Hands-on

Creating and mounting an EFS Volume

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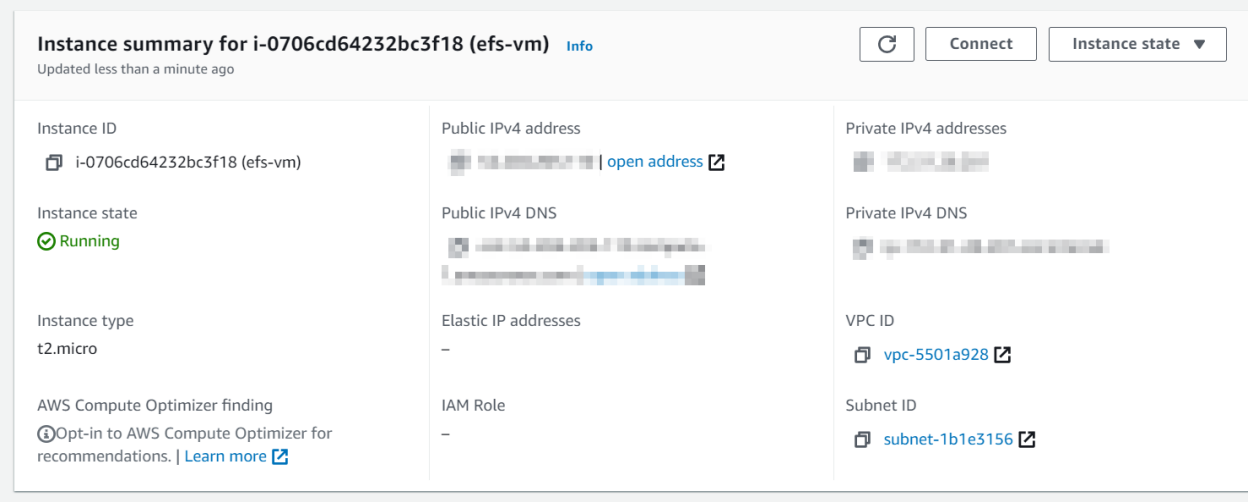
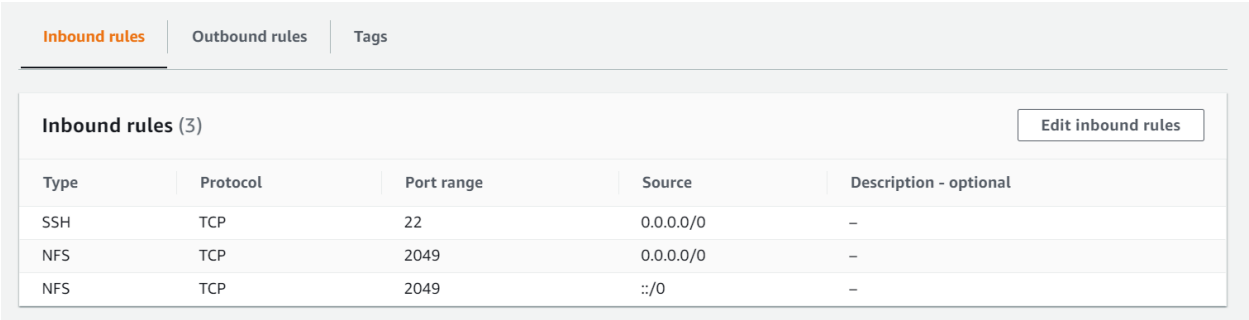
Creating and mounting an EFS Volume

Step 1: Launch an EC2 Ubuntu or an Amazon Linux instance to attach the EFS volume

