

VPC_TASK-2

1. Create one VPC, with 1 public subnet and 1 private subnet.

Step 1: Create VPC

1. Go to **AWS Console** → **VPC**
2. Click **Create VPC**
3. Choose **VPC only**
4. Enter:
 - **Name:** my-vpc
 - **IPv4 CIDR:** 172.168.0.0/16
5. Created VPC.

<input type="checkbox"/>	sub_public-1	subnet-0cbe50a189bb33c22	✓ Available	vpc-01b458a02da3c2938 my_...	⊖ Off	172.168.0.0/2
<input type="checkbox"/>	sub_private-1	subnet-03b984f0ba32b20ea	✓ Available	vpc-01b458a02da3c2938 my_...	⊖ Off	172.168.1.0/2

The screenshot shows the AWS VPC console interface. The left sidebar contains navigation links for 'Virtual private cloud', 'Your VPCs', 'Subnets', 'Route tables', 'Internet gateways', 'Egress-only internet gateways', 'Carrier gateways', 'DHCP option sets', 'Elastic IPs', 'Managed prefix lists', 'NAT gateways', 'Peering connections', 'Route servers', 'Security', 'Network ACLs', 'Security groups', 'PrivateLink and Lattice', 'Getting started', 'Endpoints', 'Endpoint services', 'Service networks', 'Lattice services', 'Resource configurations', and 'Resource gateways'. The main content area displays the details for the VPC 'vpc-01b458a02da3c2938 / my_vpc'. The 'Details' tab is active, showing fields for VPC ID, DNS resolution, Main network ACL, IPv6 CIDR, Encryption control ID, State (Available), Tenancy (default), Default VPC (No), Network Address Usage metrics (Disabled), Encryption control mode, Block Public Access (Off), DHCP option set, IPv4 CIDR, Route 53 Resolver DNS Firewall rule groups, DNS hostnames (Disabled), Main route table, IPv6 pool, and Owner ID. Below the details, the 'Resource map' tab is active, showing a visual representation of the VPC resources: the VPC 'my_vpc' is connected to two subnets ('sub_public-1' and 'sub_private-1'), which are connected to two route tables ('my_router_private' and 'public_subnet'), which are connected to two network connections ('my-internet-gateway' and 'my_nat_gateway').

2. Enable VPC peering for cross-region.

- **VPC A** in **ap-south-1**
- **VPC B** in **us-east-1**

Steps:

1. Go to **VPC** → **Peering Connections** → **Create**
2. Select:

- Requester VPC: **VPC A**
 - Acceptor VPC: **VPC B**
3. After request → go to **VPC B** (other region)
 4. Accept the peering request.
 5. Update route tables in **both VPCs**:
 - VPC A → add route to VPC B CIDR with **peering connection**
 - VPC B → add route to VPC A CIDR with **peering connection**
 6. Add CIDR in security group (Edit inbound) in each instance where we are connecting. And make sure all traffic and 00000 source is also added.

The screenshot displays the AWS Management Console interface, specifically the EC2 Instances page. The top section shows a list of instances, with one instance selected. Below this, the 'Routes' tab is active for a specific subnet, showing a table of routes. The bottom section shows another 'Routes' tab for a different subnet, also displaying a table of routes.

Instances (1) Info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
my_instance_v...	i-0675a40a2d75c7101	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-	98.92.128.134	-

Select an instance

b-0a3a09dc03a68be37 / public_subnet

Routes (4)

Destination	Target	Status	Propagated	Route Origin
0.0.0.0/0	igw-0c8a21baa480e0158	Active	No	Create Route
172.31.0.0/16	pcx-0811354eae9f9d47b	Active	No	Create Route
172.168.0.0/16	local	Active	No	Create Route Table

Routes (3)

Destination	Target	Status	Propagated	Route Origin
0.0.0.0/0	igw-019ce32547b23a998	Active	No	Create Route
172.31.0.0/16	local	Active	No	Create Route Table
172.168.0.0/16	pcx-0811354eae9f9d47b	Active	No	Create Route

