

SETUP A NFS CILENT MOUNTING

STEP 1: Create a Security Group for EFS with port 2049

- Inbound rule : NFS 0.0.0.0 (Anywhere)

The screenshot shows the AWS Management Console interface for creating a new security group. Under the 'Basic details' tab, the 'Security group name' is set to 'nfs-sg', the 'Description' is also 'nfs-sg', and the 'VPC' is set to the default VPC 'vpc-06ee538c9b08bdc3c'. The 'Inbound rules' tab is active, showing a table with one rule: Type 'NFS', Protocol 'TCP', Port range '2049', and Source 'Anywhere...'. The source IP is specified as '0.0.0.0/0'.

STEP 2: Create a EFS with a specific name in a Region

- We are choosing Region because we want HA for our EFS to mount in any AZ
- If we Select One-Zone we wil only able to mount in that specific AZ only .

The screenshot shows the 'Create file system' dialog box in the AWS EFS console. It prompts the user to 'Create an EFS file system with recommended settings'. The 'Name - optional' field is filled with 'raj_demo_nfs'. The 'Virtual Private Cloud (VPC)' dropdown is set to 'vpc-06ee538c9b08bdc3c default'. At the bottom, there are three buttons: 'Cancel', 'Customize', and 'Create'.

Name - *optional*

Name your file system.

raj_demo_nfsdemo

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 - *new*

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

► Customize encryption settings

STEP 3: Select Bursting and General Purpose for this demo

Performance settings

Throughput mode

Choose a method for your file system's throughput limits. [Learn more](#)

☐ Enhanced

Provides more flexibility and higher throughput levels for workloads with a range of performance requirements.

☒ Bursting

Provides throughput that scales with the amount of storage for workloads with basic performance requirements.

▼ Additional settings

Performance mode

Set your file system's performance mode based on IOPS required. [Learn more](#)

☒ General Purpose (Recommended)

Ideal for a variety of diverse workloads, including high performance and latency-sensitive applications

☐ Max I/O

Designed for highly parallelized workloads that can tolerate higher latencies

► Tags optional

Cancel

Next

STEP 4: Then we will change the security grp of default to that we have create for NFS /EFS and we will attach the SG for the available AZ.

Network access

Network

Virtual Private Cloud (VPC) [Learn more](#)
Choose the VPC where you want EC2 instances to connect to your file system.

vpc-06ee538c9b08bdc3c
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	
us-east-1a	subnet-014bfb9a939dbd246	Automatic	Choose security groups sg-03ec25247bfc7d0e0 nfs-sg	Remove
us-east-1b	subnet-0db6a9b8034132063	Automatic	Choose security groups sg-03ec25247bfc7d0e0 nfs-sg	Remove
us-east-1c	subnet-0b64fec03167a58	Automatic	Choose security groups sg-03ec25247bfc7d0e0 nfs-sg	Remove

Add mount target

Cancel Previous **Next**

STEP 5: Then we will create a SG for an Ec2intance

- With SSH 0.0.0.0 (Anywhere)
- With NFS 0.0.0.0 (Anywhere)

demo-sg-ec2

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and _-:/()#,@[]+=&;!\$*

Description - required [Info](#)

demo-sg-ec2

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

STEP 6: Then we will create two Ec2 Instance with configuration

- We have given name to our instance as demo-1 demo-2
- We will Use AMI : Linux 2 kernel
- We Will Use SG : That we have created early for ec2
- Then when we come in Storage Volume
- There we need to click on Advance (Right side above)
- There we need to select EFS
- And in the File System we will add the EFS we have created early

▼ Storage (volumes) [Info](#) [Simple](#)

EBS Volumes [Hide details](#)

▶ Volume 1 (AMI Root) (8 GiB, EBS, General purpose SSD (gp2))

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

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.

File systems [Hide details](#)

☒ EFS ☐ FSx

▼ Shared file system 1 [Remove](#)

File system [Info](#)

fs-0ec7e331a36e21468
Name: raj_demo_nfsdemo Availability: Regional

Mount point [Info](#)

/mnt/efs/fs1

Add shared file system

Create new shared file system

4 remaining (Up to 5 file systems maximum).

- And then we will create our two Ec2 instance

STEP 7: Then we will connect instance demo-1 and demo-2

STEP 8: We will connect demo-1 first

Command used:

Clear

Df -khP

#This command will show if the system is mounted or not

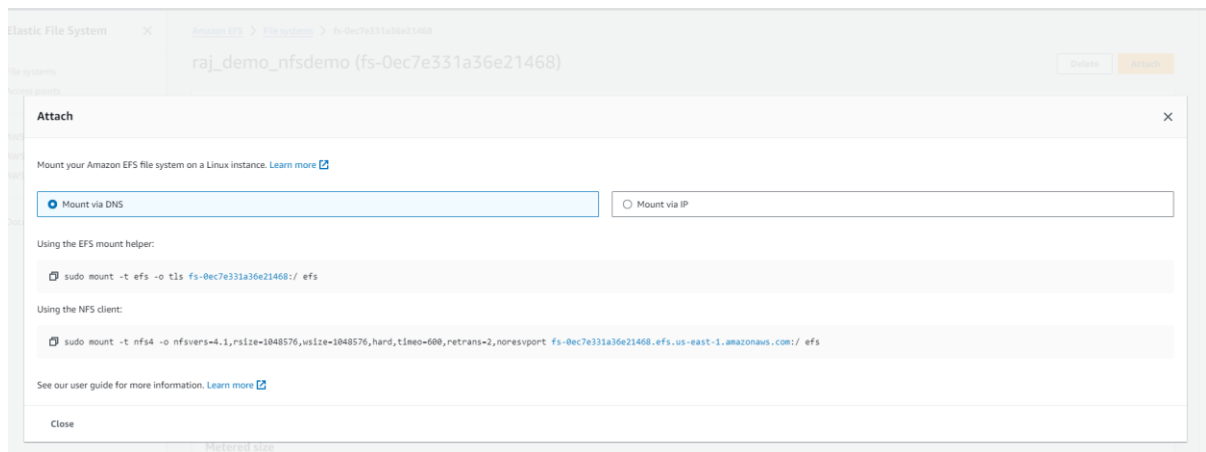
Mkdir efs

#create a Directory with a name efs

Now go in EFS file we have created and select the filr we have created and in the right hand side above we will see the option Attach click on it

We will get this block open

Now copy the nfs client command and paste it in the server



Eg :

`sudo mount -t nfs4 -o`

`nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport fs-0ec7e331a36e21468.efs.us-east-1.amazonaws.com:/ efs`

means in place of efs write the name of the directory that you have created

Command use:

Df -khP

Mkdir efs

`sudo mount -t nfs4 -o`

`nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvpor t fs-0ec7e331a36e21468.efs.us-east-1.amazonaws.com:/ efs`

`cd efs`

`echo "hello world " > demo.txt`

`ls`

STEP 9 : Now go to demo-2 instance and connect

Command use:

`Df -khP`

`Mkdir efs`

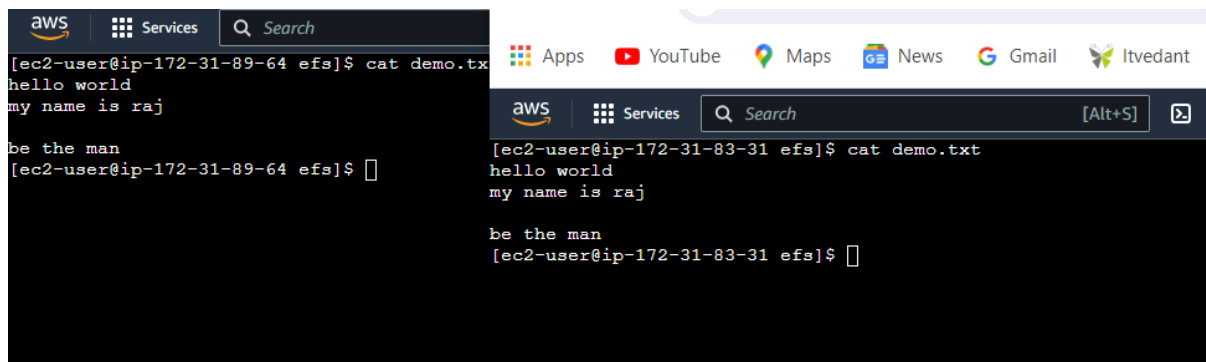
`sudo mount -t nfs4 -o`

`nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport fs-0ec7e331a36e21468.efs.us-east-1.amazonaws.com:/ efs`

`cd efs`

`ls`

Hence you will get the same txt file that we have created in demo-1



STEP 10 : If we have to unmount the ec2 instance

Command use:

`Umount efs_dns_name`

#this efs_dns_name represent id of the EFS if we have to unmount his we need to use this command

STEP 11: If we want to permanent mount we can use this method

Command used:

```
Cd /etc/  
nano fstab
```

“add this command in the file and change the necessary thing and configure”

```
file_system_id.efs.aws-region.amazonaws.com:/ mount_point nfs4  
nfsvers=4.1,rsz=1048576,wsz=1048576,hard,timeo=600,retrans=2,noresvport,_net  
dev 0 0
```

“save and exit the file”

Replace file_system_id.efs.aws-region.amazonaws.com : with the DNS name of the EFS file which we have created

Eg:



Replace mount_point : with the path of the file

Eg: **/home/ec2-user/efs**

STEP 12: And now reboot the Server

Stop the Server

Start the Server

**Now open the server and try to check the file is existing or not
Hence we have successfully permanent mount the file in the fs file**

Reference Link :

<https://youtu.be/mdFw0wL9BrQ?si=B8GY35yUhUMca1wb>

https://youtu.be/Aux37Nwe5nc?si=HXH_7ootVep8l7pl

For perMounting:

<https://youtu.be/El6wlGXghMw?si=SnMpXp55L84-fh4s>