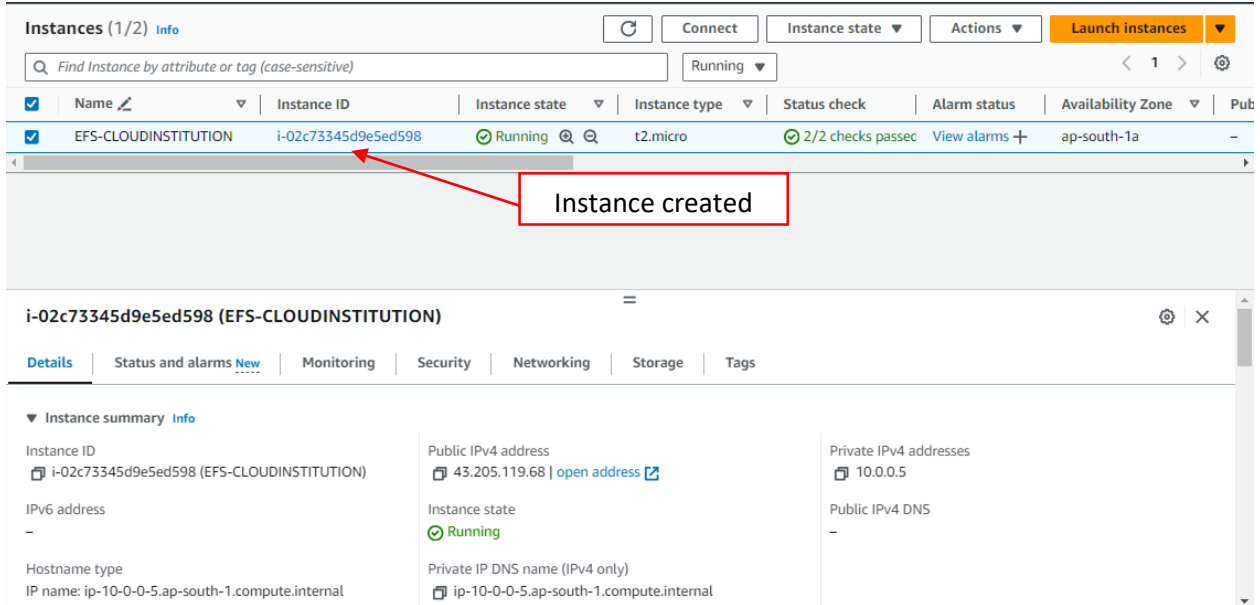


AMAZON EFS FILE SYSTEM CREATION, MOUNTING & SETTING

Step 1 : Create a EC2 instance

Note: While creating a security group for instance, include NFS in the inbound rules



The screenshot displays the AWS Management Console interface for EC2 instances. At the top, there's a search bar and filters. Below, a table lists instances. The first instance, 'EFS-CLOUDINSTITUTION' with ID 'i-02c73345d9e5ed598', is highlighted. A red arrow points to this instance ID, and a red-bordered box with the text 'Instance created' is positioned next to it. Below the table, the details for the selected instance are shown, including its state as 'Running' and various IP addresses.

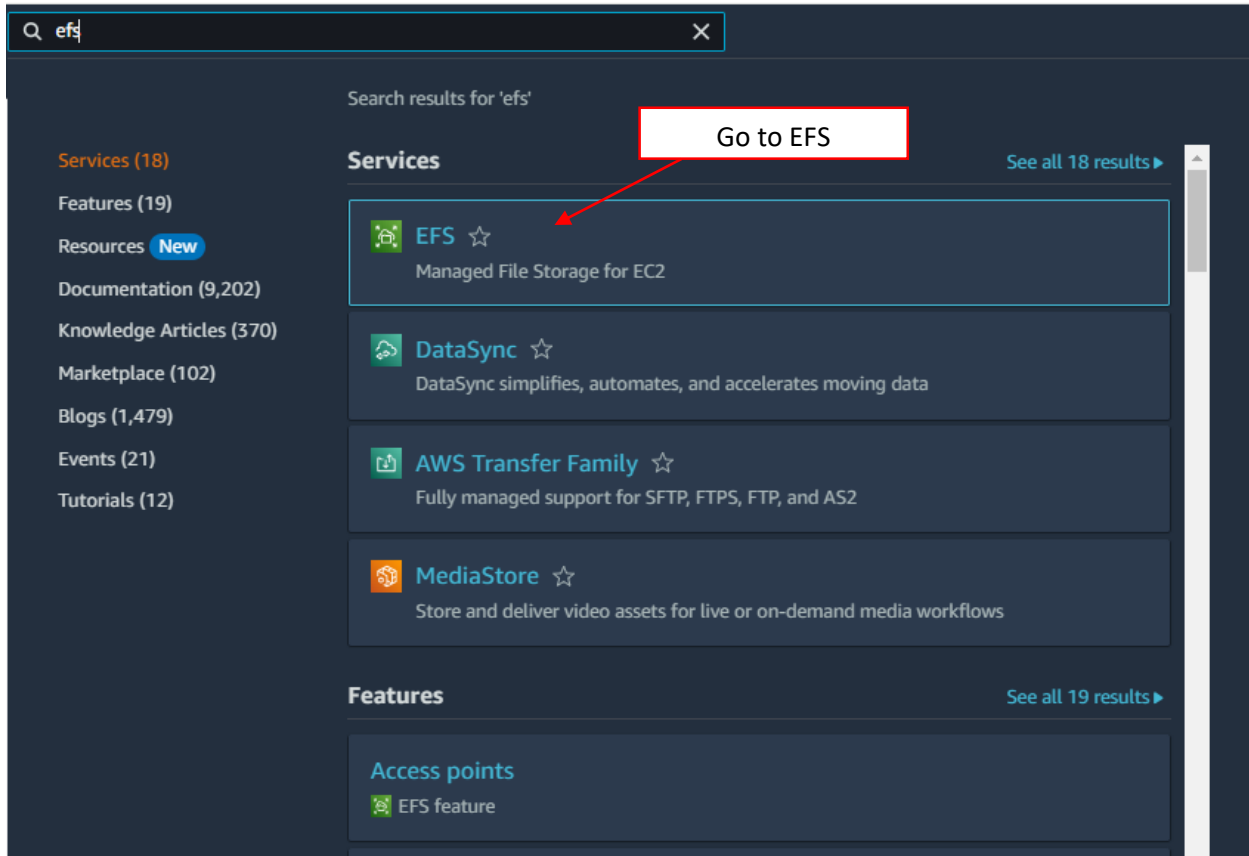
Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Pub
EFS-CLOUDINSTITUTION	i-02c73345d9e5ed598	Running	t2.micro	2/2 checks passed	View alarms	ap-south-1a	-

