

Amazon Web Services



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Mounting multiple instances to the EFS (Tasks)

INTRODUCTION

AWS provides cloud computing platforms and API's to individuals and companies on pay-as-you-go basis.

It offers reliable, scalable and inexpensive cloud services.

AMAZON EFS

Amazon Elastic File System (Amazon EFS) provides serverless, fully elastic file storage so that you can share file data without provisioning or managing storage capacity and performance.

TASK GIVEN

Tasks To Be Performed:

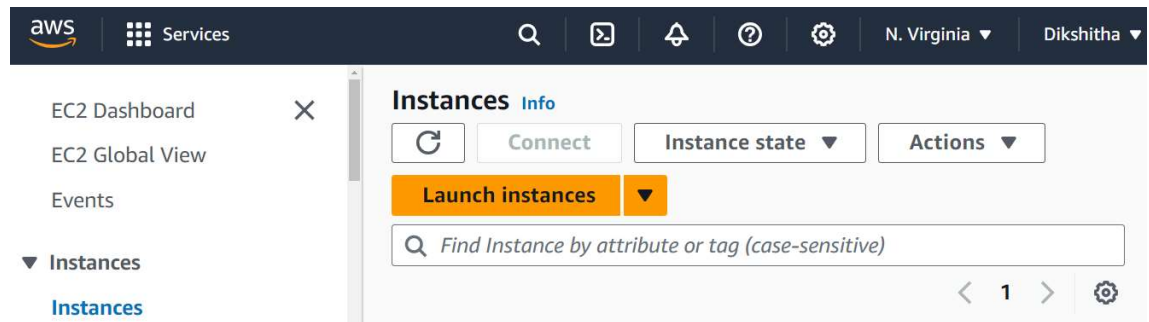
1. Create an EFS and connect it to 3 different EC2 instances.

Make sure that all instances have different operating systems. For instance, Ubuntu, Red Hat Linux and Amazon Linux 2.

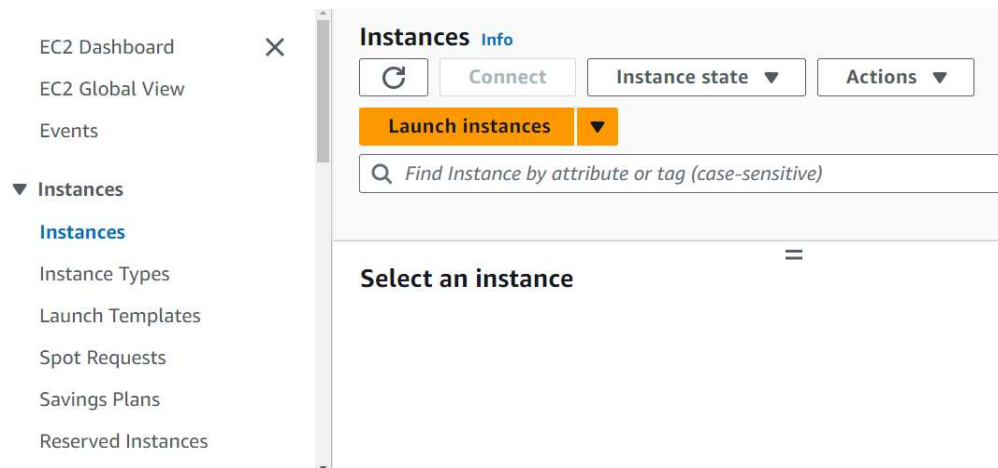
TASK :

Launch three EC2 instances.

1. Login in the AWS account and then redirect to the EC2 dashboard.
2. Select the region in which we need to create the instance. Here I'm selecting the region US-East-1 (N. Virginia).



3. We can find the Instances tab on the left menu, tap on it and then tap on “Launch Instances”.



4. Give a name to the instance, select the Application and OS Images (Amazon Machine Image) and instance type (I selected t2.micro).
5. Next comes the Key pair. If we have already created key pair values then we can select them if not we need to create the new key pair.