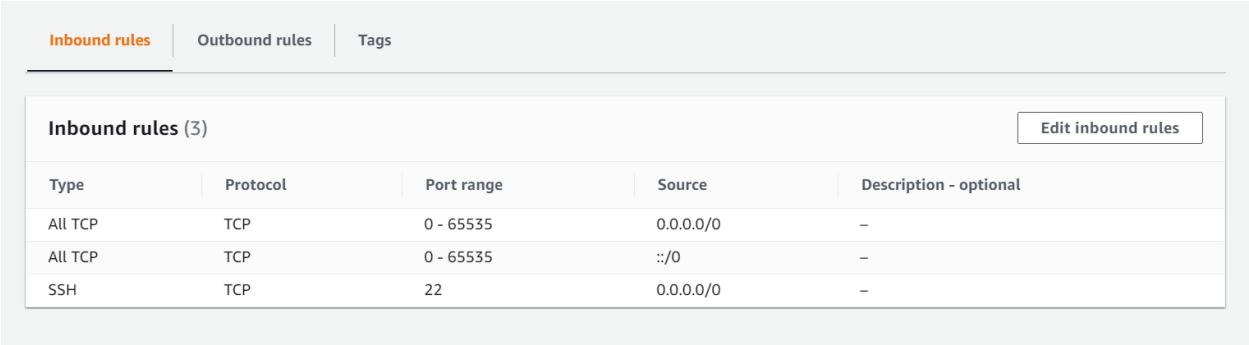


Note: Make sure to set up your EC2 instances security group accordingly. Either allow All TCP traffic or allow NFS.

