

## ➤ Create 2 Ec2 instances with same security group.

**Launch an instance**

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

**Name and tags**

Name:  Add additional tags

**Application and OS Images (Amazon Machine Image)**

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below.

Search our full catalog including 1000s of application and OS images

Recents Quick Start

Amazon Linux macOS Ubuntu Windows Red Hat SUSE Linux

**Summary**

Number of instances: 2

When launching more than 1 instance, consider EC2 Auto Scaling

Software Image (AMI)  
Amazon Linux 2023 AMI 2023.5.2...read more  
ami-Qa44084579a03be3

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
New security group

Storage (volumes)  
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million...

Cancel Launch instance Review commands

**Amazon Machine Image (AMI)**

Amazon Linux 2023 AMI  
ami-Qa44084579a03be3 (64-bit x86, uefi-preferred) / ami-0741e326f07d8bfa8 (64-bit ARM, uefi)  
Virtualization: hvm ENA enabled: true Root device type: ebs Free tier eligible

Description  
Amazon Linux 2023 is a modern, general purpose Linux-based OS that comes with 5 years of long term support. It is optimized for AWS and designed to provide a secure, stable and high-performance execution environment to develop and run your cloud applications.

Architecture: 64-bit (x86) Boot mode: uefi-preferred AMI ID: ami-Qa44084579a03be3 Verified provider

**Instance type**

Instance type: t2.micro Free tier eligible

Family: t2 1 vCPU 1 GiB Memory Current generation: true  
On-Demand Linux base pricing: 0.0124 USD per hour  
On-Demand Windows base pricing: 0.017 USD per hour  
On-Demand RHEL base pricing: 0.0248 USD per hour  
On-Demand SUSE base pricing: 0.0324 USD per hour

Additional costs apply for AMIs with pre-installed software

**Key pair (login)**

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required: test-L Create new key pair

**Network settings**

VPC - required: vpc-0cb7547ea7b6d145e (default) Create new VPC

Subnet: No preference Create new subnet

Auto-assign public IP: Enable

Additional charges apply when outside of free tier allowance

Firewall (security groups): Create security group Select existing security group

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VPC - required: vpc-0cb7547ea7b6d145e (default) Create new VPC

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Cancel Launch instance Review commands

➤ Allow NFS port in this security group

**Firewall (security group)** info  
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

[Create security group](#) [Select existing security group](#)

Security group name - required  
efs

Description - required info  
efs\_launch-wizard-2 created 2024-08-16T07:49:18.871Z

**Inbound Security Group Rules**

Security group rule 1 (TCP: 22, 0.0.0.0/0) [Remove](#)

Type	Protocol	Port range	Source type	Source	Description - optional
ssh	TCP	22	Anywhere	0.0.0.0/0	e.g. SSH for admin desktop

Security group rule 2 (TCP: 2049, 0.0.0.0/0) [Remove](#)

Type	Protocol	Port range	Source type	Source	Description - optional
NFS	TCP	2049	Anywhere	0.0.0.0/0	e.g. SSH for admin desktop

**Summary**

Number of instances info  
2

When launching more than 1 instance, consider EC2 Auto Scaling

Software Image (AMI)  
Amazon Linux 2023 AMI 2023.5.2...read more  
ami-0a4408457f9a03be3

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
New security group

Storage (volumes)  
1 volume(s) - 8 GiB

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[Cancel](#) [Launch instance](#) [Review commands](#)

**Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.** [Add security group rule](#)

**Configure storage** info [Advanced](#)

1x 8 GiB gp3 Root volume (Not encrypted)

**Free tier:** In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million...

[Add new volume](#)

[Click refresh to view backup information](#)

The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems [Edit](#)

**Advanced details** info

**Summary**

Number of instances info  
2

When launching more than 1 instance, consider EC2 Auto Scaling

Software Image (AMI)  
Amazon Linux 2023 AMI 2023.5.2...read more  
ami-0a4408457f9a03be3

Virtual server type (instance type)  
t2.micro

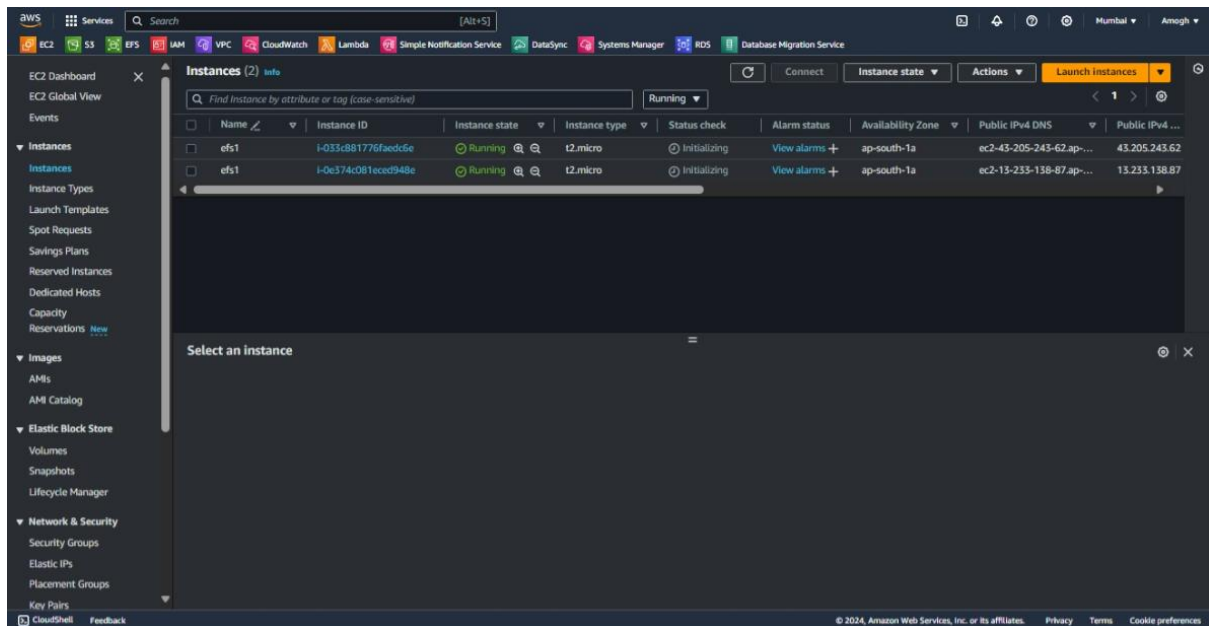
Firewall (security group)  
New security group

