

Abhinav Gupta-10747883-MileStone assessment-1

Create a Custom VPC. Where you need to create two subnets like Private subnet and Public subnet.in the public subnet I want to host my web server. Where my website is running and Private subnet my database is running. Data base should not be reachable pub

1. First you create a vpc

Create VPC [Info](#)

A VPC is an isolated portion of the AWS Cloud populated by AWS objects, such as Amazon EC2 instances.

VPC settings

Resources to create [Info](#)

Create only the VPC resource or the VPC and other networking resources.

☒ VPC only ☐ VPC and more

Name tag - *optional*

Creates a tag with a key of 'Name' and a value that you specify.

IPv4 CIDR block [Info](#)

☒ IPv4 CIDR manual input ☐ IPAM-allocated IPv4 CIDR block

IPv4 CIDR

☒ IPv4 CIDR block

☐ IPAM-allocated IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

☐ IPv6 CIDR owned by me

Tenancy [Info](#)

Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - <i>optional</i>	
<input type="text" value="Name"/>	<input type="text" value="newvpc3"/>	<input type="button" value="Remove tag"/>

You can add 49 more tags

2. Now you create internet gateway

VPC > Internet gateways > igw-06c7567ce354c48c1

igw-06c7567ce354c48c1 / MSinternetgateway Actions ▾

Details [Info](#)

Internet gateway ID igw-06c7567ce354c48c1	State Detached	VPC ID -	Owner 213429091253
----------------------------------------------	-------------------	-------------	-----------------------

Tags Manage tags

Key	Value
Name	MSinternetgateway

Now attach it to the vpc in actions

VPC

Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.

Available VPCs
Attach the internet gateway to this VPC.

[AWS Command Line Interface command](#)

Cancel Attach internet gateway

3. Now create Subnets for public and private

public

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

IPv4 subnet CIDR block

256 IPs

< > ^ v

▼ Tags - optional

Key	Value - optional	
<input type="text" value="Name"/>	<input type="text" value="MSpublicsubnet3"/>	Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

Cancel Create subnet

private

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

10.0.0.0/16 ▼

IPv4 subnet CIDR block

10.0.1.0/24 256 IPs

< > ^ v

▼ Tags - *optional*

Key	Value - <i>optional</i>	
Q Name X	Q MSprivatesubnet X	Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

Cancel Create subnet

4. Now create public and private route tables

Public

Name - *optional*
Create a tag with a key of 'Name' and a value that you specify.

MSpublicrt

VPC
The VPC to use for this route table.

vpc-008323e810436bb93 (newvpc3) ▼

Tags
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - <i>optional</i>	
Q Name X	Q MSpublicrt X	Remove

Add new tag

You can add 49 more tags.

Cancel Create route table

Private

Name - optional
Create a tag with a key of 'Name' and a value that you specify.

MSprivatert

VPC
The VPC to use for this route table.

vpc-008323e810436bb93 (newvpc3) ▼

Tags
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key Value - optional

Q Name X Q MSprivatert X Remove

Add new tag

You can add 49 more tags.

Cancel Create route table

5. Now edit routes and subnet associations in Public route

Edit routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No
Q 0.0.0.0/0 X	Internet Gateway	-	No
	Q igw-06c7567ce354c48c1 X		

Add route

Cancel Preview Save changes

Available subnets (1/2)

Filter subnet associations

	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/>	MSpublicsubnet3	subnet-0ca63277c395a00da	10.0.0.0/24	-	rtb-0d413355254b06a9d / MSpu
<input type="checkbox"/>	MSprivatesubnet	subnet-0b87d40c660642554	10.0.1.0/24	-	Main (rtb-044d1d828c3d992cf)

Selected subnets

subnet-0ca63277c395a00da / MSpublicsubnet3 X

Cancel Save associations

6. Now create NAT gateway for internet access for privatesubnet

Create a tag with a key of 'Name' and a value that you specify.

GATeWayMS

The name can be up to 256 characters long.

Subnet
Select a subnet in which to create the NAT gateway.

subnet-0ca63277c395a00da (MSpublicsubnet3)

Connectivity type
Select a connectivity type for the NAT gateway.

☒ Public
☐ Private

Elastic IP allocation ID [Info](#)
Assign an Elastic IP address to the NAT gateway.

eipalloc-01370890d31510dd7

[Allocate Elastic IP](#)

[▶ Additional settings](#) [Info](#)

7. Now edit route of private route table

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No
0.0.0.0/0	NAT Gateway	-	No

[Add route](#)

[Cancel](#) [Preview](#) [Save changes](#)

Available subnets (1/2)

Filter subnet associations

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/> MSprivatesubnet	subnet-0b87d40c660642554	10.0.1.0/24	-	Main (rtb-044d1d828c3d992cf)
<input type="checkbox"/> MSpublicsubnet3	subnet-0ca63277c395a00da	10.0.0.0/24	-	rtb-0d413355254b06a9d / MS

Selected subnets

subnet-0b87d40c660642554 / MSprivatesubnet

[Cancel](#) [Save associations](#)

8. Now create instances for such as webserver and dbserver

▼ Network settings

Info

VPC - required

Info

vpc-008323e810436bb93 (newvpc3)