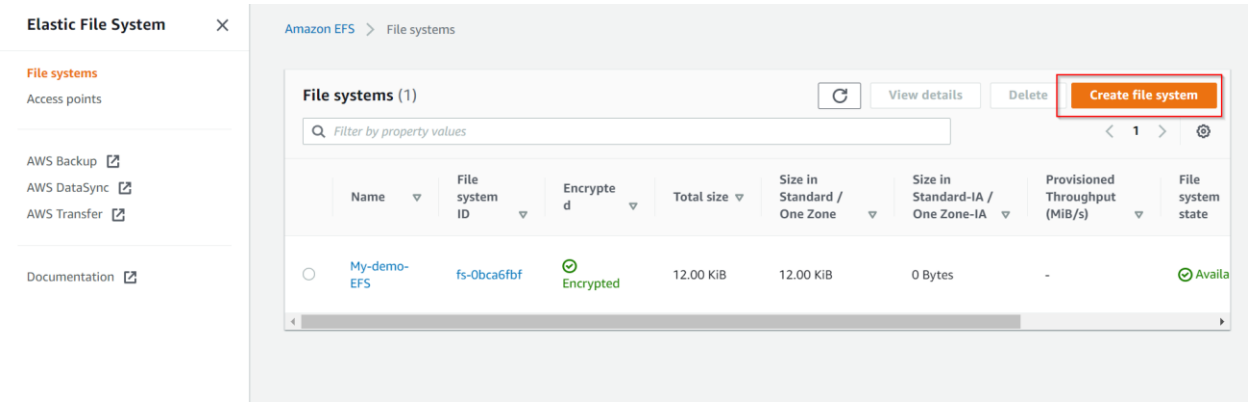
- **This is for NFS port alone:**



- **This is for All TCP traffic:**

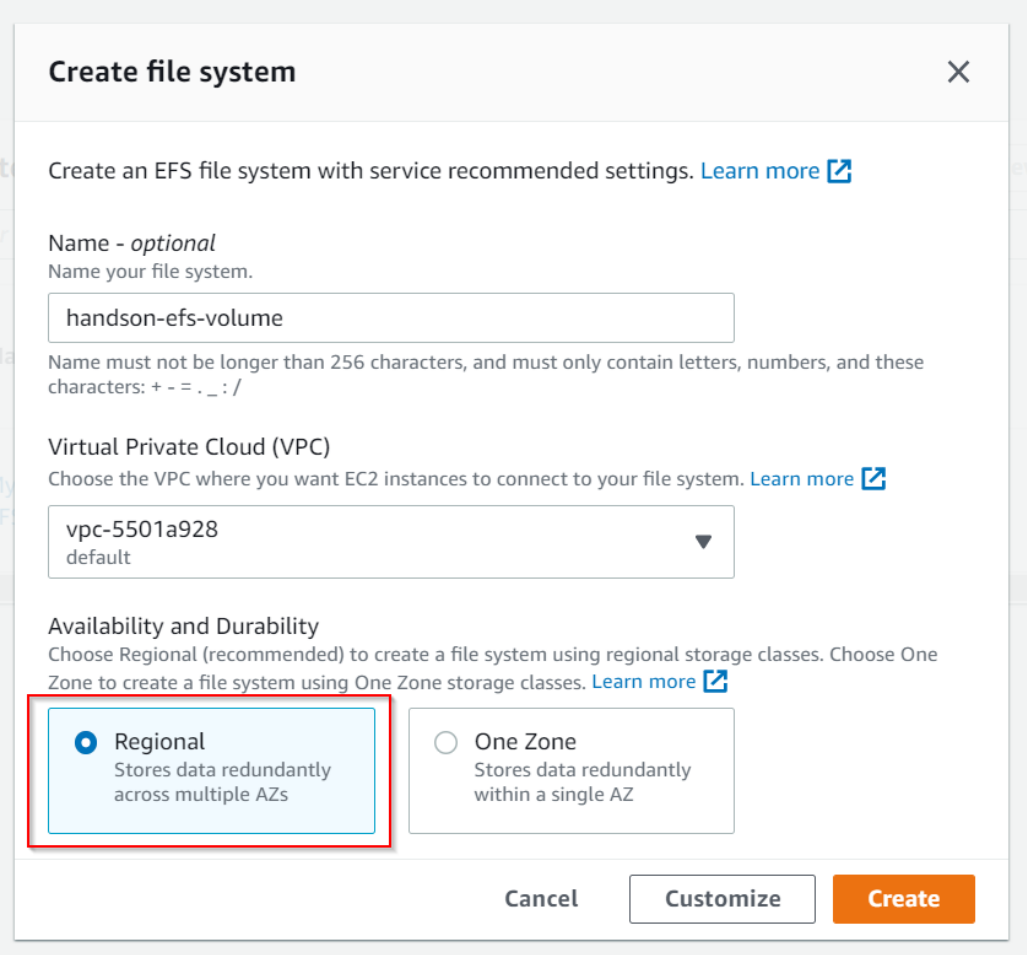


Step 2: Click on Create File System in the EFS console to start the process.

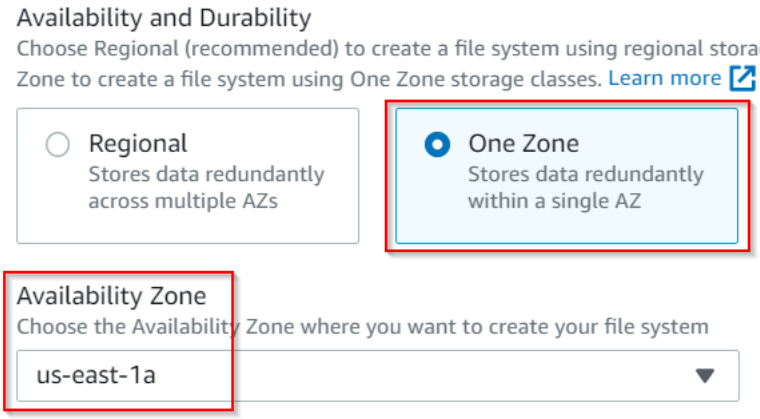


Step 3: Then proceed to provide it a Name which is optional but would be easier to identify. Leave the VPC as default. Finally, choose between Regional or One-zone.

