LAB: Create an Elastic File System and connect it to EC2 Instances

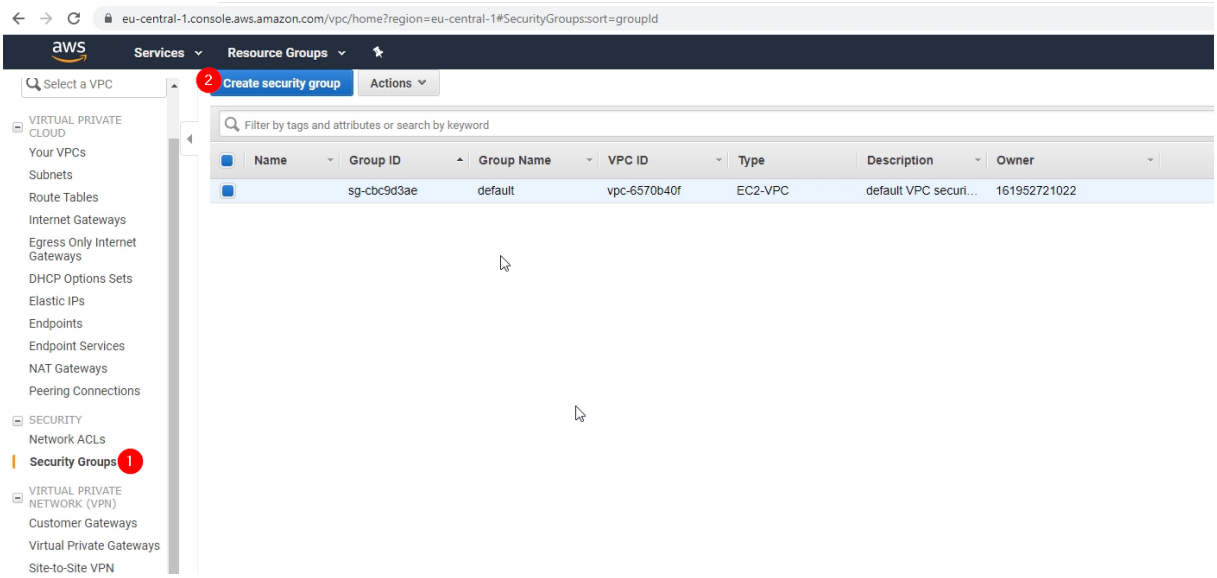
You need:

- An AWS Account

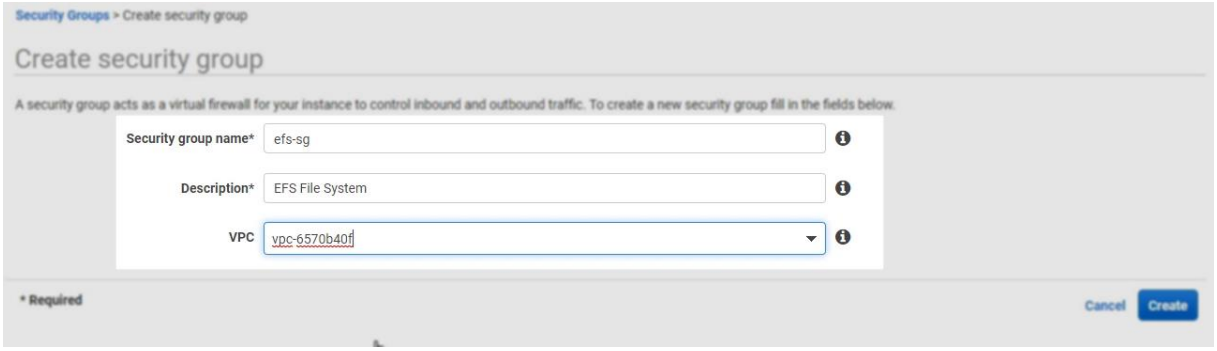
Duration of the Lab: 30 Minutes.

Difficulty: medium

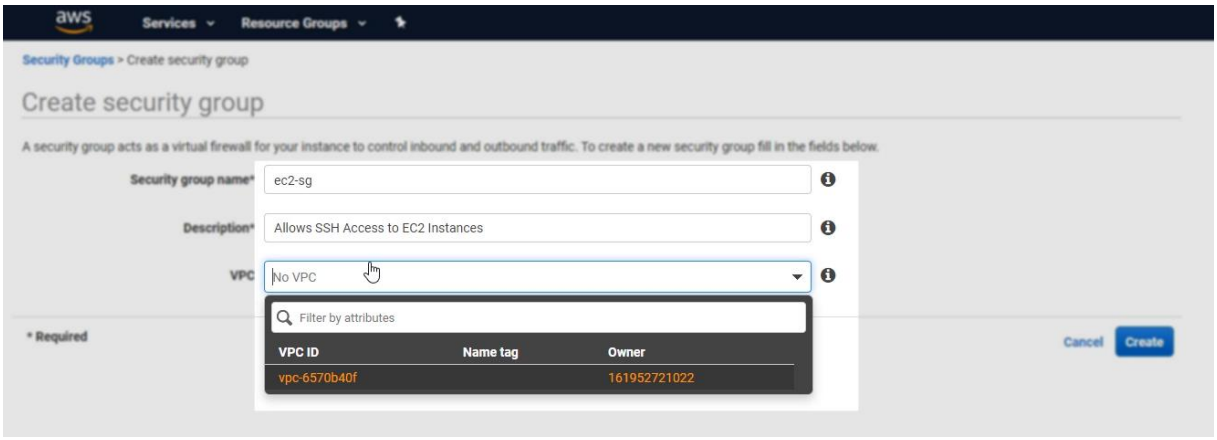
Create a new Security Group for the EFS and the EC2 instances



