Create an Amazon EFS File System and Mount to an EC2 Instance

Overview:

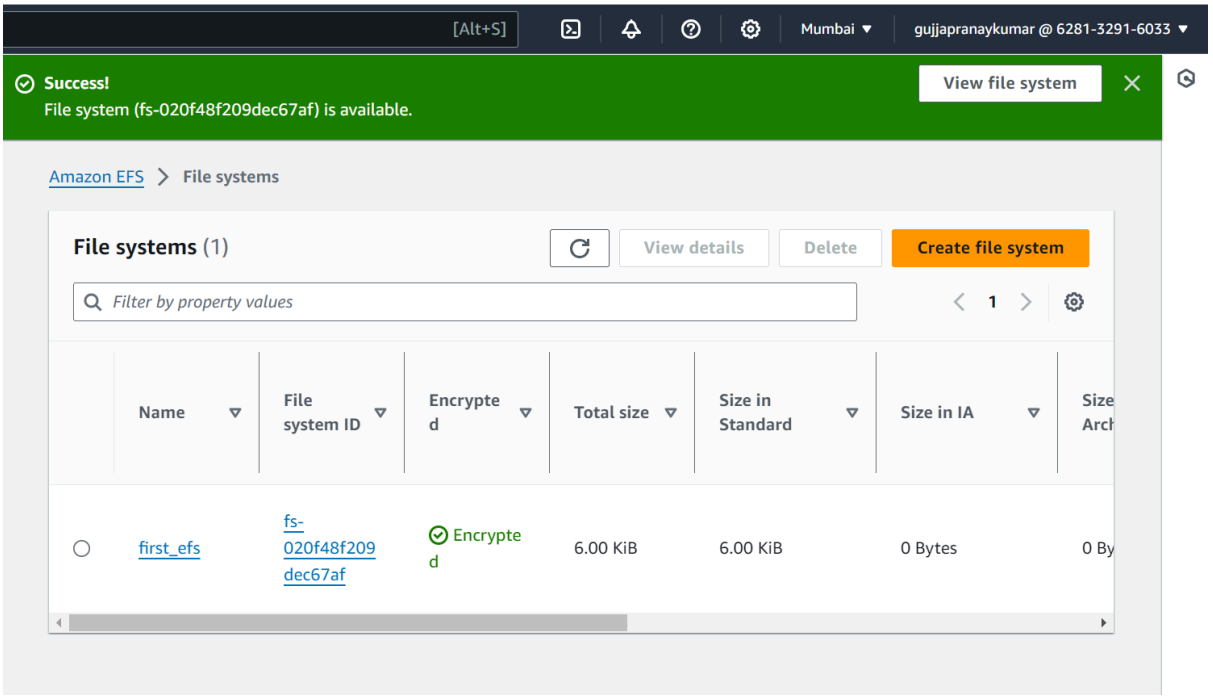
●Creating EFS file system

●Mounting it with two instances (you can have it mounted with 2 public instances that we have launched)

Steps:

1.Navigate to EFS service page and click on “create file system”

2.Provide the Name, select the VPC and click on “create” and file system is created
You need to have specific security groups to perform the mount, follow the document attached with the assignment and configure
A:



3.
Navigate to your instance where you added the security group you need to create a

directory where you will mount the EFS. Navigate to /mnt and run
sudo mkdir efs
cd efs
sudo mkdir fs2
A:

```
Last login: Thu Jan 18 07:09:29 2024 from 152.58.196.127
[ec2-user@ip-10-0-0-58 ~]$ cd /mnt
[ec2-user@ip-10-0-0-58 mnt]$ sudo mkdir efs
[ec2-user@ip-10-0-0-58 mnt]$ cd efs
[ec2-user@ip-10-0-0-58 efs]$ sudo mkdir fs2
[ec2-user@ip-10-0-0-58 efs]$
```

4.Now, you need to install the amazon efs utils library, which will allow us to run the connection command and mount the EFS. Run the command

