

Task-4: Create VPC peering between 2 different regions.

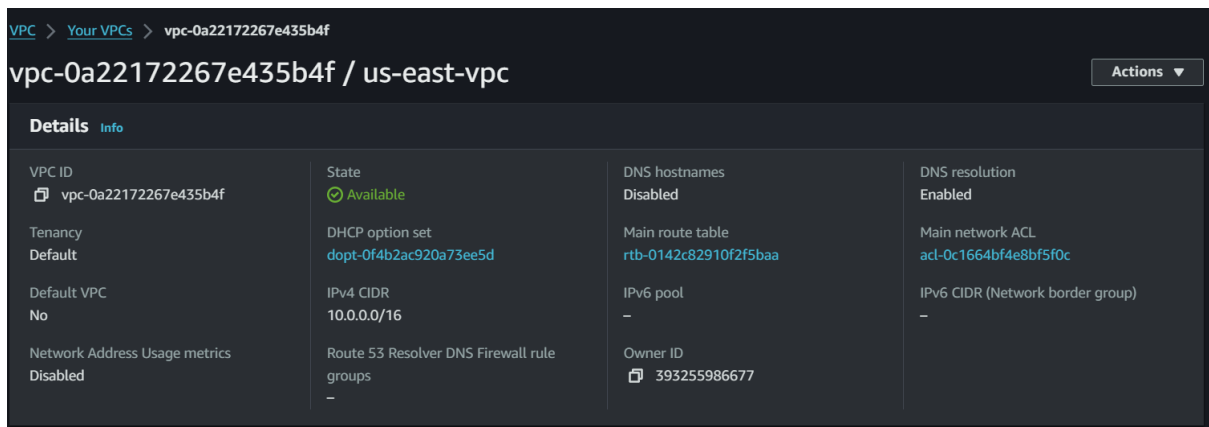
Steps:

1. VPCs creation (two regions within account)
2. Subnets creation (two regions within account)
3. Internet gateway creation (two regions within account)
4. Route tables creation (two regions within account)
5. Ec2 instance creation (two region within account)
6. Connect two instances
7. Copy two VPC Ids
8. Copy two instances private Ips
9. Create VPC Peering
10. Edit route table
11. Ping private Ips

Step-1:

VPC creation

Region-1: us-east-1



The screenshot shows the AWS VPC console interface for a VPC named 'vpc-0a22172267e435b4f' in the 'us-east-1' region. The 'Details' tab is selected, displaying various configuration parameters in a grid layout.

Details Info			
VPC ID vpc-0a22172267e435b4f	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-0f4b2ac920a73ee5d	Main route table rtb-0142c82910f2f5baa	Main network ACL acl-0c1664bf4e8bf5f0c
Default VPC No	IPv4 CIDR 10.0.0.0/16	IPv6 pool -	IPv6 CIDR (Network border group) -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 393255986677	

IPv4 CIDR: 10.0.0.0/16

Region-2: us-west-1

IPv4 CIDR: 172.31.0.0/16

VPC > Your VPCs > vpc-0c6570fc9957aaf43

vpc-0c6570fc9957aaf43 / us-west-vpc

Actions

Details Info			
VPC ID vpc-0c6570fc9957aaf43	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-097c69eb6dd0c86a1	Main route table rtb-0b844a4ee41a1e6ac	Main network ACL acl-01a306fca3de345d8
Default VPC No	IPv4 CIDR 172.31.0.0/16	IPv6 pool -	IPv6 CIDR -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 393255986677	

Step-2:

Subnet creation (within VPC)

Region-1: us-east-1

Subnets (1) Info

Find resources by attribute or tag

Subnet ID : subnet-0708260ee04119236 Clear filters

Name	Subnet ID	State	VPC	IPv4 CIDR
us-east-sb	subnet-0708260ee04119236	Available	vpc-0a22172267e435b4f us-e...	10.0.1.0/24

Region-2: us-west-1

Subnets (1) Info

Find resources by attribute or tag

Subnet ID : subnet-0c1527de9a15224bc Clear filters

Name	Subnet ID	State	VPC	IPv4 CIDR
us-west-sb	subnet-0c1527de9a15224bc	Available	vpc-0c6570fc9957aaf43 us-w...	172.31.1.0/24

Step-3:

Internet gateway (within VPC), Attach VPC in the internet gateway

Region-1: us-east-1

VPC > Internet gateways > igw-091ec9d25086ae5a3

igw-091ec9d25086ae5a3 / us-east-ig

Actions

Details Info			
Internet gateway ID igw-091ec9d25086ae5a3	State Attached	VPC ID vpc-0a22172267e435b4f us-east-vpc	Owner 393255986677