i-02c73345d9e5ed598 (EFS-CLOUDINSTITUTION)

Instance summary

Instance ID i-02c73345d9e5ed598 (EFS-CLOUDINSTITUTION)	Public IPv4 address 43.205.119.68 open address	Private IPv4 addresses 10.0.0.5
IPv6 address -	Instance state Running	Public IPv4 DNS -
Hostname type IP name: ip-10-0-0-5.ap-south-1.compute.internal	Private IP DNS name (IPv4 only) ip-10-0-0-5.ap-south-1.compute.internal	

Step 2 : Create EFS



Search results for 'efs'

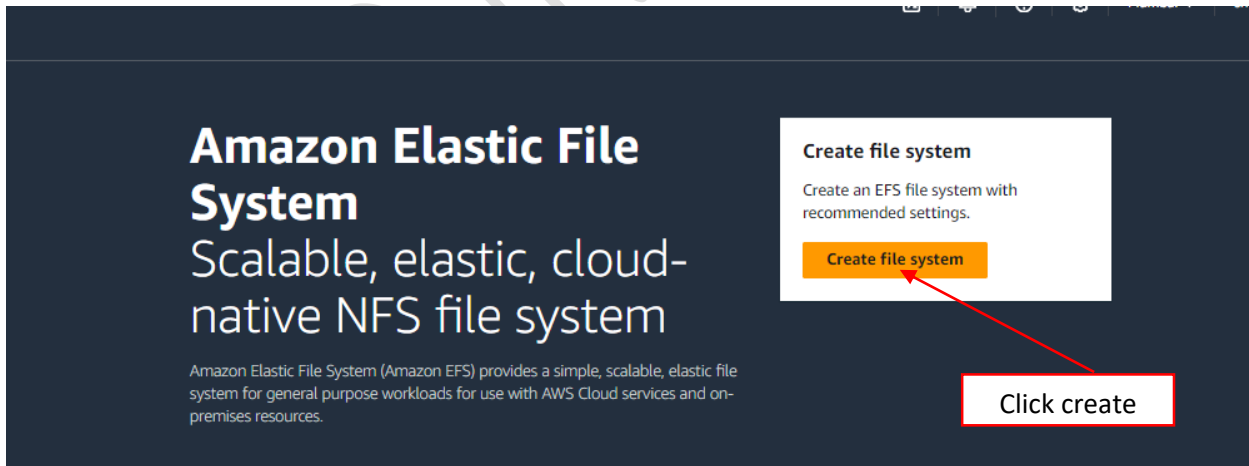
Services [See all 18 results ▶](#)

- EFS** ☆
Managed File Storage for EC2
- DataSync** ☆
DataSync simplifies, automates, and accelerates moving data
- AWS Transfer Family** ☆
Fully managed support for SFTP, FTPS, FTP, and AS2
- MediaStore** ☆
Store and deliver video assets for live or on-demand media workflows

Features [See all 19 results ▶](#)

- Access points**
EFS feature

Go to EFS



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 recommended settings.
Create file system

Click create

Create file system

Create an EFS file system with recommended settings. [Learn more](#)

Name - optional
Name your file system.

filesys-cloudinstitution

Name can include letters, numbers, and +-=._:/ symbols, up to 256 characters.

