

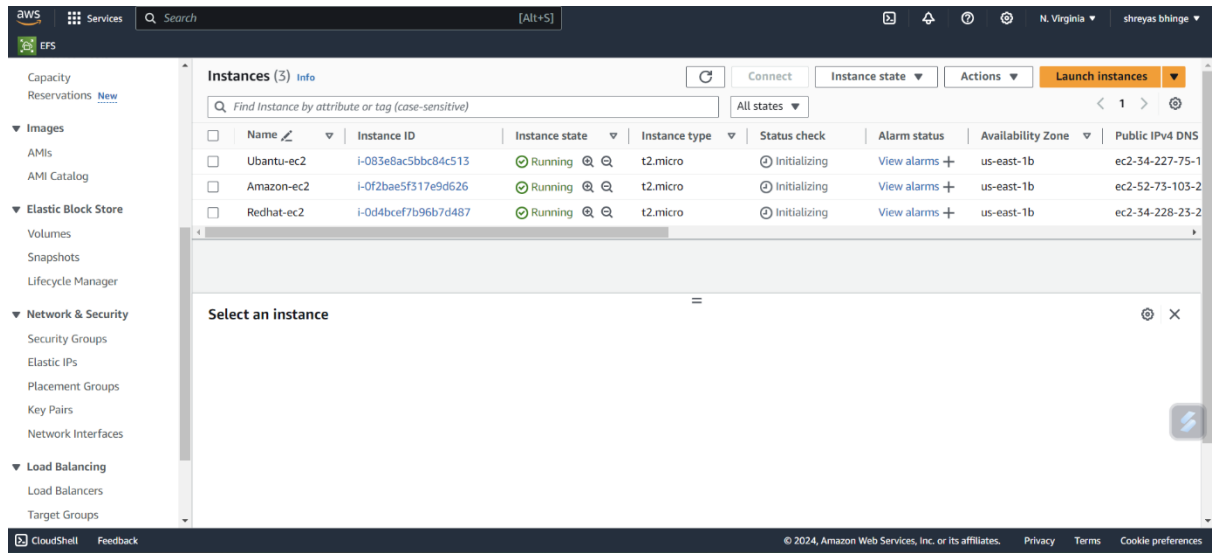
## Assignment EC2 and EFS

1. Create an EFS and connect it to 3 different EC2 instances. Make sure that all instances have different operating systems. For instance, Ubuntu, Red Hat Linux and Amazon Linux 2

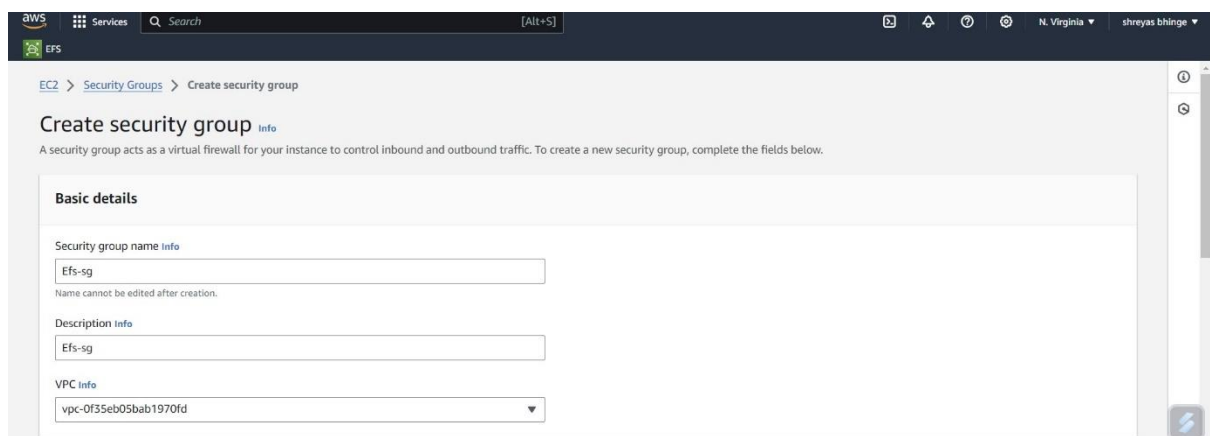
Ans:

Step I

- Created 3 Ec2 instance by using Amazon Linux 2, Ubuntu and Red hat Linux
- I just opened only port 22 security group in all the instances

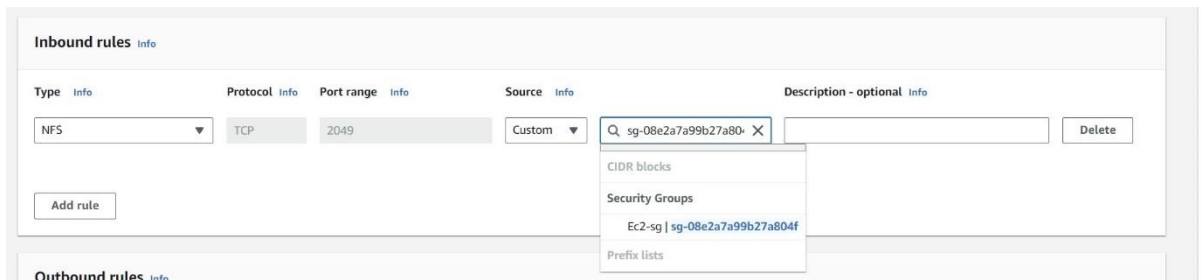


STEP 2 — Created security group for EFS Inbound type NFS port ( 2049 ) allow source



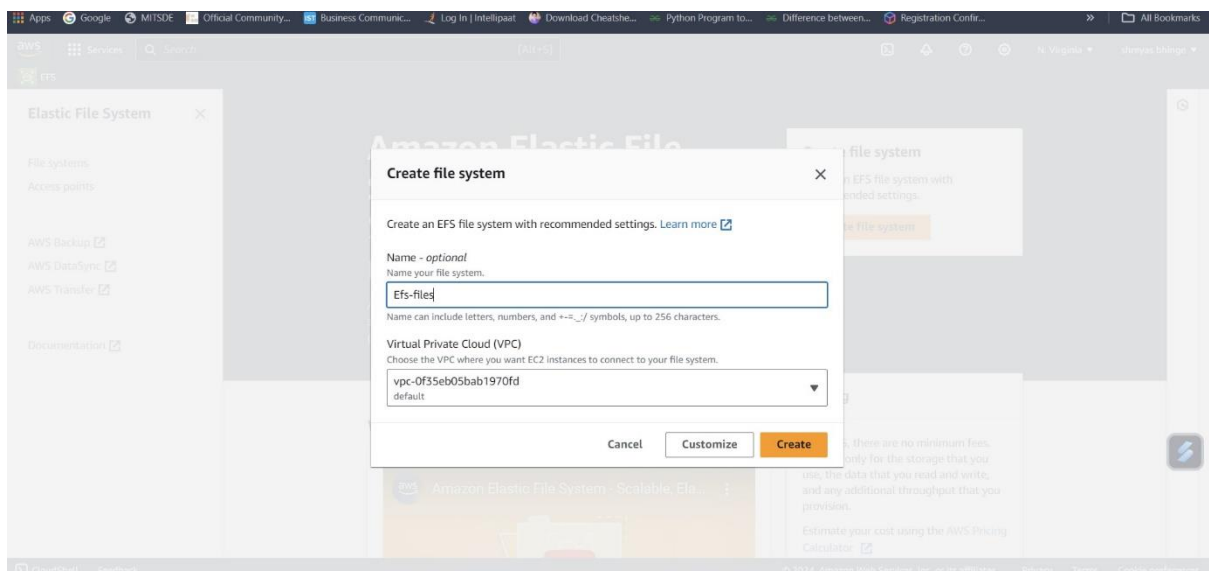
- Copied security group of every ec2 and pasted in inbound rules.

