EFS STORAGE

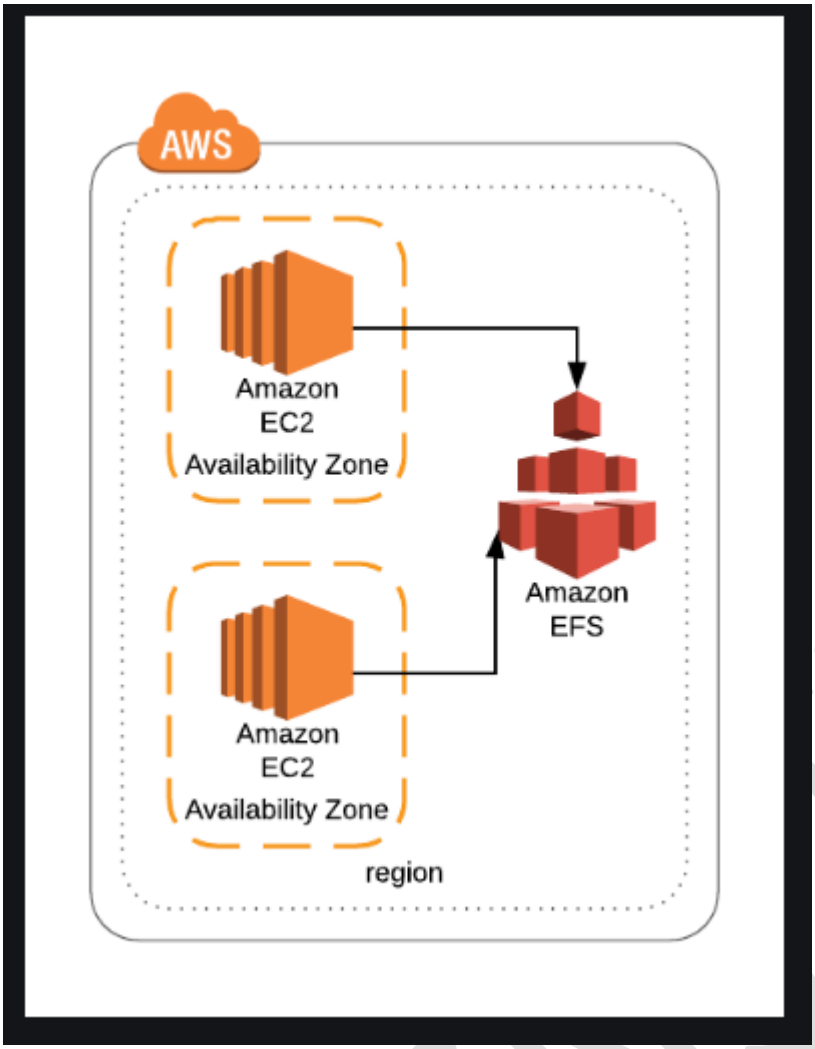
What is EFS storage in AWS?

- Amazon EFS is a regional service storing data within and across multiple Availability Zones (AZs) for high availability and durability.
- Amazon EC2 instances can access your file system across AZs, regions, and VPCs, while on-premises servers can access using AWS Direct Connect or AWS VPN.

How does AWS EFS work?

- You can create a file system, mount the file system on an Amazon EC2 instance, and then read and write data to and from your file system.
- You can mount an Amazon EFS file system in your VPC, through the Network File System versions 4.0 and 4.1 (NFSv4) protocol.

For example:

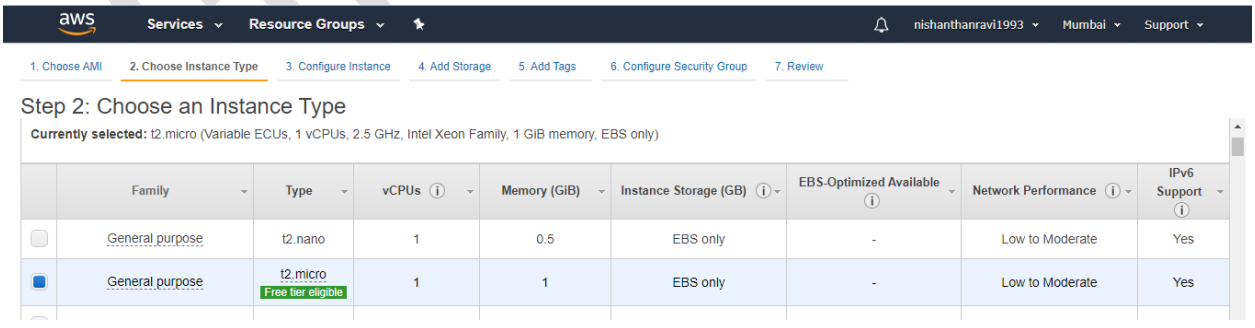


These steps to be followed for EFS

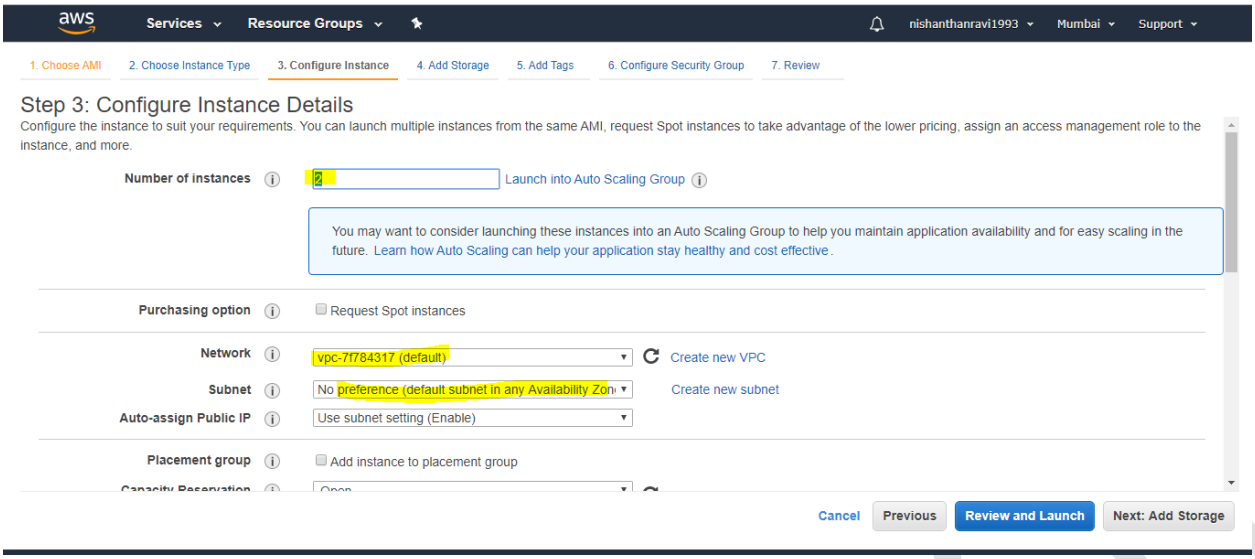
Step 1:

You should create 2 EC2 instance

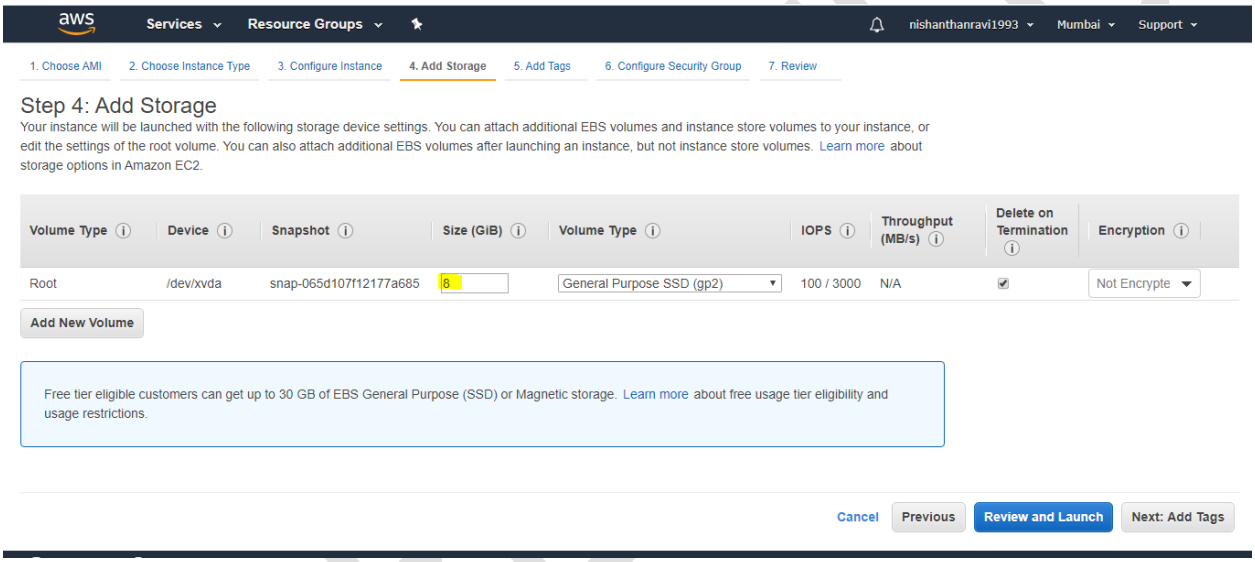
White and black



Free tier only

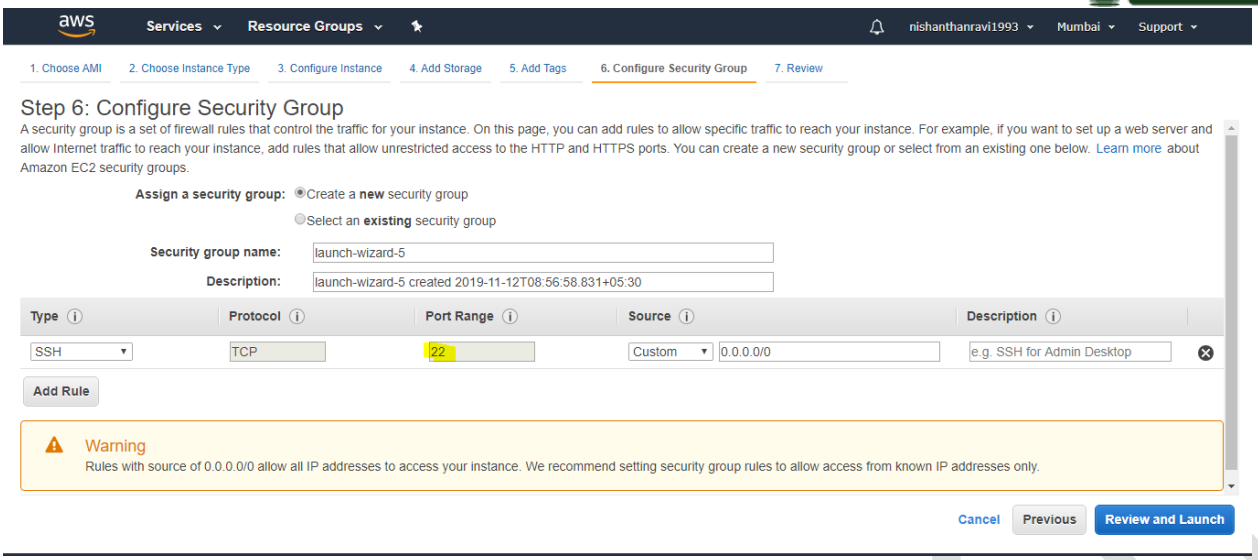


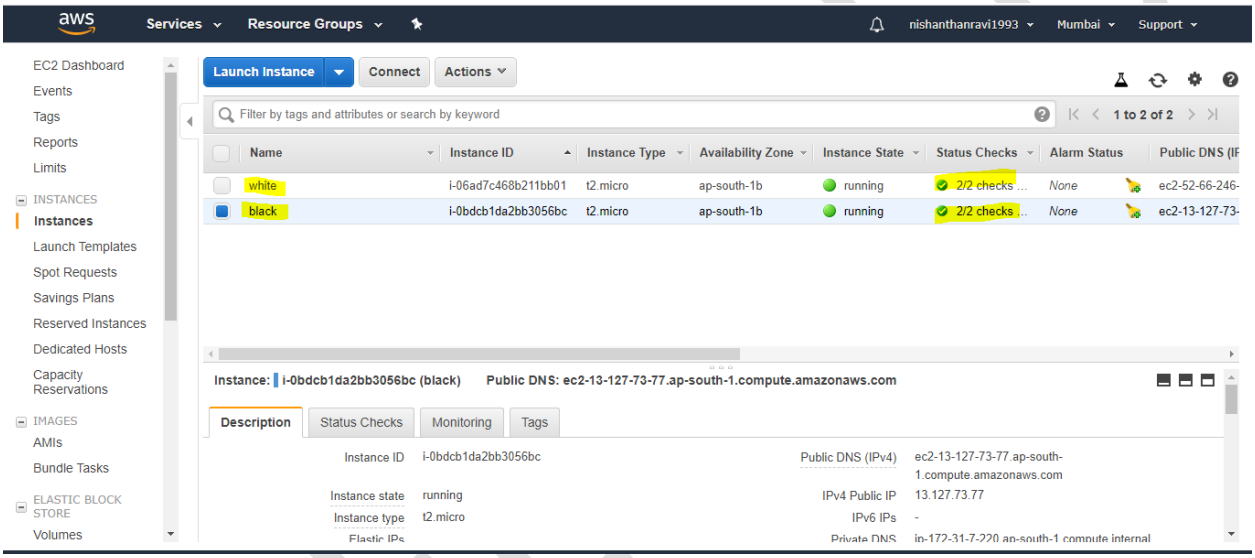
Using default VPC and 2 instances



Default Storage size is 8GB only

For security group

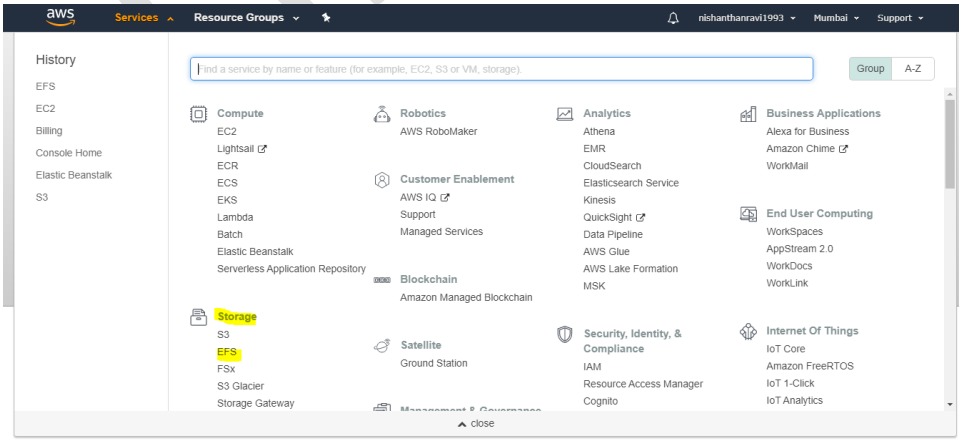




Step 2:

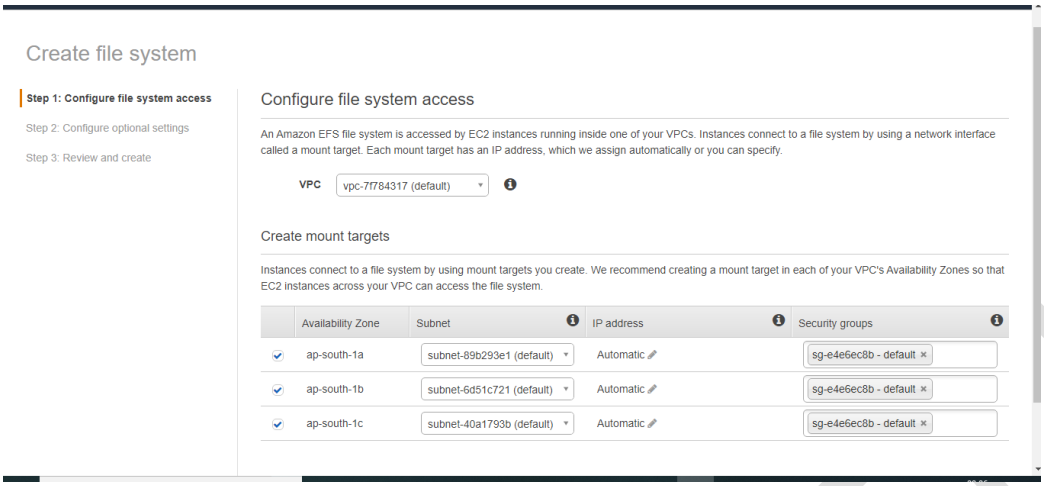
You can see EFS under storage

Create one EFS file

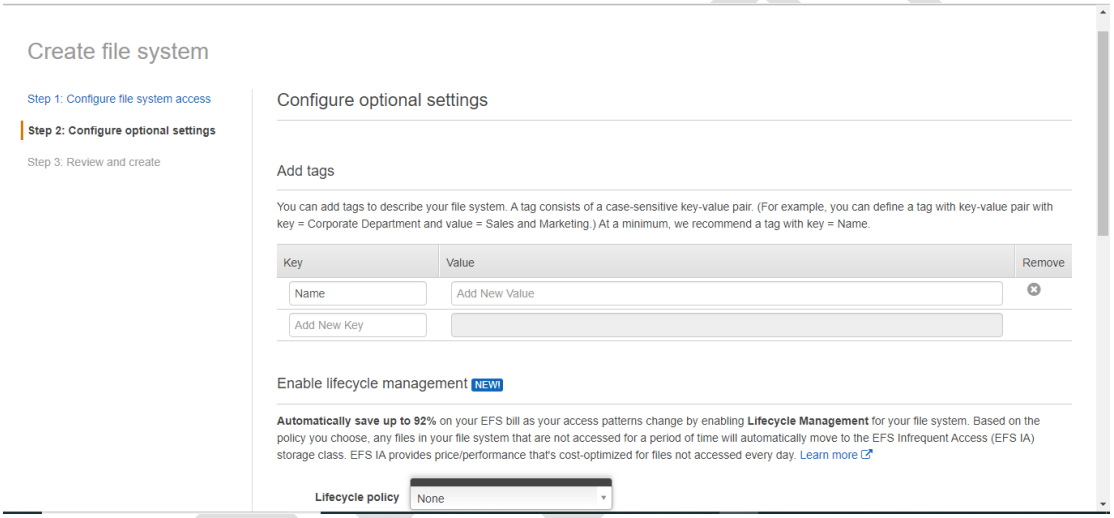


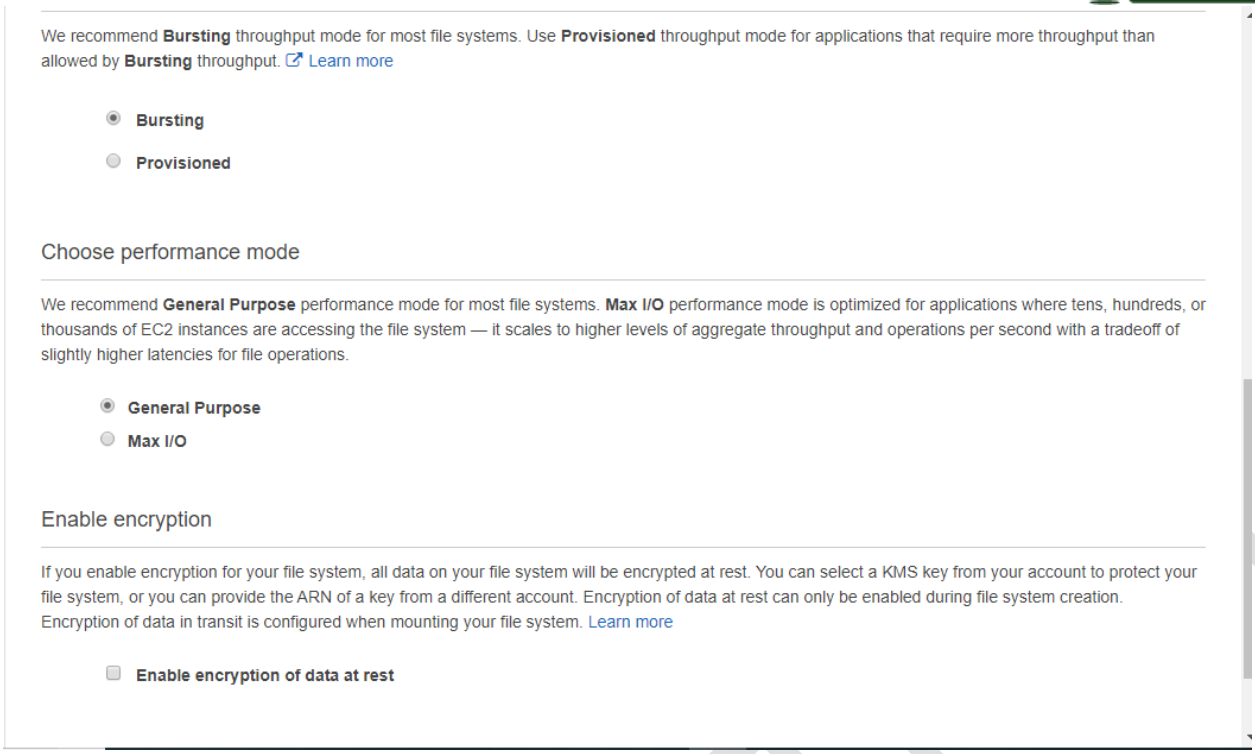