Virtual Private Cloud (VPC)
Choose the VPC where you want EC2 instances to connect to your file system.

vpc-0c49231c175ebffcb
MUM-VPC

Cancel Customize Create

Name - optional
Name your file system.

Filesys-cloudinstitution

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

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

► Tags optional

Cancel

Next

Network access

Network

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

vpc-0c49231c175ebffcb
MUM-VPC

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-0cda3696129bd...	Automatic	Choose security groups	Remove
			sg-002c27a4ed9032872 MUMBAI-SG	
ap-south-1b	subnet-050d771bc2c11...	Automatic	Choose security groups	Remove
			sg-002c27a4ed9032872 MUMBAI-SG	
			sg-0e7e5ad4da5e3bcce default	

Add mount target

Cancel

Previous

Next

File system policy - optional

Policy options

Select one or more of these common policy options, or create a custom policy using the editor. [Learn more](#)

- ☐ Prevent root access by default*
- ☐ Enforce read-only access by default*
- ☐ Prevent anonymous access
- ☐ Enforce in-transit encryption for all clients

* Identity-based policies can override these default permissions.

► **Grant additional permissions**

Policy editor {JSON}

1

Manual changes will prevent the use of [Policy Editor](#) editor is cleared.

Click next

Cancel Previous Next

Step 3: File system policy Edit

▼ File system policy

1

Click create

Cancel Previous Create

✓ Success!
File system (fs-0f8c3a2dca11ea88a) is available.

View file system



Amazon EFS > File systems

File systems (1)



View details

Delete

Create file system

Filter by property values

< 1 > ⚙

	Name	system ID	d	Total size	Size in Standard	Size in IA	Size in Archive
<input type="radio"/>	filesys-cloudinstitution	fs-0f8c3a2dca11ea88a	✓ Encrypted	6.00 KiB	6.00 KiB	0 Bytes	0 Bytes

Click on the file system

Step 3 : Attach File system to the linux machine

Amazon EFS > File systems > fs-0f8c3a2dca11ea88a

filesys-cloudinstitution (fs-0f8c3a2dca11ea88a)

Delete

Attach

General

Click attach

Edit

Performance mode

General Purpose

Throughput mode

Bursting

Lifecycle management

Transition into Infrequent Access (IA): 30 day(s) since last access

Transition into Archive: None

Transition into Standard: None

Availability zone

Regional

Automatic backups

✓ Enabled

Encrypted

9d1153a6-e82f-4283-99ed-a9e108ba73a7 (aws/elasticfilesystem)

File system state

✓ Available

DNS name

fs-0f8c3a2dca11ea88a.efs.ap-south-1.amazonaws.com

Replication overwrite protection

✓ Enabled

Attach



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

☒ Mount via DNS

☐ Mount via IP

Using the EFS mount helper:

```
sudo mount -t efs -o tls fs-0f8c3a2dca11ea88a:/ efs
```

Using the NFS client:

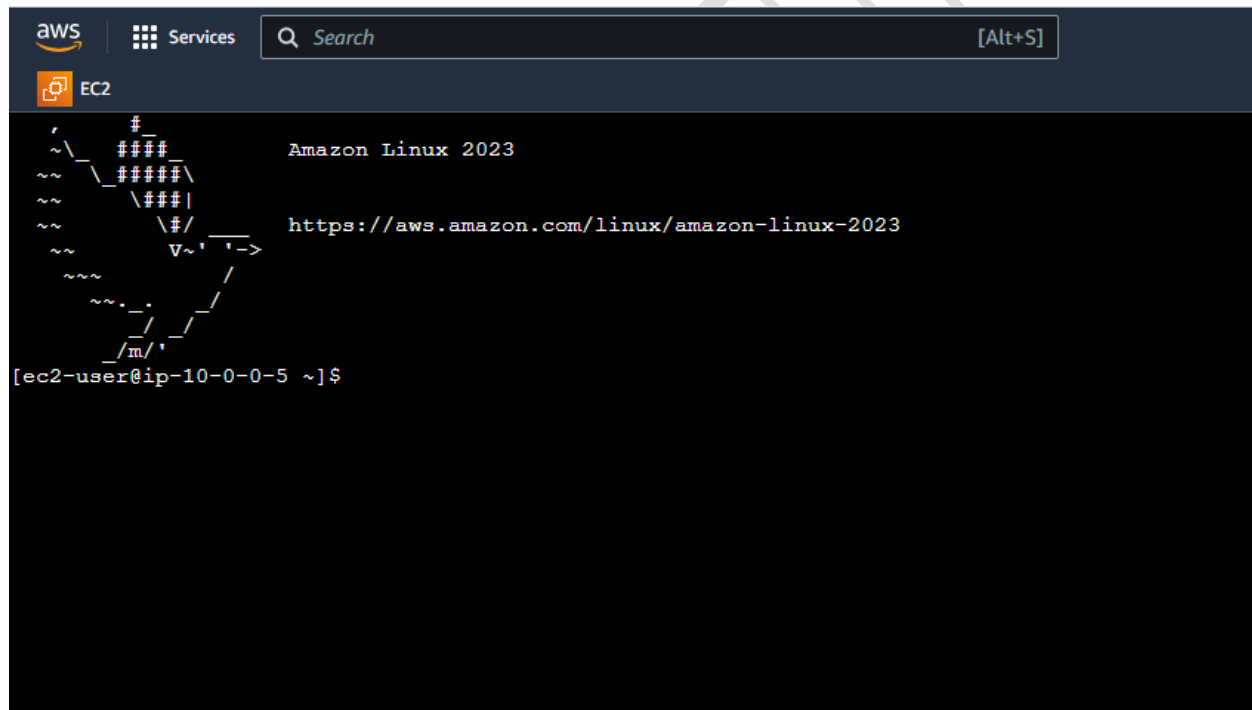
Copy the command

```
sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2,noresvport fs-0f8c3a2dca11ea88a.efs.ap-south-1.amazonaws.com:/ efs
```

