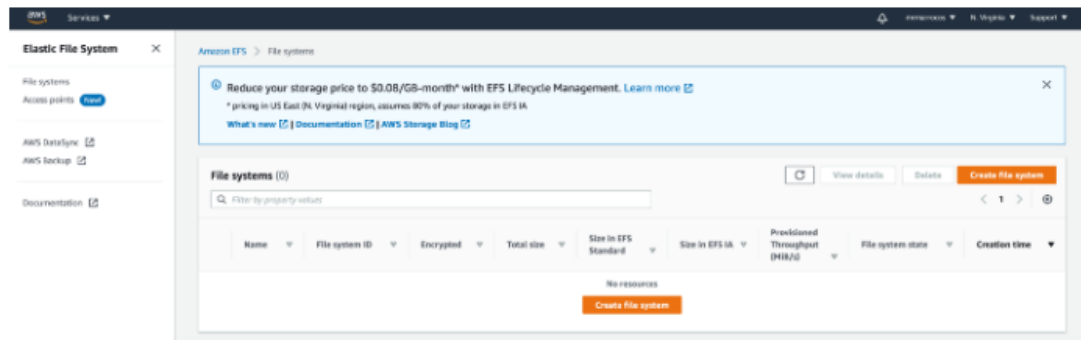


. . .

Creating an EFS

To create an EFS, you need to access the menu Services -> Storage -> EFS -> File System.



Screenshot by the Author

Click on the button "Create file system" to open the dialog. The field "name" is optional. However, I encourage you to fill out for easy identification. It is also required to select the VPC (Virtual Private Cloud) where this file system will be available.

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Create file system

×

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

Name - *optional*

Name your file system.

File System Marcello Marrocos

Name must not be longer than 256 characters, and must only contain letters, numbers, and these characters: + - = . _ : /

Virtual Private Cloud (VPC)

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

vpc-9d5a11e7
default

Cancel

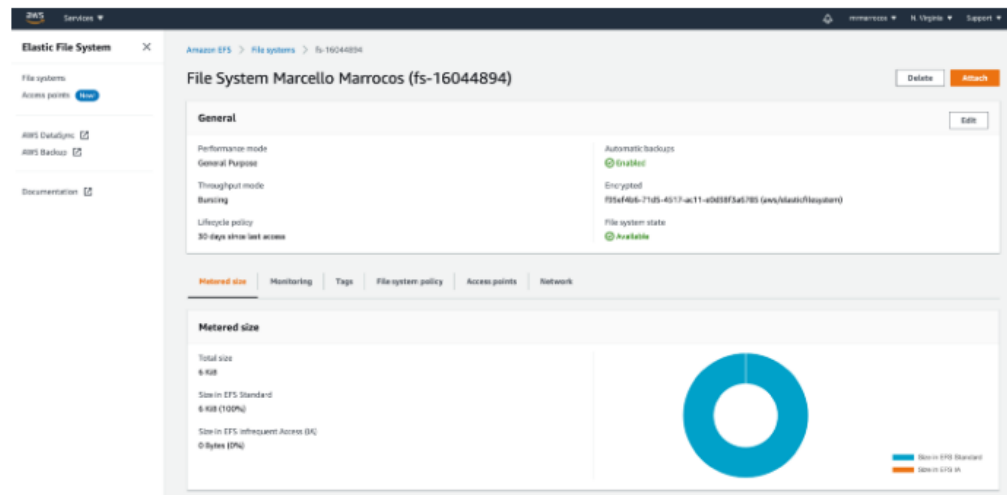
Customize

Create

Screenshot by the Author

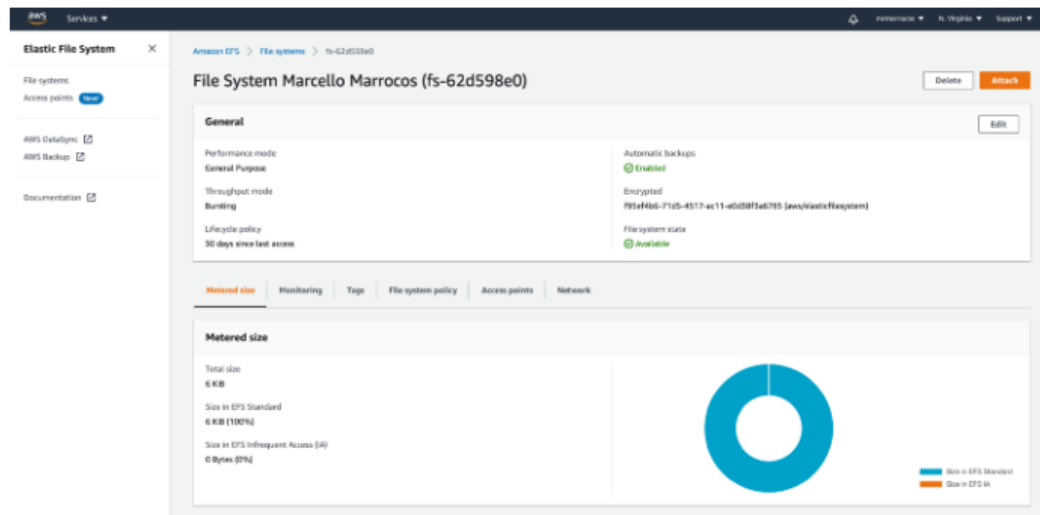
After hitting the "Create" button, your file system will be available within a few seconds:

After hitting the "Create" button, your file system will be available within a few seconds:



Screenshot by the Author

When clicking on your file system ID or file system name, it takes you to the details page of your EFS:



Screenshot by the Author

Attaching an EFS to an EC2 Instance

Alright, the EFS is created, but what now? Well, now you attach it to an EC2 instance and start using it.

You have two ways to mount the EFS: 1) At the moment of launching a new instance; 2) On a running instance, using bash commands with the help of the `amazon-efs-utils` library.

At the launch of a new instance

The easiest way is to configure your EFS when launching a new EC2 instance. In the "file systems" section, you click on the "add file system" button and select the EFS that you previously created:

The screenshot shows the AWS Management Console interface for launching an EC2 instance, specifically the 'Step 3: Configure Instance Details' page. The page is divided into several sections for configuring the instance. At the bottom, the 'File systems' section is highlighted, showing a dropdown menu with 'fs-10044894' selected. To the right of the dropdown is a button labeled 'Add new file system'. Other sections include 'Purchasing option', 'Network', 'Subnet', 'Auto-assign Public IP', 'Placement group', 'Capacity Reservation', 'Domain join directory', 'IAM role', 'Shutdown behavior', 'Stop - Hibernate behavior', 'Enable termination protection', 'Monitoring', 'Tenancy', 'Elastic Inference', and 'Credit specification'. The 'Previous' and 'Next: Add Storage' buttons are visible at the bottom right.

Screenshot by the Author

Once you login into your EC2 instance, go to the path where you mounted, in this case, `/mnt/efs/fs1`, and type `"pwd"` to see the mounted drive:

```
ec2-user@ip-172-31-29-129:/mnt/efs/fs1 — ssh -i aws-key-pair-ec2.pem ec2-user@ec2-54-224-78-27.compute-1...
Last login: Sun Oct  4 22:10:51 on ttys000
mmarroc@MRX-MacPro-16 Misc % ssh -i "aws-key-pair-ec2.pem" ec2-user@ec2-54-224-78-27.compute-1.amazonaws.com
The authenticity of host 'ec2-54-224-78-27.compute-1.amazonaws.com (54.224.78.27)' can't be established.
ECDSA key fingerprint is SHA256:otd9/HMJqxEt34mxKSznrTaqt8UjZagoTYEQS6r3A3Y.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-54-224-78-27.compute-1.amazonaws.com,54.224.78.27' (ECDSA) to the list of known hosts.

 _ _ | _ _ | _ _
 _ | ( _ / Amazon Linux 2 AMI
 _ | \ _ _ | _ _ |

https://aws.amazon.com/amazon-linux-2/
2 package(s) needed for security, out of 13 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-29-129 ~]$ cd /mnt/efs/fs1
[ec2-user@ip-172-31-29-129 fs1]$ pwd
/mnt/efs/fs1
[ec2-user@ip-172-31-29-129 fs1]$ ls -al
total 0
drwxr-xr-x 2 root root  6 Oct  5 02:05 .
drwxr-xr-x 3 root root 17 Oct  5 02:05 ..
[ec2-user@ip-172-31-29-129 fs1]$
```

Screenshot by the Author

On a running instance

It is easier to mount your EFS launching a new instance, however, you can mount a file system at any time. For that, have an EC2 instance up and running and connect to it via ssh.