Peering connections (1/4) info

Name	Peering connection ID	Status	Requester VPC	Accepter VPC	Requester CIDRs	Accepter CIDRs	Requester c
my_vpc_self	pcx-0811354eae9f9d47b	Active	vpc-01b458a02da3c2938 / my_...	vpc-0d053d73769179409	172.168.0.0/16	172.31.0.0/16	679625722
my_vpc_peering1	pcx-087c1cbd559394fff	Active	vpc-01b458a02da3c2938 / my_...	vpc-09cc1e7ee377b05d1	172.168.0.0/16	192.168.0.0/24	679625722
my_vpc_peering	pcx-07913628c75de18ee	Failed	vpc-01b458a02da3c2938 / my_...	vpc-09cc1e7ee377b05d1	-	-	679625722
my_vpc_virginia_stockholm	pcx-021732c0ec5796196	Failed	vpc-01b458a02da3c2938 / my_...	vpc-09cc1e7ee377b05d1	-	-	679625722

```
-- 192.168.0.12 ping statistics ---
200 packets transmitted, 0 received, 100% packet loss, time 206987ms
```

```
[ec2-user@ip-172-168-0-95 ~]$ ping 192.168.0.12
PING 192.168.0.12 (192.168.0.12) 56(84) bytes of data.
^C
```

```
-- 192.168.0.12 ping statistics ---
15 packets transmitted, 0 received, 100% packet loss, time 14524ms
```

```
[ec2-user@ip-172-168-0-95 ~]$ ping 172.31.1.11
PING 172.31.1.11 (172.31.1.11) 56(84) bytes of data.
64 bytes from 172.31.1.11: icmp_seq=72 ttl=127 time=12.0 ms
64 bytes from 172.31.1.11: icmp_seq=73 ttl=127 time=11.9 ms
64 bytes from 172.31.1.11: icmp_seq=74 ttl=127 time=11.6 ms
64 bytes from 172.31.1.11: icmp_seq=75 ttl=127 time=11.9 ms
64 bytes from 172.31.1.11: icmp_seq=76 ttl=127 time=11.6 ms
64 bytes from 172.31.1.11: icmp_seq=77 ttl=127 time=11.5 ms
64 bytes from 172.31.1.11: icmp_seq=78 ttl=127 time=11.6 ms
64 bytes from 172.31.1.11: icmp_seq=79 ttl=127 time=11.9 ms
64 bytes from 172.31.1.11: icmp_seq=80 ttl=127 time=12.0 ms
64 bytes from 172.31.1.11: icmp_seq=81 ttl=127 time=11.7 ms
64 bytes from 172.31.1.11: icmp_seq=82 ttl=127 time=11.6 ms
64 bytes from 172.31.1.11: icmp_seq=83 ttl=127 time=11.4 ms
64 bytes from 172.31.1.11: icmp_seq=84 ttl=127 time=11.7 ms
64 bytes from 172.31.1.11: icmp_seq=85 ttl=127 time=12.0 ms
64 bytes from 172.31.1.11: icmp_seq=86 ttl=127 time=11.9 ms
64 bytes from 172.31.1.11: icmp_seq=87 ttl=127 time=12.0 ms
64 bytes from 172.31.1.11: icmp_seq=88 ttl=127 time=11.5 ms
64 bytes from 172.31.1.11: icmp_seq=89 ttl=127 time=11.7 ms
64 bytes from 172.31.1.11: icmp_seq=90 ttl=127 time=11.7 ms
64 bytes from 172.31.1.11: icmp_seq=91 ttl=127 time=12.0 ms
64 bytes from 172.31.1.11: icmp_seq=92 ttl=127 time=12.0 ms
64 bytes from 172.31.1.11: icmp_seq=93 ttl=127 time=12.0 ms
64 bytes from 172.31.1.11: icmp_seq=94 ttl=127 time=12.2 ms
64 bytes from 172.31.1.11: icmp_seq=95 ttl=127 time=12.1 ms
64 bytes from 172.31.1.11: icmp_seq=96 ttl=127 time=11.9 ms
64 bytes from 172.31.1.11: icmp_seq=97 ttl=127 time=11.9 ms
64 bytes from 172.31.1.11: icmp_seq=98 ttl=127 time=11.5 ms
64 bytes from 172.31.1.11: icmp_seq=99 ttl=127 time=11.7 ms
64 bytes from 172.31.1.11: icmp_seq=100 ttl=127 time=11.5 ms
64 bytes from 172.31.1.11: icmp_seq=101 ttl=127 time=11.6 ms
64 bytes from 172.31.1.11: icmp_seq=102 ttl=127 time=11.6 ms
64 bytes from 172.31.1.11: icmp_seq=103 ttl=127 time=11.9 ms
```