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

Close

Now connect the linux instance



Install httpd service in the linux instance

```

aws Services Search [Alt+S]
EC2
[ec2-user@ip-10-0-0-5 ~]$ sudo yum install httpd -y
Last metadata expiration check: 0:00:23 ago on Sat May 18 12:06:04 2024.
Dependencies resolved.

=====
Package                                Architecture    Version
=====
Installing:
httpd                                  x86_64          2.4.59-2.amzn2023
Installing dependencies:
apr                                   x86_64          1.7.2-2.amzn2023.0.2
apr-util                             x86_64          1.6.3-1.amzn2023.0.1
generic-logos-httpd                  noarch          18.0.0-12.amzn2023.0.3
httpd-core                           x86_64          2.4.59-2.amzn2023
httpd-filesystem                     noarch          2.4.59-2.amzn2023
httpd-tools                          x86_64          2.4.59-2.amzn2023
libbrotli                            x86_64          1.0.9-4.amzn2023.0.2
mailcap                              noarch          2.1.49-3.amzn2023.0.3
Installing weak dependencies:
apr-util-openssl                     x86_64          1.6.3-1.amzn2023.0.1
mod_http2                            x86_64          2.0.27-1.amzn2023.0.2
mod_lua                              x86_64          2.4.59-2.amzn2023

=====
Transaction Summary
=====

```

```

aws Services Search [Alt+S]
EC2
Running scriptlet: httpd-2.4.59-2.amzn2023.x86_64
Verifying      : apr-1.7.2-2.amzn2023.0.2.x86_64
Verifying      : apr-util-1.6.3-1.amzn2023.0.1.x86_64
Verifying      : apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64
Verifying      : generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch
Verifying      : httpd-2.4.59-2.amzn2023.x86_64
Verifying      : httpd-core-2.4.59-2.amzn2023.x86_64
Verifying      : httpd-filesystem-2.4.59-2.amzn2023.noarch
Verifying      : httpd-tools-2.4.59-2.amzn2023.x86_64
Verifying      : libbrotli-1.0.9-4.amzn2023.0.2.x86_64
Verifying      : mailcap-2.1.49-3.amzn2023.0.3.noarch
Verifying      : mod_http2-2.0.27-1.amzn2023.0.2.x86_64
Verifying      : mod_lua-2.4.59-2.amzn2023.x86_64

Installed:
apr-1.7.2-2.amzn2023.0.2.x86_64      apr-util-1.6.3-1.amzn2023.0.1.x86_64
generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch  httpd-2.4.59-2.amzn2023.x86_64
httpd-filesystem-2.4.59-2.amzn2023.noarch          httpd-tools-2.4.59-2.amzn2023.x86_64
mailcap-2.1.49-3.amzn2023.0.3.noarch              mod_http2-2.0.27-1.amzn2023.0.2.x86_64

Complete!
[ec2-user@ip-10-0-0-5 ~]$ sudo service httpd start
Redirecting to /bin/systemctl start httpd.service
[ec2-user@ip-10-0-0-5 ~]$

```



```
aws | Services | Search [Alt+S]
EC2
Verifying : apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64
Verifying : generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch
Verifying : httpd-2.4.59-2.amzn2023.x86_64
Verifying : httpd-core-2.4.59-2.amzn2023.x86_64
Verifying : httpd-filesystem-2.4.59-2.amzn2023.noarch
Verifying : httpd-tools-2.4.59-2.amzn2023.x86_64
Verifying : libbrotli-1.0.9-4.amzn2023.0.2.x86_64
Verifying : mailcap-2.1.49-3.amzn2023.0.3.noarch
Verifying : mod_http2-2.0.27-1.amzn2023.0.2.x86_64
Verifying : mod_lua-2.4.59-2.amzn2023.x86_64

Installed:
apr-1.7.2-2.amzn2023.0.2.x86_64      apr-util-1.6.3-1.amzn2023.0.1.x86_64      apr-util-openssl-1.6.3
generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch      httpd-2.4.59-2.amzn2023.x86_64      httpd-core-2.4.59-2.am
httpd-filesystem-2.4.59-2.amzn2023.noarch      httpd-tools-2.4.59-2.amzn2023.x86_64      libbrotli-1.0.9-4.amzn
mailcap-2.1.49-3.amzn2023.0.3.noarch      mod_http2-2.0.27-1.amzn2023.0.2.x86_64      mod_lua-2.4.59-2.amzn2

Complete!
[ec2-user@ip-10-0-0-5 ~]$ sudo service httpd start
Redirecting to /bin/systemctl start httpd.service
[ec2-user@ip-10-0-0-5 ~]$ sudo chkconfig httpd on
Note: Forwarding request to 'systemctl enable httpd.service'.
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[ec2-user@ip-10-0-0-5 ~]$
```