Use default

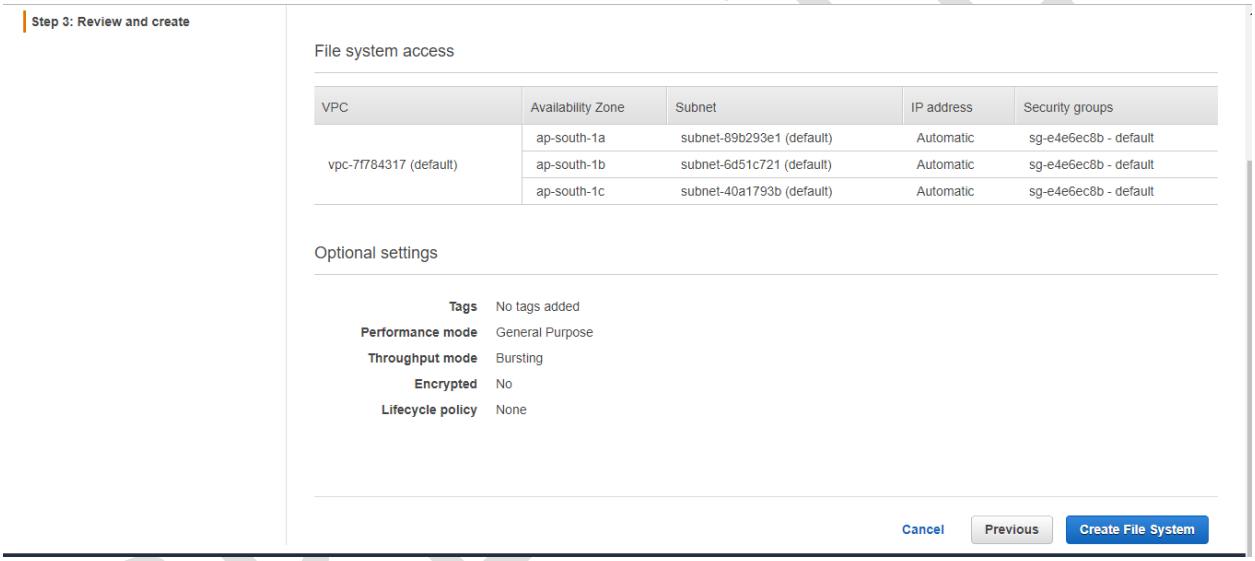
VPC, SG



Live it as a default

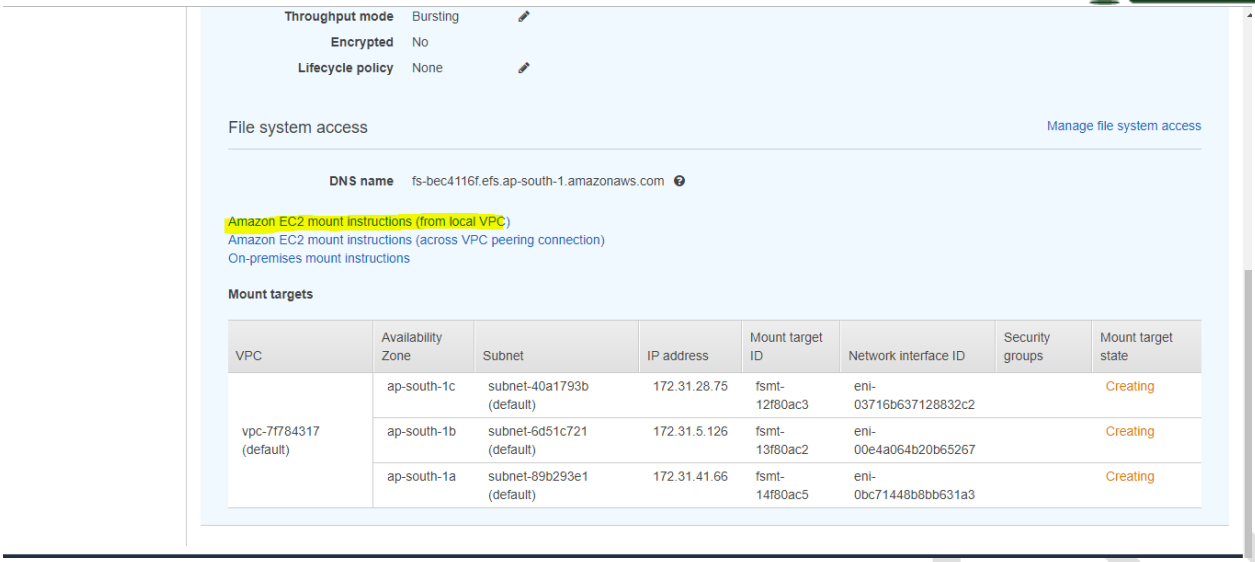


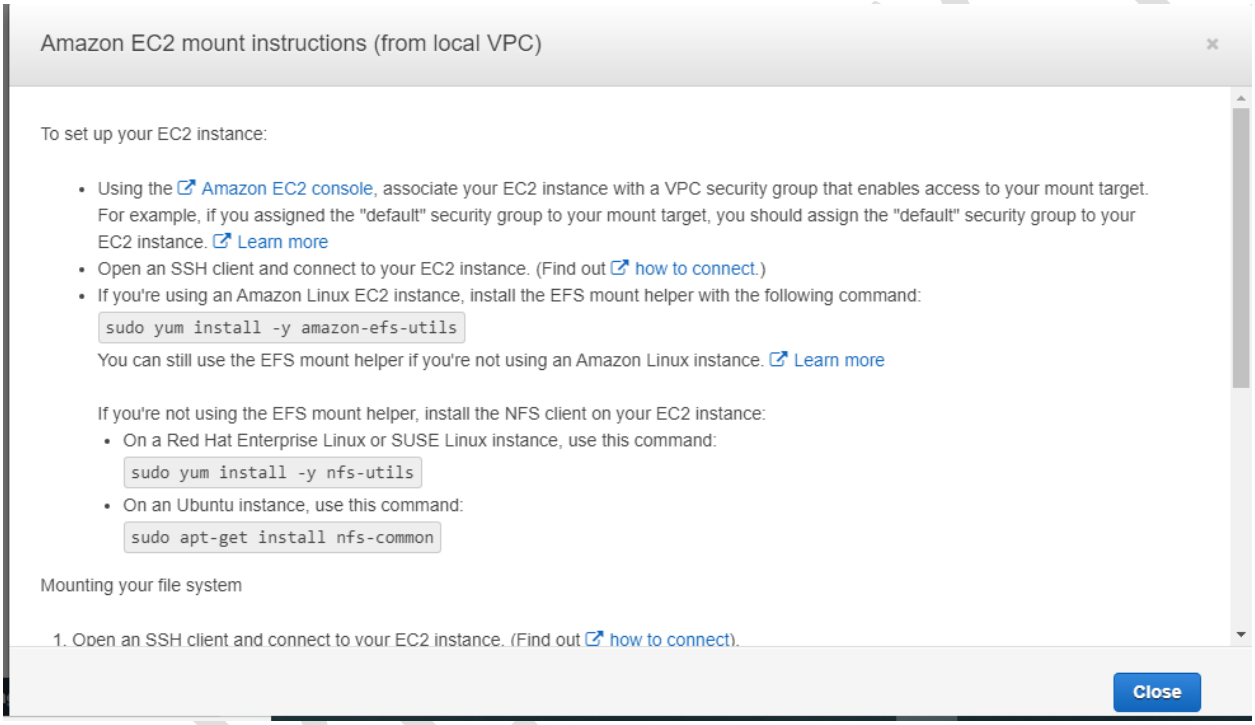




Step 3:

Choose EC2 mount

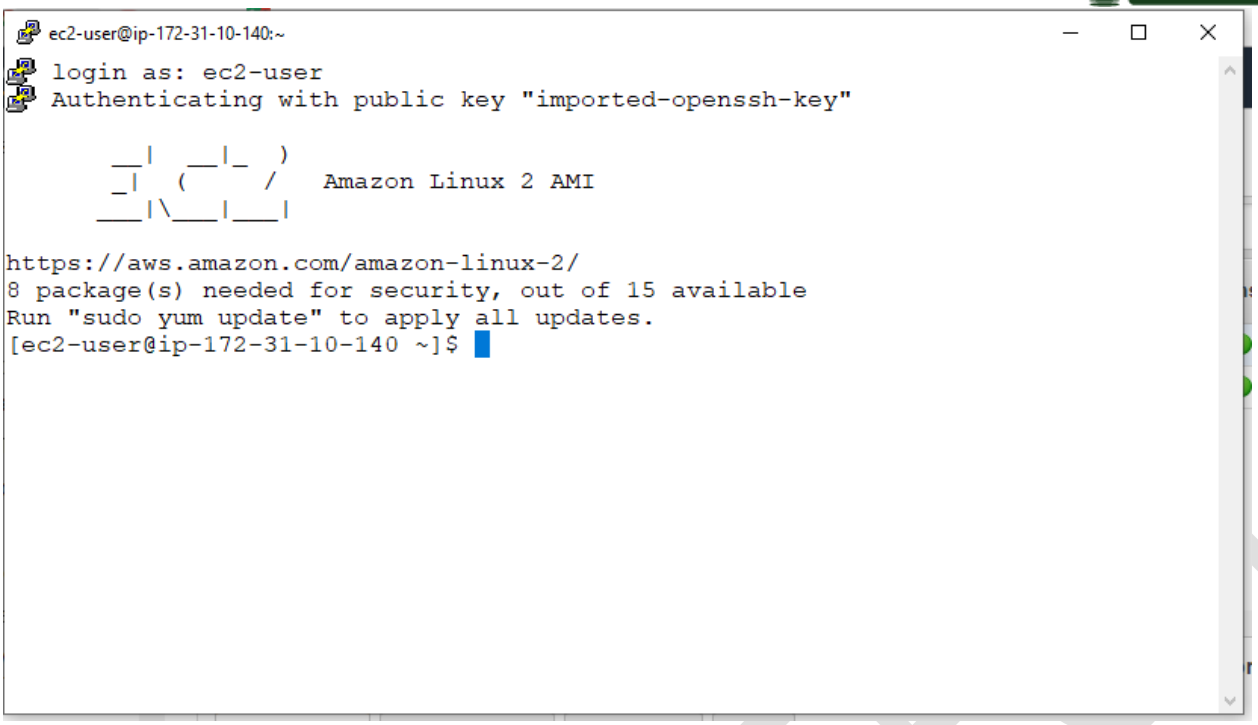


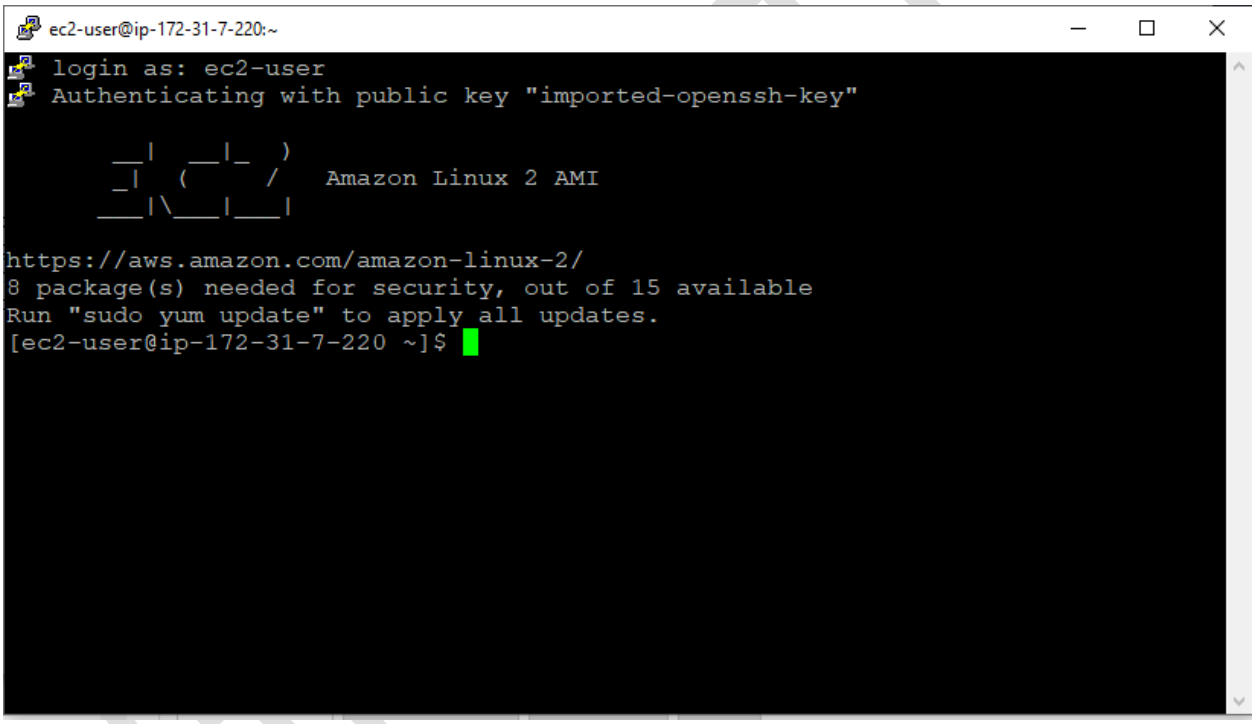


Step 4:

Login to both machines

White and black





Copy this

- Open an SSH client and connect to your EC2 instance. (Find out how to connect.)
- If you're using an Amazon Linux EC2 instance, install the EFS mount helper with the following command:

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

You can still use the EFS mount helper if you're not using an Amazon Linux instance. Learn more

If you're not using the EFS mount helper, install the NFS client on your EC2 instance:

```
[ec2-user@ip-172-31-10-140 ~]$ sudo su -
[root@ip-172-31-10-140 ~]# sudo yum install -y amazon-efs-utils
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                               | 2.4 kB     00:00
Resolving Dependencies
--> Running transaction check
---> Package amazon-efs-utils.noarch 0:1.10-1.amzn2 will be installed
--> Processing Dependency: stunnel >= 4.56 for package: amazon-efs-utils-1.10-1.
amzn2.noarch
--> Running transaction check
---> Package stunnel.x86_64 0:4.56-6.amzn2.0.3 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================
 Package                Arch        Version                 Repository       Size
================================================================================
Installing:
 amazon-efs-utils       noarch      1.10-1.amzn2            amzn2-core       20 k
Installing for dependencies:
 stunnel                x86_64      4.56-6.amzn2.0.3        amzn2-core      149 k

Transaction Summary
================================================================================
Install  1 Package (+1 Dependent package)

Total download size: 168 k
Installed size: 350 k
Downloading packages:
(1/2): amazon-efs-utils-1.10-1.amzn2.noarch.rpm            |  20 kB   00:00