Peering connections > Create peering connection

Peering connection settings

Name - optional
Create a tag with a key of 'Name' and a value that you specify.
my_vpc_peering1

Select a local VPC to peer with

VPC ID (Requester)
vpc-01b458a02da3c2938 (my_vpc)

VPC CIDRs for vpc-01b458a02da3c2938 (my_vpc)

CIDR	Status	Status reason
172.168.0.0/16	Associated	-

Select another VPC to peer with

Account
☐ My account
☒ Another account

Account ID
207662791773

Region
☐ This Region (us-east-1)
☒ Another Region
Europe (Stockholm) (eu-north-1)

VPC ID (Accepter)
vpc-09cc1e7ee377b05d1

Activate Windows
Go to Settings to activate Windows.

VPC > Route tables > rtb-0a3a09dc03a68be37 > Edit routes

Edit routes

Destination	Target	Status	Propagated	Route Origin
172.168.0.0/16	local	Active	No	CreateRouteTable
192.168.0.0/24	Peering Connection	-	No	CreateRoute

Remove

Add route

Cancel Preview Save changes

3. Enable VPC peering for cross-account (you can collaborate with your friend to do this task).

Steps:

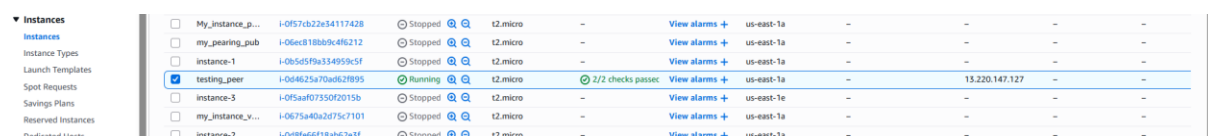
1. Your account (Requester):

- Create peering request
- Provide **their VPC ID**
- Provide **their AWS Account ID**

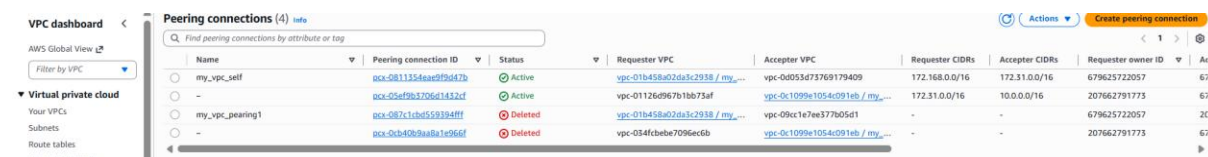
2. They (Acceptor):