10.0.0.0/16

▼

↻

Subnet

Info

subnet-0ca63277c395a00da

MSpublicsubnet3

▼

↻

Create new subnet

↗

VPC: vpc-008323e810436bb93

Owner: 213429091253

Availability Zone: ap-south-1a

Zone type: Availability Zone

IP addresses available: 250

CIDR: 10.0.0.0/24

Auto-assign public IP

Info

Enable

▼

Additional charges apply

when outside of free tier allowance

Firewall (security groups)

Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group

☐ Select existing security group

Mainly you have to change the settings in vpc and subnet and for webserver we will enable public IP so that it is visible
And will allow http for website access

▼ Security group rule 2 (TCP, 80, 0.0.0.0/0)

Remove

Type

Info

HTTP

▼

Protocol

Info

TCP

Port range

Info

80

Source type

Info

Anywhere

▼

Source

Info

🔍 Add CIDR, prefix list or secur

0.0.0.0/0

×

Description - optional

Info

e.g. SSH for admin desktop

⚠ Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

×

Add security group rule

► Advanced network configuration

- Now open instance of webserver and create a webpage and access it
 - Do yum install httpd
 - Cd /var/www/html
 - Echo "this is my server"
 - Systemctl start httpd
 - Systemctl enable httpd

```
The authenticity of host '13.232.195.100 (13.232.195.100)' can't be established.  
ED25519 key fingerprint is SHA256:3t8uX4IknFe0zvpT4Ec9OGMd1JqlqYX9aMT+BHeKQTo.  
This key is not known by any other names  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  
Warning: Permanently added '13.232.195.100' (ED25519) to the list of known hosts.
```

```
#_
~\ ##### Amazon Linux 2023
### \##### 
### \|####| 
### \|##| 
    \|#/\ --- https://aws.amazon.com/linux/amazon-linux-2023
      V   ^ -->
        / 
       / 
      /m/'
```

```
[ec2-user@ip-10-0-0-228 ~]$ sudo su
[root@ip-10-0-0-228 ec2-user]# cd
[root@ip-10-0-0-228 ~]# yum install httpd
Last metadata expiration check: 0:02:29 ago on Mon Sep  9 11:13:26 2024.
Dependencies resolved.
```

Package	Architecture	Version	Repository	Size
Installing:				
httpd	x86_64	2.4.62-1.amzn2023	amazonlinux	48 k
Installing dependencies:				
apr	x86_64	1.7.2-2.amzn2023.0.2	amazonlinux	129 k
apr-util	x86_64	1.6.3-1.amzn2023.0.1	amazonlinux	98 k
generic-logos-httpd	noarch	18.0.0-12.amzn2023.0.3	amazonlinux	19 k
httpd-core	x86_64	2.4.62-1.amzn2023	amazonlinux	1.4 M
httpd-filesystem	noarch	2.4.62-1.amzn2023	amazonlinux	14 k

```
mod_http2-2.0.27-1.amzn2023.0.3.x86_64 mod_lua-2.4.62-1.amzn2023.x86_64
```

```
Complete!
[root@ip-10-0-0-228 ~]# cd /var/www/html
[root@ip-10-0-0-228 html]# echo "this is my server">index.html
[root@ip-10-0-0-228 html]# ll
total 4
-rw-r--r--. 1 root root 18 Sep  9 11:19 index.html
[root@ip-10-0-0-228 html]# cd
[root@ip-10-0-0-228 ~]# systemctl start httpd
[root@ip-10-0-0-228 ~]# systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[root@ip-10-0-0-228 ~]#
```

First create dbserver then connect them by using key

VPC - *required*
[Info](#)

vpc-008323e810436bb93 (newvpc3)
10.0.0.0/16

Subnet
[Info](#)

subnet-0b87d40c660642554
MSprivatesubnet

VPC: vpc-008323e810436bb93
Owner: 213429091253
Availability Zone: ap-south-1b
Zone type: Availability Zone
IP addresses available: 251
CIDR: 10.0.1.0/24

Auto-assign public IP
[Info](#)

Disable

Firewall (security groups)
[Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your inst:

☒ Create security group
☐ Select existing security group

Security group name - *required*

launch-wizard-31

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length i

Instances (1)
[Info](#)

Last updated less than a minute ago

Connect

Instance state

Actions

Find Instance by attribute or tag (case-sensitive)

All states

Instance ID = i-090e00eed4424ca67

Clear filters

	Name	Instance ID	Instance state	Instance type	Status check
<input type="checkbox"/>	MSDbserver	i-090e00eed4424ca67	Running	t2.micro	Initializing

