Mini-project: Data Storage Dilemma

1- Create an EBS Volume and attach it to an EC2 instance
   a- Create the EBS Volume itself by clicking on the button Volume under EC2 – Elastic Block Store
      Images: 1 and 2
   b- Create the instance to which we want to attached the volume created
      Images: 3 - 5
      NB: The EBS volume must be in the same AZ with the EC2 Instance

   c- Attach the volume using the actions button the choose the right instance

      Images: 6

   d- Volume mounted ok
      Images: 8

2- Format and mount the volume to the instance
   a- Let's connect to the instance first
      Images: 10

   b- List the disk available on the instance with the command lsblk
      Images: 11
   c- Format using the mkfs command
      Image 12

You can verify the table of the volume using the cpmmand : df -m --print-type

3- Create a simple file on the new volume mounted

   Image: 15

4- Ensure the data is persisted even if the instance is stopped and started

   a- To do so let's edit the fstab file to auto mount the drive automatically at startup
      Images: 16

   b- And let's restart and see
      Images: 18

5- Create an EFS file system

   Images: 20-23

6- Mount the file system on multiple instances

   a- Creation of two instances to mount the efs into them
   Images:27

   b- Attaching to the first instance

When clicked on the button attach after choosing the EFS volume you see the command to use: Image 24

We then connect to the instance using the ec2 Instance connect

Images: 29

Installation of nfs-utils

Use the command like : sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2,noresvport fs-068888432e4913482.efs.us-west-1.amazonaws.com:/ ~/efs-mount-point2 – after creating the mounting folder ~/efs-mount-point2

NB: Need to allow enter the NFS traffic in the security group and this mounting is not yet permanent across reboot

Do it permanently we need to edit the fstab like done for ebs adding this line at the bottom :

file_system_id.efs.aws-region.amazonaws.com:/ mount_point nfs4 nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2,noresvport,_netdev 0 0

   c- Attach the efs volume to the second instance

Same process with the first instance: Image 35

7- Creation of a file on one instance

a- File creation on one instance

We use the command sudo touch ourfile.txt

Image 36

b- Verification if it appears on the second one

Image 37

8- Observation of how a change on one instance is reflected on the second

Change on one instance reflected automatically on the second: Image 38-41