

## EFS Mounting & Communication b/w EC2 Instances:

1. Create EC2 Instances with different Availability Zones
2. Create & Assign Security Group to all EC2 instance Same for Best Practice
3. After Launching the EC2 Instance Create EFS(Elastic File System) in Customized way
4. Finally copy the code for mounting efs and paste in terminal
5. After mounting efs into all Instances test the efs is successfully created or not via checking “**sudo service nfs status**”
6. After that enable the service via “**sudo service nfs start**”
7. Finally create file in efs directory in one instance after that check whether that file will reflect to remaining instances or not ,if it's exit efs success running not exit means you didn't follow correct process

**Note:** Please follow the below available images for further clarification

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

## Step 1: Choose an Amazon Machine Image (AMI)

Cancel and Exit

Search by Systems Manager parameter

**Quick Start**

My AMIs  
AWS Marketplace  
Community AMIs

☐ Free tier only

**Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type** - ami-090fa75af13c156b4 (64-bit x86) / ami-020ef1e2f6c2cc6d6 (64-bit Arm)

Amazon Linux 2 comes with five years support. It provides Linux kernel 5.10 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is now under maintenance only mode and has been removed from this wizard.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

**Amazon Linux 2 AMI (HVM) - Kernel 4.14, SSD Volume Type** - ami-0cabc39acf991f4f1 (64-bit x86) / ami-0201c8df31f1b7ead (64-bit Arm)

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is now under maintenance only mode and has been removed from this wizard.

**Select**

☒ 64-bit (x86)  
☐ 64-bit (Arm)

**Select**

☒ 64-bit (x86)  
☐ 64-bit (Arm)

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

## Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

**Number of instances** 1 [Launch into Auto Scaling Group](#)

**Purchasing option** ☐ Request Spot instances

**Network** vpc-0d7d9d729bf474f4f (default) [Create new VPC](#)

**Subnet** subnet-08551f25295c2d3bf | Default in us-east-1a [Create new subnet](#)  
4091 IP Addresses available

**Auto-assign Public IP** Use subnet setting (Enable)

**Hostname type** Use subnet setting (IP name)

**DNS Hostname**  
☒ Enable IP name IPv4 (A record) DNS requests  
☒ Enable resource-based IPv4 (A record) DNS requests  
☐ Enable resource-based IPv6 (AAAA record) DNS requests

**Placement group** ☐ Add instance to placement group

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

## Selecting the Availability zone

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group  
☐ Select an existing security group

Security group name:   
Description:

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
NFS	TCP	2049	Custom CIDR, IP or Security Group	e.g. SSH for Admin Desktop

Add Rule

**Warning**

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.

Cancel Previous **Review and Launch**

## Creating Security group

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances  [Launch into Auto Scaling Group](#)

Purchasing option ☐ Request Spot instances

Network  [Create new VPC](#)

Subnet  [Create new subnet](#)  
4091 IP Addresses available

Auto-assign Public IP

Hostname type

DNS Hostname ☒ Enable IP name IPv4 (A record) DNS requests  
☒ Enable resource-based IPv4 (A record) DNS requests  
☐ Enable resource-based IPv6 (AAAA record) DNS requests

Placement group ☐ Add instance to placement group

Cancel Previous **Review and Launch** Next: Add Storage

## Creating another instance with different availability zone

**Step 3: Configure Instance Details**  
Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of Instances: 1 [Launch into Auto Scaling Group](#)

Purchasing option: ☐ Request Spot instances

Network: vpc-0d7d9d729bf474f4f (default) [Create new VPC](#)

Subnet: subnet-0db8d4021d3fbfe3b | Default in us-east-1c [Create new subnet](#)  
4091 IP Addresses available

Auto-assign Public IP: ☐ Use subnet setting (Enable)

Hostname type: ☐ Use subnet setting (IP name)

DNS Hostname: ☒ Enable IP name IPv4 (A record) DNS requests  
☒ Enable resource-based IPv4 (A record) DNS requests  
☐ Enable resource-based IPv6 (AAAA record) DNS requests

Placement group: ☐ Add instance to placement group

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

**Instances (4) Info**

Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
i-0ed89dce5e6242e01	Running	t2.micro	2/2 checks passed	No alarms	us-east-1c	ec2-3-239-
i-01568d087d9a57e0e	Running	t2.micro	2/2 checks passed	No alarms	us-east-1b	ec2-54-88-
i-028ef6cbcb816c752	-	t2.micro	-	No alarms	us-east-1a	-
i-0b15c391151f47643	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-34-235

Select an instance

EC2 Instance with different Availability zones Created Successfully

Creating EFS

**Elastic File System**

File systems  
Access points

AWS Backup  
AWS DataSync  
AWS Transfer

Documentation

## Amazon Elastic File System

Scalable, elastic, cloud-native NFS file system

Amazon Elastic File System (Amazon EFS) provides a simple, scalable, elastic file system for general purpose workloads for use with AWS Cloud services and on-premises resources.