## Assignment EC2 and EFS



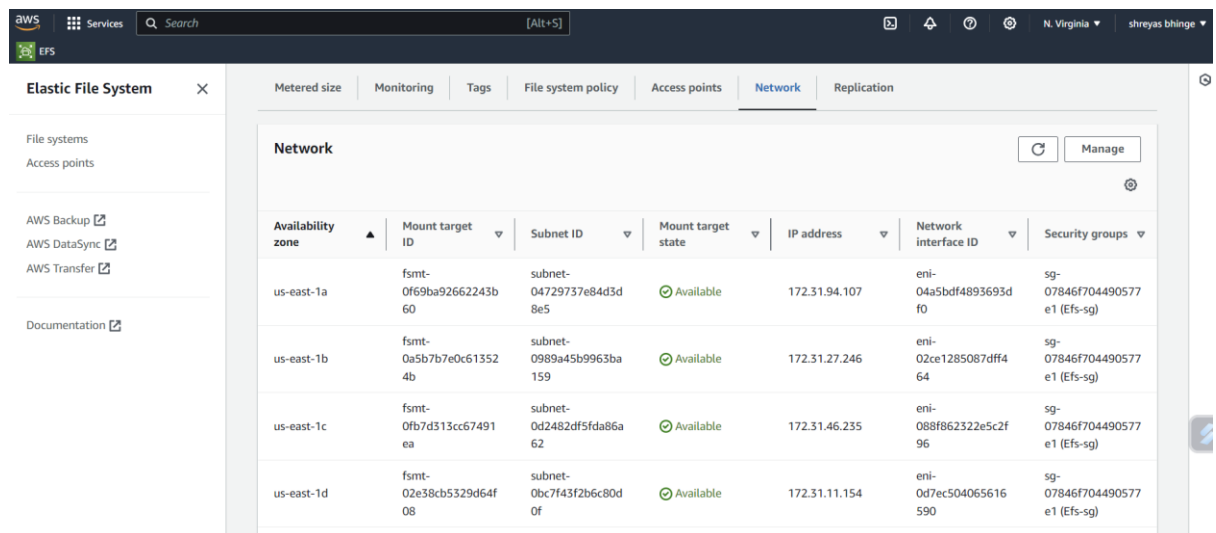
### STEP 3

— Created EFS File with a name based on project (EFS\_file)



- Click customize — click next (networking)
- In networking remove all the network access where just mention only the network access you mentioned previously.

## Assignment EC2 and EFS



Availability zone	Mount target ID	Subnet ID	Mount target state	IP address	Network interface ID	Security groups
us-east-1a	fsmt-0f69ba92662243b60	subnet-04729737e84d3d8e5	Available	172.31.94.107	eni-04a5bdf4893693df0	sg-07846f704490577e1 (Efs-sg)
us-east-1b	fsmt-0a5b7b7e0c613524b	subnet-0989a45b9963ba159	Available	172.31.27.246	eni-02ce1285087dff464	sg-07846f704490577e1 (Efs-sg)
us-east-1c	fsmt-0fb7d313cc67491ea	subnet-0d2482df5fda86a62	Available	172.31.46.235	eni-088f862322e5c2f96	sg-07846f704490577e1 (Efs-sg)
us-east-1d	fsmt-02e58cb5329d64f08	subnet-0bc7143f2b6c80d0f	Available	172.31.11.154	eni-0d7ec504065616590	sg-07846f704490577e1 (Efs-sg)

- Check availability zone and security group whether they are the same as you created in step 1 and 2.
- Click Next — Next — create.

### STEP 4

#### 1. Mounting efs to Amazon linux

Connect to the servers let's take Amazon Linux 2 by using EC2 instance connect.