Tags Manage tags

Region-2: us-west-1

VPC > Internet gateways > igw-014f515f3a7f59ed9

igw-014f515f3a7f59ed9 / us-west-ig

Actions ▼

Details Info

Internet gateway ID igw-014f515f3a7f59ed9	State Attached	VPC ID vpc-0c6570fc9957aaf43 us-west-vpc	Owner 393255986677
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Step-4:

Route table creation

Region-1: us-east-1

VPC > Route tables > rtb-05c773bf7e27f854f

rtb-05c773bf7e27f854f / us-east-rt

Actions ▼

Details Info

Route table ID rtb-05c773bf7e27f854f	Main No	Explicit subnet associations -	Edge associations -
VPC vpc-0a22172267e435b4f us-east-vpc	Owner ID 393255986677		

Edit routes

Edit routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No
0.0.0.0/0	Internet Gateway igw-091ec9d25086ae5a3	-	No

Add route

Cancel Preview Save changes

Edit subnet association

Routes Subnet associations Edge associations Route propagation Tags

Explicit subnet associations (1)

Edit subnet associations

Find subnet association

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
us-east-sb	subnet-0708260ee04119236	10.0.1.0/24	-

Region-2: us-west-1

VPC > Route tables > rtb-09a5fef0327844caa

rtb-09a5fef0327844caa / us-west-1

Actions ▼

Details Info

Route table ID rtb-09a5fef0327844caa	Main No	Explicit subnet associations -	Edge associations -
VPC vpc-0c6570fc9957aaf43 us-west-vpc	Owner ID 393255986677		

Edit routes

Edit routes

Destination

172.31.0.0/16

Q

0.0.0.0/0

X

Target

local

Q

local

X

Internet Gateway

Q

igw-

X

Status

Active

-

Propagated

No

No

Add route

Cancel

Preview

Save changes

Edit subnet associations

Routes

Subnet associations

Edge associations

Route propagation

Tags

Explicit subnet associations (1)

Edit subnet associations

Find subnet association

< 1 >

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
us-west-sb	subnet-0c1527de9a15224bc	172.31.1.0/24	-

Step-5:

Ec2 instance creation

Region-1: us-east-1

Instances (1/1)

Connect

Instance state

Actions

Launch instances

Find instance by attribute or tag (case-sensitive)

Any state

< 1 >

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
east-server	i-0bbd880d3192d0f6	Running	t2.micro	2/2 checks passed	View alarms	us-east-1a

Instance: i-0bbd880d3192d0f6 (east-server)

Details

Status and alarms

Monitoring

Security

Networking

Storage

Tags

Instance summary

Instance ID

i-0bbd880d3192d0f6 (east-server)

Public IPv4 address

18.210.12.163

Open address

Instance state

Running

Private IP DNS name (IPv4 only)

ip-10-0-1-65.ec2.internal

Instance type

t2.micro

IPv6 address

-

Private IPv4 addresses

10.0.1.65

Public IPv4 DNS

-

Elastic IP addresses

-

Region-2: us-west-1

Instances (1/1)

Connect

Instance state

Actions

Launch instances

Find instance by attribute or tag (case-sensitive)

Any state

< 1 >

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
west-server	i-041d593b2b99401cf	Running	t2.micro	2/2 checks passed	View alarms	us-west-1b

Instance: i-041d593b2b99401cf (west-server)

Details

Status and alarms

Monitoring

Security

Networking

Storage

Tags

Instance summary

Instance ID

i-041d593b2b99401cf (west-server)

Public IPv4 address

54.241.51.64

Open address

Instance state

Running

Private IP DNS name (IPv4 only)

-

IPv6 address

-

Private IPv4 addresses

172.31.1.46

Public IPv4 DNS

-

Step-6:

Connect ec2 instances

Region-1: us-east-1

```
Rushika@Rushika MINGW64 ~/Downloads (main)
$ ssh -i "task-key.pem" ubuntu@ec2-18-210-12-163.compute-1.amazonaws.com
The authenticity of host 'ec2-18-210-12-163.compute-1.amazonaws.com (18.210.12.163)' can't be established.
ED25519 key fingerprint is SHA256:pwYDz5GACEWicEWVi3SYyo3o7pKzckmEDQn54Ci7fMg.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-18-210-12-163.compute-1.amazonaws.com' (ED25519)
to the list of known hosts.
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1017-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Wed Feb  7 19:02:31 UTC 2024

System load:  0.0          Processes:           98
Usage of /:   20.5% of 7.57GB Users logged in:      0
Memory usage: 21%         IPv4 address for eth0: 10.0.1.65
Swap usage:   0%
```