Now create a directory

```
aws | Services | Search [Alt+S]
EC2
[ec2-user@ip-10-0-0-5 ~]$ mkdir cloudinstitution
[ec2-user@ip-10-0-0-5 ~]$
```

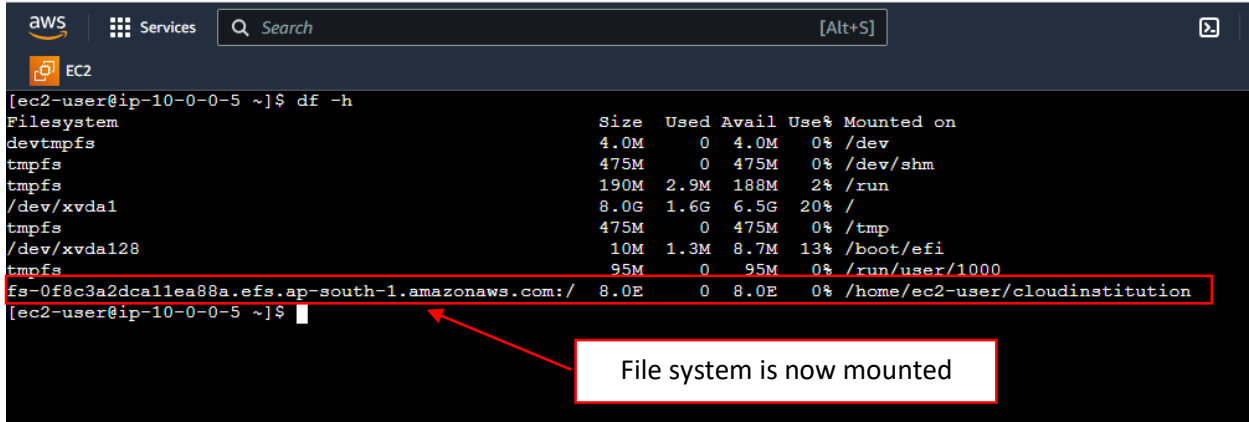
Create a directory

Now mount the EFS in the linux instance

```
aws | Services | Search [Alt+S]
EC2
[ec2-user@ip-10-0-0-5 ~]$ sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsrsize=1048576,hard,timeo=600,retr=2,noresvport fs-0f8c3a2dca11ea88a.efs.ap-south-1.amazonaws.com:/ cloudinstitution
```

Paste the copied NFS client command and add the directory name at the end

The **df -h** command is used in Linux to display information about the disk space usage of all mounted filesystems

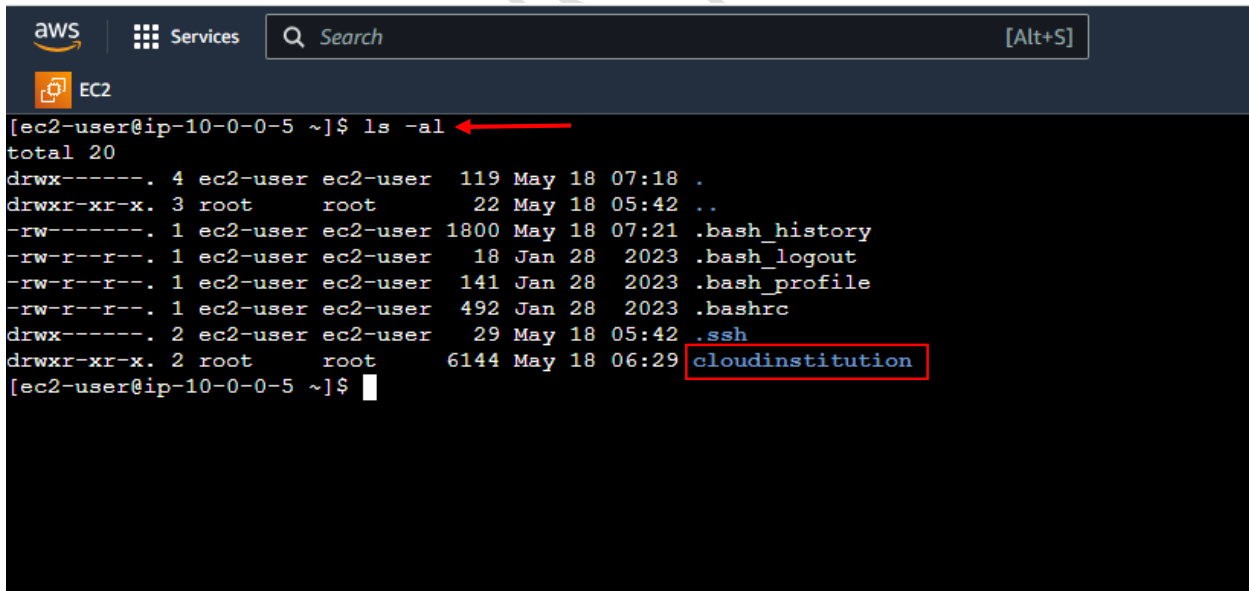


```
aws Services Search [Alt+S]
EC2
[ec2-user@ip-10-0-0-5 ~]$ df -h
Filesystem                Size      Used Avail Use% Mounted on
devtmpfs                  4.0M        0   4.0M   0% /dev
tmpfs                     475M        0   475M   0% /dev/shm
tmpfs                     190M      2.9M   188M   2% /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
fs-0f8c3a2dca11ea88a.efs.ap-south-1.amazonaws.com:/ 8.0E        0   8.0E   0% /home/ec2-user/cloudinstitution
[ec2-user@ip-10-0-0-5 ~]$
```