Copy this key for this region and paste it in new file db-server to access it from public webserver


```
mumbai.pem
File Edit View

-----BEGIN RSA PRIVATE KEY-----
MIIeogIBAAKCAQEAsC581iN6uGmbVMkXfLzKgXfn33DDL5PedNz5nS3OF3wb0+Bp
ZNm4Q1hE/aflzi7wIHXr81E/7MbWxUqX8m+nKVZj2U7kifi8djkMuK3UbaMPPMvy
Y3jr87t6IUdt+tvS7WKdI3ASSZWA7tGvmwKpws7se9YS/r3e5EC9AqwKBmVwKEF7
0Pxy8KzxZv260iip1Wptfw2pu5N9DPbxixINv5mWjfnvFDb46odKDXxGRZF29Fpw
DKHJMbJhKx8qWwZ4A16/q4MSYD63vKeZ1M7APpWyzINjzKAcdz9L9uHAvukrQunP
FqZ1Bv/W7TR1Wu43UXjyNDrypUbT1jGeHcOq6wIDAQABaoIBAHioBZSZWcuAL+wi
CB7aYmNIJ5nD7TjhSSG50I2PuCwnSBuT/joeTW3Ka/1YBi9tv/BLIGyWrnPnTuh1
VKipRM8vphRGToGbPF6u9YJpMimf2aimeCsdrJQCmkK+W5jJAayns7x4XV3dsL5e
BqjfawnKkvTAikPDvymNGKUC057KqMWVvjXSPyTpFQdWZGLi5GKuZfIGA1d3vV2
4rofGfWpR1VahI6JwY9ikHuFd60yABrKWEFgV3tQvrid9w71MPttEWMcvtcJErJR
iJiK3nreR9x4y/5p+SisAhnCTGHQ2UHEN3jVR5H702RDJLIfBHvY9SaAR/Zb7Z4F
x6LJxakCgYEA2hWI0vYjUAMKdryqP6bkgI2LdKv5o3QNx5gkIERetaPf3TFrmTyf
x6IJoI6diJ6yidTwgEJMeyjHa3ZRcdanQZEZ7DNw1osGtZb05M60A2DDr3Ehhodb
w2hYpa3FEwke8iBoeznX0vSvzrJuRIL+/qZVZLH8q6eJLAOHYhdhwUCgYEAzs/1
bCeulR08k63xGI2ugaXgxJNYvm7G1jWfGcyFsFlcp1b8y0251dsk6E03k/WnBeZ5
3He+5JM1erP0bw1IOSNuDy4jjOyERaTb6QYy4agvF/i7k1IW0Un2R28gAjuF5Mx4
JrNSUAtioZhhwiDhJQb0x0H0gX88LNaCSeMsLS8CgYBZgdEgVK11o2neBd0SNts9
79o2zoatEWq+arEZFTaR8mplDG20/RTPCLB013nMouW/hYrX+V40h1QixPL0eAy4
dbdf/FTpmThtwbG0symq4UIvdY0++7sr3l3T0hg6kdjA7TBXVzY3JJWgqu40KTYF
+3qHzrDt58E9FEPw0KsiSQKBgH8c8LK2P0b7t1Tqr2oxAxYqt1j7W6tIeQSwFocL
Ln 1, Col 32 | 1,674 characters | 100% | Unix (LF)

Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/s
[root@ip-10-0-0-228 ~]# vim db-server.pem
[root@ip-10-0-0-228 ~]# chmod 400 db-server.pem
[root@ip-10-0-0-228 ~]# ssh -i "db-server.pem" ec2-user@10.0.1.32
The authenticity of host '10.0.1.32 (10.0.1.32)' can't be established.
ED25519 key fingerprint is SHA256:Cx1Y4hQ6df3J5Jvv1EUEUXp8x00M8Ctu/wwtxdTUwMtM.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.0.1.32' (ED25519) to the list of known hosts.

      #_
    ~\  #####_      Amazon Linux 2023
  ~ ~ \_#####\
  ~ ~  \###|
  ~ ~   \#/  ---      https://aws.amazon.com/linux/amazon-linux-2023
  ~ ~    V~'  '--->
    ~~~
  ~ ~ _./  _/
  ~ ~ _/  _/
  ~ ~ _/m/'

[ec2-user@ip-10-0-1-32 ~]$ sudo su
[root@ip-10-0-1-32 ec2-user]# cd
[root@ip-10-0-1-32 ~]#
```

Here you can see we connected to db-server to webserver.
And it is also pinging

```
~/m/'
[ec2-user@ip-10-0-1-32 ~]$ sudo su
[root@ip-10-0-1-32 ec2-user]# cd
[root@ip-10-0-1-32 ~]# ping google.com
PING google.com (142.250.192.46) 56(84) bytes of data.
64 bytes from bom12s15-in-f14.1e100.net (142.250.192.46): icmp_seq=1 ttl=53 t
64 bytes from bom12s15-in-f14.1e100.net (142.250.192.46): icmp_seq=2 ttl=53 t
64 bytes from bom12s15-in-f14.1e100.net (142.250.192.46): icmp_seq=3 ttl=53 t
64 bytes from bom12s15-in-f14.1e100.net (142.250.192.46): icmp_seq=4 ttl=53 t
^C
--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 2.148/2.306/2.542/0.144 ms
[root@ip-10-0-1-32 ~]#
```

Create two custom VPC one in Mumbai Region and Another is in Singapore Region.so configure VPC peering in between Mumbai and Singapore

Now we will create our second VPC in Singapore region and connect them.

1. Goto Singapore region and create VPC there

Create two servers with it same as web server and db-server just like above and all the steps as mentioned above just go to peering vpc option on left panel and Give different IP address here

Name tag - *optional*
Creates a tag with a key of 'Name' and a value that you specify.

MSvpc

IPv4 CIDR block [Info](#)

☒ IPv4 CIDR manual input
☐ IPAM-allocated IPv4 CIDR block

IPv4 CIDR
20.0.0.0/16
CIDR block size must be between /16 and /28.

IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block
☐ IPAM-allocated IPv6 CIDR block
☐ Amazon-provided IPv6 CIDR block
☐ IPv6 CIDR owned by me

Tenancy [Info](#)
Default

Now create gateway and attach

Internet gateway settings

Name tag

Creates a tag with a key of 'Name' and a value that you specify.

Tags - optional

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key



Value - optional



Remove

Add new tag

You can add 49 more tags.

Cancel

Create internet gateway

VPC

Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.

Available VPCs

Attach the internet gateway to this VPC.



► AWS Command Line Interface command

Cancel

Attach internet gateway

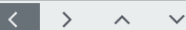
Now give subnet both public and private

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.



IPv4 subnet CIDR block

256 IPs



▼ Tags - optional

Key



Value - optional



Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

Cancel

Create subnet

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

20.0.0.0/16 ▼

IPv4 subnet CIDR block

20.0.1.0/24 256 IPs

< > ^ v

▼ Tags - *optional*

Key	Value - <i>optional</i>	
Q Name X	Q MSprivatesubnet X	Remove
<button>Add new tag</button>		
You can add 49 more tags.		
<button>Remove</button>		
<button>Add new subnet</button>		

Cancel **Create subnet**

Create natgateway

Name - optional

Create a tag with a key of 'Name' and a value that you specify.

MSnatgateway

The name can be up to 256 characters long.

Subnet

Select a subnet in which to create the NAT gateway.

subnet-017334cc0ed8fcbd4 (MSpublic) ▼

Connectivity type

Select a connectivity type for the NAT gateway.

☒ Public

☐ Private

Elastic IP allocation ID [Info](#)

Assign an Elastic IP address to the NAT gateway.

eipalloc-0d5bea345a1f84d0c ▼

Allocate Elastic IP

► **Additional settings** [Info](#)

Create route tables as well for both public and private

Name - optional
Create a tag with a key of 'Name' and a value that you specify.

MSpublicroute

VPC
The VPC to use for this route table.

vpc-06ab6acf2acdc9205 (MSvpc)

Tags
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key Value - optional

Q Name X Q MSpublicroute X Remove

Add new tag

You can add 49 more tags.

Cancel Create route table

EDIT both routes public with internet gateway and private with nat

Destination	Target	Status	Propagated
20.0.0.0/16	local	Active	No
Q 0.0.0.0/0 X	Internet Gateway	-	No
	Q igw-0b9e160bb20814777 X		

Add route

Cancel Preview Save changes

Same thing with private

Route table ID rtb-0e29ee873ea1d45ab	Main No	Explicit subnet associations subnet-0a824abafc7eb9620 / MSprivatesubnet	Edge associations -
VPC vpc-06ab6acf2acdc9205 MSvpc	Owner ID 213429091253		

Routes Subnet associations Edge associations Route propagation Tags

Routes (2) Both Edit route

Q Filter routes

Destination	Target	Status	Propagated
0.0.0.0/0	nat-01ba5fca34bba2771	Active	No
20.0.0.0/16	local	Active	No

now we already have a vpc in Mumbai
just connect to VPC
make peer connection from Mumbai

VPC ID (Requester)

vpc-008323e810436bb93 (newvpc3) ▼

VPC CIDRs for vpc-008323e810436bb93 (newvpc3)

CIDR	Status	Status reason
10.0.0.0/16	✓ Associated	-

Select another VPC to peer with

Account

☒ My account

☐ Another account

Region

☐ This Region (ap-south-1)

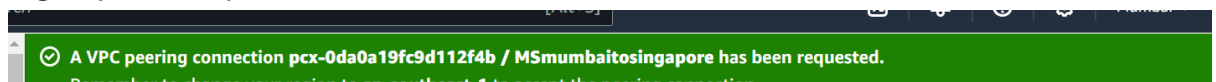
☒ Another Region

Asia Pacific (Singapore) (ap-southeast-1) ▼

VPC ID (Accepter)

vpc-

Type acceptor ID of you Singapore VPC and it will get a request from Mumbai region just accept it and done



In Singapore server you can see the req

<input type="radio"/>	-	pcx-0da0a19fc9d112f4b	Pending acceptance	vpc-008323e810436bb93
-----------------------	---	---------------------------------------	--------------------	-----------------------

Just accept it

Accept VPC peering connection request [Info](#) ✕

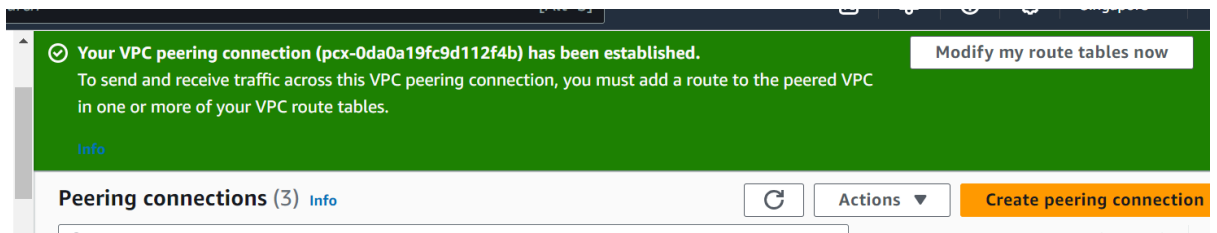
Are you sure you want to accept this VPC peering connection request? (pcx-0da0a19fc9d112f4b)