Region-2: us-west-1

```
Rushika@Rushika MINGW64 ~/Downloads (main)
$ ssh -i "west-key.pem" ubuntu@ec2-54-241-51-64.us-west-1.compute.amazonaws.com
The authenticity of host 'ec2-54-241-51-64.us-west-1.compute.amazonaws.com (54.241.51.64)' can't be established.
ED25519 key fingerprint is SHA256:YPouMOjrhT3ttrjvQ7rst0YesJPgf5UdbtyU8EjebfA.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-54-241-51-64.us-west-1.compute.amazonaws.com' (ED25519) to the list of known hosts.
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1017-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Wed Feb  7 19:08:29 UTC 2024

System load:  0.0          Processes:           96
Usage of /:   20.5% of 7.57GB Users logged in:      0
Memory usage: 21%         IPv4 address for eth0: 172.31.1.46
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status
```

Step-7 Copy VPC Ids

Region-1: us-east-1 -> vpc-0a22172267e435b4f

Region-1: us-west-1 -> vpc-0c6570fc9957aaf43

Step-8

Copy ec2 instance private Ips

Region-1: us-east-1-> 10.0.1.65

Region-2: us-west-1-> 172.31.1.46

Step-9:

Create VPC peering

Requester VPC details

Create peering connection

A VPC peering connection is a networking connection between two VPCs that enables you to route traffic between them privately.

Info

Peering connection settings

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

us-east-pc

Select a local VPC to peer with

VPC ID (Requester)

vpc-0a22172267e435b4f (us-east-vpc) ▼

VPC CIDRs for vpc-0a22172267e435b4f (us-east-vpc)

CIDR	Status	Status reason
10.0.0.0/16	Associated	-

Acceptor VPC details

Select another VPC to peer with

Account

☒ My account

☐ Another account

Region

☐ This Region (us-east-1)

☒ Another Region

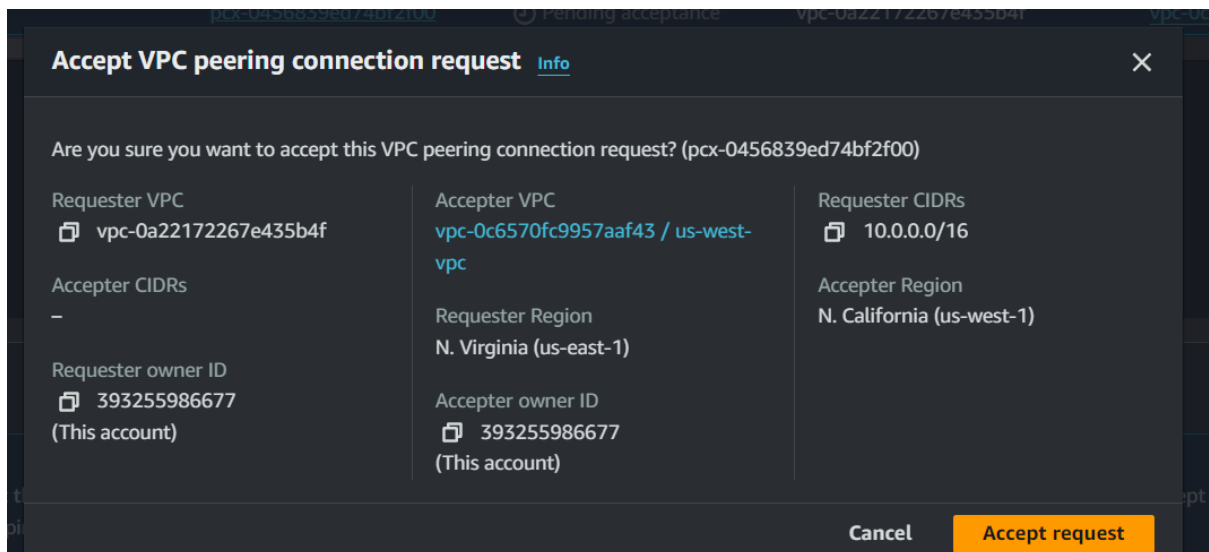
US West (N. California) (us-west-1) ▼

VPC ID (Acceptor)

vpc-0c6570fc9957aaf43

Create VPC peering

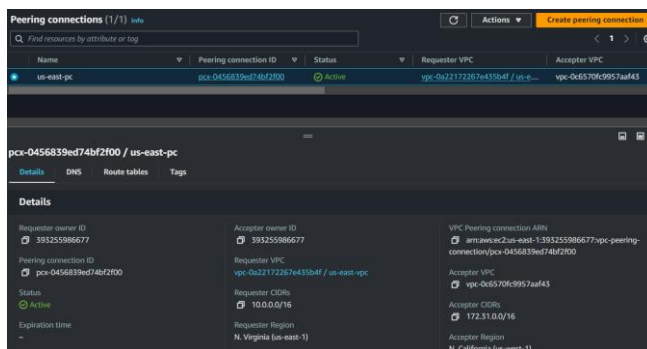
Accept peering request (for us-east-1 requester)