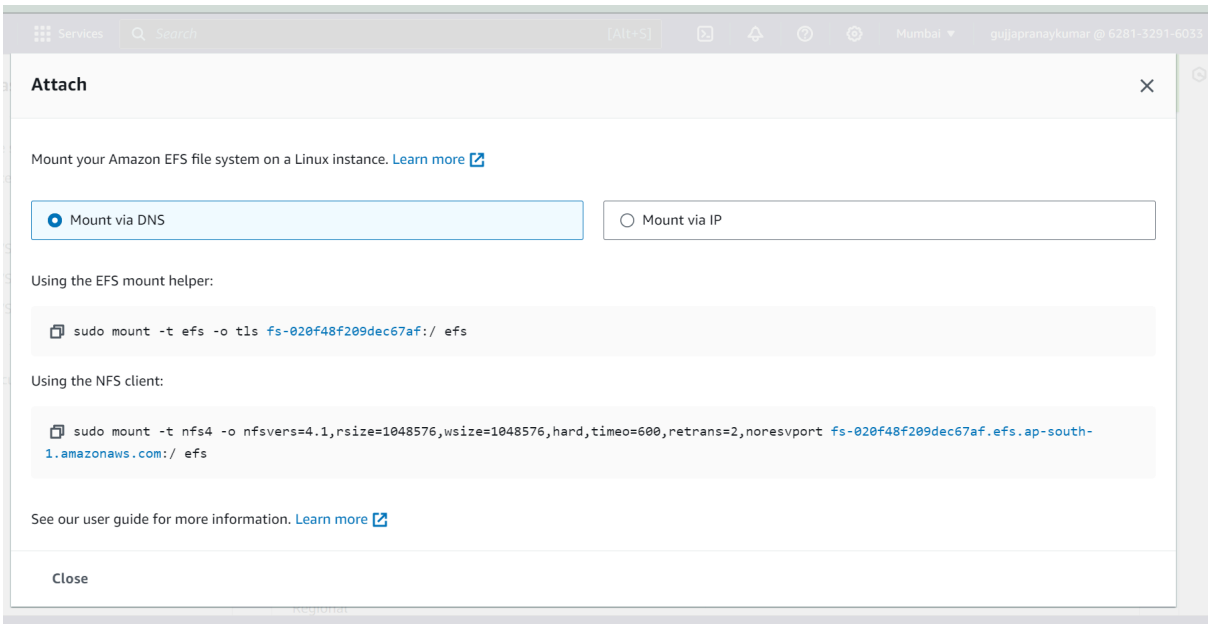
sudo yum install -y amazon-efs-utils
A:

```
[ec2-user@ip-10-0-0-58 ~]$ sudo yum install -y amazon-efs-utils
Last metadata expiration check: 0:02:42 ago on Sat Jan 27 06:51:17 2024.
Dependencies resolved.
================================================================================
 Package                Architecture        Version                 Repository                Size
================================================================================
Installing:
 amazon-efs-utils       noarch              1.35.0-1.amzn2023       amazonlinux               56 k
Installing dependencies:
 stunnel                x86_64              5.58-1.amzn2023.0.2     amazonlinux              156 k

Transaction Summary
================================================================================
Install  2 Packages

Total download size: 212 k
Installed size: 556 k
Downloading Packages:
(1/2): amazon-efs-utils-1.35.0-1.amzn2023.noarch.rpm                959 kB/s |  56 kB     00:00
```

5.Access the file system that you created, and click on the button "Attach."
6.Copy the command as marked below
A:



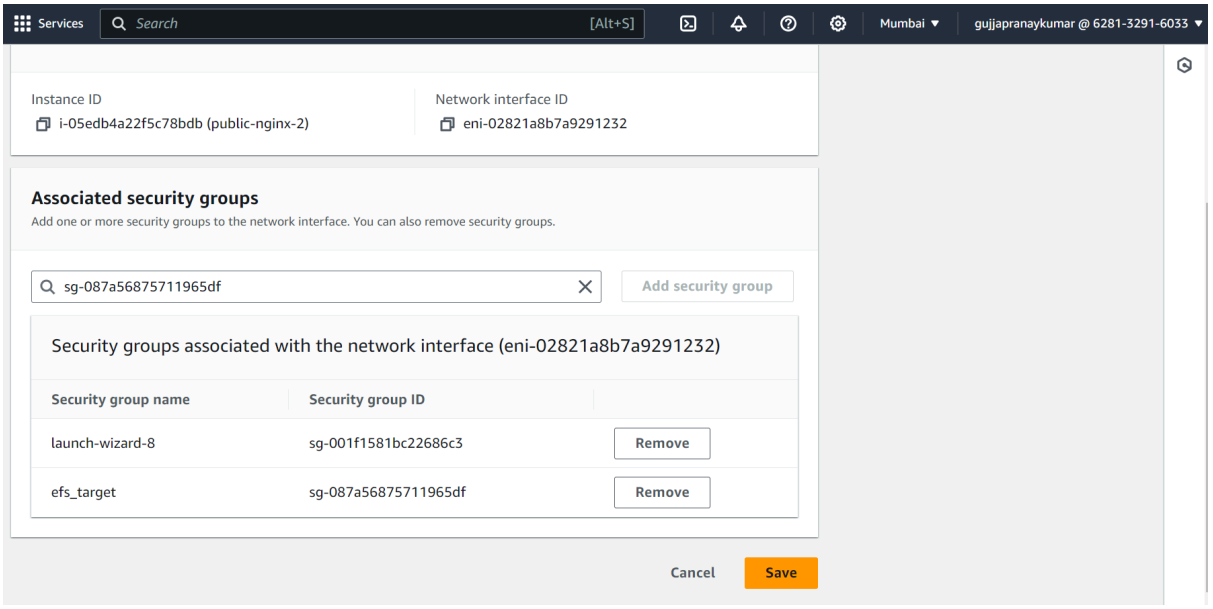
7.Navigate to your instance and paste the copied command and you need to include the path where you have created the folder
mnt/efs/fs2
sudo mount -t efs -o tls fs-0c77a44e51e7f72ee:/ /mnt/efs/fs2
(Note : you need to copy the highlighted command from your efs mount)
8.Run the command in your instance and successful mount will return no error
9.Verify you have successfully mounted using the command df -h
a:

```
[ec2-user@ip-10-0-0-58 ~]$ sudo mount -t efs -o tls fs-020f48f209dec67af:/ /mnt/efs/fs2
[ec2-user@ip-10-0-0-58 ~]$ 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  3.0M  187M   2% /run
/dev/xvda1      8.0G  2.1G  6.0G  26% /
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% /mnt/efs/fs2
[ec2-user@ip-10-0-0-58 ~]$
```

10. Similarly you can access another instance and mount the efs using the same command
(create file directory structure /mnt/efs/fs2 before running)
(you need to add the EFS Target group to this EC2 instance)
sudo mount -t efs -o tls fs-0c77a44e51e7f72ee:/ /mnt/efs/fs2
(Note : you need to copy the highlighted command from your efs mount)

11. Run the command in your instance and successful mount will return no error

12. Verify you have successfully mounted using the command df -h
A: **another instance**




```
[ec2-user@ip-10-0-1-106 ~]$ sudo mount -t efs -o tls fs-020f48f209dec67af:/ /mnt/efs/fs2
[ec2-user@ip-10-0-1-106 ~]$ 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  187M   2% /run
/dev/xvda1      8.0G  2.1G  6.0G  26% /
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% /mnt/efs/fs2
[ec2-user@ip-10-0-1-106 ~]$
```

13. Now create any file say in any one of the instance in the path /mnt/efs/fs2, it should be

reflected in the other instance as well
A:

```
[ec2-user@ip-10-0-1-106 fs2]$ sudo vi test.txt
 [New] 4L, 76B written
[ec2-user@ip-10-0-1-106 fs2]$
```