— Use below commands

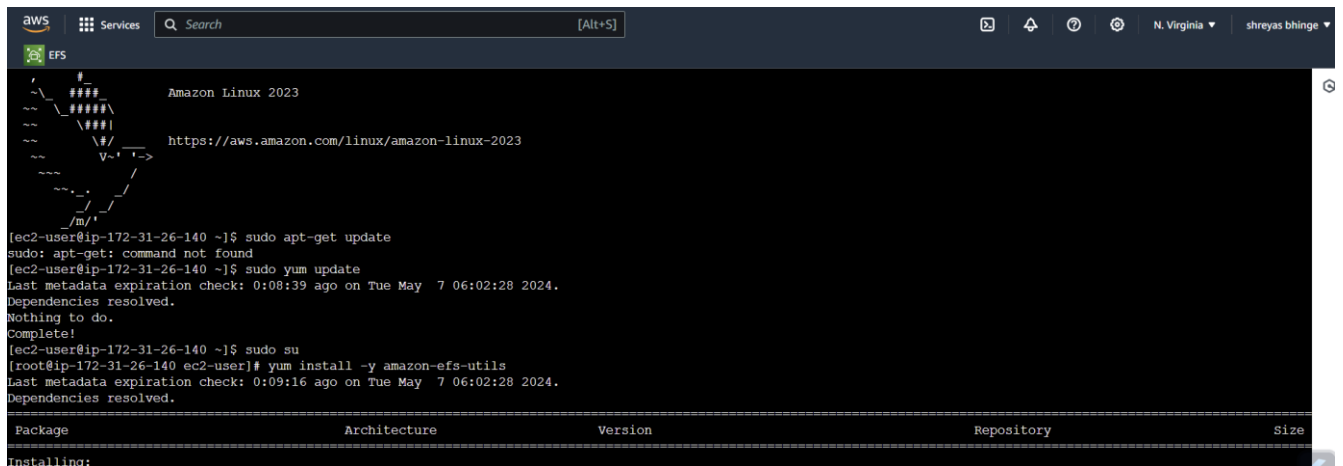
— Shift to root user

```
Sudo su
```

— Use below command to install efs utility

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

## Assignment EC2 and EFS



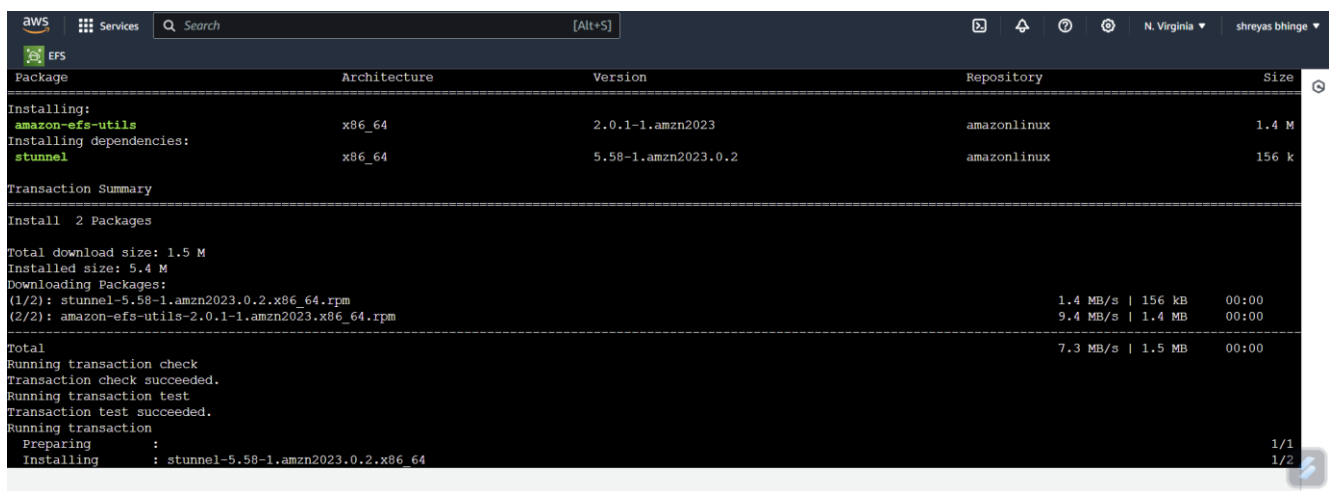
```
aws
Services
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EFS

Amazon Linux 2023
https://aws.amazon.com/linux/amazon-linux-2023

[ec2-user@ip-172-31-26-140 ~]$ sudo apt-get update
sudo: apt-get: command not found
[ec2-user@ip-172-31-26-140 ~]$ sudo yum update
Last metadata expiration check: 0:08:39 ago on Tue May 7 06:02:28 2024.
Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-172-31-26-140 ~]$ sudo su
[root@ip-172-31-26-140 ec2-user]# yum install -y amazon-efs-utils
Last metadata expiration check: 0:09:16 ago on Tue May 7 06:02:28 2024.
Dependencies resolved.

Package Architecture Version Repository Size
-----
Installing:
```



```
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EFS

Package Architecture Version Repository Size
-----
Installing:
amazon-efs-utils x86_64 2.0.1-1.amzn2023 amazonlinux 1.4 M
Installing dependencies:
stunnel x86_64 5.58-1.amzn2023.0.2 amazonlinux 156 k

Transaction Summary
Install 2 Packages

Total download size: 1.5 M
Installed size: 5.4 M
Downloading Packages:
(1/2): stunnel-5.58-1.amzn2023.0.2.x86_64.rpm 1.4 MB/s | 156 kB 00:00
(2/2): amazon-efs-utils-2.0.1-1.amzn2023.x86_64.rpm 9.4 MB/s | 1.4 MB 00:00
Total 7.3 MB/s | 1.5 MB 00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Preparing : 1/1
Installing : stunnel-5.58-1.amzn2023.0.2.x86_64 1/2
```