(2/2): stunnel-4.56-6.amzn2.0.3.x86_64.rpm                 | 149 kB   00:00
```

root@ip-172-31-10-140:~

```
[root@ip-172-31-10-140 ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        475M     0  475M   0% /dev
tmpfs           492M     0  492M   0% /dev/shm
tmpfs           492M  400K  492M   1% /run
tmpfs           492M     0  492M   0% /sys/fs/cgroup
/dev/xvda1      8.0G  1.3G  6.8G  16% /
tmpfs            99M     0   99M   0% /run/user/1000
[root@ip-172-31-10-140 ~]#
```

Do the same in black machine

root@ip-172-31-7-220:~

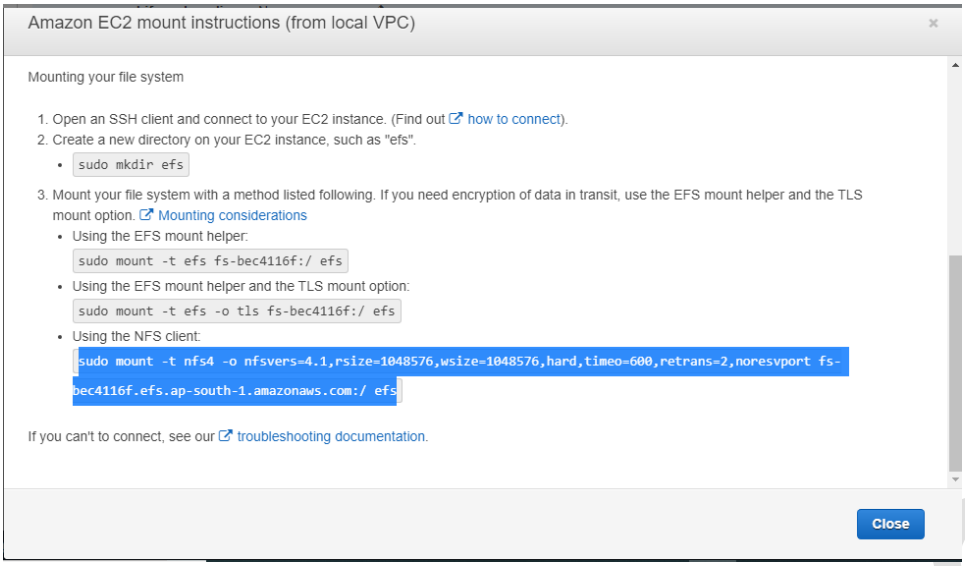
```
Dependencies Resolved

================================================================================
 Package                        Arch                   Version
================================================================================
Installing:
 amazon-efs-utils               noarch                 1.10-1.amzn2
Installing for dependencies:
 stunnel                        x86_64                 4.56-6.amzn2.0.3

Transaction Summary
================================================================================
Install  1 Package (+1 Dependent package)

Total download size: 168 k
Installed size: 350 k
Downloading packages:
(1/2): amazon-efs-utils-1.10-1.amzn2.noarch.rpm
(2/2): stunnel-4.56-6.amzn2.0.3.x86_64.rpm
--------------------------------------------------------------------------------
Total
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : stunnel-4.56-6.amzn2.0.3.x86_64
  Installing : amazon-efs-utils-1.10-1.amzn2.noarch
  Verifying  : stunnel-4.56-6.amzn2.0.3.x86_64
  Verifying  : amazon-efs-utils-1.10-1.amzn2.noarch

Installed:
  amazon-efs-utils.noarch 0:1.10-1.amzn2

Dependency Installed:
  stunnel.x86_64 0:4.56-6.amzn2.0.3

Complete!
```