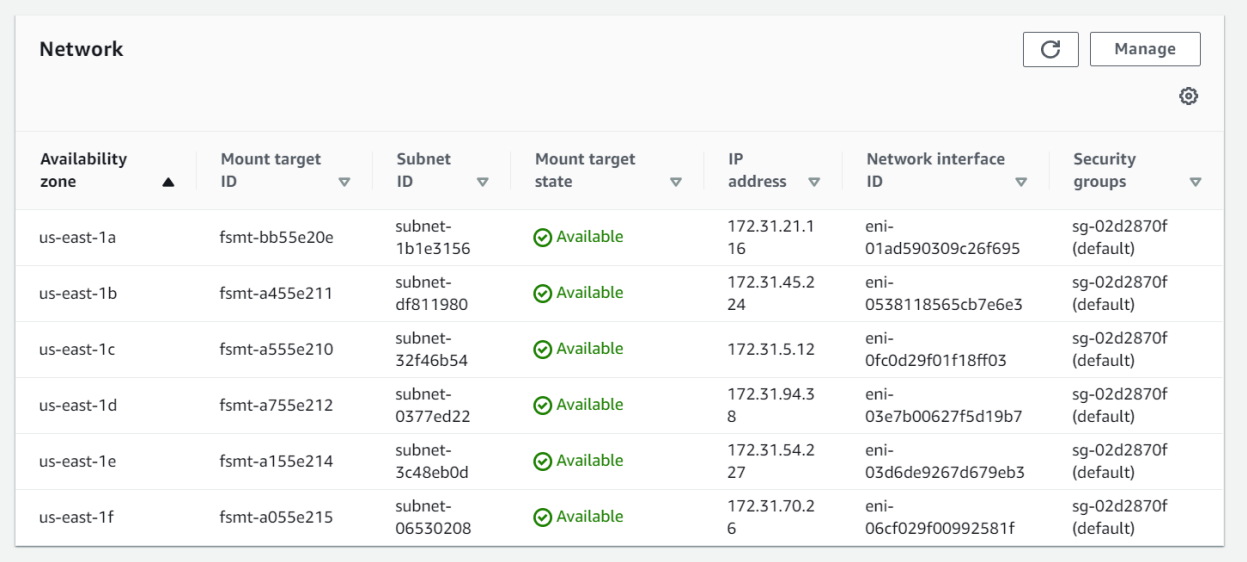
- **Regional** will let you connect with EC2 instances across multiple availability zones.



- **One Zone** will let you create a Volume which is only available in one availability zone in the region. Your EC2 instance should be of the same region as the EFS volume for this to work.



- Choose between Regional or One Zone and click the create button. In this hands-on, we are choosing Regional.



Network

Manage

Availability zone	Mount target ID	Subnet ID	Mount target state	IP address	Network interface ID	Security groups
us-east-1a	fsmt-bb55e20e	subnet-1b1e3156	Available	172.31.21.116	eni-01ad590309c26f695	sg-02d2870f (default)
us-east-1b	fsmt-a455e211	subnet-df811980	Available	172.31.45.224	eni-0538118565cb7e6e3	sg-02d2870f (default)
us-east-1c	fsmt-a555e210	subnet-32f46b54	Available	172.31.5.12	eni-0fc0d29f01f18ff03	sg-02d2870f (default)
us-east-1d	fsmt-a755e212	subnet-0377ed22	Available	172.31.94.38	eni-03e7b00627f5d19b7	sg-02d2870f (default)
us-east-1e	fsmt-a155e214	subnet-3c48eb0d	Available	172.31.54.227	eni-03d6de9267d679eb3	sg-02d2870f (default)
us-east-1f	fsmt-a055e215	subnet-06530208	Available	172.31.70.26	eni-06cf029f00992581f	sg-02d2870f (default)

Step 4: The volume has been created. Now we can start with the mounting process. Open your EC2 instance first and follow the steps to install the required client which supports EFS.

Note: Here are the required commands for both Ubuntu EC2 instance and Amazon Linux EC2 instance.

For Ubuntu instance:

$ sudo apt-get update

$ sudo apt-get install nfs-common -y

$ mkdir efs

For Linux and Redhat AMIs:

$ sudo yum update -y

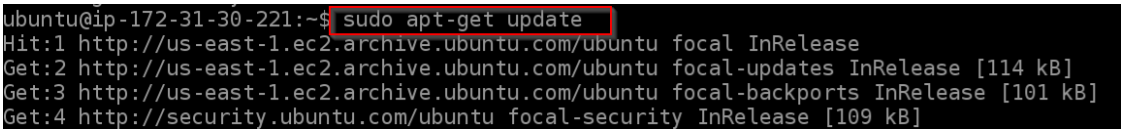
$ sudo yum install amazon-efs-utils -y

$ mkdir efs

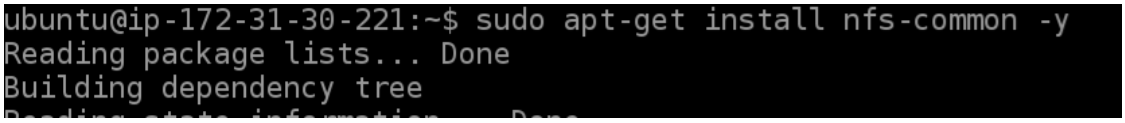
In this hands-on, the instance used is an Ubuntu instance and because of that we will be using the commands from the Ubuntu section. If you are running an Amazon Linux instance, just substitute the command which is provided for Linux instances.