Connected to the instance, you need to create a directory where you will mount the EFS. For instance, create the folder structure `mnt/efs/fs2` with the following commands:

```
sudo mkdir efs

cd efs

sudo mkdir fs2
```

A terminal window with a dark background and light text. The window title bar shows a red, yellow, and green icon followed by 'Misc' and a long path. The terminal content shows a series of commands and their outputs: changing to /mnt, creating the 'efs' directory, changing to 'efs', and creating the 'fs2' directory.

```
Misc — ec2-user@ip-172-31-85-47:/mnt/efs — ssh -i aws-key-pair-ec2.pem ec2-user@ec2-35-174-172-155.compute-...  
[ec2-user@ip-172-31-85-47 ~]$ cd /mnt  
[ec2-user@ip-172-31-85-47 mnt]$ sudo mkdir efs  
[ec2-user@ip-172-31-85-47 mnt]$ cd efs  
[ec2-user@ip-172-31-85-47 efs]$ sudo mkdir fs2  
[ec2-user@ip-172-31-85-47 efs]$
```

Screenshot by the Author

Now, you need to install the amazon efs utils library, which will allow us to run the connection command and mount the EFS. To move on with the installation of this library, run the following command:

```
sudo yum install -y amazon-efs-utils
```

```

Misc — ec2-user@ip-10-0-1-92/ — ssh -i aws-key-pair-ec2.pem ec2-user@54.166.39.252 — 115x48
[ec2-user@ip-10-0-1-92 ~]$ sudo yum -y install amazon-efs-utils
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
--> Package amazon-efs-utils.noarch 0:1.28.1-1.amzn2 will be installed
--> Processing Dependency: stunnel >= 4.56 for package: amazon-efs-utils-1.28.1-1.amzn2.noarch
--> Running transaction check
--> Package stunnel.x86_64 0:4.56-6.amzn2.0.3 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package Arch Version Repository Size
=====
Installing:
amazon-efs-utils noarch 1.28.1-1.amzn2 amzn2-core 36 k
Installing for dependencies:
stunnel x86_64 4.56-6.amzn2.0.3 amzn2-core 149 k
=====

Transaction Summary
=====
Install 1 Package (+1 Dependent package)

Total download size: 184 k
Installed size: 434 k
Downloading packages:
(1/2): amazon-efs-utils-1.28.1-1.amzn2.noarch.rpm | 36 kB 00:00:00
(2/2): stunnel-4.56-6.amzn2.0.3.x86_64.rpm | 149 kB 00:00:00
-----
Total 1.1 MB/s | 184 kB 00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Installing : stunnel-4.56-6.amzn2.0.3.x86_64 1/2
Installing : amazon-efs-utils-1.28.1-1.amzn2.noarch 2/2
Verifying : stunnel-4.56-6.amzn2.0.3.x86_64 1/2
Verifying : amazon-efs-utils-1.28.1-1.amzn2.noarch 2/2

Installed:
amazon-efs-utils.noarch 0:1.28.1-1.amzn2

Dependency Installed:
stunnel.x86_64 0:4.56-6.amzn2.0.3

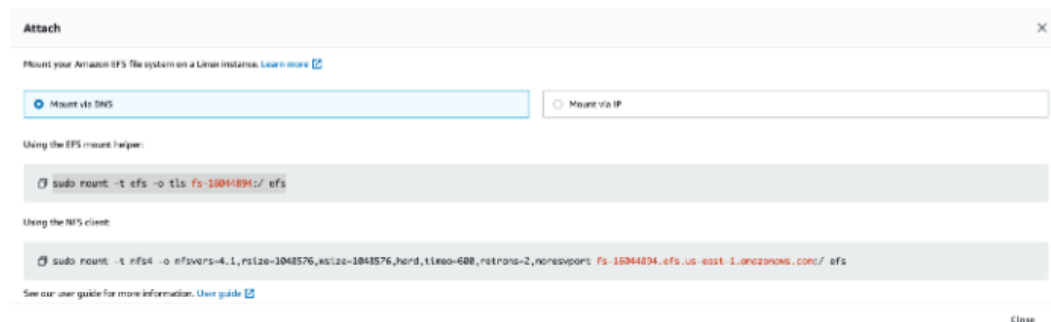
Complete!
[ec2-user@ip-10-0-1-92 ~]$
```

Screenshot by the Author

After a successful installation, it is time to get the information needed to build the connection. The id of the EFS is required and part of the command to mount the unit.

Back to AWS console, access the file system that you created, and click on the button "Attach." Note that this can be a little misleading because the action will not attach the EFS to your instance, but provide you the full command to connect.

Unfortunately, there is no automatic way to click and mount it, so copy the command from "using the EFS mount helper" field.