Requester VPC vpc-008323e810436bb93	Accepter VPC vpc-06ab6acf2acdc9205 / MSvpc	Requester CIDRs 10.0.0.0/16
Accepter CIDRs -	Requester Region Mumbai (ap-south-1)	Accepter Region Singapore (ap-southeast-1)
Requester owner ID 213429091253 (This account)	Accepter owner ID 213429091253 (This account)	

Cancel **Accept request**

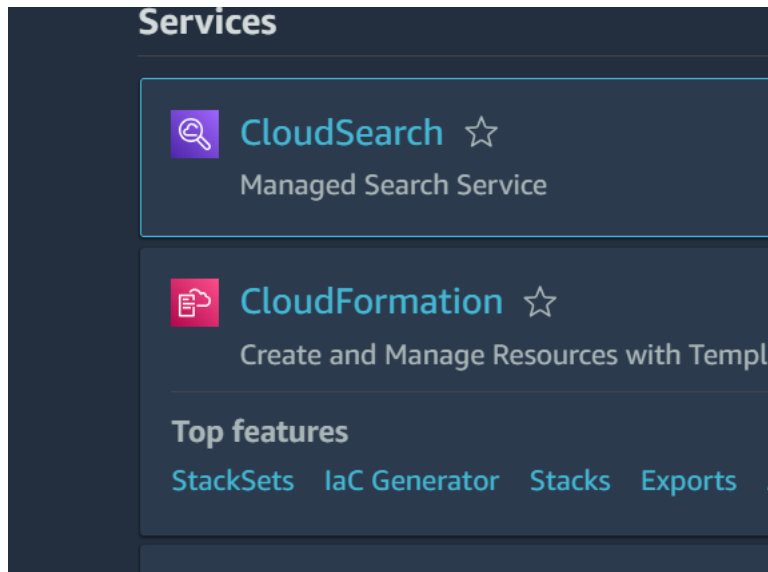
Pending acceptance

You can accept or reject this peering connection request using the 'Actions' menu. You have until Monday, September 16, 2024 at 3:56 GMT+5:30 to accept or reject the request, otherwise it expires.



Deploy an EC2 instance using with Cloud formation in Mumbai Region ap-south-1a zone. Instance should be reachable.

1. Goto cloud formation in search tab.



Use this Yaml file with proper key and ami id

☐ Amazon S3 URL
Provide an Amazon S3 URL to your template.

☒ Upload a template file
Upload your template directly to the console.

☐ Sync from Git - *new*
Sync a template from your Git repository.

Upload a template file

newfile.yaml

JSON or YAML formatted file

S3 URL: In progress

Provide a stack name

Stack name

newstack

Stack name must be 1 to 128 characters, start with a letter, and only contain alphanumeric characters.
Character count: 8/128.

Parameters

Parameters are defined in your template and allow you to input custom values when you create or update a stack.

No parameters

There are no parameters defined in your template

Cancel

Previous

Next

Tags (key-value pairs) are used to apply metadata to AWS resources, which can help in organizing, identifying, and categorizing those resources. You can add up to 50 unique tags for each stack.

No tags associated with the stack.

Add new tag

You can add 50 more tag(s)

Permissions - optional

Specify an existing AWS Identity and Access Management (IAM) service role that CloudFormation can assume.

IAM role - optional

Choose the IAM role for CloudFormation to use for all operations performed on the stack.

IAM role na... ▼

Sample-role-name

▼

Remove

↺

Now here we can see the formation in progress

<div> <div> <div> <div> <div></div> <div>Search events</div> </div> </div> </div> <div> <div></div> </div> </div>		
Timestamp	Logical ID	Status
2024-09-09 17:36:04 UTC+0530	newstack	<div> <div></div> <div>CREATE_IN_PROGRESS</div> </div>

Creation completed

Stacks (1)

Filter by stack name

Filter status

Active

View nested

<

1

>

Stacks

newstack

2024-09-09 17:36:04 UTC+0530

CREATE_COMPLETE

And now in instances you can see the newly created instance with CloudFormation with no name

i-0a67293f38ca7c700

Running

t2.micro

2/2 checks passed

View alarms

i-0a67293f38ca7c700

Details

Status and alarms

Monitoring

Security

Networking

Storage

Tags

▼ Instance summary

Info

Instance ID

i-0a67293f38ca7c700

Public IPv4 address

54.255.150.113

open address

Private IPv4 addresses

172.31.25.54

IPv6 address

Instance state

Public IPv4 DNS

Medium 1

We people are working on a common project in a same region. But my servers are in different zones. So I want to share project information with everyone simultaneously. Configure efs storage it should be mount on every server.

1.first we launch 3 instances amazon , redhat , ubuntu with same security group which has nfs enabled in it and in different zones

We will use this security settings in all groups

The screenshot shows the AWS Security Groups console. A rule is being configured for a security group. The rule is named "Security group rule 2 (TCP, 2049, 0.0.0.0/0)". The rule type is "NFS", the protocol is "TCP", and the port range is "2049". The source is set to "Anywhere" (0.0.0.0/0). The description is "e.g. SSH for admin desktop".

