

# Create a Network File System

with Amazon Elastic File System (Amazon EFS)

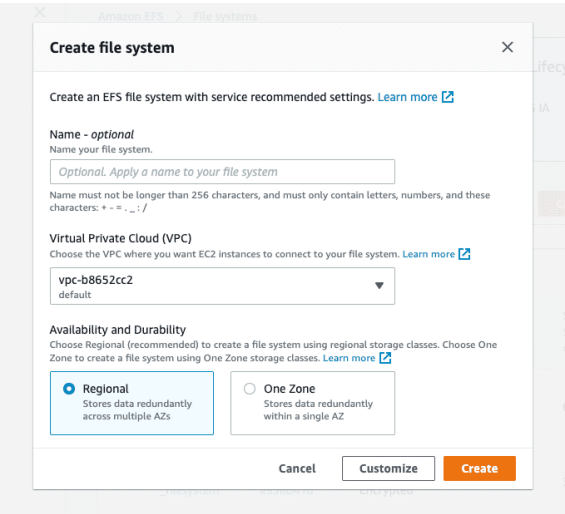
In this 10-minute tutorial, you will store your files in the cloud using Amazon EFS. You will create an Amazon EFS file system and launch a Linux virtual machine on Amazon Elastic Compute Cloud (Amazon EC2). You will then mount the file system, create a file, terminate the instance, and delete the file system.

Everything done in this tutorial is Free Tier eligible.

## Step 1: Create a file system

You can create a highly available and scalable network file system from the Amazon EFS console.

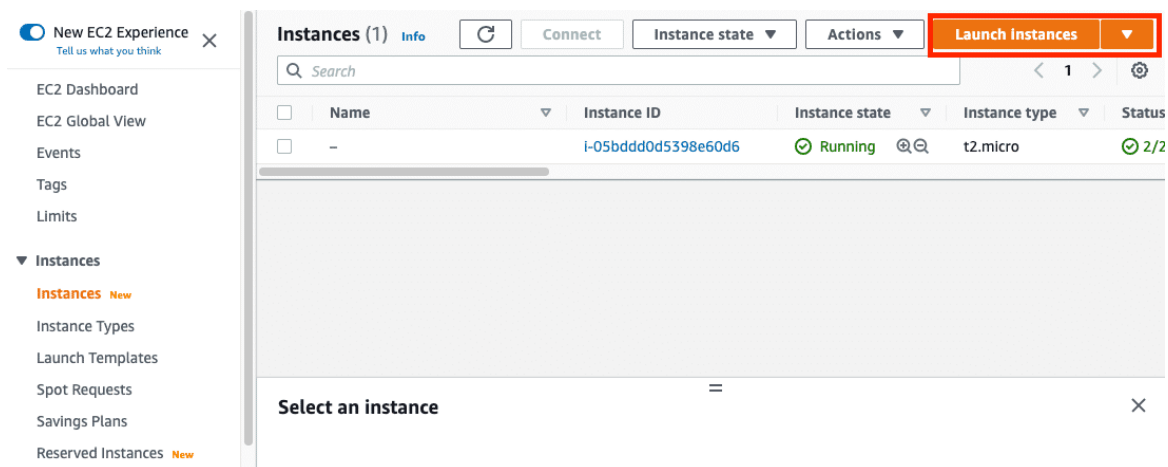
- a. On the Amazon EFS console, choose **Create file system**. If the default virtual private cloud (VPC) is not selected in the Virtual Private Cloud (VPC) dropdown list,select the dropdown arrow and select the default VPC. Accept all the defaults and then choose **Create**.



## Step 2: Create and configure a virtual machine with Amazon EC2

To access your file system, you are now going to create an EC2 instance mounted to your Amazon EFS file system at launch.

a. [Click here to open the Amazon EC2 console](#). Go to the EC2 Instances console page and choose **Launch Instances** to create and configure your virtual machine.



b. With Amazon EC2, you can specify the software and specifications of the instance you want to use. On this screen, you are shown options to choose an Amazon Machine Image (AMI). That is a template that contains the software configuration. This can include an operating system, an application server, and applications.

From an AMI, you launch an instance, which is a copy of the AMI running as a virtual server in the cloud.

For this tutorial, find Amazon Linux AMI and choose **Select**.

1. Choose AMI2. Choose Instance Type3. Configure Instance4. Add Storage5. Add Tags6. Configure Security Group7. Review

Step 1: Choose an Amazon Machine Image (AMI)

Cancel and Exit

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Quick Start

My AMIs

AWS Marketplace

Community AMIs

☐ Free tier only ⓘ

Amazon Linux

Free tier eligible

Amazon Linux AMI 2016.09.1 (HVM), SSD Volume Type - ami-70edb016

The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.

