

AWS - Amazon Elastic File System (Amazon EFS)

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AmazonEFS.html>

Prerequisites

- Create a security group (for example, efs-sg) to associate with the EC2 instances and EFS mount target, and add the following rules:
 - Allow inbound SSH connections to the EC2 instances from your computer (the source is the CIDR block for your network).

Allow inbound NFS connections to the file system via the EFS mount target from the EC2 instances that are associated with this security group (the source is the security group itself). For more information, see [Amazon EFS Rules](#), and [Security Groups for Amazon EC2 Instances and Mount Targets](#) in the *Amazon Elastic File System User Guide*.

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/security-group-rules-reference.html#sg-rules-efs>

Step1:- Create a security group and add rules for NFS and SSH.

The screenshot shows the AWS Management Console interface. In the top navigation bar, the 'Create Security Group' button is highlighted with a red circle. In the left sidebar, under the 'NETWORK & SECURITY' section, the 'Security Groups' link is also highlighted with a red circle. The main content area displays the 'Create Security Group' modal. The modal has a title bar with a close button. Below the title bar, there are input fields for 'Security group name' (EFS-SG), 'Description' (EFS Purpose), and 'VPC' (vpc-ef4c8084 (default)). Below these fields, there is a section for 'security group rules' with two tabs: 'Inbound' and 'Outbound'. The 'Inbound' tab is selected. It shows a table with columns: 'Type', 'Protocol', 'Port Range', 'Source', and 'Description'. There are two rules listed: one for SSH (Type: SSH, Protocol: TCP, Port Range: 22, Source: Anywhere, Description: e.g. SSH for Admin Des) and one for NFS (Type: NFS, Protocol: TCP, Port Range: 2049, Source: Anywhere, Description: e.g. SSH for Admin Des). Below the table is an 'Add Rule' button. At the bottom right of the modal is a 'Create' button.

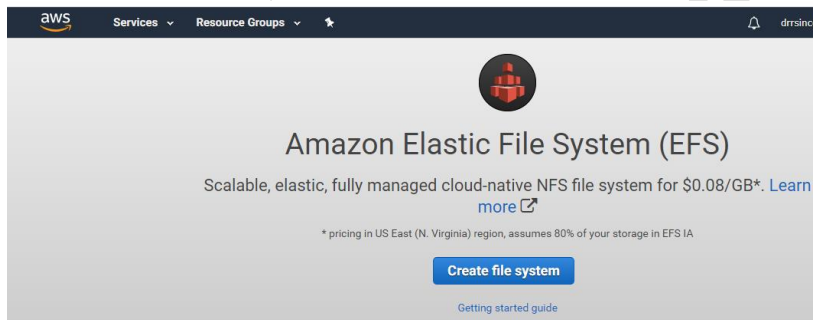
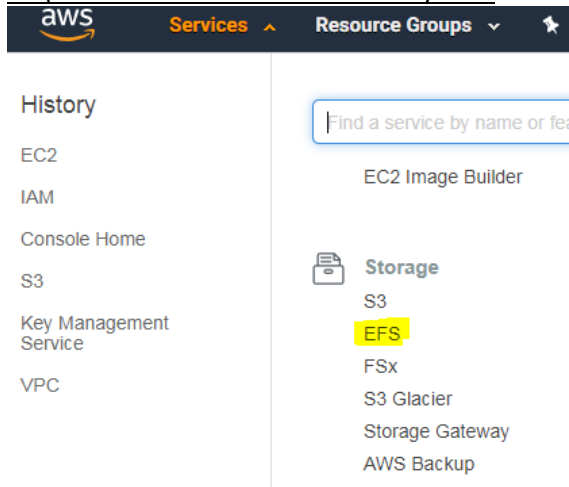
Type	Protocol	Port Range	Source	Description	
SSH	TCP	22	Anywhere	0.0.0.0/0, ::/0	e.g. SSH for Admin Des
NFS	TCP	2049	Anywhere	0.0.0.0/0, ::/0	e.g. SSH for Admin Des

Create Security GroupActions

Filter by tags and attributes or search by keyword

<input type="checkbox"/>	Name	Group ID	Group Name	VPC ID	Description
<input checked="" type="checkbox"/>		sg-0e4be7cf591b850b6	EFS-SG	vpc-ef4c8084	EFS Purpose
<input type="checkbox"/>		sg-f298a495	default	vpc-ef4c8084	default VPC security group

Step2:- Click on EFS → Create file system



Create file system

Step 1: Configure network access

Step 2: Configure file system settings

Step 3: Configure client access

Step 4: Review and create

Configure network access

An Amazon EFS file system is accessed by EC2 instances running inside one of your VPCs. Instances connect to a file system by using a network interface called a mount target. Each mount target has an IP address, which we assign automatically or you can specify.