**Create file system**  
Create an EFS file system with service recommended settings.  
[Create file system](#)

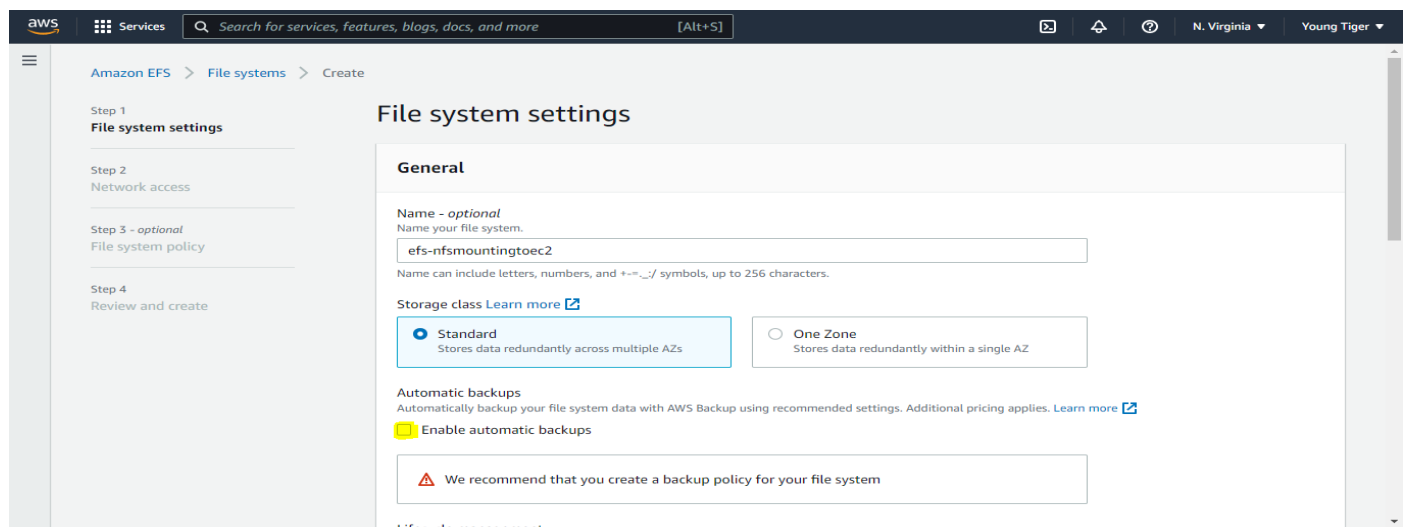
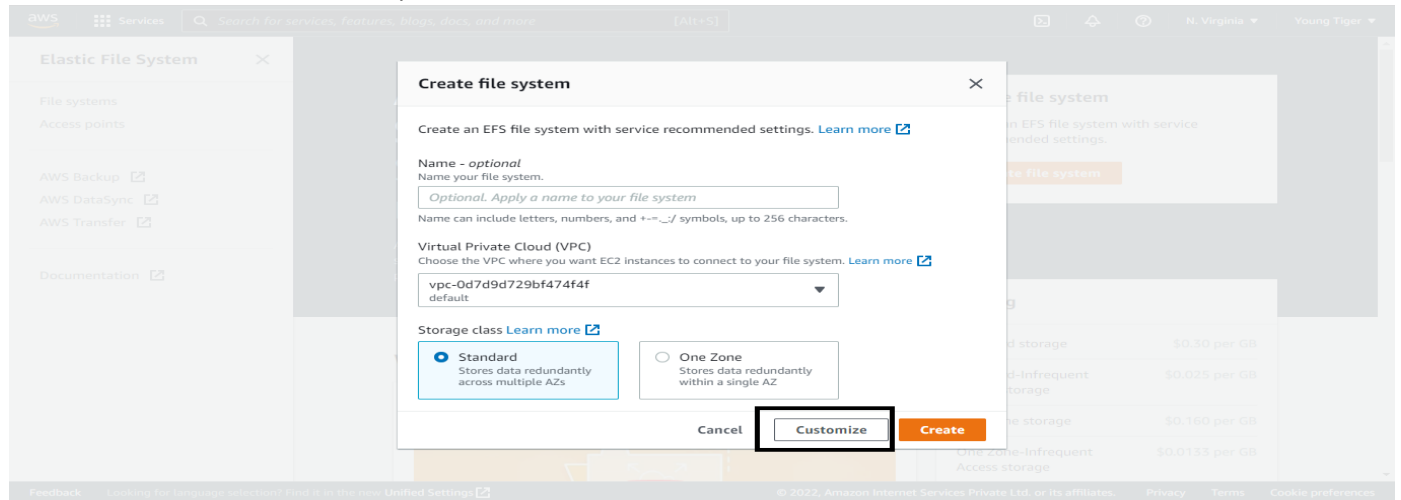
**Pricing**