Storage (volumes)  
1 volume(s) - 8 GiB

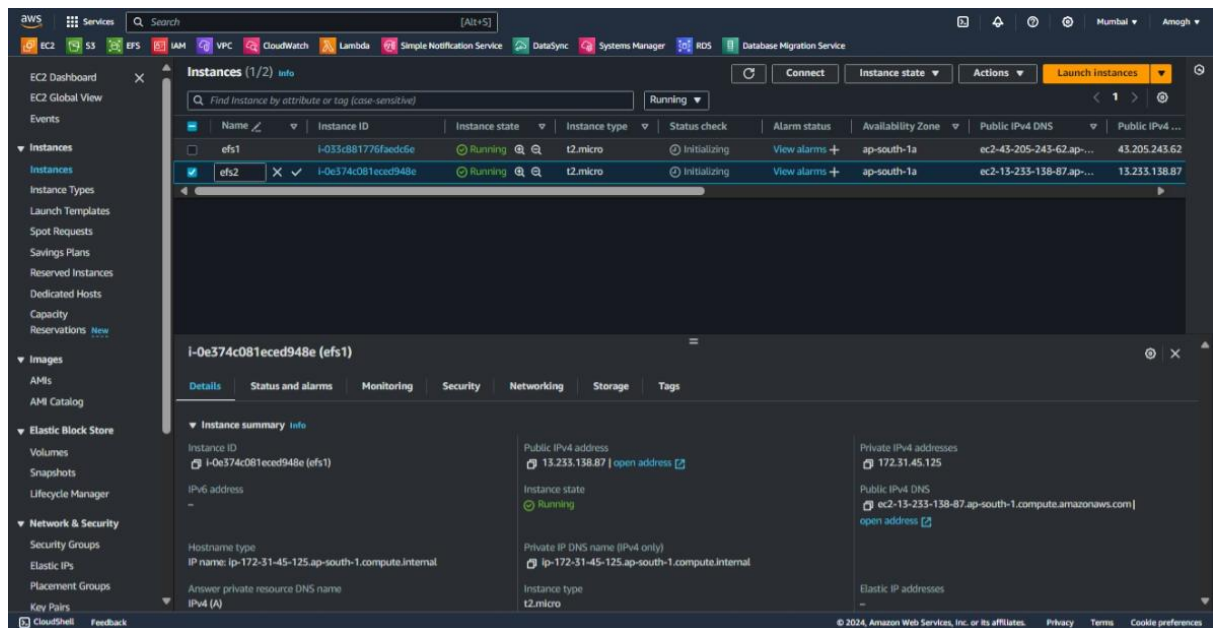
**Free tier:** In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million...

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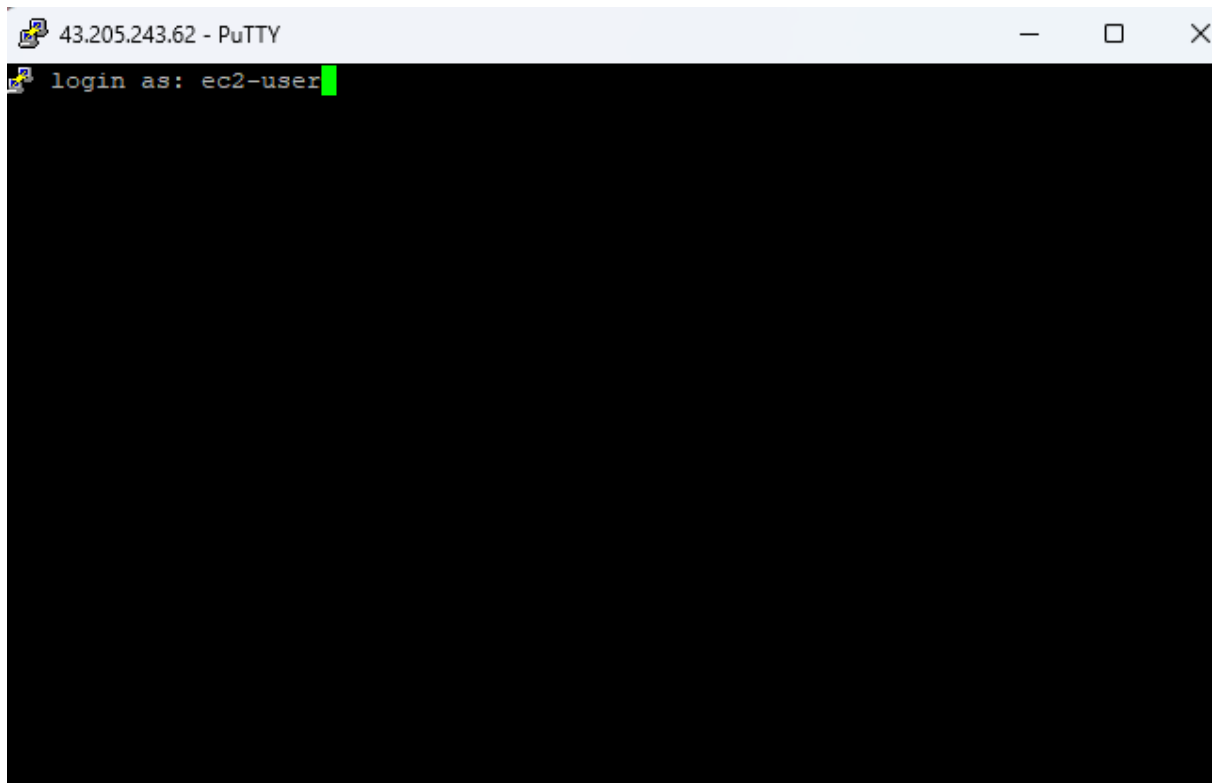
➤ Now, 2 Ec2 instances are created



➤ For no confusion change one of the instance name as efs2.



- Login to 1<sup>st</sup> Ec2 instance through PuTTY .i.e efs1



A screenshot of a PuTTY terminal window. The title bar reads "43.205.243.62 - PuTTY". The terminal content shows a login prompt "login as: ec2-user" followed by a green cursor. The background is black.

- Go to administrator access by typing “**sudo-i**” command



A screenshot of a PuTTY terminal window. The title bar reads "root@ip-172-31-42-45:~". The terminal content shows the login process for "ec2-user" using a public key "test-L". It displays the Amazon Linux 2023 logo and the URL "https://aws.amazon.com/linux/amazon-linux-2023". The prompt changes from "[ec2-user@ip-172-31-42-45 ~]" to "[root@ip-172-31-42-45 ~]" after the command "sudo -i" is entered. A green cursor is visible at the end of the root prompt.

- Install Efs storage in instance by typing “**yum install amazon-efs-utils -y**” or without sudo access we can directly give the following command “**sudo yum install amazon-efs-utils -y**”

```
root@ip-172-31-43-107:~
Installed size: 5.5 M
Downloading Packages:
(1/2): stunnel-5.58-1.amzn2023.0.2.x86_64.rpm 1.7 MB/s | 156 kB 00:00
(2/2): amazon-efs-utils-2.0.4-1.amzn2023.x86_64 12 MB/s | 1.4 MB 00:00
-----
Total 8.7 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
  Running scriptlet: stunnel-5.58-1.amzn2023.0.2.x86_64 1/2
  Installing : amazon-efs-utils-2.0.4-1.amzn2023.x86_64 2/2
  Running scriptlet: amazon-efs-utils-2.0.4-1.amzn2023.x86_64 2/2
  Verifying : amazon-efs-utils-2.0.4-1.amzn2023.x86_64 1/2
  Verifying : stunnel-5.58-1.amzn2023.0.2.x86_64 2/2

Installed:
  amazon-efs-utils-2.0.4-1.amzn2023.x86_64 stunnel-5.58-1.amzn2023.0.2.x86_64

Complete!
[root@ip-172-31-43-107 ~]#
```