File system is now mounted

Step 4 : Mount a file to the linux instance

The **ls -al** command is used to list the contents of a directory in long format, including hidden files.



```
aws Services Search [Alt+S]
EC2
[ec2-user@ip-10-0-0-5 ~]$ ls -al
total 20
drwx-----. 4 ec2-user ec2-user 119 May 18 07:18 .
drwxr-xr-x. 3 root     root     22 May 18 05:42 ..
-rw-----. 1 ec2-user ec2-user 1800 May 18 07:21 .bash_history
-rw-r--r--. 1 ec2-user ec2-user  18 Jan 28 2023 .bash_logout
-rw-r--r--. 1 ec2-user ec2-user 141 Jan 28 2023 .bash_profile
-rw-r--r--. 1 ec2-user ec2-user 492 Jan 28 2023 .bashrc
drwx-----. 2 ec2-user ec2-user  29 May 18 05:42 .ssh
drwxr-xr-x. 2 root     root     6144 May 18 06:29 cloudinstitution
[ec2-user@ip-10-0-0-5 ~]$
```

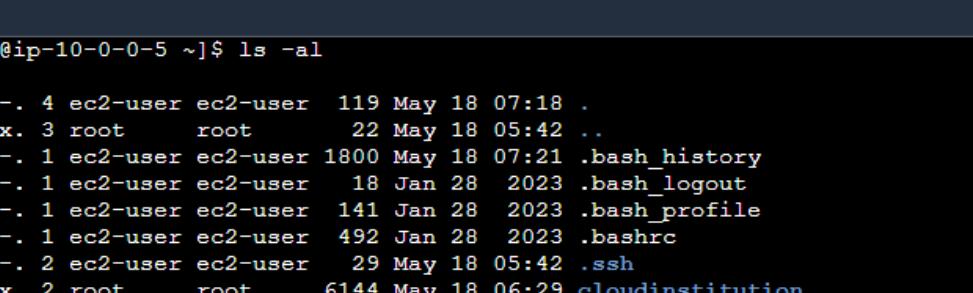
Go to the cloudinstitution directory

```
aws Services Search [Alt+S]
EC2
[ec2-user@ip-10-0-0-5 ~]$ ls -al
total 20
drwx-----. 4 ec2-user ec2-user 119 May 18 07:18 .
drwxr-xr-x. 3 root root 22 May 18 05:42 ..
-rw-----. 1 ec2-user ec2-user 1800 May 18 07:21 .bash_history
-rw-r--r--. 1 ec2-user ec2-user 18 Jan 28 2023 .bash_logout
-rw-r--r--. 1 ec2-user ec2-user 141 Jan 28 2023 .bash_profile
-rw-r--r--. 1 ec2-user ec2-user 492 Jan 28 2023 .bashrc
drwx-----. 2 ec2-user ec2-user 29 May 18 05:42 .ssh
drwxr-xr-x. 2 root root 6144 May 18 06:29 cloudinstitution
[ec2-user@ip-10-0-0-5 ~]$ cd cloudinstitution
[ec2-user@ip-10-0-0-5 cloudinstitution]$
```

Create a directory and name it as file1

```
aws Services Search [Alt+S]
EC2
[ec2-user@ip-10-0-0-5 ~]$ ls -al
total 20
drwx-----. 4 ec2-user ec2-user 119 May 18 07:18 .
drwxr-xr-x. 3 root root 22 May 18 05:42 ..
-rw-----. 1 ec2-user ec2-user 1800 May 18 07:21 .bash_history
-rw-r--r--. 1 ec2-user ec2-user 18 Jan 28 2023 .bash_logout
-rw-r--r--. 1 ec2-user ec2-user 141 Jan 28 2023 .bash_profile
-rw-r--r--. 1 ec2-user ec2-user 492 Jan 28 2023 .bashrc
drwx-----. 2 ec2-user ec2-user 29 May 18 05:42 .ssh
drwxr-xr-x. 2 root root 6144 May 18 06:29 cloudinstitution
[ec2-user@ip-10-0-0-5 ~]$ cd cloudinstitution
[ec2-user@ip-10-0-0-5 cloudinstitution]$ sudo mkdir file1
```

