bursting:** Allows 100MBPS of burst speed per TB of storage.

- **Provisioned**: Users can decide the max burst speed of the EFS but are charged more when speeds go beyond the default limit.

Elastic File System - Storage Tiers

- Standard
- Infrequent access

- **Standard**: for frequently accessed file

- **Infrequent access**: Cost to retrieve files, lower price to store

Elastic File System

- Go to Elastic File System

- Click on Create file system

- Enter the name

- Click on Create.

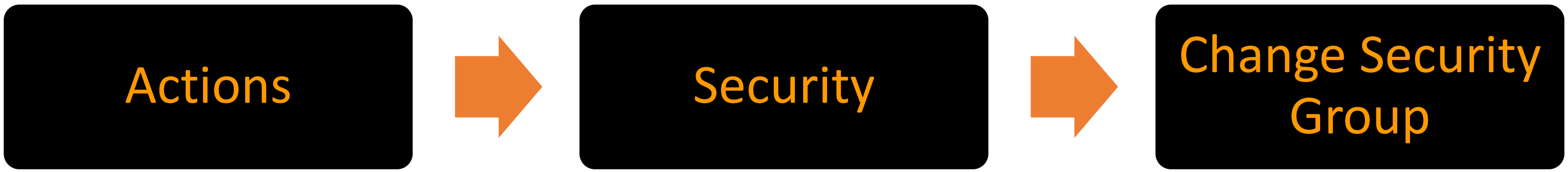
- System will automatically take default settings

Elastic File System

- Create First Linux EC2 Machine
- Select the Subnet
- Create new security group
- Launch the Instance
- Create Second Linux EC2 Machine
- Select the Subnet (Make Sure we will select the different from the first machine)

Elastic File System

- Select the existing security group (Same as First Machine)
- Launch the Instance
- Attach the default Security group with both the Instance
- Select the machine


Actions → Security → Change Security Group

Elastic File System

- Connect first EC2 machine

- Switch user

```
sudo su -
```

- Install EFS Utils

```
sudo yum install -y amazon-efs-utils
```

- Create efs directory

```
mkdir efs
```

Elastic File System

- Go to Our EFS

- Click on Attach

- Copy our NFS Command & Run in the First Machine

- Switch to EFS folder

```
cd efs
```

- Create files

```
touch file1 file2 file3
```

Elastic File System

- Connect Second EC2 Machine

- Switch user

```
sudo su -
```

- Install EFS Utils

```
sudo yum install -y amazon-efs-utils
```

- Create efs directory

```
mkdir efs
```

Elastic File System

- Run the NFS Command in Second Machine

- Switch to EFS folder

```
cd efs
```

- Create files

```
touch file4 file5
```

Now Check both the instance using ls command

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