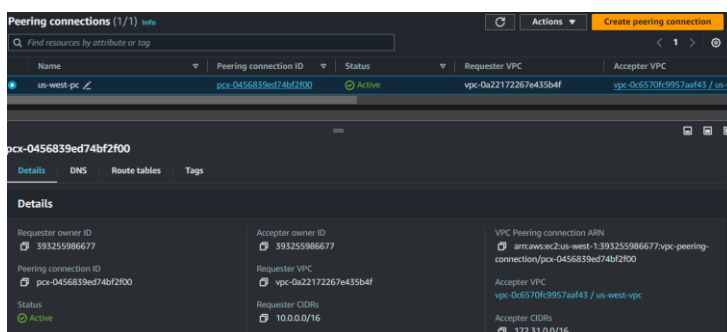
Accept request

VPC peering

Region-1: us-east-1



Region-1: us-west-1



Step-10

Edit route tables routes

Region-1: us-east-1

Edit routes

Destination	Target	Status	Propagated	
10.0.0.0/16	local	Active	No	
0.0.0.0/0	Internet Gateway	Active	No	Remove
172.31.0.0/16	Peering Connection	-	No	Remove

pcx-0456839ed74bf2f00

Add route

Cancel Preview Save changes

Save changes

Region-2: us-west-1

Edit routes

Destination	Target	Status	Propagated	
172.31.0.0/16	local	Active	No	
0.0.0.0/0	Internet Gateway	Active	No	Remove
10.0.0.0/16	Peering Connection	-	No	Remove

pcx-0456839ed74bf2f00

Add route

Cancel Preview Save changes

Save changes

Step-11:

Ping ec2 instance private ips

Region-1: us-east-1

Ping region-2 private Ip

```
ubuntu@ip-10-0-1-65:~$ ping 172.31.1.46
PING 172.31.1.46 (172.31.1.46) 56(84) bytes of data:
64 bytes from 172.31.1.46: icmp_seq=1 ttl=64 time=60.8 ms
64 bytes from 172.31.1.46: icmp_seq=2 ttl=64 time=60.8 ms
64 bytes from 172.31.1.46: icmp_seq=3 ttl=64 time=60.9 ms
64 bytes from 172.31.1.46: icmp_seq=4 ttl=64 time=60.8 ms
64 bytes from 172.31.1.46: icmp_seq=5 ttl=64 time=61.4 ms
64 bytes from 172.31.1.46: icmp_seq=6 ttl=64 time=60.8 ms
64 bytes from 172.31.1.46: icmp_seq=7 ttl=64 time=64.7 ms
64 bytes from 172.31.1.46: icmp_seq=8 ttl=64 time=60.8 ms
64 bytes from 172.31.1.46: icmp_seq=9 ttl=64 time=60.9 ms
^C
--- 172.31.1.46 ping statistics ---
9 packets transmitted, 9 received, 0% packet loss, time 8014ms
rtt min/avg/max/mdev = 60.752/61.302/64.720/1.221 ms
```


Region-2: us-west-1

Ping region-1 private IP

```
ubuntu@ip-172-31-1-46:~$ ping 10.0.1.65
PING 10.0.1.65 (10.0.1.65) 56(84) bytes of data:
64 bytes from 10.0.1.65: icmp_seq=1 ttl=64 time=61.3 ms
64 bytes from 10.0.1.65: icmp_seq=2 ttl=64 time=60.8 ms
64 bytes from 10.0.1.65: icmp_seq=3 ttl=64 time=61.0 ms
64 bytes from 10.0.1.65: icmp_seq=4 ttl=64 time=60.9 ms
64 bytes from 10.0.1.65: icmp_seq=5 ttl=64 time=60.8 ms
64 bytes from 10.0.1.65: icmp_seq=6 ttl=64 time=60.9 ms
64 bytes from 10.0.1.65: icmp_seq=7 ttl=64 time=60.8 ms
64 bytes from 10.0.1.65: icmp_seq=8 ttl=64 time=60.9 ms
^C
--- 10.0.1.65 ping statistics ---
8 packets transmitted, 8 received, 0% packet loss, time 701ms
rtt min/avg/max/mdev = 60.751/60.895/61.251/0.150 ms
```