- Login to VPC → Peering
- Accept request

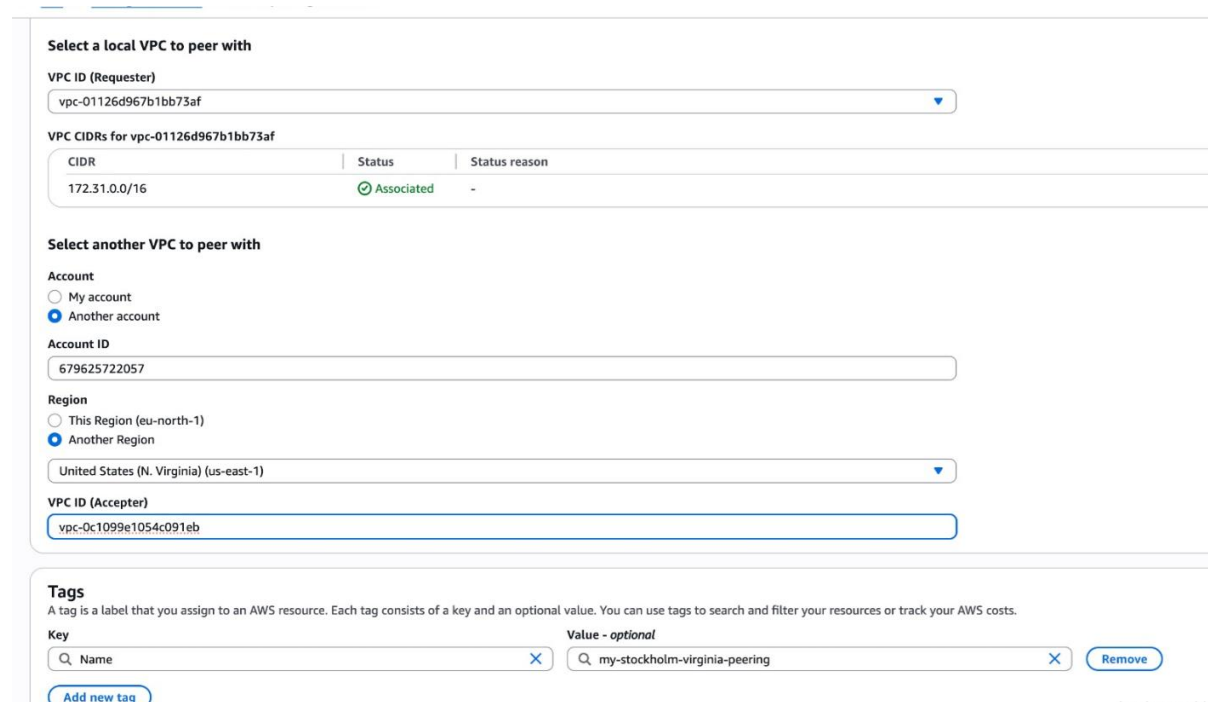
3. Update route tables on both sides.



Instances	Instance ID	Instance Type	State	Platform	Architecture	OS	Subnet	Availability Zone	Private IP	Public IP	Tags
<input type="checkbox"/>	My_instance_p...	t2.micro	Stopped	Linux	x86_64	Ubuntu 18.04	us-east-1a	us-east-1a	172.31.0.16		
<input type="checkbox"/>	my_peering_pub	t2.micro	Stopped	Linux	x86_64	Ubuntu 18.04	us-east-1a	us-east-1a	172.31.0.16		
<input type="checkbox"/>	Instance-1	t2.micro	Stopped	Linux	x86_64	Ubuntu 18.04	us-east-1a	us-east-1a	172.31.0.16		
<input checked="" type="checkbox"/>	testing_peer	t2.micro	Running	Linux	x86_64	Ubuntu 18.04	us-east-1a	us-east-1a	172.31.0.16		
<input type="checkbox"/>	Instance-3	t2.micro	Stopped	Linux	x86_64	Ubuntu 18.04	us-east-1a	us-east-1a	172.31.0.16		
<input type="checkbox"/>	my_instance_v...	t2.micro	Stopped	Linux	x86_64	Ubuntu 18.04	us-east-1a	us-east-1a	172.31.0.16		
<input type="checkbox"/>	Instance-2	t2.micro	Stopped	Linux	x86_64	Ubuntu 18.04	us-east-1a	us-east-1a	172.31.0.16		



Name	Peering connection ID	Status	Requester VPC	Acceptor VPC	Requester CIDRs	Acceptor CIDRs	Requester owner ID	Acceptor owner ID
my_vpc_self	pcx-0811354a9f9d47b	Active	vpc-01b458a02d3c2938 / my...	vpc-0d053473769179409	172.168.0.0/16	172.31.0.0/16	679625722057	679625722057
-	pcx-05ef9b2706d1432cf	Active	vpc-01126d967b1bb73af	vpc-0c1099e1054c091eb / my...	172.31.0.0/16	10.0.0.0/16	207662791773	679625722057
my_vpc_peering1	pcx-087c1bd559394ff	Deleted	vpc-01b458a02d3c2938 / my...	vpc-09cc1e7ee377b05d1	-	-	679625722057	207662791773
-	pcx-0b40b9aa8a1e966f	Deleted	vpc-034fcbebe7096ac6b	vpc-0c1099e1054c091eb / my...	-	-	207662791773	679625722057



