# Scenarios

## Scenario 01

* Purpose
  + Attaching a new volume and associating it with an EC2 instance
* Steps
  + Launch EC2 [EC2-1]
    - AMI - Amazon Linux 2
    - Key Pair
      * Create a new KeyPair
    - Network Settings
      * Subnet
        + Choose AZ as “us-east-1a”
      * Create a Security Group with the settings
        + Inbound Rules

SSH / 22

* + - Storage
      * Default Settings
  + Create EBS Volume
    - Go to Elastic Block Store -> Volume
    - Create new Volume
      * Type - GP2
      * Size - 12 GB
      * AZ - “us-east-1a”
  + Associate the volume to EC2
    - Right click on newly created volume and click “Attach Volume”
    - Choose the instance and “Attach Volume”

## Scenario 02

* Purpose
  + Making use of the new volume
* Steps
  + SSH to the EC2 instance [EC2-1]
  + Issue the below command to list down the attached storage. There will be 2
    - “Lsblk”
  + For the new volume, know the existing file system
    - “sudo file -s /dev/xvdf”
      * The outcome will be shown as “Data”, that means that file system is yet to created / formatted
  + Issue the below command to create the file system
    - “sudo mkfs -t ext4 /dev/xvdf”
  + Once again, issue the below command to verify
    - “sudo file -s /dev/xvdf”
      * This time, it wont show the outcome as “Data” since there is a filesystem created
  + Create a folder that will be used for mountpoint
    - “sudo mkdir /disk2”
  + Mount the volume to the newly created folder
    - “sudo mount /dev/xvdf /disk2”
  + Create sample data in the volume
    - cd /disk2
    - Sudo vi hello.txt
      * Add contents to hello.txt

## Scenario 03

* Purpose
  + Re-attaching the volume do a difference instance
* Steps
  + Detach the Volume
    - First, unmount the volume using the below command
      * cd /
      * “sudo umount /dev/xvdf”
    - Next, detach the volume from the console
      * Right click on the volume and do a Detach Volume
    - This operation will detach the volume from the EC2
  + Create another EC2 instance [EC2-2]
    - AMI - Amazon Linux 2
    - Key Pair
      * Create a new KeyPair
    - Network Settings
      * Subnet
        + Choose AZ as “us-east-1a”
      * Create a Security Group with the settings
        + Inbound Rules

SSH / 22

* + - Storage
      * Default Settings
  + Attach the instance to the [EC2-2]
    - Right click on the volume click Attach Volume
    - Choose EC-2 and attach the volume
  + Restore the volume in EC2
    - SSH to the EC2 instance
    - Issue the below command to list down the attached storage. There will be 2
      * “Lsblk”
    - For the new volume, know the existing file system
      * “sudo file -s /dev/xvdf”
        + The outcome won't be shown as “Data”, since there is a filesystem created
  + Create a folder that will be used for mountpoint
    - “sudo mkdir /disk2”
  + Mount the volume to the newly created folder
    - “sudo mount /dev/xvdf /disk2”
  + Create sample data in the volume
    - cd /disk2
    - Do a “ls” to see that the file “hello.txt” is present

## Scenario 04

* Purpose
  + Demonstrate Elastic File System (EFS)
* Steps
  + Create a Security Group
    - Name - “efs-sg”
    - Inbound
      * Allow all Traffic
    - Outbound
      * Allow All Traffic
  + Go to Elastic File and click ‘Create File System’
    - Choose Customize
    - Page 1
      * Storage Class
        + Standard (Regional)
      * Automatic Backups
        + Disable
      * Lifecycle Management
        + Rule

If the objects are not accessed for 30 days, move to “Infrequent Access” (IA)

Move them out from IA upon first access

* + - * Performance Settings
        + Throughput Mode

Select Bursting

* + - * + Additional Settings

Performance

Choose “General Purpose”

* + - * Enable Encryption for data at rest
    - Page 2
      * VPC
        + Default VPC
      * Mount Targets
        + In total, there will be 6 mount targets, one for each AZ
        + For each of the mount targets,

Remove the existing security group

Add the security group that was created “efs-sg”

* + - Page 3
      * Accept the default and move on
  + Create EC2 Instance in AZ “us-east-1a”
    - AMI - Amazon Linux 2
    - Key Pair
      * Create a new KeyPair
    - Network Settings
      * Subnet
        + Choose AZ as “us-east-1a”
      * Create a Security Group with the settings
        + Inbound Rules

Allow All Traffic

* + - * + Outbound Rules

Allow All Traffic

* + - Storage
      * Click Advanced and under File System click ‘Show Details’
      * Choose “EFS” and click “Add Shared File System”
      * Make sure that the following is checked
        + Automatic creation of security
        + Automatic creation of user data scripts to mount the shared file system
  + Create another EC2 Instance in AZ “us-east-1b”
    - AMI - Amazon Linux 2
    - Key Pair
      * Create a new KeyPair
    - Network Settings
      * Subnet
        + Choose AZ as “us-east-1b”
      * Create a Security Group with the settings
        + Inbound Rules

Allow All Traffic

* + - * + Outbound Rules

Allow All Traffic

* + - Storage
      * Click Advanced and under File System click ‘Show Details’
      * Choose “EFS” and click “Add Shared File System”
      * Make sure that the following is checked
        + Automatic creation of security
        + Automatic creation of user data scripts to mount the shared file system
  + Login to EC2-Instance in “us-east-1a”
    - Do a “sudo su”
    - cd to “/mnt/efs/fs1”
    - echo “hello” > /mnt/efs/fs1/hello.txt
    - cat /mnt/efs/fs1/hello.txt
  + Login to EC2-Instance in “us-east-1b”
    - Do a “sudo su”
    - cd to “/mnt/efs/fs1”
    - Do a “ls” to see that the file hello.txt is present