Create key pair

Key pair name
Key pairs allow you to connect to your instance securely.
Instance1
The name can include upto 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

☒ RSA
RSA encrypted private and public key pair

☐ ED25519
ED25519 encrypted private and public key pair

Private key file format

☒ .pem
For use with OpenSSH

☐ .ppk
For use with PuTTY

⚠ When prompted, store the private key in a secure and accessible location on your computer. You will need it later to connect to your instance. [Learn more](#)

Cancel Create key pair

6. Next is about the network settings. If we allow SSH traffic then it means it is available at port 22 and also allow http protocol to work on web servers.

Network settings Info Edit

Network Info
vpc-07c0e477c5d2fb88d

Subnet Info
No preference (Default subnet in any availability zone)

Auto-assign public IP Info
Disable

Firewall (security groups) 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

We'll create a new security group called 'launch-wizard-1' with the following rules:

☒ Allow SSH traffic from
Helps you connect to your instance
Anywhere
0.0.0.0/0

☐ Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server

☐ Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

⚠ 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. X

7. The further step is about the storage configuration. We can select it according to our needs.

▼ **Configure storage** [Info](#) Advanced

1x GiB ▼ Root volume (Not encrypted)

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

[Add new volume](#)

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

0 x File systems [Edit](#)

8. Once everything is done, click on launch instance.

[EC2](#) > [Instances](#) > Launch an instance

○ **Launching instance**
Creating security group rules 21%

► Details

Please wait while we launch your instance.
Do not close your browser while this is loading.

✓ **Success**
Successfully initiated launch of instance ([i-026fd029403d4d12f](#))