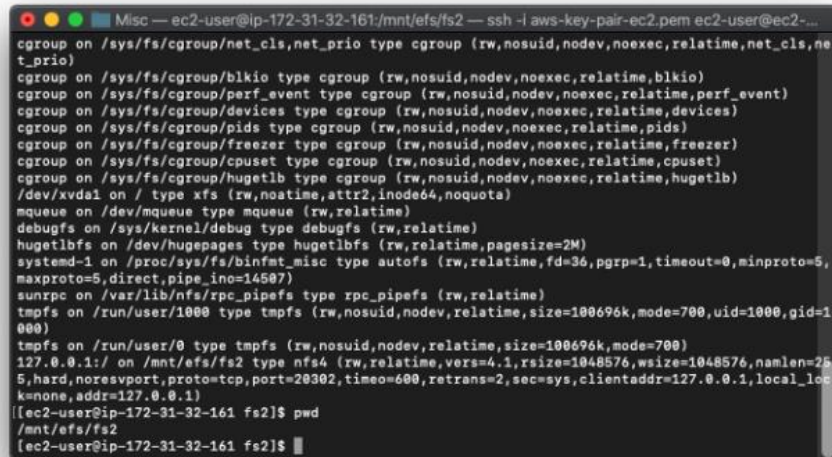
The screenshot shows the 'Attach' dialog box in the AWS console. It has a title bar 'Attach' with a close button. Below the title bar, it says 'Mount your Amazon EFS file system on a Linux instance. [Learn more](#)'. There are two radio buttons: 'Mount via DNS' (selected) and 'Mount via IP'. Below these, it says 'Using the EFS mount helper:'. There is a text box containing the command: `sudo mount -t efs -o tls fs-10041894:/ efs`. Below that, it says 'Using the NFS client:'. There is a text box containing the command: `sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2,noresvport fs-10041894.efs.us:/ efs`. At the bottom, it says 'See our user guide for more information. [User guide](#)'. There is a 'Close' button in the bottom right corner.

Screenshot by the Author

Then, back to the EC2 instance and execute the command, which is similar to the following — note that the last parameter is the path that you created to mount the EFS:

```
sudo mount -t efs -o tls fs-c12341234:/ /mnt/efs/fs2
```

After successfully mounting the EFS, no message will be displayed. But you can validate with the command "mount":



```
ec2-user@ip-172-31-32-161:/mnt/efs/fs2$ mount
cgroup on /sys/fs/cgroup/net_cls,net_prio type cgroup (rw,nosuid,nodev,noexec,relatime,net_cls,net_prio)
cgroup on /sys/fs/cgroup/blkio type cgroup (rw,nosuid,nodev,noexec,relatime,blkio)
cgroup on /sys/fs/cgroup/perf_event type cgroup (rw,nosuid,nodev,noexec,relatime,perf_event)
cgroup on /sys/fs/cgroup/devices type cgroup (rw,nosuid,nodev,noexec,relatime,devices)
cgroup on /sys/fs/cgroup/pids type cgroup (rw,nosuid,nodev,noexec,relatime,pids)
cgroup on /sys/fs/cgroup/freezer type cgroup (rw,nosuid,nodev,noexec,relatime,freezer)
cgroup on /sys/fs/cgroup/cpuset type cgroup (rw,nosuid,nodev,noexec,relatime,cpuset)
cgroup on /sys/fs/cgroup/hugetlb type cgroup (rw,nosuid,nodev,noexec,relatime,hugetlb)
/dev/xvda1 on / type xfs (rw,noatime,attr2,inode64,noquota)
mqueue on /dev/mqueue type mqueue (rw,relatime)
debugfs on /sys/kernel/debug type debugfs (rw,relatime)
hugetlbfs on /dev/hugepages type hugetlbfs (rw,relatime,pagesize=2M)
systemd-1 on /proc/sys/fs/binfmt_misc type autofs (rw,relatime,fd=36,pgpr=1,timeout=0,minproto=5,maxproto=5,direct,pipe_ino=14507)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw,relatime)
tmpfs on /run/user/1000 type tmpfs (rw,nosuid,nodev,relatime,size=100696k,mode=700,uid=1000,gid=1000)
tmpfs on /run/user/0 type tmpfs (rw,nosuid,nodev,relatime,size=100696k,mode=700)
127.0.0.1:/ on /mnt/efs/fs2 type nfs4 (rw,relatime,vers=4.1,rsize=1048576,wsize=1048576,namlen=255,hard,noreportport,proto=tcp,port=20002,timeo=600,retrans=2,sec=sys,clientaddr=127.0.0.1,local_lock=none,addr=127.0.0.1)
[[ec2-user@ip-172-31-32-161 fs2]$ pwd
/mnt/efs/fs2
[ec2-user@ip-172-31-32-161 fs2]$
```

Screenshot by the Author

The line "127.0.0.1>/ on /mnt/efs/fs2..." represents the EFS mounted on this EC2 Instance.

The line "127.0.0.1>/ on /mnt/efs/fs2..." represents the EFS mounted on this EC2 Instance.

Now you have two EC2 instances sharing the EFS same network file system.

Deleting the EFS

To delete the EFS, you can the File System details page and click on the "Delete" button.

Note that even if you have the EFS mounted into EC2 instances, you will be able to delete the EFS with no specific warning. So be careful when taking this action.