Root device type: ebsVirtualization type: hvm

Select

64-bit

Red Hat

Free tier eligible

Red Hat Enterprise Linux 7.3 (HVM), SSD Volume Type - ami-02ace471

Red Hat Enterprise Linux version 7.3 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebsVirtualization type: hvm

Select

64-bit

SUSE Linux

Free tier eligible

SUSE Linux Enterprise Server 12 SP2 (HVM), SSD Volume Type - ami-9186a1e2

SUSE Linux Enterprise Server 12 Service Pack 2 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.

Root device type: ebsVirtualization type: hvm

Select

64-bit

Ubuntu

Free tier eligible

Ubuntu Server 16.04 LTS (HVM), SSD Volume Type - ami-405f7226

Ubuntu Server 16.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).

Root device type: ebsVirtualization type: hvm

Select

64-bit

Windows

Free tier eligible

Microsoft Windows Server 2016 Base - ami-29f7dd5a

Microsoft Windows 2016 Datacenter edition, [English]

Root device type: ebsVirtualization type: hvm

Select

64-bit

You will now choose an instance type. Instance types include varying combinations of central processing unit (CPU), memory, storage, and networking capacity. You can choose the appropriate mix for your applications. For more information, see [Amazon EC2 Instance Types](#). If the default option of t2.micro is not already selected, select it. This instance type is covered within the Free Tier and offers enough compute capacity to tackle simple workloads. Then choose **Next: Configure Instance Details**.

1. Choose AMI2. Choose Instance Type3. Configure Instance4. Add Storage5. Add Tags6. Configure Security Group7. Review

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: 

All instance families

Current generation

Show/Hide Columns

Currently selected: t3.micro (- ECUs, 2 vCPUs, 2.5 GHz, -, 1 GiB memory, EBS only)

	Family	Type	vCPUs ⓘ	Memory (GiB)	Instance Storage (GB) ⓘ	EBS-Optimized Available ⓘ	Network Performance ⓘ	IPv6 Support ⓘ
<input type="checkbox"/>	t2	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.large	2	8	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.xlarge	4	16	EBS only	-	Moderate	Yes
<input type="checkbox"/>	t2	t2.2xlarge	8	32	EBS only	-	Moderate	Yes

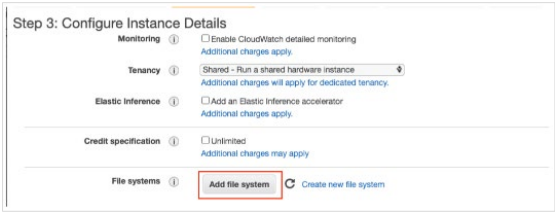
Cancel

Previous

Review and Launch

Next: Configure Instance Details

c. On the Configure Instance Details screen, you have the option to change multiple configuration options. You can view the one we want to change by scrolling down to **File systems**.



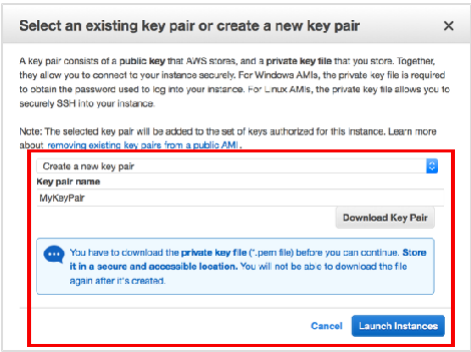
Choose **Add file system**.

The file system you just created should appear, and its prospective mount point. Keep these default settings, including the option to create the appropriate security group settings for your instance, and then select the option to **review and launch your instance**.

d. On the next screen, you will be asked to choose an existing key pair or create a new key pair. A key pair is used to log in to your instance (just as your house key is used to enter your home).

Here, you have a choice. You can do either of the following:

- Select **Choose an existing key pair** and select the key pair (if you already have one).
- Select **Create a new key pair**.

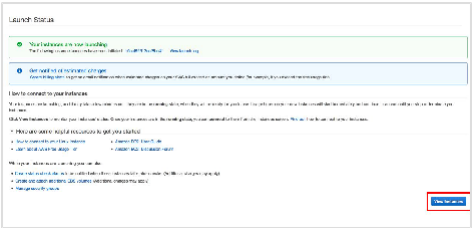


If you create a new key pair, name it **MyKeyPair**, and then choose **Download Key Pair**.

Make sure to save the key pair in a safe location on your computer.

After you have stored your key pair, to start your Linux instance, choose **Launch Instances**. Note: It will take several minutes to launch your instance.