root@ip-172-31-7-220:~

```
[root@ip-172-31-7-220 ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        475M     0  475M   0% /dev
tmpfs           492M     0  492M   0% /dev/shm
tmpfs           492M  400K  492M   1% /run
tmpfs           492M     0  492M   0% /sys/fs/cgroup
/dev/xvda1      8.0G  1.3G  6.8G  16% /
tmpfs            99M     0   99M   0% /run/user/1000
[root@ip-172-31-7-220 ~]#
```

Step 5:

Copy this



Do in both machines

Before that mkdir efs

```
[root@ip-172-31-10-140 ~]# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2,noresvport fs-bec411
6f.efs.ap-south-1.amazonaws.com:/ efs
mount.nfs4: mount point efs does not exist
[root@ip-172-31-10-140 ~]# sudo mkdir efs
[root@ip-172-31-10-140 ~]# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2,noresvport fs-bec411
6f.efs.ap-south-1.amazonaws.com:/ efs
[root@ip-172-31-10-140 ~]#
```

```
[root@ip-172-31-10-140 ~]# df -h
Filesystem                                      Size  Used Avail Use% Mounted on
devtmpfs                                        475M     0  475M   0% /dev
tmpfs                                           492M     0  492M   0% /dev/shm
tmpfs                                           492M  404K  492M   1% /run
tmpfs                                           492M     0  492M   0% /sys/fs/cgroup
/dev/xvda1                                      8.0G  1.3G  6.8G  16% /
tmpfs                                            99M     0   99M   0% /run/user/1000
fs-bec4116f.efs.ap-south-1.amazonaws.com:/      8.0E     0  8.0E   0% /root/efs
[root@ip-172-31-10-140 ~]#
```

Same in black machine also

```
[root@ip-172-31-7-220 ~]#  sudo mkdir efs
[root@ip-172-31-7-220 ~]# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2,noresvport fs-bec4116
f.efs.ap-south-1.amazonaws.com:/ efs
```

```
[root@ip-172-31-7-220 ~]# df -h
Filesystem                                      Size  Used Avail Use% Mounted on
devtmpfs                                        475M     0  475M   0% /dev
tmpfs                                           492M     0  492M   0% /dev/shm
tmpfs                                           492M  404K  492M   1% /run
tmpfs                                           492M     0  492M   0% /sys/fs/cgroup
/dev/xvda1                                      8.0G  1.3G  6.8G  16% /
tmpfs                                            99M     0   99M   0% /run/user/1000
fs-bec4116f.efs.ap-south-1.amazonaws.com:/      8.0E     0  8.0E   0% /root/efs
[root@ip-172-31-7-220 ~]#
```

Step 6:

Create a file in white machine

Go to this path

Cd efs

```
[root@ip-172-31-10-140 ~]# cd efs
[root@ip-172-31-10-140 efs]# vi test
[root@ip-172-31-10-140 efs]# cat test
this is my first demo for EFS
[root@ip-172-31-10-140 efs]#
```

```
root@ip-172-31-10-140:~/efs
this is my first demo for EFS
~
~
~
```

Step 7:

Go to black machine

Under

Cd efs

```
[root@ip-172-31-7-220 ~]# cd efs
[root@ip-172-31-7-220 efs]# ls -lrt
total 4
-rw-r--r-- 1 root root 30 Nov 12 03:58 test
[root@ip-172-31-7-220 efs]# cat test
this is my first demo for EFS
[root@ip-172-31-7-220 efs]#
```

Now modify this in black machine

```
root@ip-172-31-7-220:~/efs
this is my first demo for EFS by nishanthan
~
~
~
~
```

```
[root@ip-172-31-7-220 efs]# vi test
[root@ip-172-31-7-220 efs]# cat test
this is my first demo for EFS by nishanthan
[root@ip-172-31-7-220 efs]#
```

Step 8:

Now go to white machine check the file

```
[root@ip-172-31-10-140 ~]# cd efs
[root@ip-172-31-10-140 efs]# vi test
[root@ip-172-31-10-140 efs]# cat test
this is my first demo for EFS
[root@ip-172-31-10-140 efs]# cat test
this is my first demo for EFS by nishanthan
[root@ip-172-31-10-140 efs]#
```

File is changed

Task: Use this in your VPC and SG

PLEASE DELETE AFTER USING