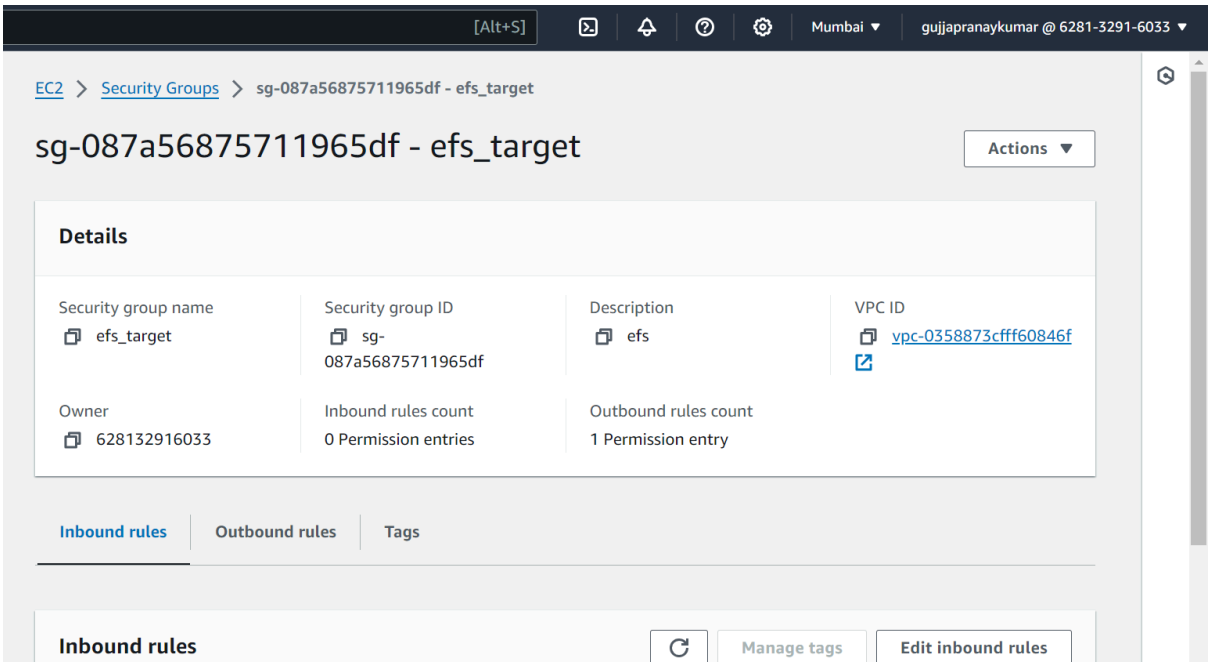
```
[ec2-user@ip-10-0-0-58 ~]$ cd /mnt/efs
[ec2-user@ip-10-0-0-58 efs]$ cd fs2/
[ec2-user@ip-10-0-0-58 fs2]$ ls
test.txt
[ec2-user@ip-10-0-0-58 fs2]$ cat test.txt
hey hi i'm testing the efs


if this file is shown then efs is working good
[ec2-user@ip-10-0-0-58 fs2]$
```