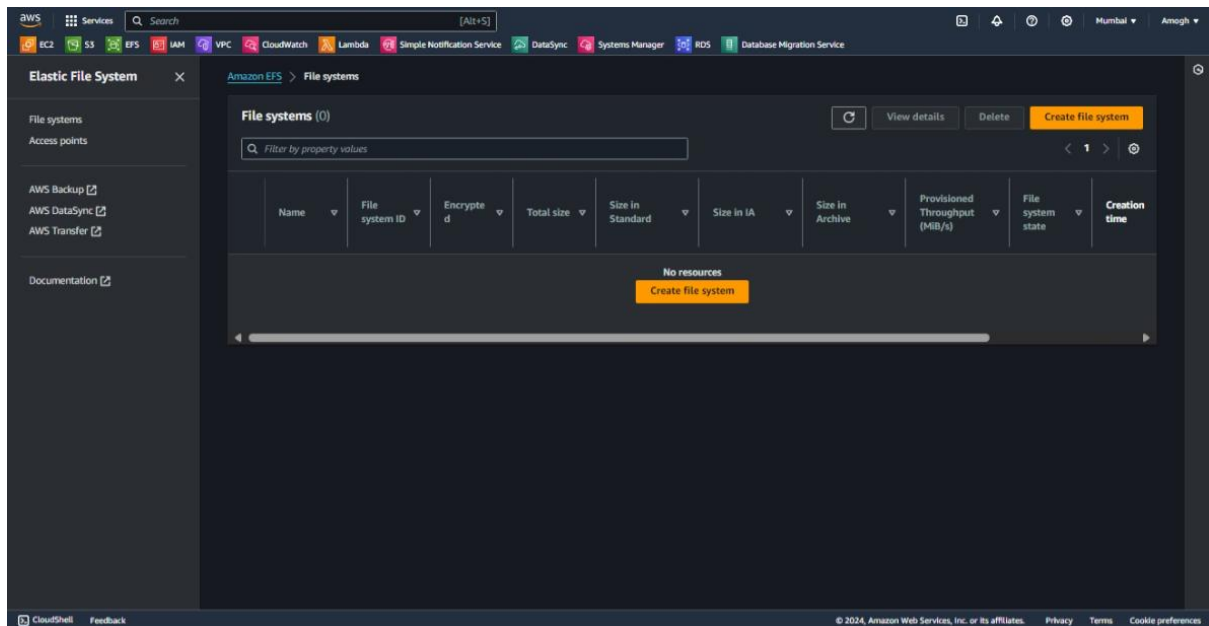
- Create a directory for accessing the file(s) through another instance.

```
root@ip-172-31-43-107:/efs
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing : 1/1
  Installing : stunnel-5.58-1.amzn2023.0.2.x86_64 1/2
  Running scriptlet: stunnel-5.58-1.amzn2023.0.2.x86_64 1/2
  Installing : amazon-efs-utils-2.0.4-1.amzn2023.x86_64 2/2
  Running scriptlet: amazon-efs-utils-2.0.4-1.amzn2023.x86_64 2/2
  Verifying : amazon-efs-utils-2.0.4-1.amzn2023.x86_64 1/2
  Verifying : stunnel-5.58-1.amzn2023.0.2.x86_64 2/2

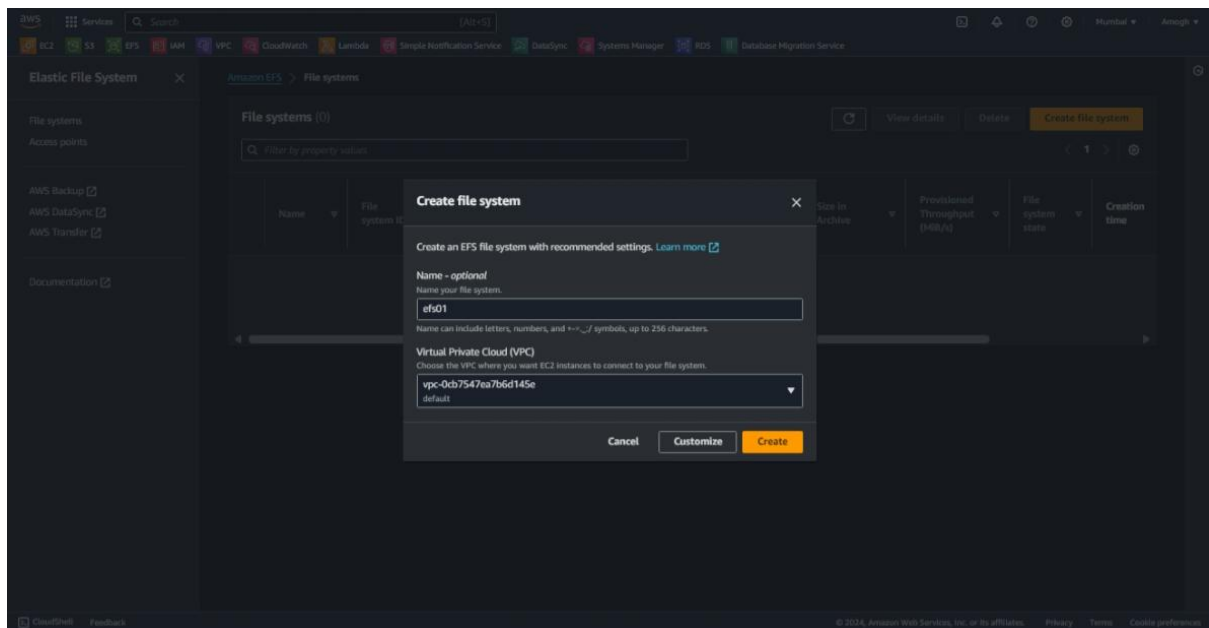
Installed:
  amazon-efs-utils-2.0.4-1.amzn2023.x86_64 stunnel-5.58-1.amzn2023.0.2.x86_64

Complete!
[root@ip-172-31-43-107 ~]# mkdir /efs
[root@ip-172-31-43-107 ~]# cd efs
-bash: cd: efs: No such file or directory
[root@ip-172-31-43-107 ~]# cd /efs
[root@ip-172-31-43-107 efs]# touch file1
[root@ip-172-31-43-107 efs]# ll
total 0
-rw-r--r--. 1 root root 0 Aug 16 09:30 file1
[root@ip-172-31-43-107 efs]#
```

➤ Now we should go-to Aws Console and navigate to Efs.



➤ Create an efs File system and click customize





Services

Search

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EC2

S3

EFS

IAM

VPC

CloudWatch

Lambda

Simple Notification Service

DataSync

Systems Manager

RDS

Database Migration Service

Amazon EFS

File systems

Create

Step 1  
File system settings

Step 2  
Network access

Step 3 - optional  
File system policy

Step 4  
Review and create

## File system settings

### General

Name - optional

Name your file system.

efs01

File system type

Choose to either store data across multiple Availability Zones or within a single Availability Zone. [Learn more](#)

☒ Regional

Offers the highest levels of availability and durability by storing file system data across multiple Availability Zones within an AWS Region.

☐ One Zone

Provides continuous availability to data within a single Availability Zone within an AWS Region.

Automatic backups

Automatically backup your file system data with AWS Backup using recommended settings. Additional pricing applies. [Learn more](#)

☒ Enable automatic backups

Lifecycle management

Automatically save money as access patterns change by moving files into the Infrequent Access (IA) or Archive storage class. [Learn more](#)

Transition into Infrequent Access (IA)

Transition files to IA based on the time since they were last accessed in Standard storage.