Mounting process steps:

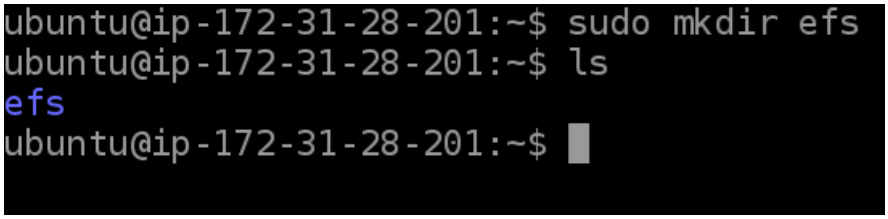
- First, update your EC2 instance if not updated before using this below command:
  - **sudo apt-get update**



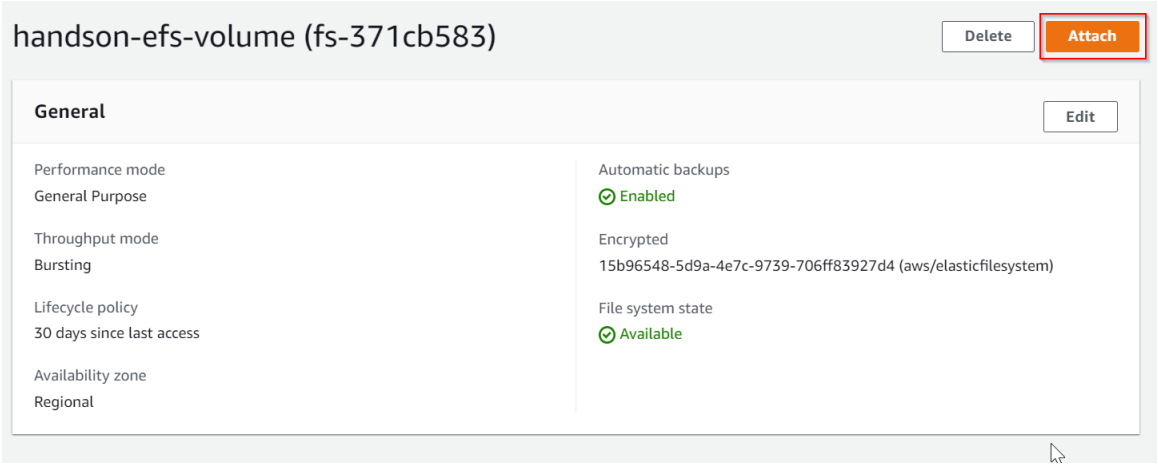
- Then install the NFS client using the below command:
  - **sudo apt-get install nfs-common -y**