Select a local VPC to peer with

VPC ID (Requester)
vpc-01126d967b1bb73af

VPC CIDRs for vpc-01126d967b1bb73af

CIDR	Status	Status reason
172.31.0.0/16	Associated	-

Select another VPC to peer with

Account
☐ My account
☒ Another account

Account ID
679625722057

Region
☐ This Region (eu-north-1)
☒ Another Region
United States (N. Virginia) (us-east-1)

VPC ID (Acceptor)
vpc-0c1099e1054c091eb

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
Name

Value - optional
my-stockholm-virginia-peering

[Add new tag](#) [Remove](#)

```
Arjuman@Arjuman MINGW64 ~/Downloads (master)
$ ssh -i "Testing.pem" ec2-user@98.92.128.134

#####
#
# Amazon Linux 2023
#
# https://aws.amazon.com/linux/amazon-linux-2023
#
Last login: Mon Nov 24 10:43:42 2025 from 14.192.14.62
[ec2-user@ip-172-168-0-95 ~]$ exit
logout
Connection to 98.92.128.134 closed.

Arjuman@Arjuman MINGW64 ~/Downloads (master)
$ ssh -i "Testing1.pem" ec2-user@ec2-18-216-88-104.us-east-2.compute.amazonaws.com
The authenticity of host 'ec2-18-216-88-104.us-east-2.compute.amazonaws.com (18.216.88.104)' can't be established.
ED25519 key fingerprint is SHA256:9d9MwA+J6lphyzkVtH00gloCo3NvhwCAmJy8C/Zwg.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-18-216-88-104.us-east-2.compute.amazonaws.com' (ED25519) to the list of known hosts.

#####
#
# Amazon Linux 2023
#
# https://aws.amazon.com/linux/amazon-linux-2023
#
```

```
Warning: Permanently added '13.220.147.127' (ED25519) to the list of known hosts.

#####
#
# Amazon Linux 2023
#
# https://aws.amazon.com/linux/amazon-linux-2023
#
[ec2-user@ip-10-0-0-227 ~]$ ping 172.31.0.0/16
ping: 172.31.0.0/16: Name or service not known
[ec2-user@ip-10-0-0-227 ~]$ ping 172.31.20.78
PING 172.31.20.78 (172.31.20.78) 56(84) bytes of data:
64 bytes from 172.31.20.78: icmp_seq=1 ttl=127 time=110 ms
64 bytes from 172.31.20.78: icmp_seq=2 ttl=127 time=110 ms
64 bytes from 172.31.20.78: icmp_seq=3 ttl=127 time=110 ms
64 bytes from 172.31.20.78: icmp_seq=4 ttl=127 time=110 ms
64 bytes from 172.31.20.78: icmp_seq=5 ttl=127 time=110 ms
64 bytes from 172.31.20.78: icmp_seq=6 ttl=127 time=111 ms
64 bytes from 172.31.20.78: icmp_seq=7 ttl=127 time=110 ms
64 bytes from 172.31.20.78: icmp_seq=8 ttl=127 time=110 ms
64 bytes from 172.31.20.78: icmp_seq=9 ttl=127 time=110 ms
```

4. Set up a VPC Transit Gateway.

? Create Transit Gateway

- VPC → Transit Gateways → Create → default settings.

? Create VPC Attachment

- Attach your VPC to the TGW.
- Select 1 subnet per AZ.

? Association happens automatically

- No need to change anything here.

? Update VPC Route Table

- Add route → Destination = other VPC CIDR
- Target = **Transit Gateway**

rt0-uasav9uc0sa000es / / public_subnet

Destination	Target	Status	Propagated	Route Origin
0.0.0.0/0	igw-0cba21baa480e0158	Active	No	Create Route
10.20.0.0/16	pcx-0811354eae9f9d47b	Active	No	Create Route
172.31.0.0/16	pcx-0811354eae9f9d47b	Active	No	Create Route
172.168.0.0/16	local	Active	No	Create Route Table

AWS VPC dashboard showing VPCs and encryption controls.