Storage Type	Price per GB
Standard storage	\$0.30 per GB
Standard-Infrequent Access storage	\$0.025 per GB
One Zone storage	\$0.160 per GB
One Zone-Infrequent Access storage	\$0.0133 per GB

**What is Amazon Elastic File System?**

Amazon Elastic File System - Scalable, Ela...

Click on customized for our best practice



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EFS Intelligent-Tiering uses Lifecycle Management to automatically achieve the right price and performance blend for your application by moving your files between the Standard and Standard-Infrequent Access storage classes. [Learn more](#)

**Transition into IA**  
Transition files from Standard to Standard-Infrequent Access.  
30 days since last access

**Transition out of IA**  
Transition files from Standard-Infrequent Access to Standard.  
On first access

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

☒ **General Purpose**  
Ideal for latency-sensitive use cases, like web serving environments and content management systems

☐ **Max I/O**  
Scale to higher levels of aggregate throughput and operations per second

**Throughput mode**  
Set how your file system's throughput limits are determined. [Learn more](#)

☒ **Bursting**  
Throughput scales with file system size

☐ **Provisioned**  
Throughput fixed at specified amount

**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**

▼ **Tags - optional**

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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-08551f...	Automatic	<div>sg-08b77368b94ea9243 efs-sg</div> <div>Show more (+1)</div>	<div>Choose security ...</div> <div>Remove</div>
us-east-1b	subnet-0c9066...	Automatic	<div>sg-08b77368b94ea9243 efs-sg</div> <div>Show more (+1)</div>	<div>Choose security ...</div> <div>Remove</div>
us-east-1c	subnet-0db8d4...	Automatic	<div>sg-08b77368b94ea9243 efs-sg</div> <div>Show more (+1)</div>	<div>Choose security ...</div> <div>Remove</div>

After Creating EFS select EFS and click on View details

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### Elastic File System

File systems

Access points

AWS Backup AWS DataSync AWS Transfer Documentation

Amazon EFS > File systems

Introducing EFS Replication

Keep an up-to-date copy of your file system in a region or availability zone of your choice.

[What's new](#) | [Documentation](#) | [AWS Storage Blog](#)

File systems (1)

Filter by property values

Name	File system ID	Encryption	Total size	Size in Standard / One Zone	Size in Standard-IA / One Zone-IA	Provisioned Throughput (MiB/s)
efs-nfsmountingtoec2	fs-0ff7d42db1bea187e	Unencrypted	6.00 KiB	6.00 KiB	0 Bytes	-

Click on Attach

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### Elastic File System

File systems

Access points

AWS Backup AWS DataSync AWS Transfer Documentation

Amazon EFS > File systems > fs-0ff7d42db1bea187e

## efs-nfsmountingtoec2 (fs-0ff7d42db1bea187e)

Delete Attach

Edit

**General**

Performance mode  
General Purpose

Throughput mode  
Bursting

Lifecycle management  
Transition into IA: 30 days since last access  
Transition out of IA: On first access