First the EFS:

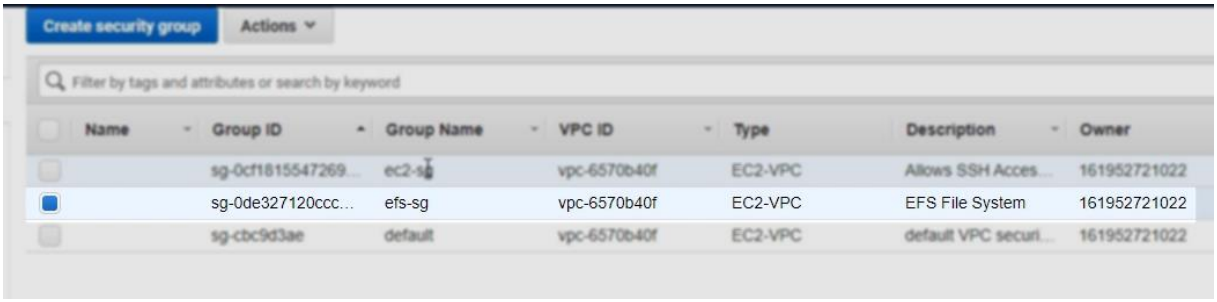


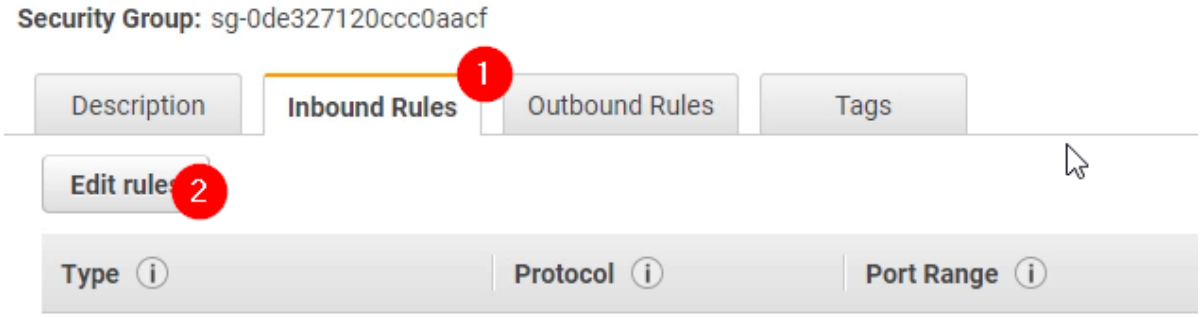
Another one for the EC2 Instances:



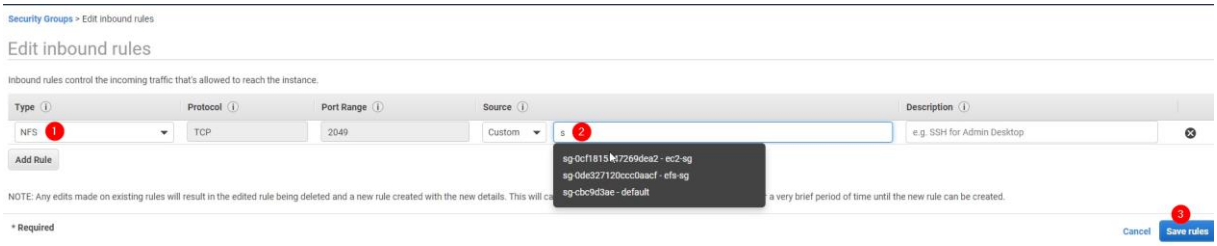
Configure EFS Security Group

Edit the Inbound Rules from the EFS Security Rule:



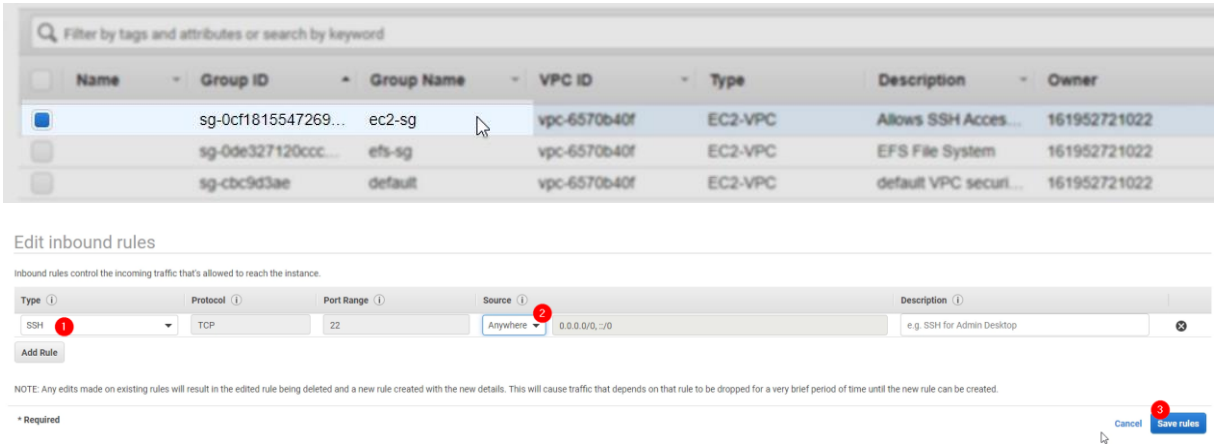


Add the EC2 security group as NFS:



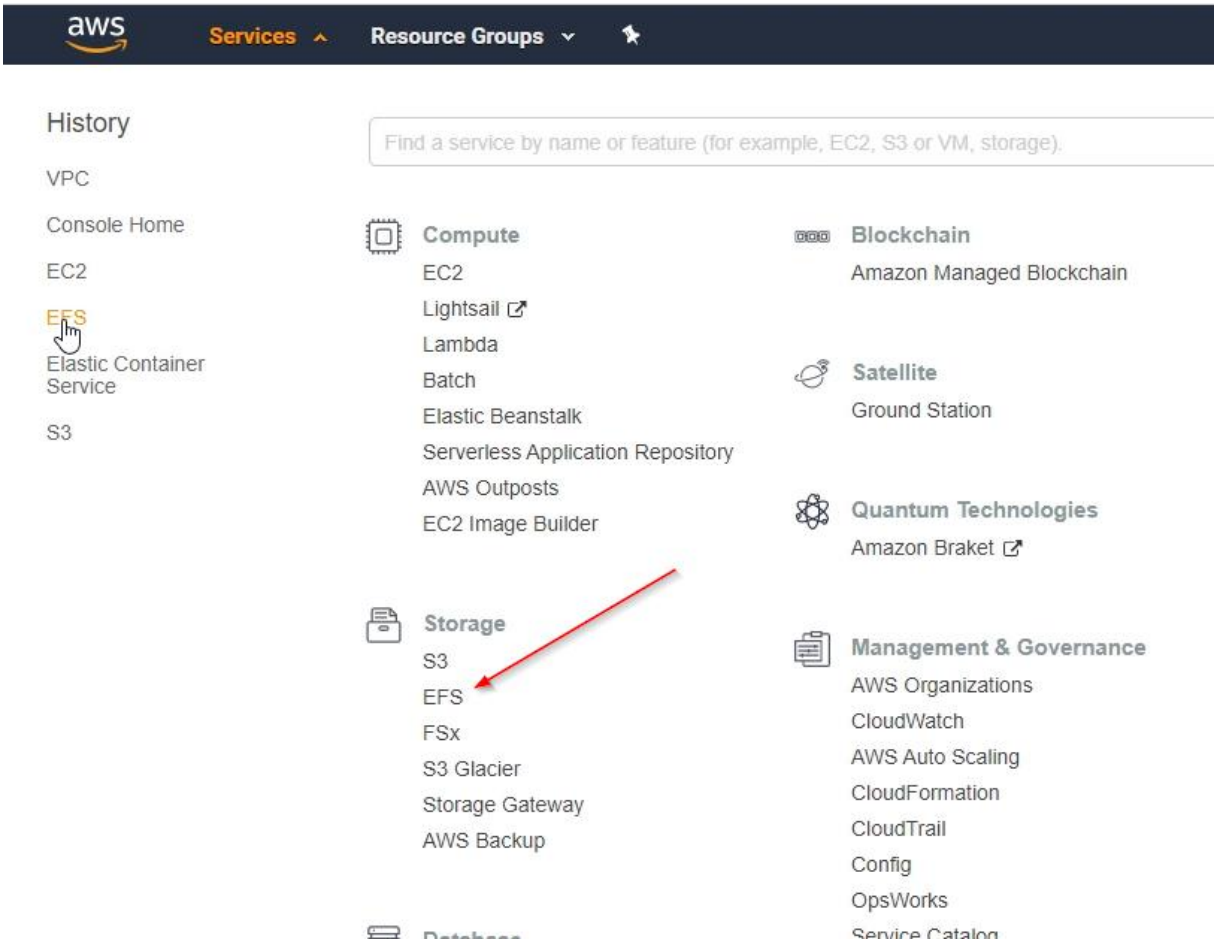
Configure EC2 Security Group

Edit the EC2 Security Group to allow inbound SSH access from anywhere:

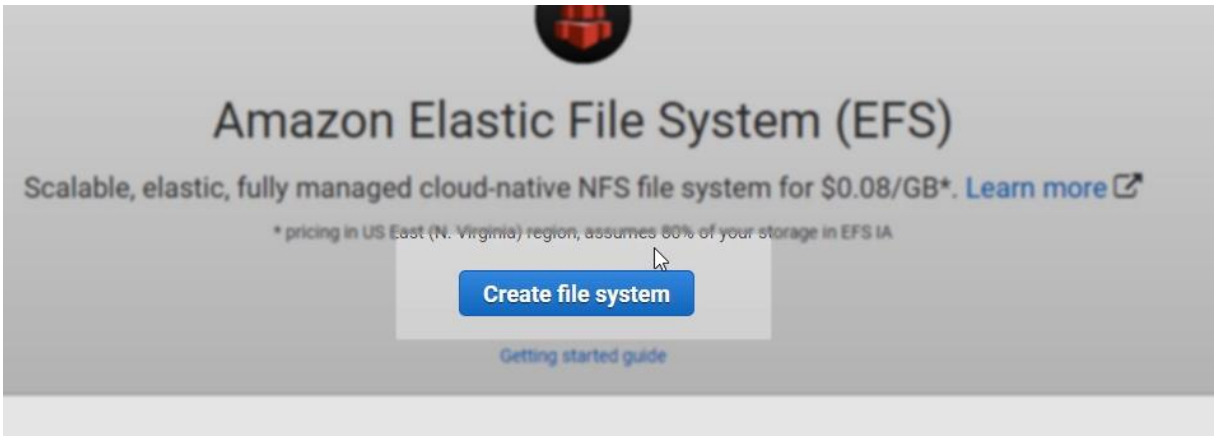


Create an EFS File System

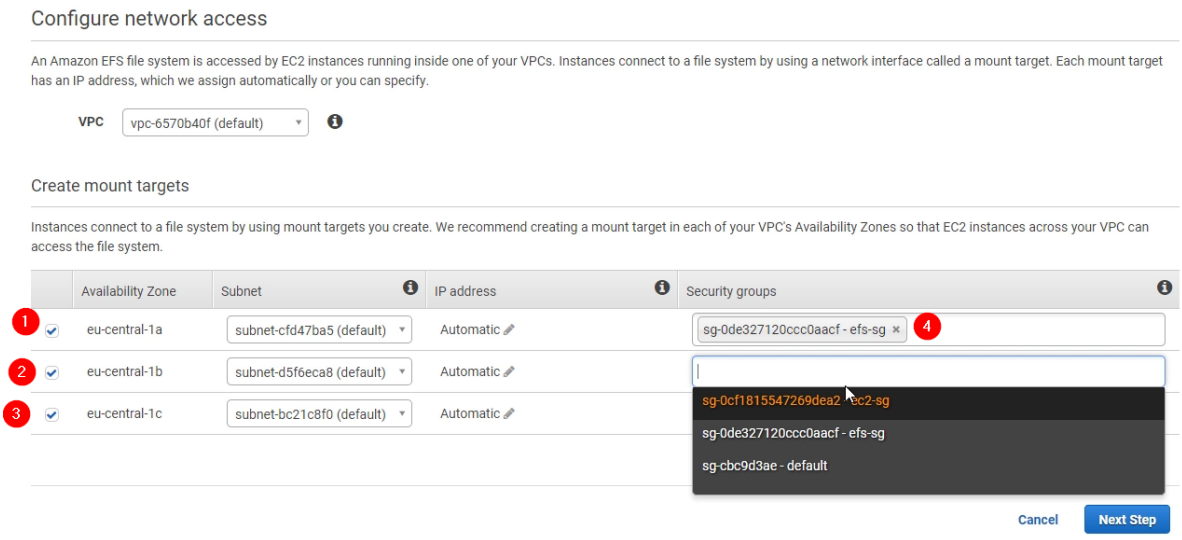
Open the EFS Dashboard:



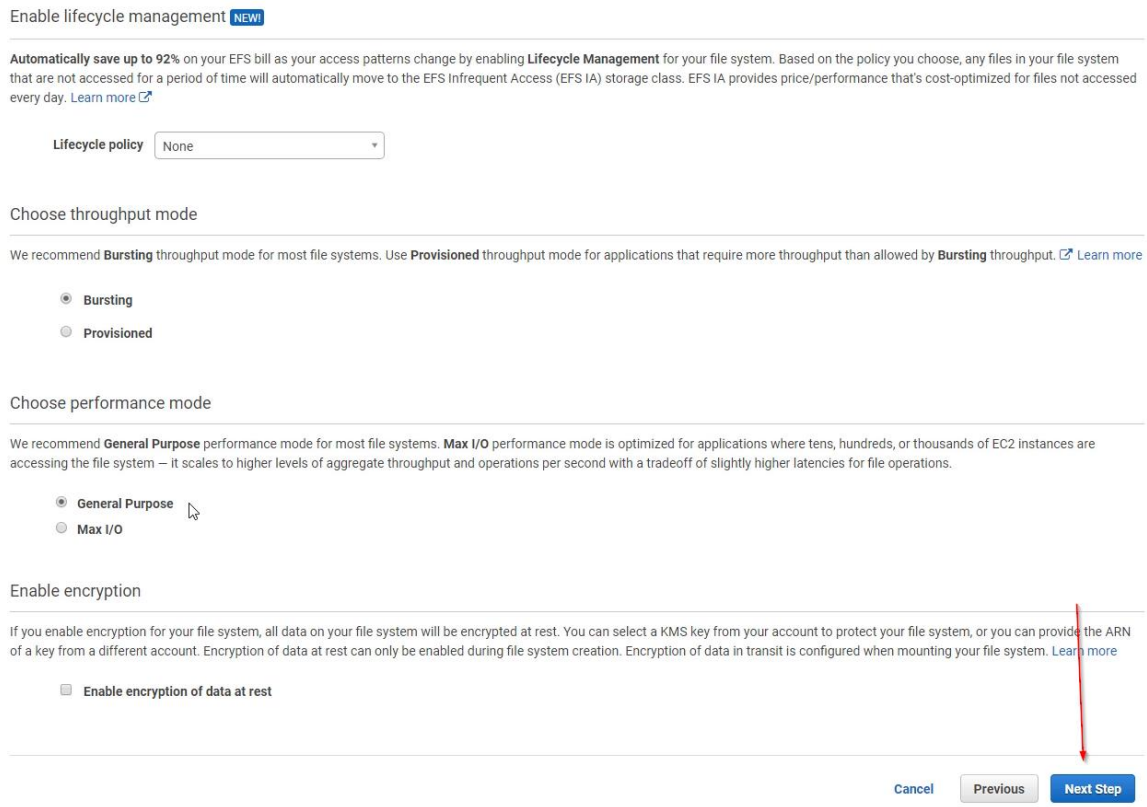
Let's use the creation wizard:



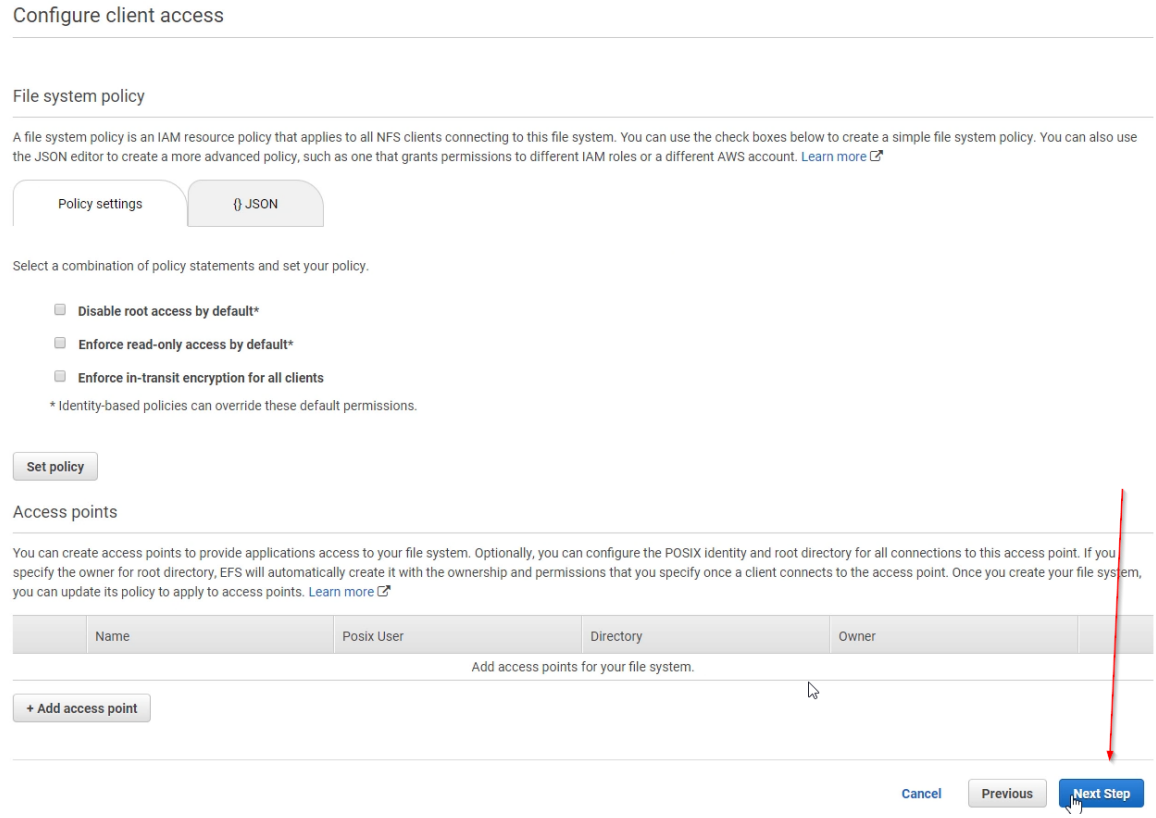
Place the EFS in all availability zones and assign the EFS Security Group to all mount points:



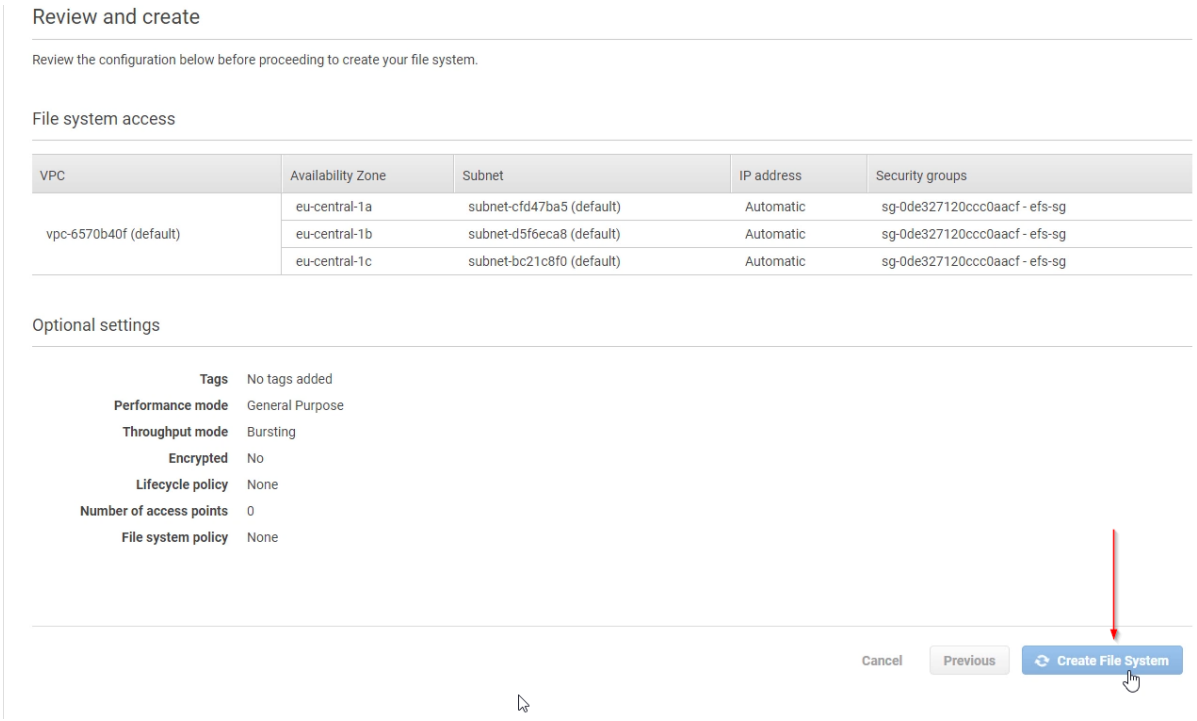
Leave all settings at their default value for file system settings:



Lave all settings at their default value for client access:

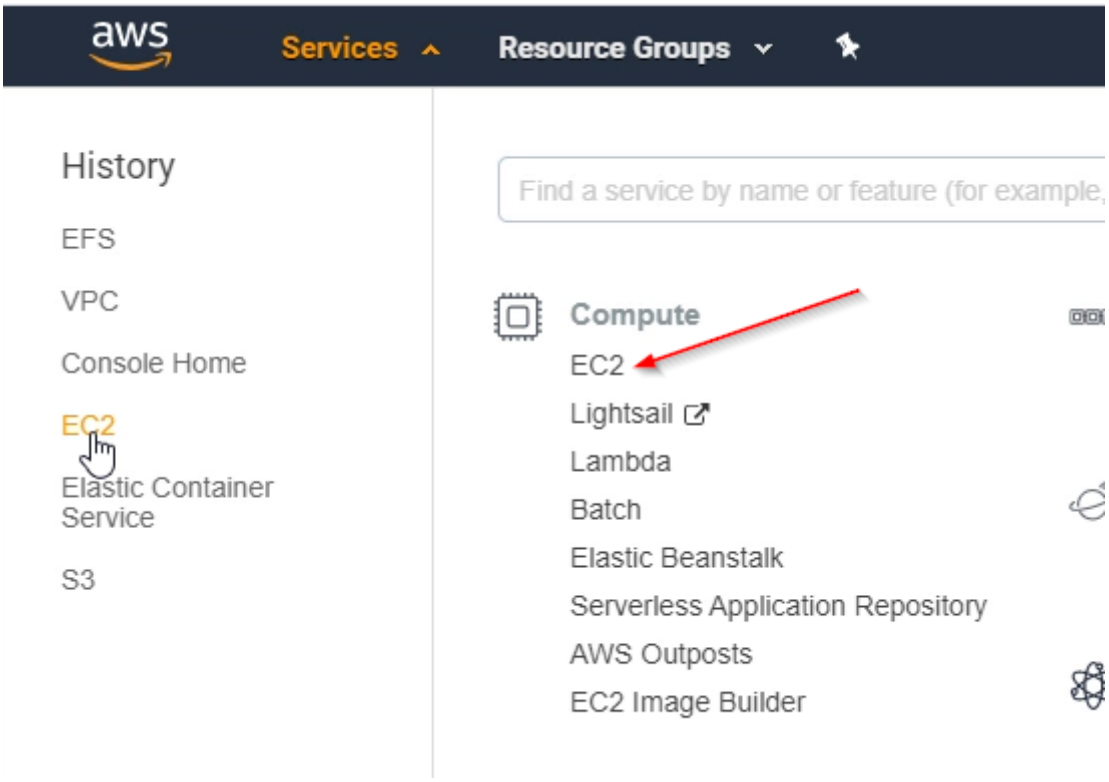


Review and Create the EFS:



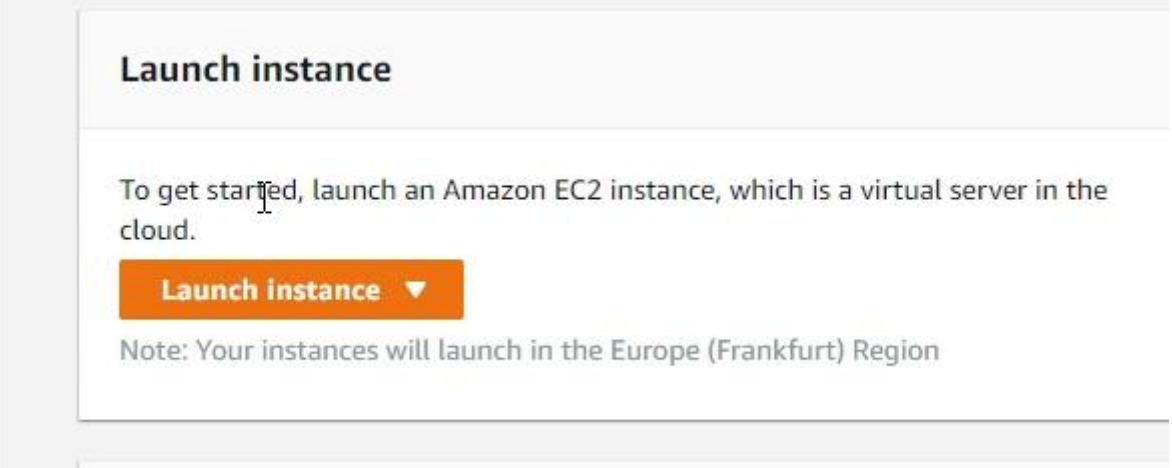
EC2 Creation

Head over to the EC2 Dashboard:



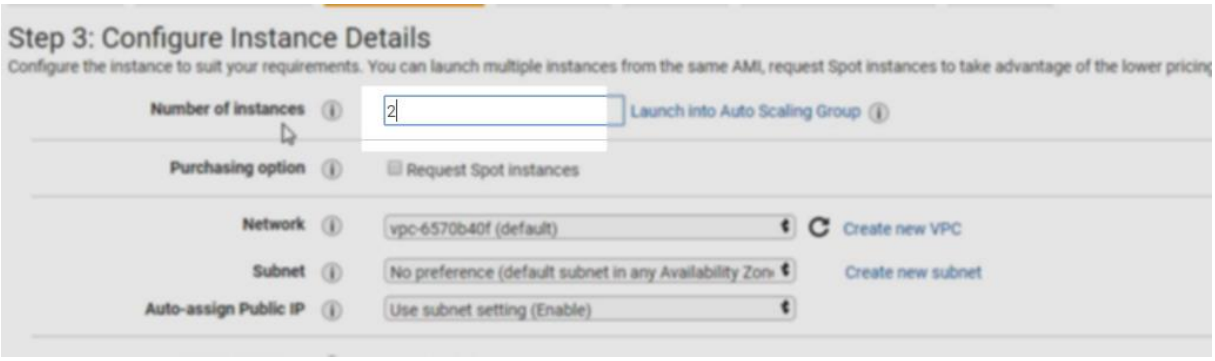
Launch an Instance

Launch a new Instance.