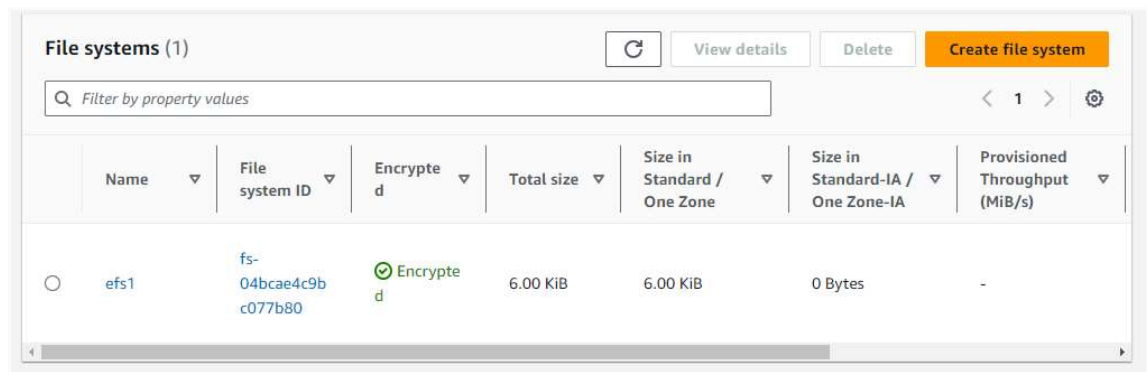
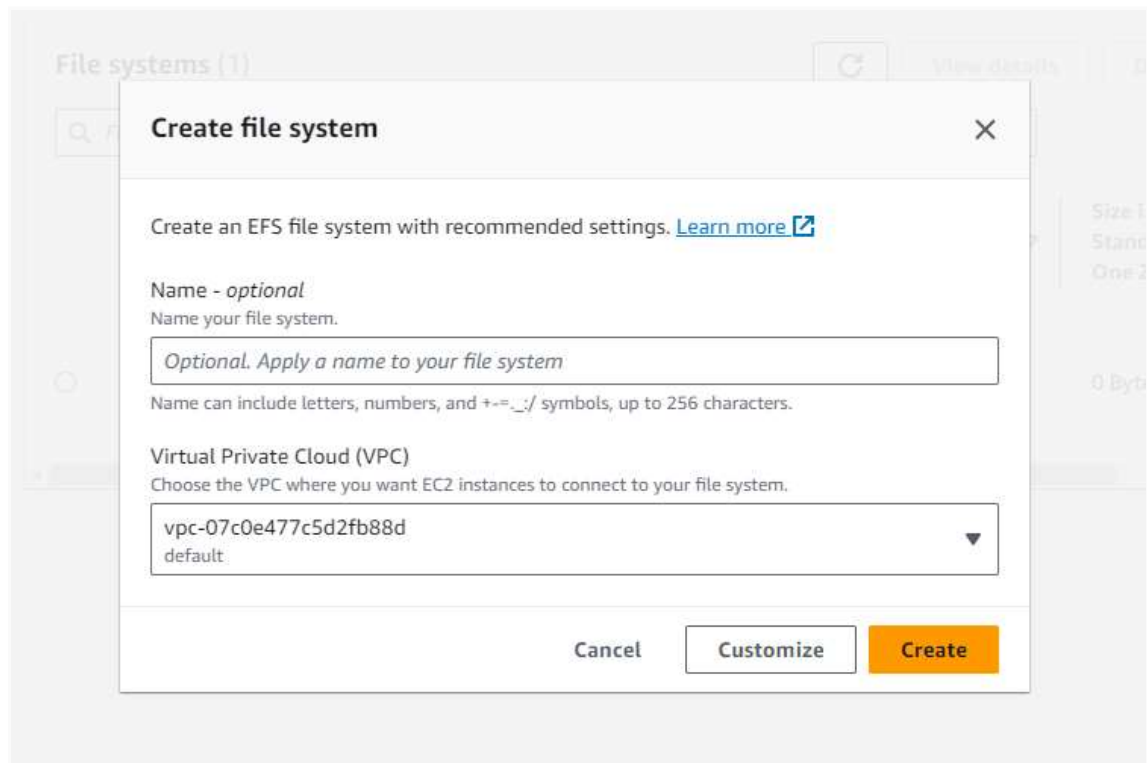
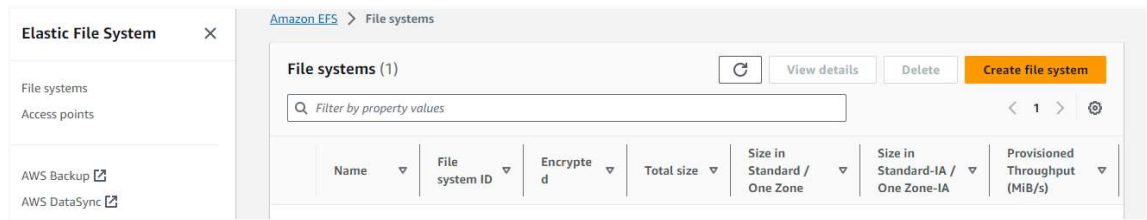
▼ **Launch log**

Initializing requests	✓ Succeeded
Creating security groups	✓ Succeeded
Creating security group rules	✓ Succeeded
Launch initiation	✓ Succeeded

In the same way we need to create two other instances.

Next we have to create the file system

Navigate to EFS then tap on create file system.



Select the efs and tap on view details

Then tap on the attach

[Amazon EFS](#) > [File systems](#) > fs-04bcae4c9bc077b80

efs1 (fs-04bcae4c9bc077b80)

DeleteAttach

General

Performance mode

General Purpose

Throughput mode

Elastic

Lifecycle management

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

Transition out of IA: None

Availability zone

Standard

Automatic backups

Enabled

Encrypted

d7315c8a-7f98-4ccd-b6d1-924429d4ed58 (aws/elasticfilesystem)

File system state

Available

DNS name

fs-04bcae4c9bc077b80.efs.us-east-1.amazonaws.com

Edit

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-04bcae4c9bc077b80:/ efs
```

Using the NFS client:

```
sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2,noresvport fs-04bcae4c9bc077b80.efs.us-east-1.amazonaws.com:/ efs
```

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

Close

Activate Windows
Go to Settings to activate Windows.

Next we have to navigate to instance and select it and connect

6

[EC2](#) > [Instances](#) > [i-0af5e5c4647af8d07](#) > Connect to instance

Connect to instance [Info](#)

Connect to your instance i-0af5e5c4647af8d07 (efsinstance1) using any of these options

EC2 Instance Connect

Session Manager

SSH client

EC2 serial console

Instance ID
i-0af5e5c4647af8d07 (efsinstance1)

Connection Type

☒ Connect using EC2 Instance Connect
Connect using the EC2 Instance Connect browser-based client, with a public IPv4 address.

☐ Connect using EC2 Instance Connect Endpoint
Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.

Public IP address
44.202.188.168

User name
Enter the user name defined in the AMI used to launch the instance. If you didn't define a custom user name, use the default user name, ubuntu.

ubuntu

Note: In most cases, the default user name, ubuntu, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.

Cancel **Connect**

Mounting EC2 on EFS :(Amazon Linux)

```
sudo su
```

```
sudo yum update
```

```

_/_/_/
[ec2-user@ip-172-31-36-27 ~]$ sudo su
[root@ip-172-31-36-27 ec2-user]# sudo yum update

```

```
mkdir efs-test
```

```
sudo mount -t nfs4 -o
```

```
nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvpor
t fs-04bcae4c9bc077b80.efs.us-east-1.amazonaws.com:/ efs-test
```

```
df -h
```



```
[root@ip-172-31-36-27 ~]# df -h
Filesystem                                Size  Used Avail Use% Mounted on
devtmpfs                                  4.0M    0   4.0M   0% /dev
tmpfs                                     224M    0   224M   0% /dev/shm
tmpfs                                     90M    1.6M   88M   2% /run
/dev/xvda1                               8.0G    1.5G   6.5G  19% /
tmpfs                                     224M    0   224M   0% /tmp
/dev/xvda128                             10M    1.3M   8.7M  13% /boot/efi
tmpfs                                     45M    0    45M   0% /run/user/1000
fs-04bcae4c9bc077b80.efs.us-east-1.amazonaws.com:/ 8.0E    0   8.0E   0% /home/ec2-user/efs-test
```

Mounting EC2 on EFS:(Ubuntu)

sudo su

sudo apt-get update

sudo mkdir efs2

sudo mount -t nfs4 -o

nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport

fs-04bcae4c9bc077b80.efs.us-east-1.amazonaws.com:/ efs2

df -h