30 day(s) since last access

Transition into Archive

Transition files to Archive based on the time since they were last accessed in Standard storage.

90 day(s) since last access

Transition into Standard

Transition files back to Standard storage based on when they are first accessed in IA or Archive storage.

None

Encryption

Choose to enable encryption of your file system's data at rest. Uses the AWS KMS service key (aws/elasticfilesystem) by default. [Learn more](#)

☒ Enable encryption of data at rest

CloudShell

Feedback

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[Alt+S]

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## Network access

### Network

Virtual Private Cloud (VPC) [Learn more](#)

Choose the VPC where you want EC2 instances to connect to your file system.

vpc-0cb7547ea7b6d145e

default

Mount targets

A mount target provides an NFSv4 endpoint at which you can mount an Amazon EFS file system. We recommend creating one mount target per Availability Zone. [Learn more](#)

Availability zone	Subnet ID	IP address	Security groups	
ap-south-1a	subnet-0a12992cf88fa12...	Automatic	<div>Choose security groups</div> <div>sg-08ef953424a6e8e09</div> <div>default</div>	<div>Remove</div>
ap-south-1b	subnet-0f83f432ed6e23b...	Automatic	<div>Choose security groups</div> <div>sg-08ef953424a6e8e09</div> <div>default</div>	<div>Remove</div>
ap-south-1c	subnet-0649589085742...	Automatic	<div>Choose security groups</div> <div>sg-08ef953424a6e8e09</div> <div>default</div>	<div>Remove</div>

Add mount target

You can only create one mount target per Availability Zone.

CloudShell

Feedback

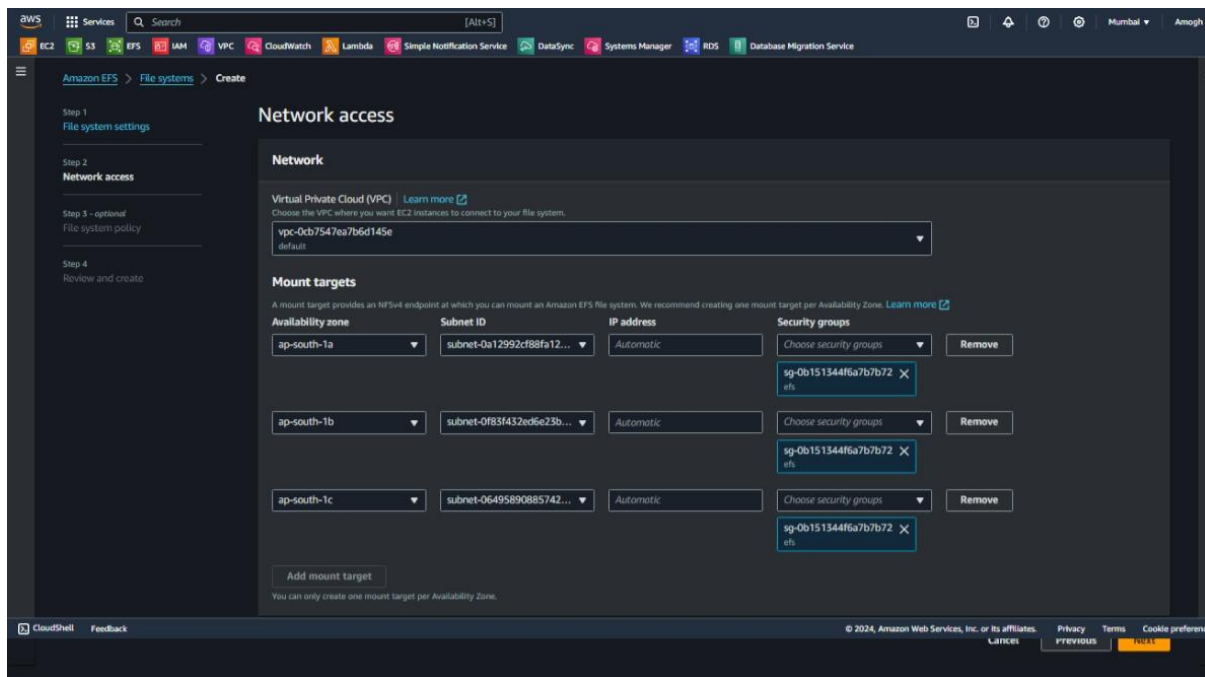
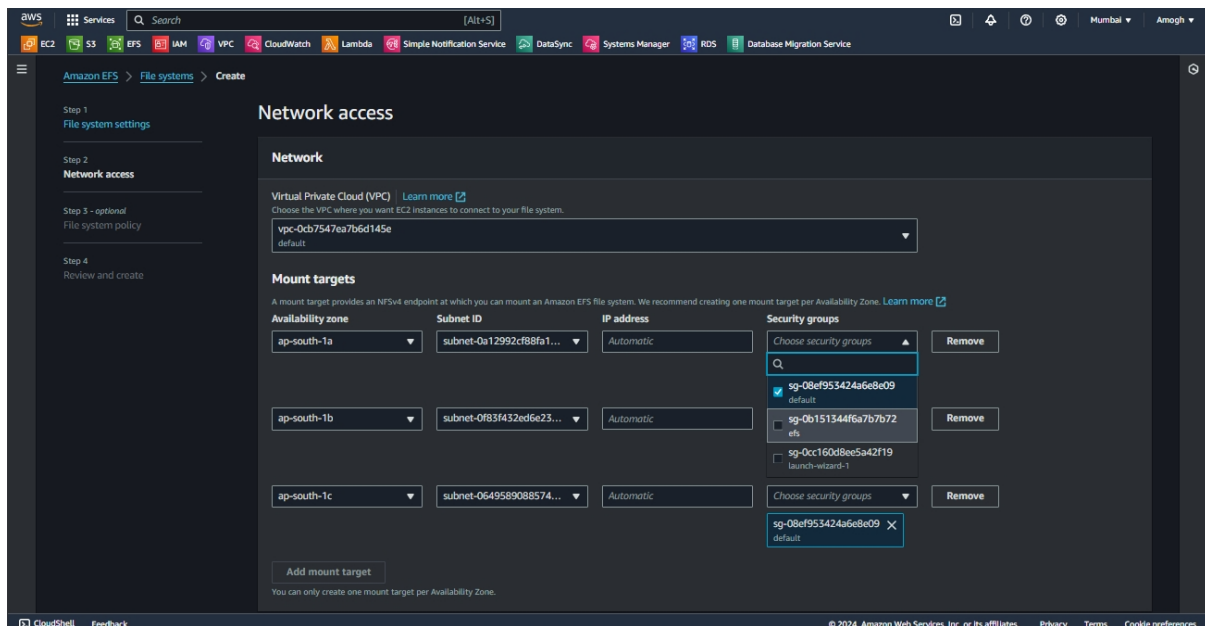
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LAUNCH