Create a index.html file inside the directory

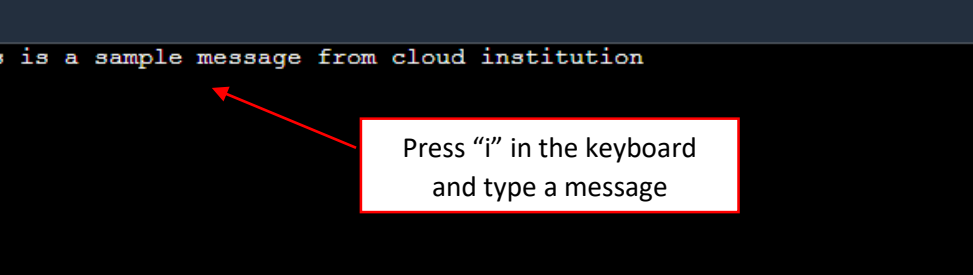


The screenshot shows the AWS Management Console interface. At the top, there's a navigation bar with the AWS logo, a 'Services' dropdown, and a search bar. Below the navigation bar, the 'EC2' icon is selected. The main content area displays a terminal window for an EC2 instance with IP address ip-10-0-0-5. The terminal shows the following commands and output:

```
[ec2-user@ip-10-0-0-5 ~]$ ls -al
total 20
drwx-----. 4 ec2-user ec2-user 119 May 18 07:18 .
drwxr-xr-x. 3 root     root     22 May 18 05:42 ..
-rw-----. 1 ec2-user ec2-user 1800 May 18 07:21 .bash_history
-rw-r--r--. 1 ec2-user ec2-user  18 Jan 28 2023 .bash_logout
-rw-r--r--. 1 ec2-user ec2-user 141 Jan 28 2023 .bash_profile
-rw-r--r--. 1 ec2-user ec2-user 492 Jan 28 2023 .bashrc
drwx-----. 2 ec2-user ec2-user  29 May 18 05:42 .ssh
drwxr-xr-x. 2 root     root     6144 May 18 06:29 cloudinstitution

[ec2-user@ip-10-0-0-5 ~]$ cd cloudinstitution
[ec2-user@ip-10-0-0-5 cloudinstitution]$ sudo mkdir file1
[ec2-user@ip-10-0-0-5 cloudinstitution]$ sudo vi file1/index.html
```

A red arrow points to the end of the last command line in the terminal.



The screenshot shows the AWS CloudShell interface. At the top, there's a header with the AWS logo, a 'Services' menu, a search bar, and a '[Alt+S]' shortcut. Below the header, the 'EC2' icon is visible. The terminal window displays the text 'hii..this is a sample message from cloud institution'. A red arrow points from a callout box to the 'i' in 'hii..'. The callout box contains the text 'Press "i" in the keyboard and type a message'. Another red arrow points from a second callout box to the prompt ': wq'. This callout box contains the text 'press "esc" and type ":wq" to exit'. The terminal prompt is currently ': wq'.

aws Services Search [Alt+S]

EC2

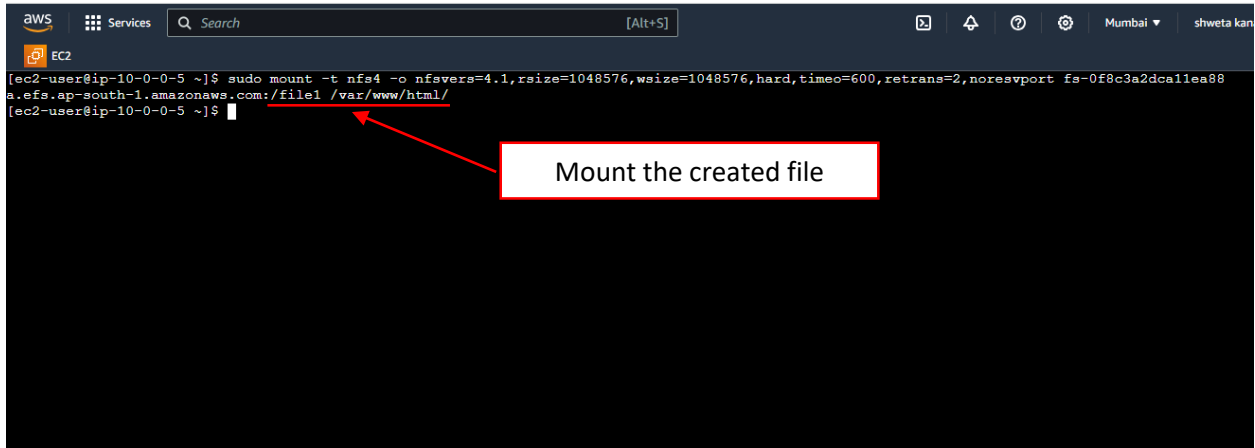
hii..this is a sample message from cloud institution