Availability zone  
Standard

Automatic backups  
Disabled

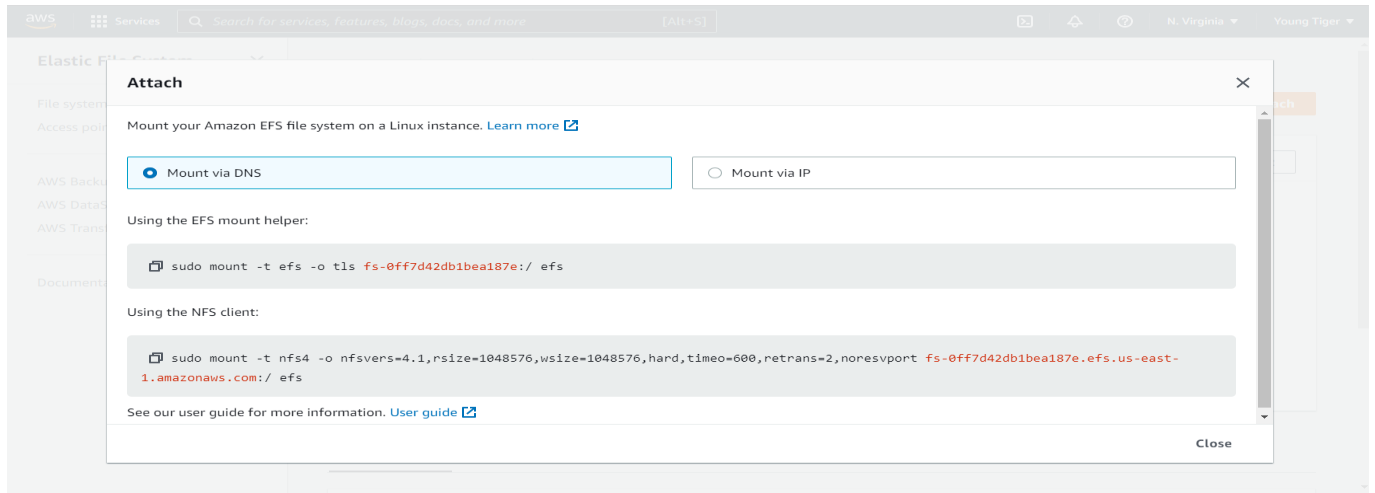
Encrypted  
No

File system state  
Available

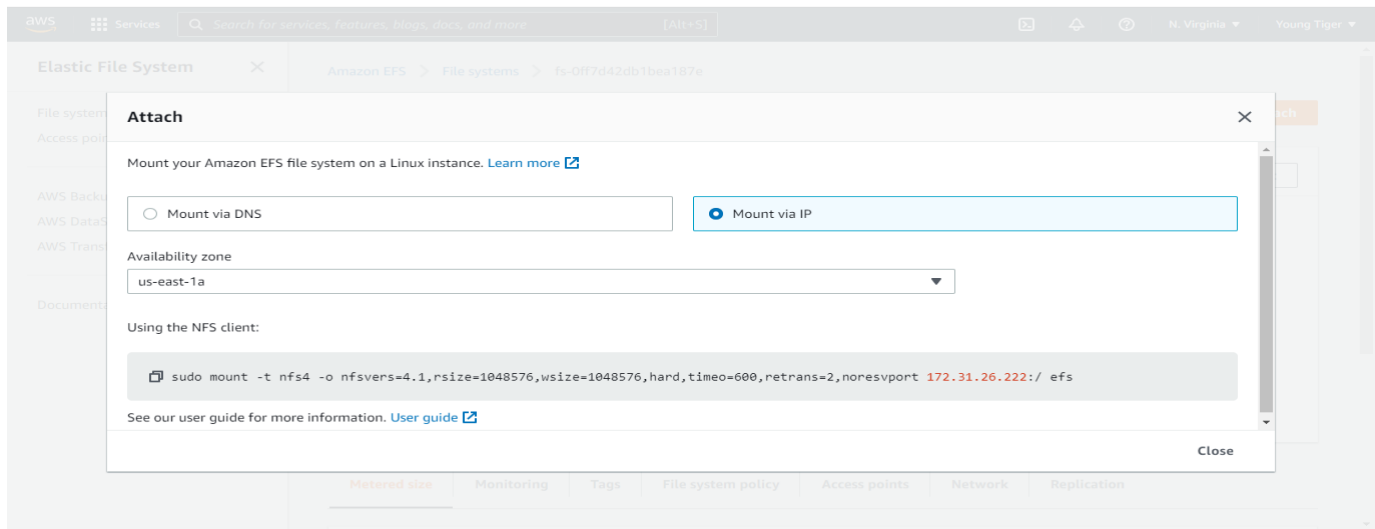
DNS name  
fs-0ff7d42db1bea187e.efs.us-east-1.amazonaws.com