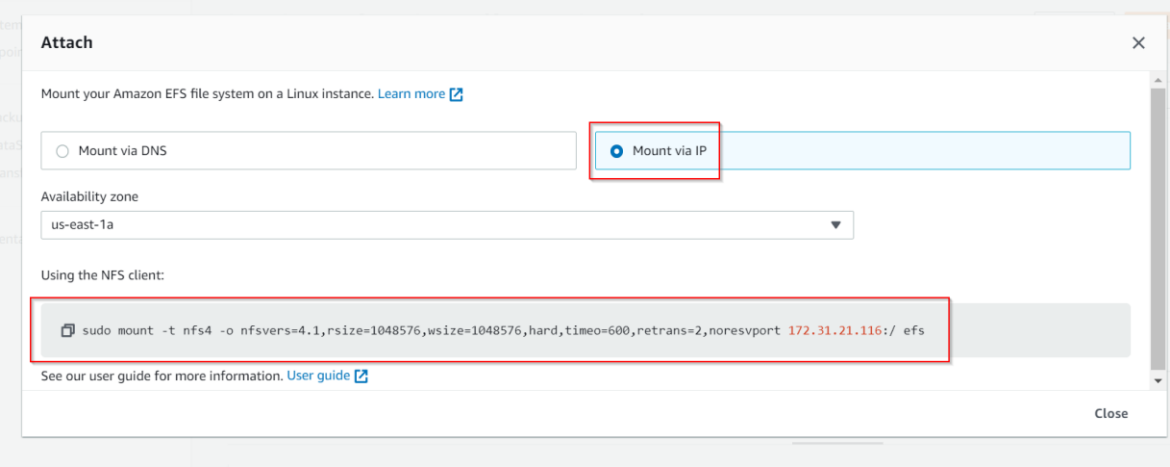
- Create a folder named "**efs**" in the current directory.
  - **sudo mkdir efs**



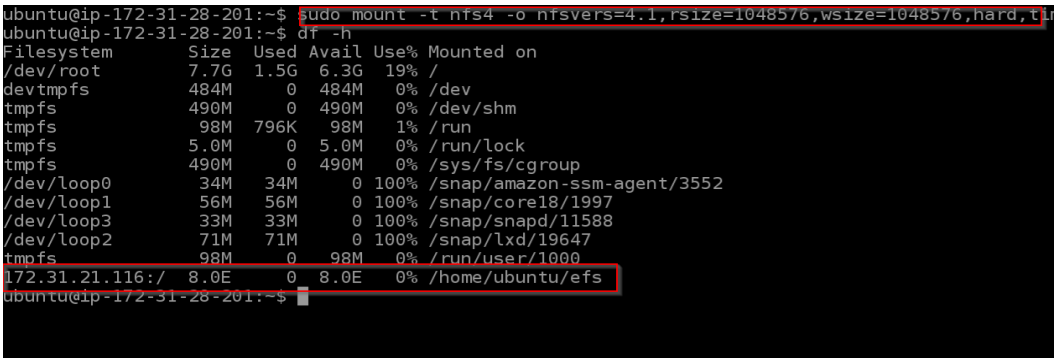
- Then open EFS and select your volume. Click on the Attach button at the top.



- Choose Mount via IP option and copy the given command. It will be the same command for both Linux and Ubuntu instances.



- Run the given command in your EC2 instance to mount your EFS volume to the "**efs**" directory. Once mounted, you can check it with this command – **df -h**



Step 5: Let's test and check if the volume is successfully mounted by creating files within the mounted directory and then unmounting the volume. If the file is not present in the directory, that means we have successfully created a file inside the volume and also unmounted the volume.

```
ubuntu@ip-172-31-28-201:~$ ls
efs
ubuntu@ip-172-31-28-201:~$ cd efs
ubuntu@ip-172-31-28-201:~/efs$ touch 1.txt
touch: cannot touch '1.txt': Permission denied
ubuntu@ip-172-31-28-201:~/efs$ sudo touch 1.txt
ubuntu@ip-172-31-28-201:~/efs$ ls
1.txt
ubuntu@ip-172-31-28-201:~/efs$
```

In the below image, you will see we use **sudo umount efs**to unmount the volume. Then when we see inside the directory, the file is not there. This is because the file is inside the EFS volume.

```
ubuntu@ip-172-31-28-201:~/efs$ sudo touch 1.txt
ubuntu@ip-172-31-28-201:~/efs$ ls
1.txt
ubuntu@ip-172-31-28-201:~/efs$ cd ..
ubuntu@ip-172-31-28-201:~$ umount efs
umount: /home/ubuntu/efs: umount failed: Operation not permitted.
ubuntu@ip-172-31-28-201:~$ sudo umount efs
ubuntu@ip-172-31-28-201:~$ cd efs
ubuntu@ip-172-31-28-201:~/efs$ ls
ubuntu@ip-172-31-28-201:~/efs$
```

We have successfully completed the EFS creation and mounting!