END

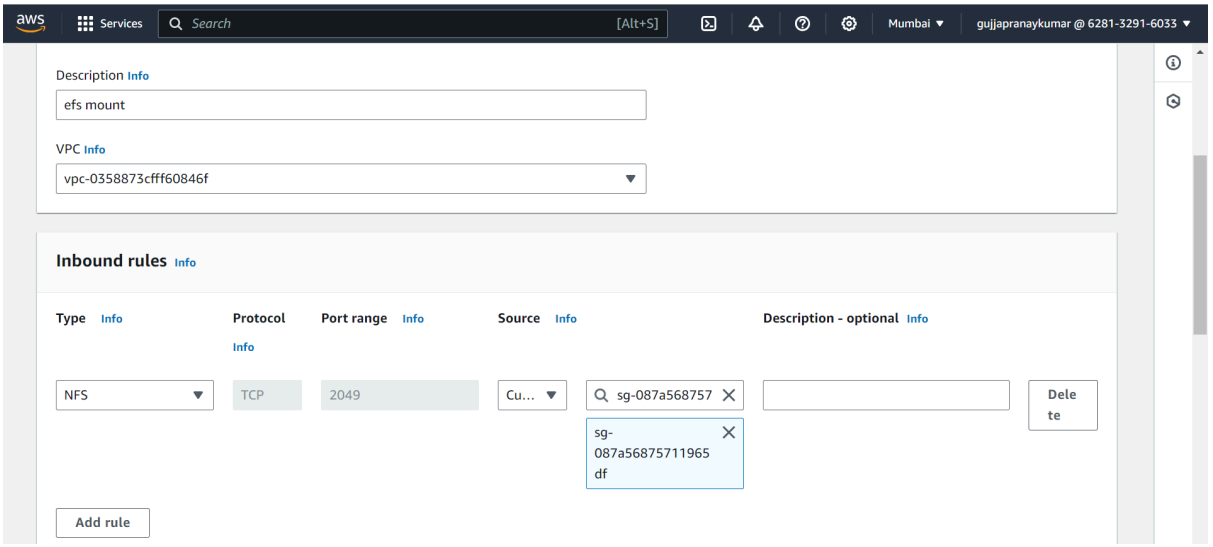
Security groups
Security Group configuration for EFS

1.Create a new security group name it EFS Target, and leave all the rules blank and save it (There will be no inbound or outbound rules)
A:

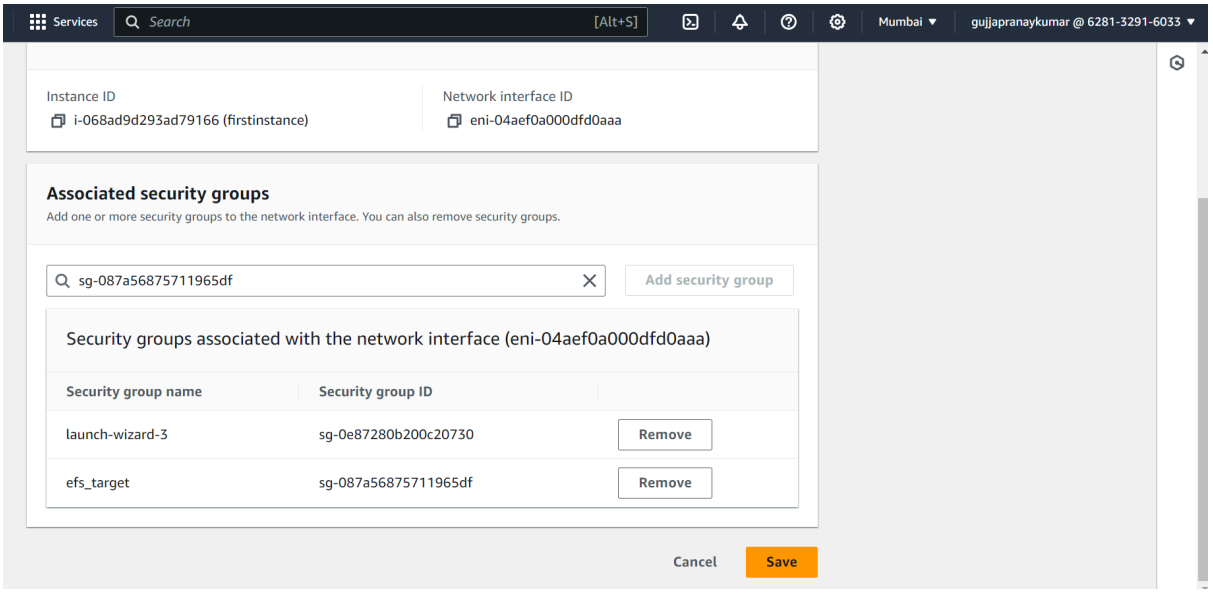


2.Create another security group named EFS Mount, and in this one add the inbound rule for NFS. Set the SOURCE for this rule to the EFS Target security group

a:

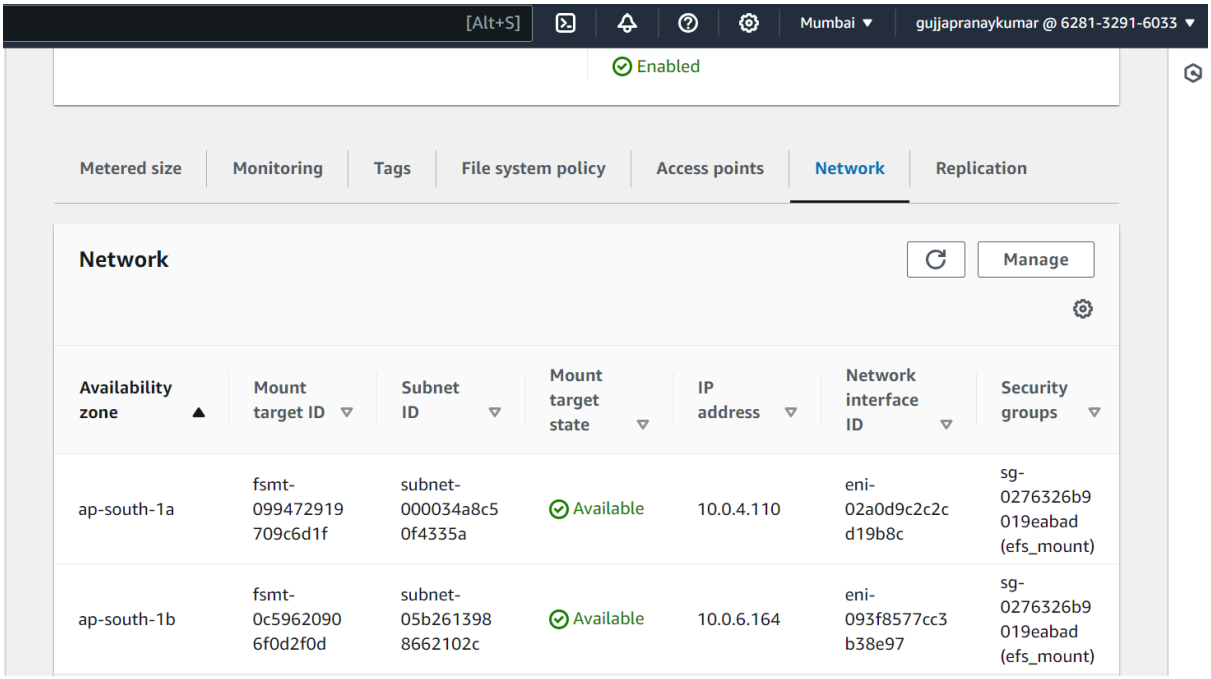


3.Add the EFS Target group to your EC2 instance, follow the screenshots
A:



4. Go to the EFS dashboard navigate to the network tab
for each EFS Mount Target (availability zone), you need to add the EFS Mount security group and remove the VPC Default group

A:


[Alt+S]
Mumbai
gujjapranaykumar @ 6281-3291-6033
Enabled
Metered size
Monitoring
Tags
File system policy
Access points
Network
Replication
Network
Manage
Availability zone
Mount target ID
Subnet ID
Mount target state
IP address
Network interface ID
Security groups
ap-south-1a
fsmt-0994729197 09c6d1f
subnet-000034a8c5 0f4335a
Available
10.0.4.110
eni-02a0d9c2c2c d19b8c
sg-0276326b9 019eabad (efs_mount)
ap-south-1b
fsmt-0c59620906 f0d2f0d
subnet-05b2613988 662102c
Available
10.0.6.164
eni-093f8577cc3 b38e97
sg-0276326b9 019eabad (efs_mount)