Metered size Monitoring Tags File system policy Access points Network Replication

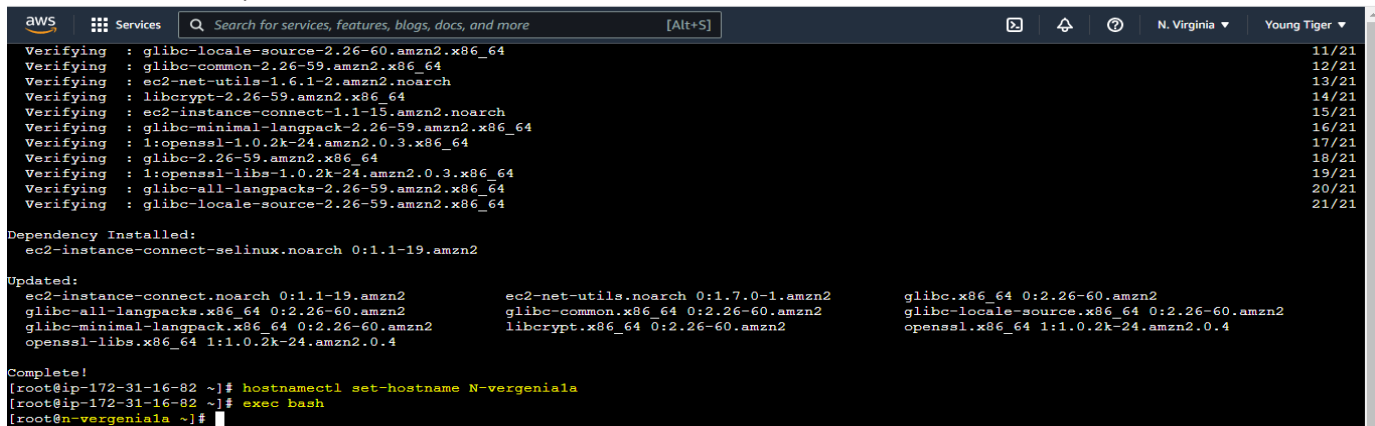
One way for mounting via DNS



## Another way mounting via IP



## After done this all open EC2 terminal





## Mounting EFS in N-Virginia in 1a AZ and creating file in 1a zone

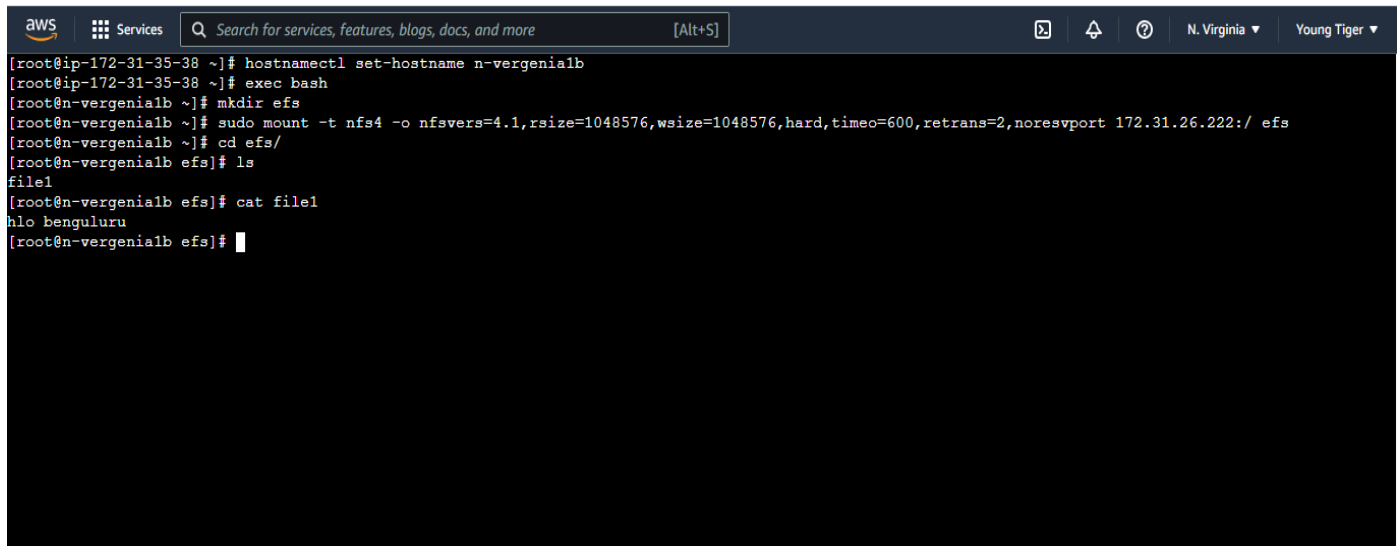
```
aws Services Search for services, features, blogs, docs, and more [Alt+S] N. Virginia Young Tiger ▼
glibc-minimal-langpack.x86_64 0:2.26-60.amzn2 libcrypt.x86_64 0:2.26-60.amzn2 openssl.x86_64 1:1.0.2k-24.amzn2.0.4
openssl-libs.x86_64 1:1.0.2k-24.amzn2.0.4

Complete!
[root@ip-172-31-16-82 ~]# hostnamectl set-hostname N-vergeniala
[root@ip-172-31-16-82 ~]# exec bash
[root@n-vergeniala ~]# mkdir efs
[root@n-vergeniala ~]# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport 172.31.26.222:/ efs
[root@n-vergeniala ~]# cd efs
[root@n-vergeniala efs]# ls
[root@n-vergeniala efs]# cat >file1
hlo benguluru
^C
[root@n-vergeniala efs]# cat >file
^C
[root@n-vergeniala efs]# cat file
[root@n-vergeniala efs]# ls
file file1
[root@n-vergeniala efs]# rm file
rm: remove regular empty file 'file'? y
[root@n-vergeniala efs]# ls
file1
[root@n-vergeniala efs]# cat file1
hlo benguluru
[root@n-vergeniala efs]#
```

## Second instance in 1c availability zone

```
aws Services Search for services, features, blogs, docs, and more [Alt+S] N. Virginia Young Tiger ▼
[root@ip-172-31-15-50 ~]# hostnamectl set-hostname n-vergenialc
[root@ip-172-31-15-50 ~]# exec bash
[root@n-vergenialc ~]# mkdir efs
[root@n-vergenialc ~]# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport 172.31.26.222:/ efs
[root@n-vergenialc ~]# cd efs
[root@n-vergenialc efs]# ls