- Create a folder.

```
Mkdir efs
```

Next go to the efs file

Copy — Using the EFS mount helper as shown below (use your mount, below is just a sample)

## Assignment EC2 and EFS

```
sudo mount -t efs -o tls fs-0318d9f08d1068bd9:/ efs -
```

Attach

Mount your Amazon EFS file system on a Linux instance. [Learn more](#)

☒ Mount via DNS

☐ Mount via IP

copied

Mount helper:  

```
sudo mount -t efs -o tls fs-0f854e9b27339024c:/ efs
```

Using the NFS client:  

```
sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport fs-0f854e9b27339024c.efs.us-east-1.amazonaws.com:/ efs
```

See our user guide for more information. [Learn more](#)

Close

— Use below command to check the mounted files

```
df -h
```

```
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efs
Preparing :
Installing : stunnel-5.58-1.amzn2023.0.2.x86_64
Running scriptlet: stunnel-5.58-1.amzn2023.0.2.x86_64
Installing : amazon-efs-utils-2.0.1-1.amzn2023.x86_64
Running scriptlet: amazon-efs-utils-2.0.1-1.amzn2023.x86_64
Verifying : amazon-efs-utils-2.0.1-1.amzn2023.x86_64
Verifying : stunnel-5.58-1.amzn2023.0.2.x86_64

Installed:
amazon-efs-utils-2.0.1-1.amzn2023.x86_64
stunnel-5.58-1.amzn2023.0.2.x86_64

Complete!
[root@ip-172-31-26-140 ec2-user]# mkdir efs
[root@ip-172-31-26-140 ec2-user]# sudo mount -t efs -o tls fs-0f854e9b27339024c:/ efs
[root@ip-172-31-26-140 ec2-user]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs         4.0M   0  4.0M   0% /dev
tmpfs            475M   0  475M   0% /dev/shm
tmpfs            190M  2.9M  188M   2% /run
/dev/xvda1       8.0G  1.6G  6.5G  20% /
tmpfs            475M   0  475M   0% /tmp
/dev/xvda128     10M  1.3M  8.7M  13% /boot/efi
tmpfs            95M   0   95M   0% /run/user/1000
127.0.0.1:/      8.0E   0   8.0E   0% /home/ec2-user/efs
[root@ip-172-31-26-140 ec2-user]#
```