Type	Protocol	Port range
NFS	TCP	2049

Source type	Source	Description - optional
Anywhere	0.0.0.0/0	e.g. SSH for admin desktop

Now all three instance connected now install nfs to those instance which don't have it

```
root@ip-172-31-14-165:~# cat /etc/os-release
PRETTY_NAME="Ubuntu 24.04 LTS"
NAME="Ubuntu"
VERSION_ID="24.04"
VERSION="24.04 LTS (Noble Numbat)"
VERSION_CODENAME=noble
ID=ubuntu
ID_LIKE=debian
HOME_URL="https://www.ubuntu.com/"
SUPPORT_URL="https://help.ubuntu.com/"
BUG_REPORT_URL="https://bugs.launchpad.net/ubuntu/"
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-policy"
UBUNTU_CODENAME=noble
LOGO=ubuntu-logo
root@ip-172-31-14-165:~#

root@ip-172-31-14-165:~# sudo su
root@ip-172-31-14-165:~# cd /etc/os-release
root@ip-172-31-14-165:~# cat /etc/os-release
PRETTY_NAME="Red Hat Enterprise Linux 9.4 (Plow)"
ANSI_COLOR="0;31"
LOGO="fedora-logo-icon"
CPE_NAME="cpe:/o:redhat:enterprise_linux:9::baseos"
HOME_URL="https://www.redhat.com/"
DOCUMENTATION_URL="https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/9"
BUG_REPORT_URL="https://bugzilla.redhat.com/"

REDHAT_BUGZILLA_PRODUCT="Red Hat Enterprise Linux 9"
REDHAT_BUGZILLA_PRODUCT_VERSION=9.4
REDHAT_SUPPORT_PRODUCT="Red Hat Enterprise Linux"
REDHAT_SUPPORT_PRODUCT_VERSION="9.4"
[root@ip-172-31-34-184 ~]#

root@ip-172-31-27-196:~# cat /etc/os-release
VERSION_ID="2023"
PLATFORM_ID="platform:al2023"
PRETTY_NAME="Amazon Linux 2023.5.20240903"
ANSI_COLOR="0;33"
CPE_NAME="cpe:2.3:o:amazon:amazon_linux:2023"
HOME_URL="https://aws.amazon.com/linux/amazon-linux-2023/"
DOCUMENTATION_URL="https://docs.aws.amazon.com/linux/"
SUPPORT_URL="https://aws.amazon.com/premiumsupport/"
BUG_REPORT_URL="https://github.com/amazonlinux/amazon-linux-2023"

VENDOR_NAME="AWS"
VENDOR_URL="https://aws.amazon.com/"
SUPPORT_END="2028-03-15"
[root@ip-172-31-27-196 ~]#
```

```
root@ip-172-31-14-165: ~
ed Translation-en [54.8 kB]
Get:46 http://security.ubuntu.com/ubuntu noble-security/restrict
ed amd64 c-n-f Metadata [428 B]
Get:47 http://security.ubuntu.com/ubuntu noble-security/multiver
se amd64 Packages [10.9 kB]
Get:48 http://security.ubuntu.com/ubuntu noble-security/multiver
se Translation-en [2808 B]
Get:49 http://security.ubuntu.com/ubuntu noble-security/multiver
se amd64 Components [208 B]
Get:50 http://security.ubuntu.com/ubuntu noble-security/multiver
se amd64 c-n-f Metadata [344 B]
Fetched 28.7 MB in 7s (4412 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
128 packages can be upgraded. Run 'apt list --upgradable' to see
them.
root@ip-172-31-14-165:~# apt install nfs-common
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  keyutils libnfsidmap1 rpcbind
Suggested packages:
  watchdog
The following NEW packages will be installed:
  keyutils libnfsidmap1 nfs-common rpcbind
0 upgraded, 4 newly installed, 0 to remove and 128 not upgraded.
Need to get 400 kB of archives.
After this operation, 1416 kB of additional disk space will be u
sed.
Do you want to continue? [Y/n]
```

```
root@ip-172-31-34-184:~
REDHAT_BUGZILLA_PRODUCT="Red Hat Enterprise Linux 9"
REDHAT_BUGZILLA_PRODUCT_VERSION=9.4
REDHAT_SUPPORT_PRODUCT="Red Hat Enterprise Linux"
REDHAT_SUPPORT_PRODUCT_VERSION="9.4"
[root@ip-172-31-34-184 ~]# yum install nfs-utils
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You ca
n use "rhc" or "subscription-manager" to register.


Red Hat Enterprise Linux 9 for  33 MB/s | 40 MB    00:01
Red Hat Enterprise Linux 9 for  32 MB/s | 30 MB    00:00
```


```
root@ip-172-31-27-196:~
PRETTY_NAME="Amazon Linux 2023.5.20240903"
ANSI_COLOR="0;33"
CPE_NAME="cpe:2.3:o:amazon:amazon_linux:2023"
HOME_URL="https://aws.amazon.com/linux/amazon-linux-2023/"
DOCUMENTATION_URL="https://docs.aws.amazon.com/linux/"
SUPPORT_URL="https://aws.amazon.com/premiumsupport/"
BUG_REPORT_URL="https://github.com/amazonlinux/amazon-linux-2023
"
VENDOR_NAME="AWS"
VENDOR_URL="https://aws.amazon.com/"
SUPPORT_END="2028-03-15"
[root@ip-172-31-27-196 ~]# rpmquery nfs-utils
nfs-utils-2.5.4-2.rc3.amzn2023.0.3.x86_64
[root@ip-172-31-27-196 ~]#
```

Till then create
EFS

Search results for 'EF'

Services Show more

 **EFS** ☆
Managed File Storage for EC2

 **IoT Device Defender** ☆
Secure your fleet of connected IoT devices

Create file system

×

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

Name - optional
Name your file system.