Press "i" in the keyboard and type a message

press "esc" and type ":wq" to exit

: wq

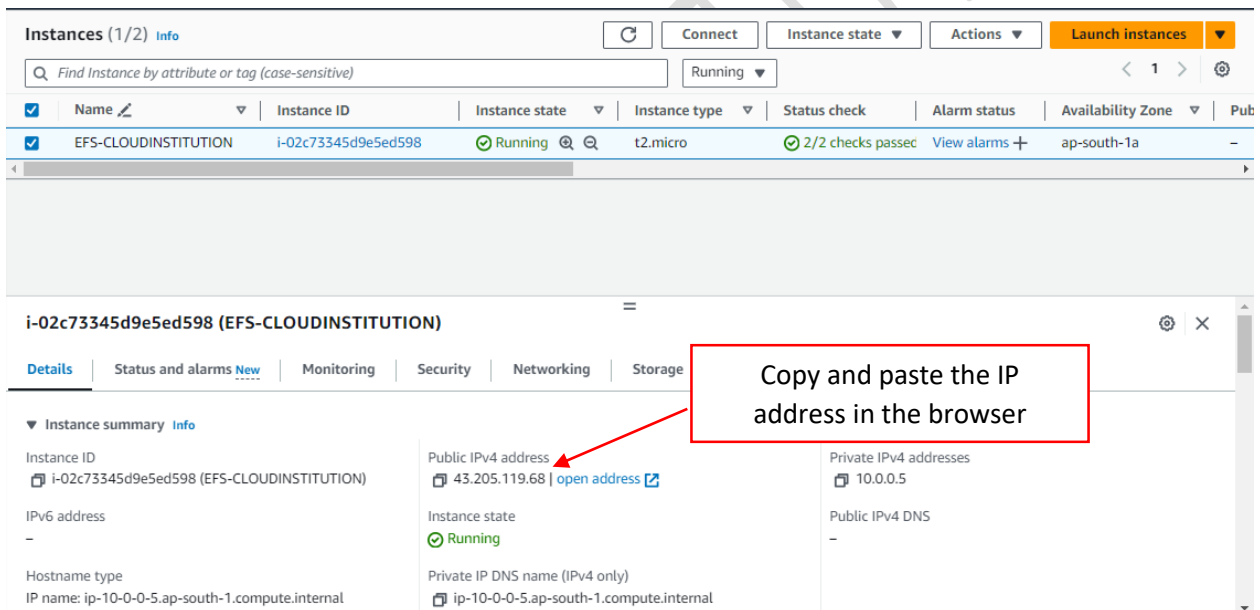
Now copy and paste the NFS client code from file system console



```
aws
Services
Search
[Alt+S]
Mumbai shweta kan
EC2
[ec2-user@ip-10-0-0-5 ~]$ sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2,noresvport fs-0f8c3a2dca11ea88a.efs.ap-south-1.amazonaws.com:/file1 /var/www/html/
[ec2-user@ip-10-0-0-5 ~]$
```

Mount the created file

Step 5 : Go to the EC2 instance page



Instances (1/2) Info

Find Instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Pub
EFS-CLOUDINSTITUTION	i-02c73345d9e5ed598	Running	t2.micro	2/2 checks passed	View alarms	ap-south-1a	-

i-02c73345d9e5ed598 (EFS-CLOUDINSTITUTION)

Details Status and alarms New Monitoring Security Networking Storage

Instance summary Info

Instance ID
i-02c73345d9e5ed598 (EFS-CLOUDINSTITUTION)

IPv6 address
-

Hostname type
IP name: ip-10-0-0-5.ap-south-1.compute.internal

Public IPv4 address
43.205.119.68 | open address

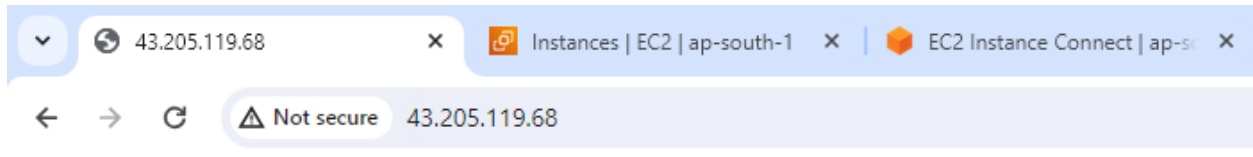
Instance state
Running

Private IP DNS name (IPv4 only)
ip-10-0-0-5.ap-south-1.compute.internal

Private IPv4 addresses
10.0.0.5

Public IPv4 DNS
-

Copy and paste the IP address in the browser



hii..this is a sample message from cloud institution