2.Mounting efs to the ubuntu instance and redhat instance

## Assignment EC2 and EFS

Use below commands to install the required packages to mount efs

```
sudo apt-get update

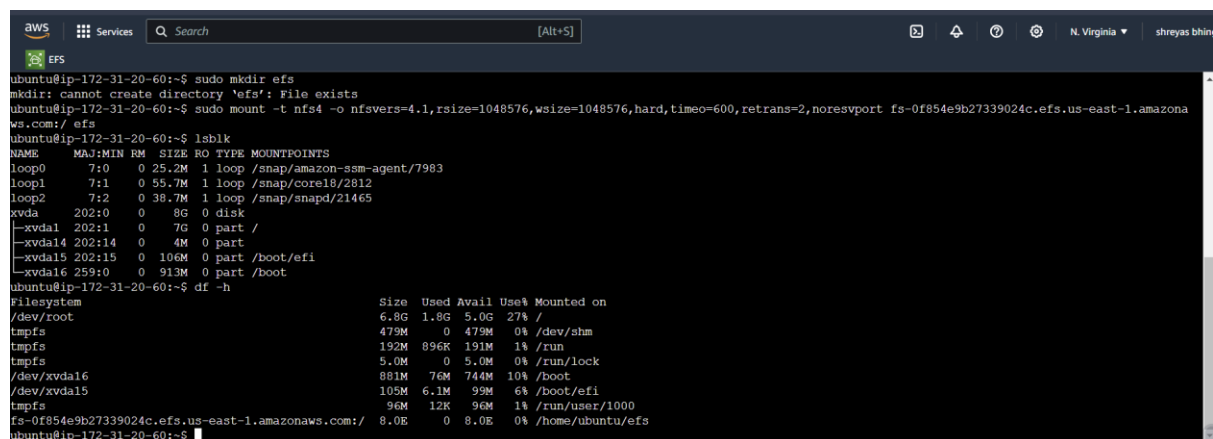
sudo apt install nfs-common -y $$ /

sudo systemctl status nfs-utils
```

Mount the EFS Drive

## Make a folder that EFS will be associated

```
sudo mkdir /mnt/efs
sudo mount -t efs -o tls fs-0318d9f08d1068bd9:/ /efs
cd efs
df -h
```



The screenshot shows a terminal window on an Ubuntu EC2 instance. The user attempts to create a directory named 'efs' but fails because it already exists. They then successfully mount the EFS file system 'fs-0318d9f08d1068bd9' to the directory '/mnt/efs' using the 'mount' command. After navigating to the '/mnt/efs' directory, they run 'df -h' to check the disk usage. The output of 'df -h' shows the mounted EFS file system with a size of 8.0G and 0% usage.

```
aws
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EFS
ubuntu@ip-172-31-20-60:~$ sudo mkdir efs
mkdir: cannot create directory 'efs': File exists
ubuntu@ip-172-31-20-60:~$ sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsz=1048576,hard,timeo=600,retrans=2,noresvport fs-0f854e9b27339024c.efs.us-east-1.amazonaws.com:/ /efs
ubuntu@ip-172-31-20-60:~$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0        7:0      0   25.2M  1 loop /snap/amazon-ssm-agent/7983
loop1        7:1      0   55.7M  1 loop /snap/core18/2812
loop2        7:2      0   38.7M  1 loop /snap/snapd/21465
xvda         202:0    0    8G   0 disk 
├─xvda1      202:1    0    7G   0 part /
├─xvda14     202:14   0    4M   0 part 
├─xvda15     202:15   0   106M  0 part /boot/efi
└─xvda16     202:16   0   913M  0 part /boot
ubuntu@ip-172-31-20-60:~$ df -h
Filesystem                Size      Used Avail Use% Mounted on
/dev/root                  6.8G      1.8G   5.0G  27% /
tmpfs                      479M         0   479M   0% /dev/shm
tmpfs                      192M      896K   191M   1% /run
tmpfs                      5.0M         0   5.0M   0% /run/lock
/dev/xvda16                881M       76M   744M  10% /boot
/dev/xvda15                105M       6.1M    99M   6% /boot/efi
tmpfs                      96M       12K    96M   1% /run/user/1000
fs-0f854e9b27339024c.efs.us-east-1.amazonaws.com:/ 8.0G         0   8.0G   0% /home/ubuntu/efs
ubuntu@ip-172-31-20-60:~$
```