PREVIOUS

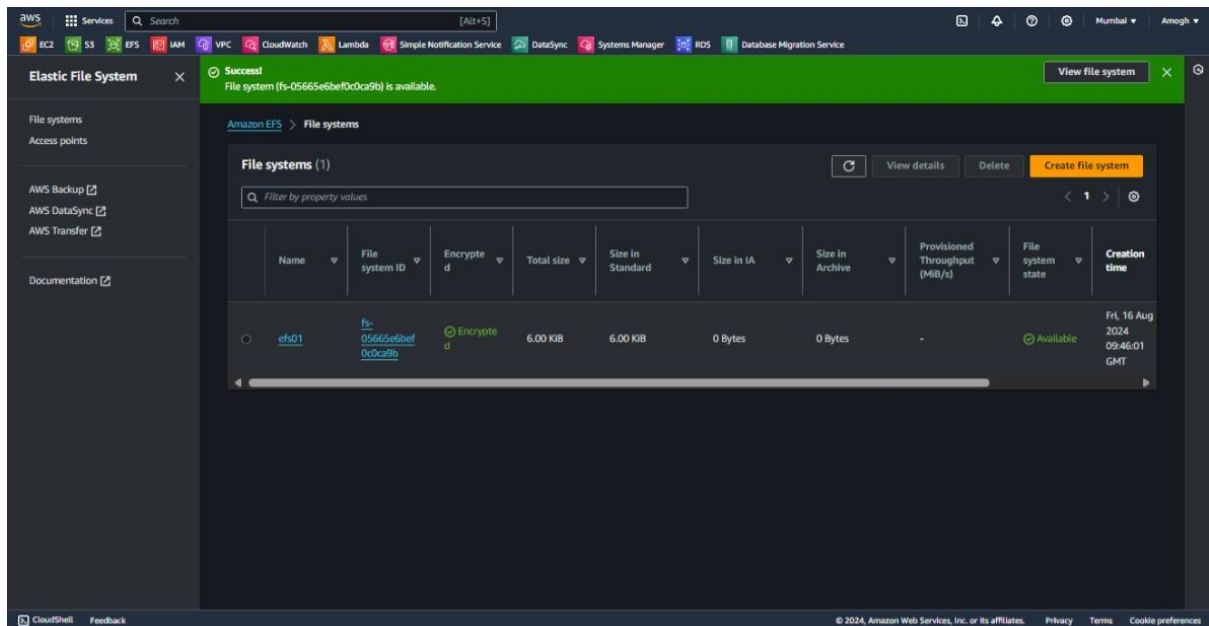
NEXT

- In the 2<sup>nd</sup> step it will take default Security Group(SG), but here we created a separate Security group(Sg) so we need to edit and set the three security group of Availability Zones(Az) to our efs security groups.