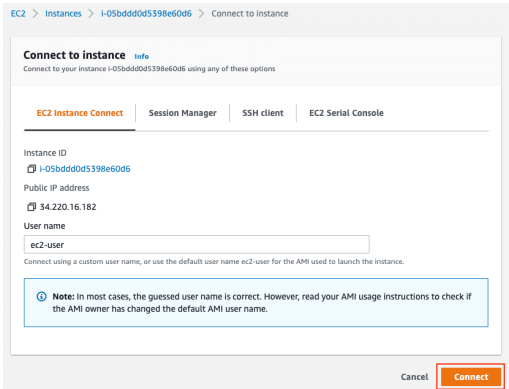
e. Choose **View Instances** on the next screen to view your instances and see the status of the instance you have just started.



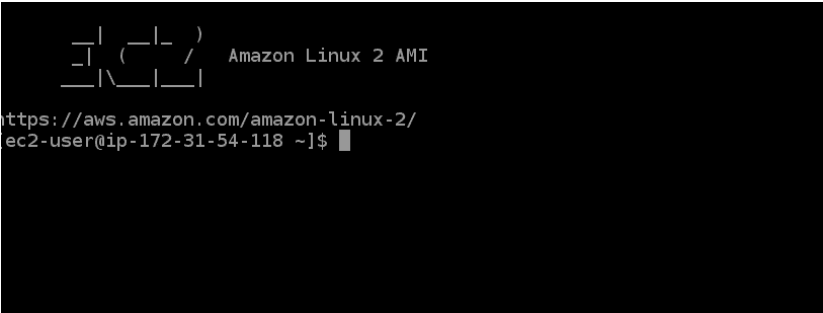
### Step 3: Connect to your instance

After launching your EC2 instance, it's time to connect to it.

- a. After you choose Connect from the previous screen, make sure that the EC2 Instance Connect tab is selected (the far left tab). Then choose **Connect**.



- b. After choosing Connect on the EC2 Instance Connect screen, a new terminal should open in a new browser window, from which you will be able to issue commands directly to your newly created instance.



## Step 4: Confirm your new EFS system is mounted and available

After your instance has been launched, a startup script will automatically issue the appropriate commands for mounting your new Amazon EFS shared file system. This process might take over 2 minutes to complete.

After it is complete, you should be able to list the attached storage devices on your Amazon EC2 instance by issuing the `df -h` command. The output of your command should look similar to the following, with your new Amazon EFS file system mounted on something like `/mnt/efs/fs1` with 8.0E (exabytes) of available storage.

```

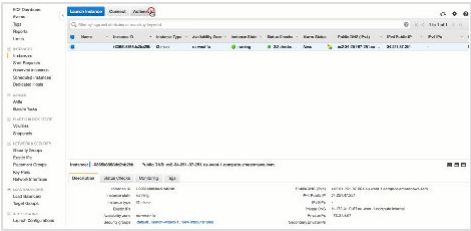
  _ |  _ | _ )
  _ | (  _ /
  _ | \ _ | _ |
Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-53-255 ~]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        474M   0  474M   0% /dev
tmpfs           483M   0  483M   0% /dev/shm
tmpfs           483M 556K  483M   1% /run
tmpfs           483M   0  483M   0% /sys/fs/cgroup
/dev/xvda1      8.0G 1.5G  6.5G  19% /
tmpfs           97M   0   97M   0% /run/user/1000
127.0.0.1:/      8.0E   0  8.0E   0% /mnt/efs/fs1
tmpfs           97M   0   97M   0% /run/user/0
[ec2-user@ip-172-31-53-255 ~]$ █
```

# Step 5: Terminate your resources

You can terminate your virtual machine and file system from the AWS Management Console. In fact, it is a best practice to terminate the resources you are no longer using so you don't keep getting charged for them.

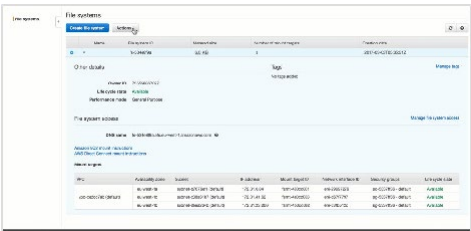
First, you will terminate your EC2 instance. [Click here to open the Amazon EC2 console](#). Select the check box next to the instance you created. Then choose the **Actions** button, navigate to **Instance State**, and choose **Terminate**.



You will be asked to confirm your termination. Choose **Yes, Terminate**.

Note: This process can take several seconds to complete. When your instance has been terminated, the instance state will change to *terminated* on your EC2 console.

a. You will now delete your file system from the Amazon EFS console. [Click here to open the Amazon EFS console](#). Select the radio button next to the file system you created. Then choose the **Actions** button, and choose **Delete file system**.



Confirm that you want to delete the file system by typing the file system ID in the text box. Choose **Delete File System**.

# Congratulations!

Congratulations! You have created your first network file system in the cloud. Amazon EFS is a simple, scalable shared file system that grows and shrinks automatically as you add and remove files. You only pay for the amount of storage that you are using.

---

---