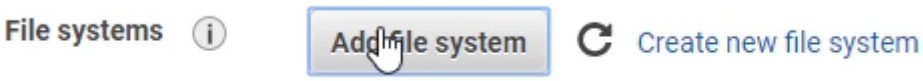


Select the Amazon Linux 2 AMI and the t2.micro instance type.

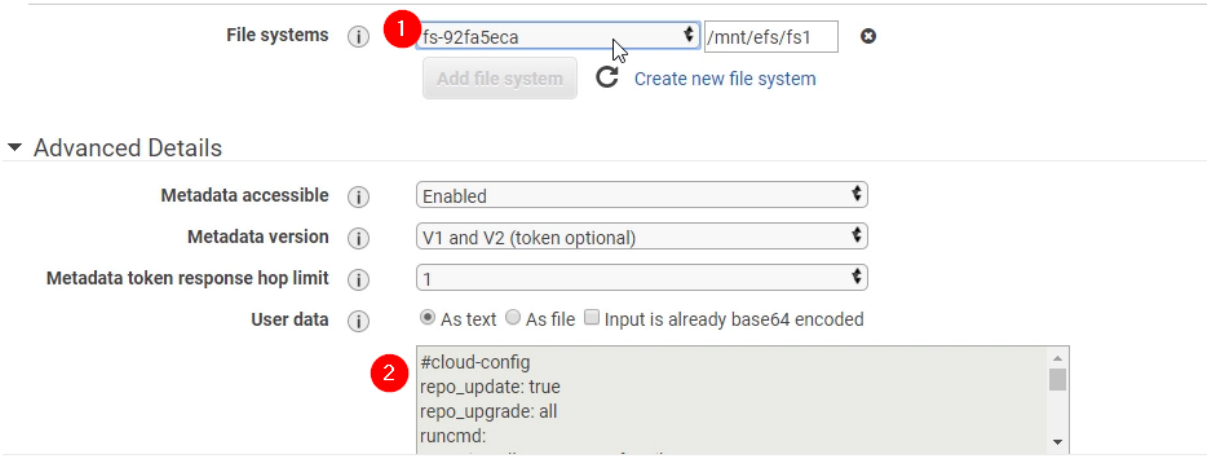
Start 2 Instances right away:



Add a File System

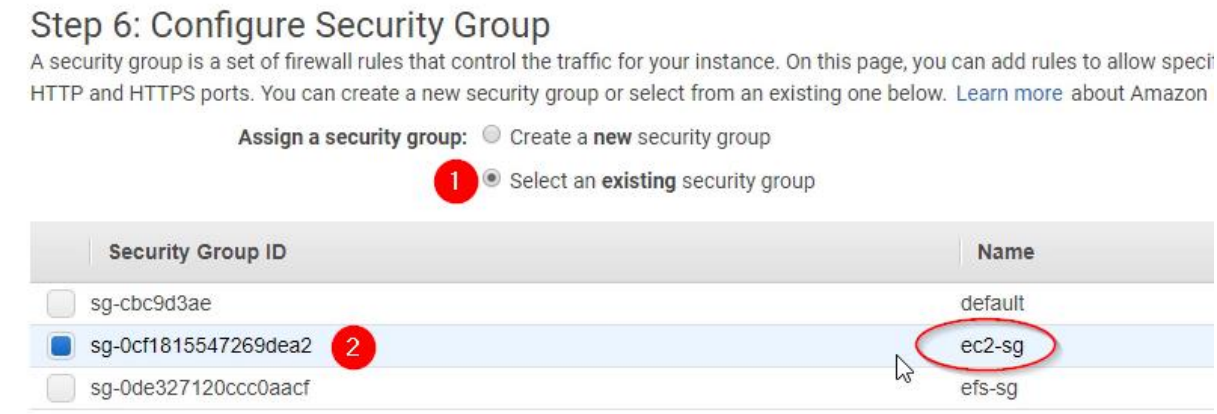


Observe that a script is automatically inserted into the user-data field:



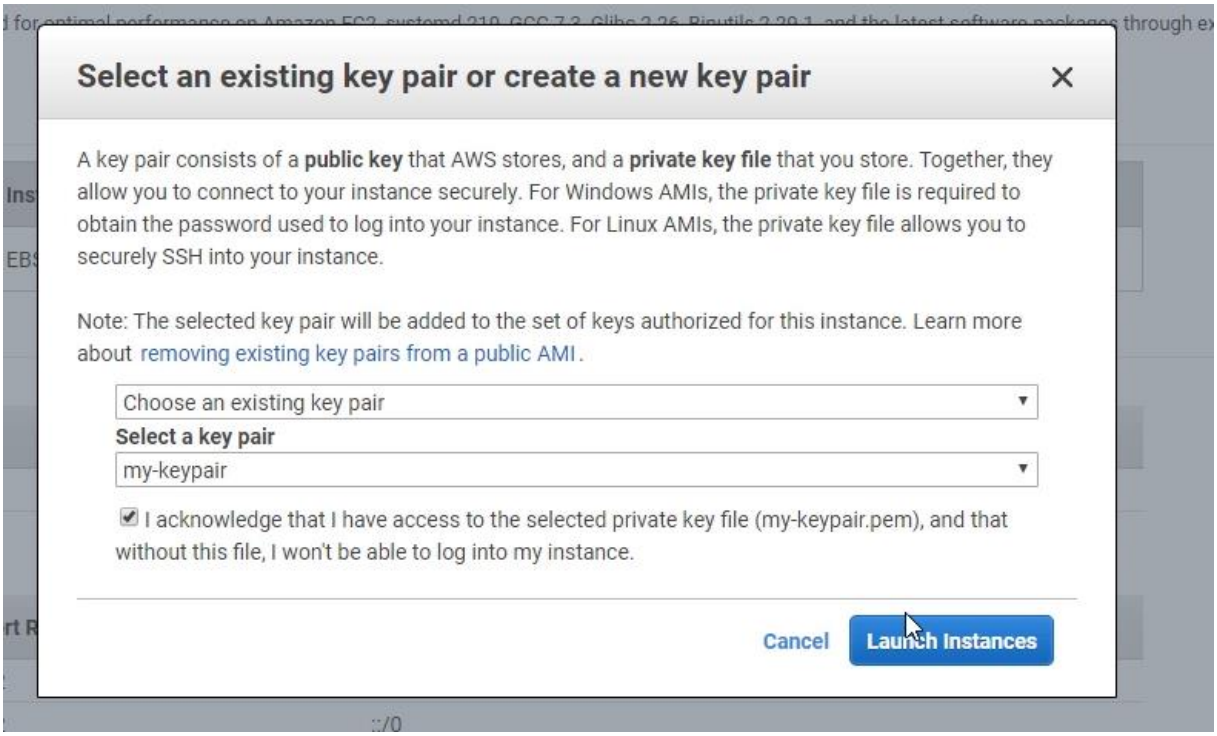
Security Group

Make sure you select the EC2 Security group we created earlier:



Launch instances

Launch the instances and select your key-pair so you can login via ssh:



Use Elastic File System

Login to EC2 Instance 1

Login to your first instance:

```
Course 14 - Understanding Docker with AWS ECS and Fargate> ssh -i "my-keypair.pem" ec2-
user@ec2-52-59-253-174.eu-central-1.compute.amazonaws.com
The authenticity of host 'ec2-52-59-253-174.eu-central-1.compute.amazonaws.com (52.59.2
53.174)' can't be established.
ECDSA key fingerprint is SHA256:OkY9dPs3jucJHD4HnqUSrW3kBmi8s5DhatdtYhLoVRk.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-52-59-253-174.eu-central-1.compute.amazonaws.com,52.59.
253.174' (ECDSA) to the list of known hosts.

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
1 package(s) needed for security, out of 1 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-37-175 ~]$ cd /mnt/efs/fs1/
[ec2-user@ip-172-31-37-175 fs1]$ ls
[ec2-user@ip-172-31-37-175 fs1]$
```

And change to the directory /mnt/efs/fs1

```
cd /mnt/efs/fs1
```

Change the permissions

For the ec2-user to be able to write files from the EFS we need to change the permissions.

```
sudo chown ec2-user:ec2-user .
```

Then login to the second instance:

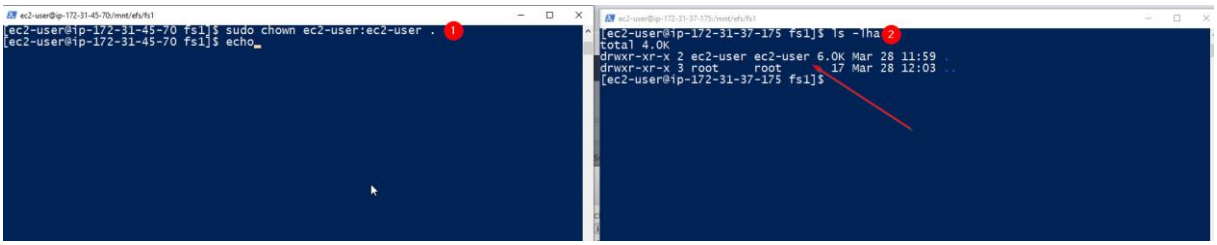
Login to EC2 Instance 2

Open a second powershell/terminal and login to instance 2.

Cd into the same directory /mnt/efs/fs1.

Observe that the directory now already has the correct permissions

```
ls -lha
```



Create a file

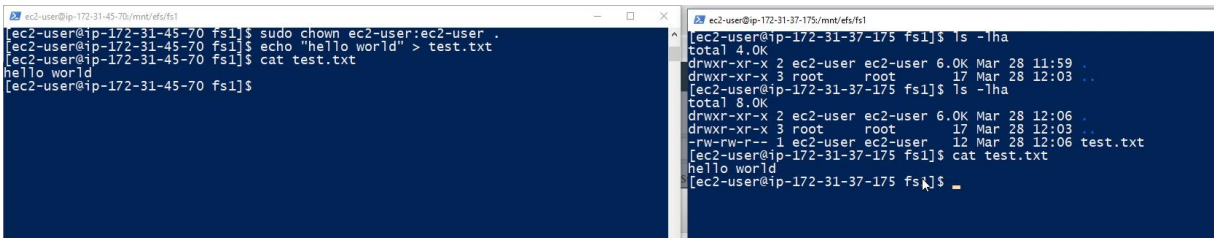
Let's create a file on instance 1 and observe the same file appearing on instance 2:

On Instance 1 run:

```
echo "hello world" > test.txt
```

On Instance 2 run:

```
cat test.txt
```



Cleanup

1. Terminate both Instances
2. Delete the EFS File System (costs might occur otherwise)
3. Delete the security groups