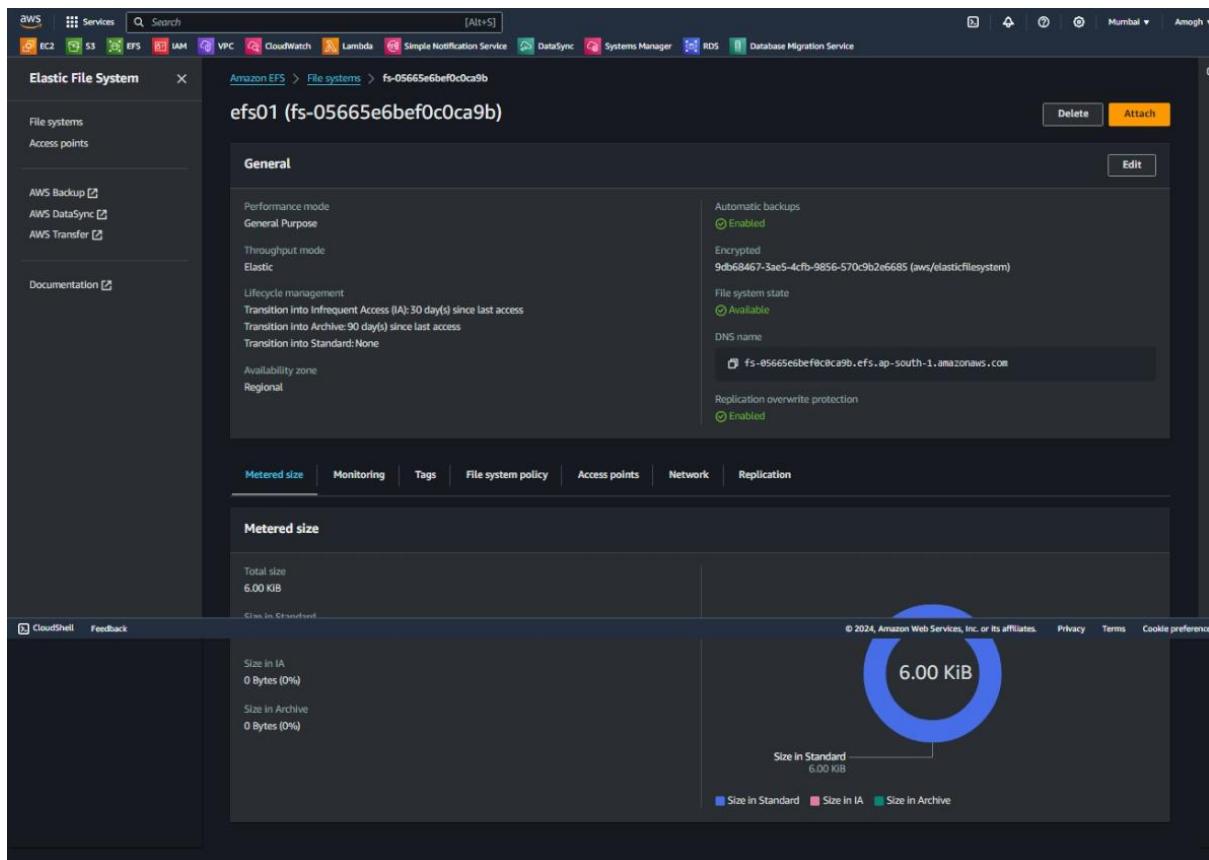


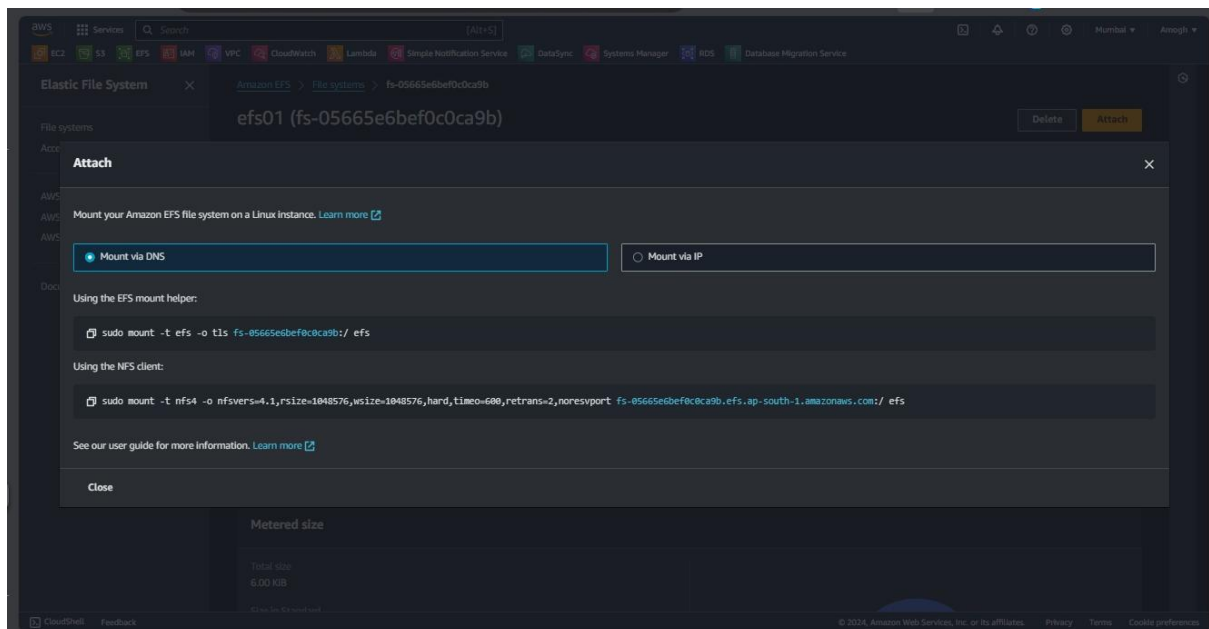


➤ Click next ➤ Next and Finish.



➤ Copy mount command from efs in Attach popup and run





It takes some time(few moments) to execute

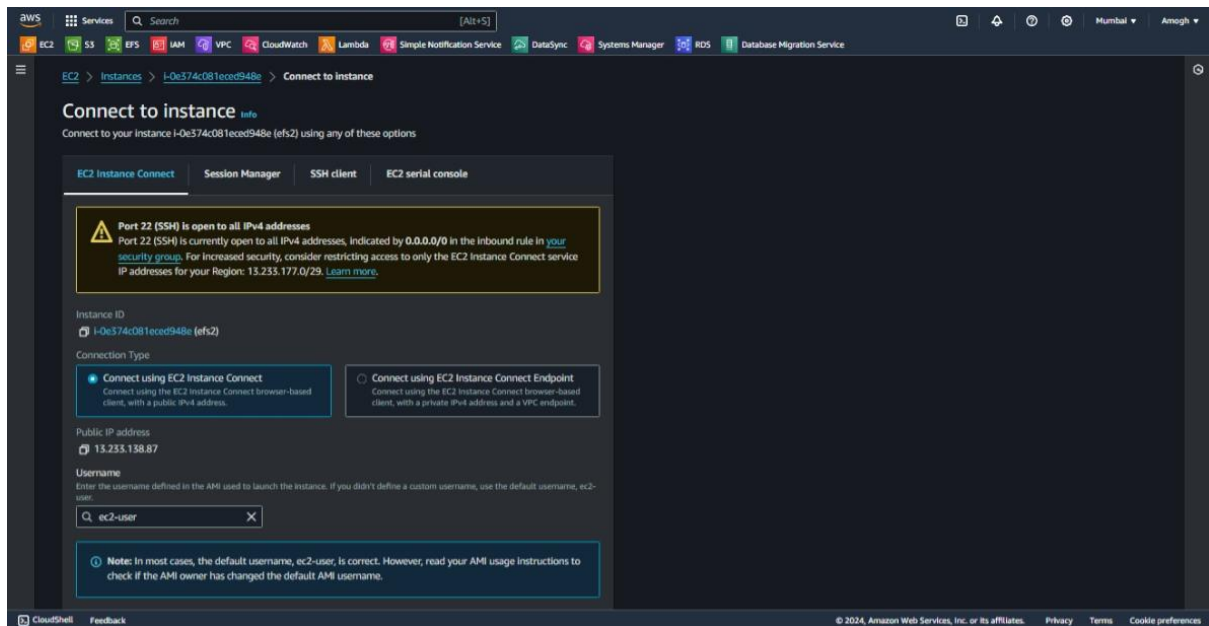
```

root@ip-172-31-43-107:/efs
Amazon Linux 2023
https://aws.amazon.com/linux/amazon-linux-2023
Last login: Fri Aug 16 09:50:44 2024 from 49.37.156.161
[ec2-user@ip-172-31-43-107 ~]$ sudo -i
[root@ip-172-31-43-107 ~]# yum install amazon-efs-utils -y
Last metadata expiration check: 0:57:28 ago on Fri Aug 16 09:24:06 2024.
Package amazon-efs-utils-2.0.4-1.amzn2023.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-172-31-43-107 ~]# cd /efs
[root@ip-172-31-43-107 efs]# ll
total 0
-rw-r--r--. 1 root root 0 Aug 16 09:30 file1
[root@ip-172-31-43-107 efs]# sudo mount -t efs -o tls fs-05665e6bef0c0ca9b:/ /ef
s

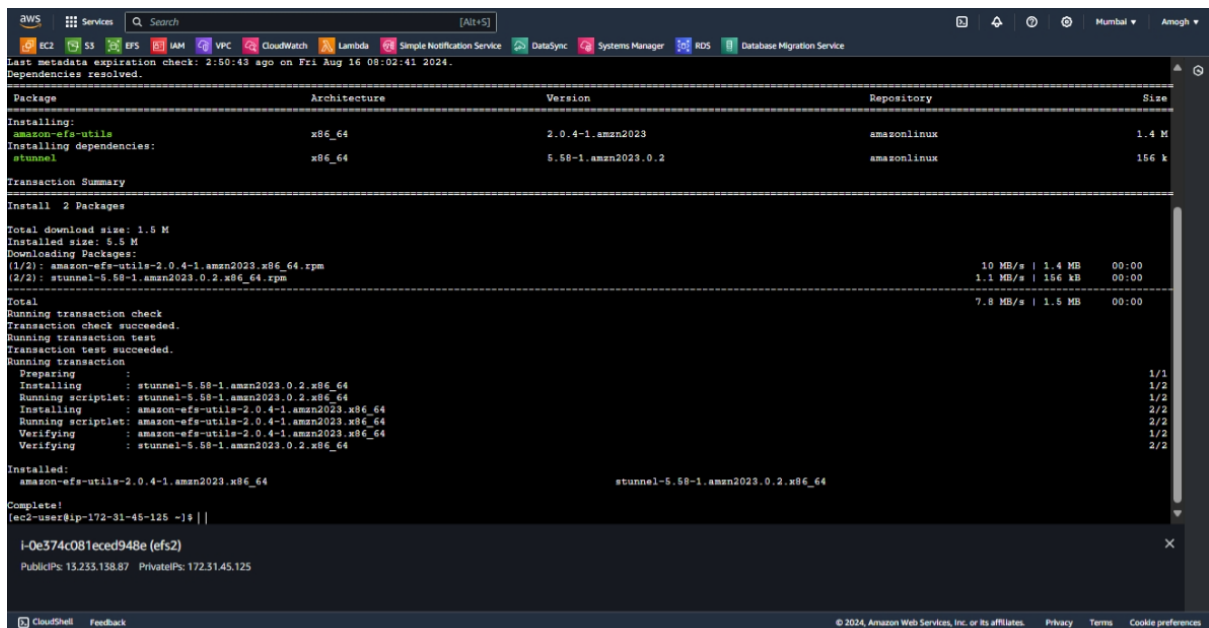
```



