# Create and Connect Amazon EFS to Multiple EC2 Instances

This document explains how to create an Amazon Elastic File System (EFS) and connect it to three different EC2 instances running Ubuntu, Red Hat Linux, and Amazon Linux 2.

## Objective

• Create an EFS  
• Launch 3 EC2 instances (Ubuntu, Red Hat, Amazon Linux 2)  
• Mount the same EFS on all 3 instances  
• Verify shared access

## 1. Create an EFS File System

1. Go to AWS Console → EFS (Elastic File System)  
2. Click Create file system  
3. Choose:  
 - Name: shared-efs  
 - VPC: same as your EC2 instances  
4. Keep default settings and click Create  
5. Note down the File System ID

## 2. Create Mount Targets

1. In your EFS → Network tab  
2. Ensure mount targets are created in each Availability Zone  
3. Assign Security Groups that allow NFS traffic (port 2049)

## 3. Launch 3 EC2 Instances

|  |  |  |
| --- | --- | --- |
| Instance | Operating System | Key Setup |
| Instance 1 | Ubuntu 22.04 LTS | Key pair for SSH |
| Instance 2 | Red Hat Enterprise Linux 9 | Key pair for SSH |
| Instance 3 | Amazon Linux 2 | Key pair for SSH |

Common configuration for all:  
- Instance type: t2.micro  
- VPC & Subnet: same as EFS  
- Security Group: allow inbound SSH (port 22) and NFS (port 2049)  
- Outbound: allow all traffic

## 4. Install NFS Utilities

Run the following commands on each instance:

* Ubuntu:

sudo apt update -y  
sudo apt install -y nfs-common

* Red Hat / RHEL:

sudo yum install -y nfs-utils

* Amazon Linux 2:

sudo yum install -y nfs-utils

## 5. Create Mount Directory

sudo mkdir -p /mnt/efs

## 6. Mount the EFS

Example command (replace File System ID and region):

sudo mount -t nfs4 -o nfsvers=4.1 fs-12345678.efs.ap-south-1.amazonaws.com:/ /mnt/efs

## 7. Verify Shared Access

On one instance:

sudo touch /mnt/efs/test.txt

On other instances:

ls /mnt/efs

You should see test.txt on all instances.

## 8. Mount EFS Automatically on Boot (Optional)

Add the following line to /etc/fstab on each EC2 instance:

fs-12345678.efs.ap-south-1.amazonaws.com:/ /mnt/efs nfs4 defaults,\_netdev 0 0

Then run:

sudo mount -a

## Summary

1. Create EFS  
2. Create Mount Targets  
3. Launch 3 EC2 instances  
4. Install NFS utilities  
5. Mount EFS on /mnt/efs  
6. Verify shared access