**Step 1: Create an Amazon EFS File System**

1. Go to the AWS Management Console and navigate to the EFS service.
2. Click on the "Create file system" button.
3. Configure your file system settings, such as the VPC, availability zones, and security groups.
4. Click on the "Next" button through the additional settings, and then click on the "Create file system" button.

**Step 2: Configure Access Points (Optional)**

Access points can be used to manage access to your EFS file system. You can create separate access points for each operating system to control access and permissions.

1. In the EFS console, select your file system.
2. Under the "Network & Security" tab, click on "Access points" and then "Create access point."
3. Configure the access point settings as needed. Repeat this step for each operating system.

**Step 3: Attach EFS to EC2 Instances**

1. Launch three EC2 instances with the desired operating systems (Ubuntu, Red Hat Linux, and Amazon Linux 2).
2. Ensure that each EC2 instance is in the same VPC as the EFS file system.
3. Attach the EFS file system to each EC2 instance:

bashCopy code

sudo yum install -y amazon-efs-utils # For Amazon Linux 2 sudo apt-get install -y nfs-common # For Ubuntu sudo yum install -y nfs-utils # For Red Hat Linux

1. Mount the EFS file system to a directory on each instance:

bashCopy code

sudo mkdir /mnt/efs # Replace fs-12345678 with your EFS file system ID sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2 fs-12345678.efs.us-west-2.amazonaws.com:/ /mnt/efs

**Step 4: Test the Setup**

1. Create a test file on one EC2 instance:

bashCopy code

echo "Hello from <Operating System>" | sudo tee /mnt/efs/testfile

1. Check if the test file is accessible from the other EC2 instances:

bashCopy code

cat /mnt/efs/testfile

Repeat these steps for each operating system on the respective EC2 instances.

This setup allows three EC2 instances running different operating systems to share a common EFS file system, enabling them to collaborate and share data. Adjust the commands and configurations based on the specific details of your EC2 instances and EFS setup.