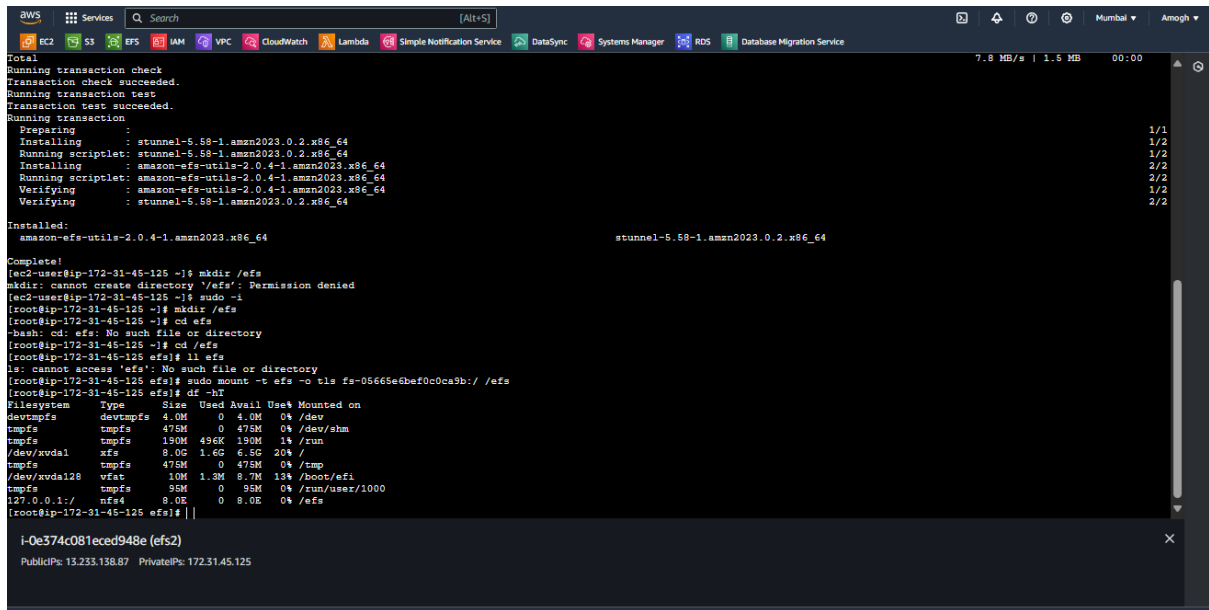
➤ Now go to 2<sup>nd</sup> Ec2 instance and login to it



➤ Now install amazon Efs in instance and mount efs.



- As mentioned above for checking whether the Efs storage is mounted, we can use other command to other than **df -kh**, “**df -hT**” command can also be used.



```

Total
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Preparing :
Installing : stunnel-5.58-1.amzn2023.0.2.x86_64 1/1
Running scriptlet: stunnel-5.58-1.amzn2023.0.2.x86_64 1/2
Installing : amazon-efs-utils-2.0.4-1.amzn2023.x86_64 1/2
Running scriptlet: amazon-efs-utils-2.0.4-1.amzn2023.x86_64 2/2
Verifying : amazon-efs-utils-2.0.4-1.amzn2023.x86_64 1/2
Verifying : stunnel-5.58-1.amzn2023.0.2.x86_64 2/2

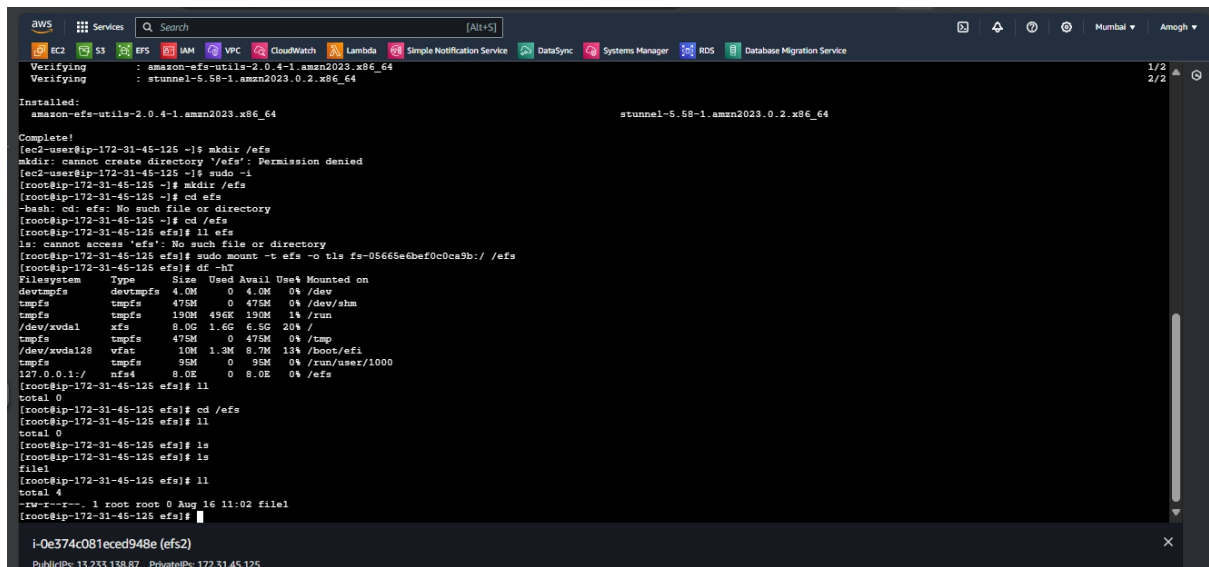
Installed:
  amazon-efs-utils-2.0.4-1.amzn2023.x86_64
  stunnel-5.58-1.amzn2023.0.2.x86_64

Complete!
[ec2-user@ip-172-31-45-125 ~]$ mkdir /efs
mkdir: cannot create directory '/efs': Permission denied
[ec2-user@ip-172-31-45-125 ~]$ sudo -i
[root@ip-172-31-45-125 ~]# mkdir /efs
[root@ip-172-31-45-125 ~]# cd /efs
-bash: cd: /efs: No such file or directory
[root@ip-172-31-45-125 ~]# cd /efs
[root@ip-172-31-45-125 /efs]# ll
ls: cannot access '/efs': No such file or directory
[root@ip-172-31-45-125 /efs]# sudo mount -t efs -o tls fs-05665e6bef0c0ca9b:/ /efs
[root@ip-172-31-45-125 /efs]# df -hT
Filesystem      Type      Size  Used Avail Use% Mounted on
devtmpfs        devtmpfs  4.0M   0  4.0M   0% /dev
tmpfs           tmpfs     475M   0  475M   0% /dev/shm
tmpfs           tmpfs     190M  496K  190M   1% /run
/dev/xvda1      xfs       8.0G   1.6G  6.5G  20% /
tmpfs           tmpfs     475M   0  475M   0% /tmp
/dev/xvda128    vfat     10M   1.3M  8.7M  13% /boot/efi
tmpfs           tmpfs     95M   0   95M   0% /run/user/1000
127.0.0.1:/     nfs4      8.0E   0  8.0E   0% /efs
[root@ip-172-31-45-125 /efs]#