MSfilesystem

Name can include letters, numbers, and +-=._:/ symbols, up to 256 characters.

Virtual Private Cloud (VPC)
Choose the VPC where you want EC2 instances to connect to your file system.

vpc-08d5e432bce3322b4
default

Cancel

Customize

Create

Now go to networks of file system and select the common security group so that we can attach the file system

Availability zone	Subnet ID	IP address	Security groups	
ap-southeast-1a	subnet-00daa1063	172.31.27.86	Choose secur... ▼	Remove
			<div> <div>×</div> <div>sg-0c25fd2402ec3d078</div> <div>launch-wizard-5</div> </div>	
ap-southeast-1b	subnet-0fbf6fdcdca	172.31.41.138	Choose secur... ▼	Remove
			<div> <div>×</div> <div>sg-0c25fd2402ec3d078</div> <div>launch-wizard-5</div> </div>	
ap-southeast-1c	subnet-0a43f0c3c9	172.31.9.201	Choose secur... ▼	Remove
			<div> <div>×</div> <div>sg-0c25fd2402ec3d078</div> <div>launch-wizard-5</div> </div>	

Create directories mount EFS upon them

```
starting it.
nfs-idmapd.service is a disabled or a static unit, not starting
it.
nfs-utils.service is a disabled or a static unit, not starting
it.
proc-fs-nfsd.mount is a disabled or a static unit, not starting
it.
rpc-gssd.service is a disabled or a static unit, not starting
it.
rpc-statd-notify.service is a disabled or a static unit, not
starting it.
rpc-statd.service is a disabled or a static unit, not starting
it.
rpc-svcgssd.service is a disabled or a static unit, not starting
it.
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.2) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on
this host.
root@ip-172-31-14-165:~# mkdir /nfs-filesystem
root@ip-172-31-14-165:~#
```

```
gssproxy-0.8.4-6.el9.x86_64
keyutils-1.6.3-1.el9.x86_64
libev-4.33-5.el9.x86_64
libnfsidmap-1:2.5.4-26.el9_4.x86_64
libtirpc-1.3.3-8.el9_4.x86_64
libverto-libev-0.3.2-3.el9.x86_64
nfs-utils-1:2.5.4-26.el9_4.x86_64
quota-1:4.06-6.el9.x86_64
quota-nls-1:4.06-6.el9.noarch
rpcbind-1.2.6-7.el9.x86_64
sssd-nfs-idmap-2.9.4-6.el9_4.x86_64

Complete!
[root@ip-172-31-34-184 ~]# mkdir /nfs-filesystem
```

```
root@ip-172-31-27-196:~#
ANSI_COLOR="0;33"
CPE_NAME="cpe:2.3:o:amazon:amazon_linux:2023"
HOME_URL="https://aws.amazon.com/linux/amazon-linux-2023/"
DOCUMENTATION_URL="https://docs.aws.amazon.com/linux/"
SUPPORT_URL="https://aws.amazon.com/premiumsupport/"
BUG_REPORT_URL="https://github.com/amazonlinux/amazon-linux-2023"
VENDOR_NAME="AWS"
VENDOR_URL="https://aws.amazon.com/"
SUPPORT_END="2028-03-15"
[root@ip-172-31-27-196 ~]# rpmquery nfs-utils
nfs-utils-2.5.4-2.rc3.amzn2023.0.3.x86_64
[root@ip-172-31-27-196 ~]# mkdir /nfs-filesystem
[root@ip-172-31-27-196 ~]#
```

Now mount all three via IP

Attach

Mount your Amazon EFS file system on a Linux instance. [Learn more](#)

☐ Mount via DNS

☒ Mount via IP

Availability zone

ap-southeast-1a

Using the NFS client:

copied

```
sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport 172.31.27.86:/ efs
```

See our user guide for more information. [Learn more](#)