VPC vpc-ef4c8084 (default) ⓘ ↻

Create mount targets

Instances connect to a file system by using mount targets you create. We recommend creating a mount target in each of your VPC's Availability Zones. EC2 instances across your VPC can access the file system.

Availability Zone	Subnet	IP address	Security groups
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@Select security group for all zone, which has been created before → Click on Next step

Step 1: Configure network access

Step 2: Configure file system settings

Step 3: Configure client access

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Configure network access

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VPC vpc-ef4c8084 (default)

Create mount targets

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	Availability Zone	Subnet	IP address	Security groups
<input checked="" type="checkbox"/>	us-east-2a	subnet-c76c98ac (default)	Automatic	sg-0e4be7cf591b850b6 - EFS-SG
<input checked="" type="checkbox"/>	us-east-2b	subnet-bc634ec6 (default)	Automatic	sg-0e4be7cf591b850b6 - EFS-SG
<input checked="" type="checkbox"/>	us-east-2c	subnet-ec9207a0 (default)	Automatic	sg-0e4be7cf591b850b6 - EFS-SG

@Click on Create File System.

Step 4: Review and create

File system access

VPC	Availability Zone	Subnet	IP address	Security groups
vpc-ef4c8084 (default)	us-east-2a	subnet-c76c98ac (default)	Automatic	sg-0e4be7cf591b850b6 - EFS-SG
	us-east-2b	subnet-bc634ec6 (default)	Automatic	sg-0e4be7cf591b850b6 - EFS-SG
	us-east-2c	subnet-ec9207a0 (default)	Automatic	sg-0e4be7cf591b850b6 - EFS-SG

Optional settings

Tags NFS: NFS share
Performance mode General Purpose
Throughput mode Bursting
Encrypted No
Lifecycle policy None
Number of access points 0
File system policy Enabled

Cancel

Previous

Create File System

@Now NFS is available state and make sure to note down the NFS name.

File system access

Manage network access
Manage client access

DNS name fs-3556bc4d.efs.us-east-2.amazonaws.com

Amazon EC2 mount instructions (from local VPC)

Amazon EC2 mount instructions (across VPC peering connection)

On-premises mount instructions

Mount targets

VPC	Availability Zone	Subnet	IP address	Mount target ID	Network interface ID	Security groups	Mount target state
vpc-ef4c8084 (default)	us-east-2b	subnet-bc634ec6 (default)	172.31.27.185	fsmt-fafc9783	eni-0a540bf9f0a2cd620	sg-0e4be7cf591b850b6 - EFS-SG	Available
	us-east-2a	subnet-c76c98ac (default)	172.31.10.142	fsmt-fcfc9785	eni-0d2a766c788bc6f0e	sg-0e4be7cf591b850b6 - EFS-SG	Available
	us-east-2c	subnet-ec9207a0 (default)	172.31.35.10	fsmt-fdfc9784	eni-067907e0efd870a04	sg-0e4be7cf591b850b6 - EFS-SG	Available

Step3:- Launch one Ec2 and Mount the NFS on linux machine.

@Launch the EC2 instance with help of (AWS_Launch-EC2instance.pdf)

```
# yum update -y
# yum install -y nfs-utils
# mount fs-3556bc4d.efs.us-east-2.amazonaws.com:/ /mnt
# df -hTP /mnt
```

```
Filesystem                                Type      Size    Used Avail Use% Mounted on
fs-3556bc4d.efs.us-east-2.amazonaws.com:/ nfs4      8.0E    0    8.0E  0% /mnt
[root@ip-172-31-2-0 ~]#
```

Note:- you can test by copying data into nfs folder and mount the same nfs to another instance and test it.