```

i-Oe374c081eced948e (efs2)  
PublicIPs: 13.233.138.87 PrivateIPs: 172.31.45.125

- Below we can see the file(file1) created in 1<sup>st</sup> Ec2 instance



```

Verifying : amazon-efs-utils-2.0.4-1.amzn2023.x86_64 1/2
Verifying : stunnel-5.58-1.amzn2023.0.2.x86_64 2/2

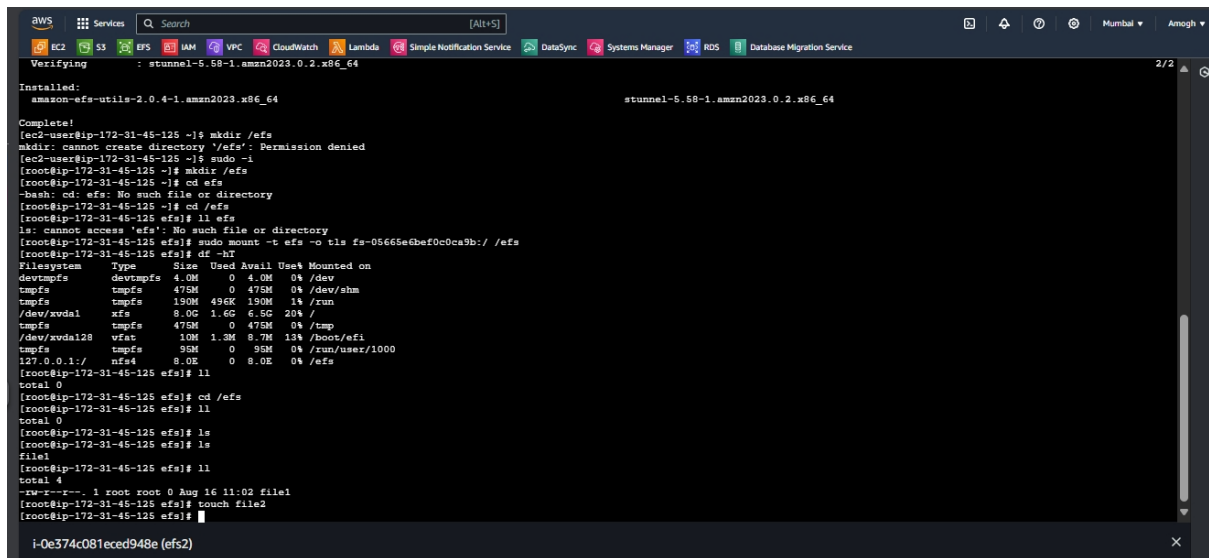
Installed:
  amazon-efs-utils-2.0.4-1.amzn2023.x86_64
  stunnel-5.58-1.amzn2023.0.2.x86_64

Complete!
[ec2-user@ip-172-31-45-125 ~]$ mkdir /efs
mkdir: cannot create directory '/efs': Permission denied
[ec2-user@ip-172-31-45-125 ~]$ sudo -i
[root@ip-172-31-45-125 ~]# mkdir /efs
[root@ip-172-31-45-125 ~]# cd /efs
-bash: cd: /efs: No such file or directory
[root@ip-172-31-45-125 ~]# cd /efs
[root@ip-172-31-45-125 /efs]# ll
ls: cannot access '/efs': No such file or directory
[root@ip-172-31-45-125 /efs]# sudo mount -t efs -o tls fs-05665e6bef0c0ca9b:/ /efs
[root@ip-172-31-45-125 /efs]# df -hT
Filesystem      Type      Size  Used Avail Use% Mounted on
devtmpfs        devtmpfs  4.0M   0  4.0M   0% /dev
tmpfs           tmpfs     475M   0  475M   0% /dev/shm
tmpfs           tmpfs     190M  496K  190M   1% /run
/dev/xvda1      xfs       8.0G   1.6G  6.5G  20% /
tmpfs           tmpfs     475M   0  475M   0% /tmp
/dev/xvda128    vfat     10M   1.3M  8.7M  13% /boot/efi
tmpfs           tmpfs     95M   0   95M   0% /run/user/1000
127.0.0.1:/     nfs4      8.0E   0  8.0E   0% /efs
[root@ip-172-31-45-125 /efs]# ll
total 0
[root@ip-172-31-45-125 /efs]# cd /efs
[root@ip-172-31-45-125 /efs]# ll
total 0
[root@ip-172-31-45-125 /efs]# ls
[root@ip-172-31-45-125 /efs]# ls
file1
[root@ip-172-31-45-125 /efs]# ll
total 4
-rw-r--r--. 1 root root 0 Aug 16 11:02 file1
[root@ip-172-31-45-125 /efs]#

```

i-Oe374c081eced948e (efs2)  
PublicIPs: 13.233.138.87 PrivateIPs: 172.31.45.125

➤ Here we created file using **touch** command “**touch file2**”



```
aws
Services
Q Search [Alt+S]
Mumbai Amogh
EC2 S3 EFS IAM VPC CloudWatch Lambda SNS Simple Notification Service DataSync Systems Manager RDS Database Migration Service

Verifying : stunnel-5.58-1.amzn2023.0.2.x86_64
Installed:
amazon-efs-utils-2.0.4-1.amzn2023.x86_64 stunnel-5.58-1.amzn2023.0.2.x86_64

Complete!
[ec2-user@ip-172-31-45-125 ~]$ mkdir /efs
mkdir: cannot create directory '/efs': Permission denied
[ec2-user@ip-172-31-45-125 ~]$ sudo -i
[root@ip-172-31-45-125 ~]$ mkdir /efs
[root@ip-172-31-45-125 ~]$ cd /efs
bash# cd: /efs: No such file or directory
[root@ip-172-31-45-125 ~]$ cd /efs
[root@ip-172-31-45-125 ~]$ ll /efs
ls: cannot access '/efs': No such file or directory
[root@ip-172-31-45-125 ~]$ sudo mount -t efs -o tls fs-05666e8bef0c0ca9b:/ /efs
[root@ip-172-31-45-125 ~]$ df -hT
Filesystem      Type      Size  Used Avail Use% Mounted on
devtmpfs        devtmpfs  4.0M   0  4.0M   0% /dev
tmpfs           tmpfs     475M   0  475M   0% /dev/shm
tmpfs           tmpfs     190M  496K  190M   1% /run
/dev/xvda1      xfs       8.0G  1.6G  6.5G  20% /
tmpfs           tmpfs     475M   0  475M   0% /tmp
/dev/xvda128    wfat     10M  1.3M   9.7M  13% /boot/efi
tmpfs           tmpfs     95M   0   95M   0% /run/user/1000
127.0.0.1:/     nfs4      8.0E   0  8.0E   0% /efs
[root@ip-172-31-45-125 ~]$ ll
total 0
[root@ip-172-31-45-125 ~]$ cd /efs
[root@ip-172-31-45-125 ~]$ ll
total 0
[root@ip-172-31-45-125 ~]$ ls
[root@ip-172-31-45-125 ~]$ ls
file1
[root@ip-172-31-45-125 ~]$ ll
total 4
-rw-r--r--. 1 root root 0 Aug 16 11:02 file1
[root@ip-172-31-45-125 ~]$ touch file2
[root@ip-172-31-45-125 ~]$
```

i-Oe374c081eced948e (efs2)