file1
[root@n-vergenialc efs]# cat file1
hlo benguluru
[root@n-vergenialc efs]#
```

### Third instance in 1b availability zone

A screenshot of the AWS CLI interface. The top bar shows the AWS logo, a 'Services' menu, a search bar with the placeholder text 'Search for services, features, blogs, docs, and more', and a keyboard shortcut '[Alt+S]'. On the right side of the top bar, there are icons for a terminal window, a refresh button, a help button, and the region 'N. Virginia' with a dropdown arrow, followed by the instance name 'Young Tiger' with a dropdown arrow. The main area is a terminal window with a black background and white text. The terminal shows a sequence of commands and their outputs: 1. '[root@ip-172-31-35-38 ~]# hostnamectl set-hostname n-vergenia1b' 2. '[root@ip-172-31-35-38 ~]# exec bash' 3. '[root@n-vergenia1b ~]# mkdir efs' 4. '[root@n-vergenia1b ~]# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport 172.31.26.222:/ efs' 5. '[root@n-vergenia1b ~]# cd efs/' 6. '[root@n-vergenia1b efs]# ls' 7. '[root@n-vergenia1b efs]# cat file1' 8. '[root@n-vergenia1b efs]# ' (with a cursor). The output of the 'ls' command is 'file1'. The output of the 'cat file1' command is 'hlo benguluru'.

```
[root@ip-172-31-35-38 ~]# hostnamectl set-hostname n-vergenia1b
[root@ip-172-31-35-38 ~]# exec bash
[root@n-vergenia1b ~]# mkdir efs
[root@n-vergenia1b ~]# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport 172.31.26.222:/ efs
[root@n-vergenia1b ~]# cd efs/
[root@n-vergenia1b efs]# ls
file1
[root@n-vergenia1b efs]# cat file1
hlo benguluru
[root@n-vergenia1b efs]#
```

**Conclusion:** EFS Mounting and Running Successfully with different Availability Zones