Close

Mount all three nfs-filesystem

```
root@ip-172-31-14-165: ~  
nfs-utils.service is a disabled or a static unit, not starting it.  
proc-fs-nfsd.mount is a disabled or a static unit, not starting it.  
rpc-gssd.service is a disabled or a static unit, not starting it.  
rpc-statd-notify.service is a disabled or a static unit, not starting it.  
rpc-statd.service is a disabled or a static unit, not starting it.  
rpc-svcgssd.service is a disabled or a static unit, not starting it.  
Processing triggers for man-db (2.12.0-4build2) ...  
Processing triggers for libc-bin (2.39-0ubuntu8.2) ...  
Scanning processes...  
Scanning linux images...  
  
Running kernel seems to be up-to-date.  
  
No services need to be restarted.  
  
No containers need to be restarted.  
  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
root@ip-172-31-14-165:~# mkdir /nfs-filessystem  
root@ip-172-31-14-165:~# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport 172.31.27.86:/ /nfs-filessystem  
root@ip-172-31-14-165:~#  
  
root@ip-172-31-34-184:~  
libtirpc-1.3.3-8.el9_4.x86_64  
libverto-libev-0.3.2-3.el9.x86_64  
nfs-utils-1:2.5.4-26.el9_4.x86_64  
quota-1:4.06-6.el9.x86_64  
quota-nls-1:4.06-6.el9.noarch  
rpcbind-1.2.6-7.el9.x86_64  
sssd-nfs-idmap-2.9.4-6.el9_4.x86_64  
  
Complete!  
[root@ip-172-31-34-184 ~]# mkdir /nfs-filessystem  
[root@ip-172-31-34-184 ~]# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport 172.31.27.86:/ /nfs-filessystem  
[root@ip-172-31-34-184 ~]#  
  
root@ip-172-31-27-196:~  
DOCUMENTATION_URL="https://docs.aws.amazon.com/linux/"  
SUPPORT_URL="https://aws.amazon.com/premiumsupport/"  
BUG_REPORT_URL="https://github.com/amazonlinux/amazon-linux-2023"  
VENDOR_NAME="AWS"  
VENDOR_URL="https://aws.amazon.com/"  
SUPPORT_END="2028-03-15"  
[root@ip-172-31-27-196 ~]# rpmquery nfs-utils  
nfs-utils-2.5.4-2.rc3.amzn2023.0.3.x86_64  
[root@ip-172-31-27-196 ~]# mkdir /nfs-filessystem  
[root@ip-172-31-27-196 ~]# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport 172.31.27.86:/ /nfs-filessystem  
[root@ip-172-31-27-196 ~]#
```

Create file in one system and it will be available throughout the network

```
root@ip-172-31-14-165: /nfs-f  
proc-fs-nfsd.mount is a disabled or a static unit, not starting it.  
rpc-gssd.service is a disabled or a static unit, not starting it.  
rpc-statd-notify.service is a disabled or a static unit, not starting it.  
rpc-statd.service is a disabled or a static unit, not starting it.  
rpc-svcgssd.service is a disabled or a static unit, not starting it.  
Processing triggers for man-db (2.12.0-4build2) ...  
Processing triggers for libc-bin (2.39-0ubuntu8.2) ...  
Scanning processes...  
Scanning linux images...  
  
Running kernel seems to be up-to-date.  
  
No services need to be restarted.  
  
No containers need to be restarted.  
  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
root@ip-172-31-14-165:~# mkdir /nfs-filessystem  
root@ip-172-31-14-165:~# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport 172.31.27.86:/ /nfs-filessystem  
root@ip-172-31-14-165:~# cd /nfs-filessystem  
root@ip-172-31-14-165:/nfs-filessystem# touch dracula.txt[1..100]  
root@ip-172-31-14-165:/nfs-filessystem# ll  
  
root@ip-172-31-34-184:/nfs-fi  
libverto-libev-0.3.2-3.el9.x86_64  
nfs-utils-1:2.5.4-26.el9_4.x86_64  
quota-1:4.06-6.el9.x86_64  
quota-nls-1:4.06-6.el9.noarch  
rpcbind-1.2.6-7.el9.x86_64  
sssd-nfs-idmap-2.9.4-6.el9_4.x86_64  
  
Complete!  
[root@ip-172-31-34-184 ~]# mkdir /nfs-filessystem  
[root@ip-172-31-34-184 ~]# sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsiz=1048576,hard,timeo=600,retrans=2,noresvport 172.31.27.86:/ /nfs-filessystem  
[root@ip-172-31-34-184 ~]# cd /nfs-filessystem  
[root@ip-172-31-34-184 nfs-filessystem]# ll  
  
root@ip-172-31-27-196:/nfs-fi  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt88  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt89  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt9  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt90  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt91  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt92  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt93  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt94  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt95  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt96  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt97  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt98  
-rw-r--r--. 1 root root 0 Sep 9 12:45 dracula.txt99  
[root@ip-172-31-27-196 nfs-filessystem]#
```

```
root@ip-172-31-14-165:/nfs-f x
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt71
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt72
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt73
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt74
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt75
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt76
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt77
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt78
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt79
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt8
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt80
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt81
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt82
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt83
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt84
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt85
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt86
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt87
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt88
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt89
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt9
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt90
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt91
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt92
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt93
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt94
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt95
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt96
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt97
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt98
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt99
root@ip-172-31-14-165:/nfs-filesystem#

root@ip-172-31-34-184:/nfs-fi x
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt88
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt89
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt9
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt90
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt91
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt92
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt93
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt94
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt95
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt96
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt97
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt98
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt99
[root@ip-172-31-34-184 nfs-filesystem]#

root@ip-172-31-27-196:/nfs-fi x
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt88
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt89
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt9
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt90
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt91
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt92
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt93
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt94
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt95
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt96
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt97
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt98
-rw-r--r-- 1 root root 0 Sep 9 12:45 dracula.txt99
[root@ip-172-31-27-196 nfs-filesystem]#
```

This is how we successfully implemented EFS on multiple servers in same region.