```
root@ip-172-31-40-45:/home/ubuntu# df -h
Filesystem                                Size  Used Avail Use% Mounted on
/dev/root                                7.6G    1.8G   5.9G  24% /
tmpfs                                    475M    0   475M   0% /dev/shm
tmpfs                                    190M  860K   190M   1% /run
tmpfs                                    5.0M    0    5.0M   0% /run/lock
/dev/xvda15                              105M    6.1M   99M   6% /boot/efi
tmpfs                                    95M    4.0K   95M   1% /run/user/1000
fs-04bcae4c9bc077b80.efs.us-east-1.amazonaws.com:/ 8.0E    0   8.0E   0% /home/ubuntu/efs2
```

Mounting EC2 on EFS:(Red Hat Linux)

Select the instance and tap on connect

Redirect to SSH

Connect to instance [Info](#)

Connect to your instance i-0741bcc933f22e734 (efsinstance-3) using any of these options

EC2 Instance Connect

Session Manager

SSH client

EC2 serial console

Instance ID

i-0741bcc933f22e734 (efsinstance-3)

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is Instance1.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.

chmod 400 Instance1.pem
4. Connect to your instance using its Public DNS:

ec2-18-209-27-106.compute-1.amazonaws.com

Example:

ssh -i "Instance1.pem" ec2-user@ec2-18-209-27-106.compute-1.amazonaws.com

Note:

In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.

Open local system's command prompt and run the following commands

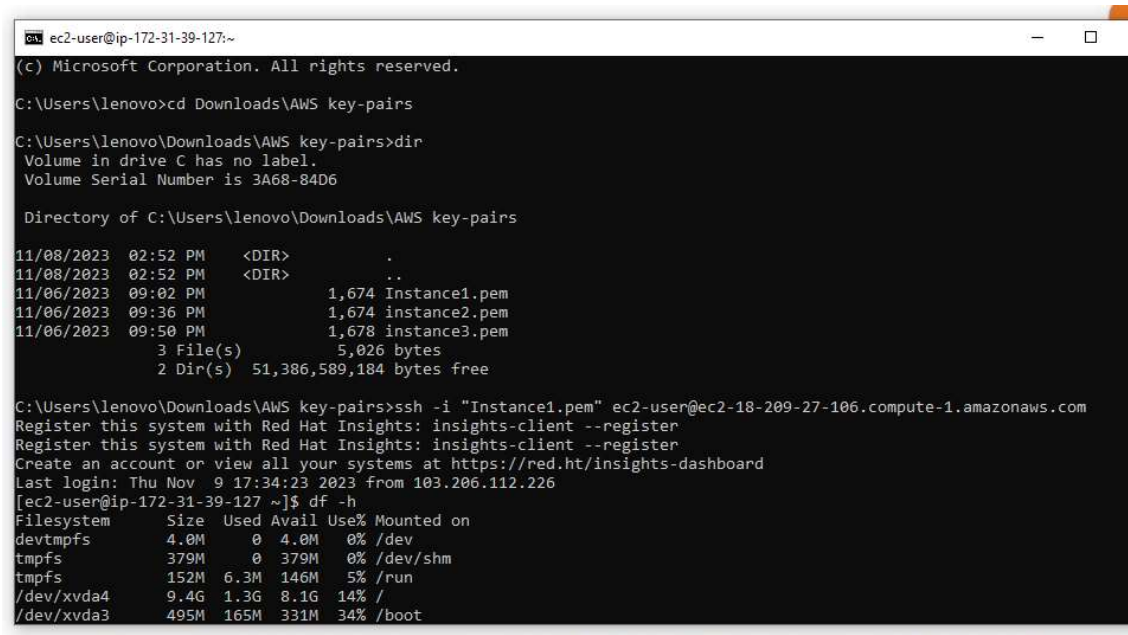
cd downloads

Cat /etc/os-release

Yum install nfs-utils -y

Mkdir efs

ssh -i "Instance1.pem" ec2-user@ec2-18-209-27-106.compute-1.amazonaws.com



```
ec2-user@ip-172-31-39-127:~
(c) Microsoft Corporation. All rights reserved.
C:\Users\lenovo>cd Downloads\AWS key-pairs
C:\Users\lenovo\Downloads\AWS key-pairs>dir
Volume in drive C has no label.
Volume Serial Number is 3A68-84D6

Directory of C:\Users\lenovo\Downloads\AWS key-pairs

11/08/2023  02:52 PM    <DIR>          .
11/08/2023  02:52 PM    <DIR>          ..
11/06/2023  09:02 PM             1,674 Instance1.pem
11/06/2023  09:36 PM             1,674 instance2.pem
11/06/2023  09:50 PM             1,678 instance3.pem
               3 File(s)              5,026 bytes
               2 Dir(s)  51,386,589,184 bytes free

C:\Users\lenovo\Downloads\AWS key-pairs>ssh -i "Instance1.pem" ec2-user@ec2-18-209-27-106.compute-1.amazonaws.com
Register this system with Red Hat Insights: insights-client --register
Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
Last login: Thu Nov  9 17:34:23 2023 from 103.206.112.226
[ec2-user@ip-172-31-39-127 ~]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        4.0M   0  4.0M   0% /dev
tmpfs           379M   0  379M   0% /dev/shm
tmpfs           152M  6.3M  146M   5% /run
/dev/xvda4      9.4G  1.3G  8.1G  14% /
/dev/xvda3      495M  165M  331M  34% /boot
```

Now ec2 instance has been mounted to the efs.

We can now share the files and it gets reflected on the shared files.

CONCLUSION:

Launched 3 ec2 instances and mounted it to the created elastic file system.