Your VPCs

Name	VPC ID	State	Encryption C...	Encryption control ...	Block Public...	IPv4 CIDR	IPv6 CIDR	DHCP option s...
my_vpc-1	vpc-01b458a02da3c2938	Available	-	-	Off	172.168.0.0/16	-	dhopt-047e9143
-	vpc-0b547f3954423b9e7	Available	-	-	Off	172.31.0.0/16	-	dhopt-047e9143
my_vpc-3	vpc-0a1c67b25792d8733	Available	-	-	Off	192.168.0.0/16	-	dhopt-047e9143
my_vpc-2	vpc-0c1099e1054c091ab	Available	-	-	Off	10.0.0.0/16	-	dhopt-047e9143

vpc-01b458a02da3c2938 / my_vpc-1

Details | Resource map | CIDRs | Flow logs | Tags | Integrations

```
[ec2-user@ip-172-168-0-196 ~]$ ping 192.168.0.59
PING 192.168.0.59 (192.168.0.59) 56(84) bytes of data:
64 bytes from 192.168.0.59: icmp_seq=1 ttl=126 time=2.63 ms
64 bytes from 192.168.0.59: icmp_seq=2 ttl=126 time=1.37 ms
64 bytes from 192.168.0.59: icmp_seq=3 ttl=126 time=1.21 ms
64 bytes from 192.168.0.59: icmp_seq=4 ttl=126 time=1.22 ms
64 bytes from 192.168.0.59: icmp_seq=5 ttl=126 time=1.27 ms
64 bytes from 192.168.0.59: icmp_seq=6 ttl=126 time=1.16 ms
64 bytes from 192.168.0.59: icmp_seq=7 ttl=126 time=1.29 ms
64 bytes from 192.168.0.59: icmp_seq=8 ttl=126 time=1.30 ms
64 bytes from 192.168.0.59: icmp_seq=9 ttl=126 time=1.40 ms
64 bytes from 192.168.0.59: icmp_seq=10 ttl=126 time=1.21 ms
64 bytes from 192.168.0.59: icmp_seq=11 ttl=126 time=1.18 ms
64 bytes from 192.168.0.59: icmp_seq=12 ttl=126 time=1.22 ms
64 bytes from 192.168.0.59: icmp_seq=13 ttl=126 time=1.19 ms
64 bytes from 192.168.0.59: icmp_seq=14 ttl=126 time=1.33 ms
64 bytes from 192.168.0.59: icmp_seq=15 ttl=126 time=1.24 ms
64 bytes from 192.168.0.59: icmp_seq=16 ttl=126 time=1.47 ms
64 bytes from 192.168.0.59: icmp_seq=17 ttl=126 time=1.27 ms
64 bytes from 192.168.0.59: icmp_seq=18 ttl=126 time=1.17 ms
64 bytes from 192.168.0.59: icmp_seq=19 ttl=126 time=1.16 ms
64 bytes from 192.168.0.59: icmp_seq=20 ttl=126 time=1.29 ms
64 bytes from 192.168.0.59: icmp_seq=21 ttl=126 time=1.22 ms
64 bytes from 192.168.0.59: icmp_seq=22 ttl=126 time=2.78 ms
64 bytes from 192.168.0.59: icmp_seq=23 ttl=126 time=1.19 ms
64 bytes from 192.168.0.59: icmp_seq=24 ttl=126 time=1.22 ms
64 bytes from 192.168.0.59: icmp_seq=25 ttl=126 time=1.16 ms
64 bytes from 192.168.0.59: icmp_seq=26 ttl=126 time=1.13 ms
64 bytes from 192.168.0.59: icmp_seq=27 ttl=126 time=1.15 ms
64 bytes from 192.168.0.59: icmp_seq=28 ttl=126 time=1.09 ms
64 bytes from 192.168.0.59: icmp_seq=29 ttl=126 time=1.33 ms
64 bytes from 192.168.0.59: icmp_seq=30 ttl=126 time=1.14 ms
64 bytes from 192.168.0.59: icmp_seq=31 ttl=126 time=1.12 ms
64 bytes from 192.168.0.59: icmp_seq=32 ttl=126 time=1.17 ms
64 bytes from 192.168.0.59: icmp_seq=33 ttl=126 time=1.16 ms
^C
--- 192.168.0.59 ping statistics ---
33 packets transmitted, 33 received, 0% packet loss, time 32048ms
rtt min/avg/max/mdev = 1.092/1.315/2.779/0.363 ms
[ec2-user@ip-172-168-0-196 ~]$ ping 10.0.0.143
-bash: 10.0.0.143: command not found
[ec2-user@ip-172-168-0-196 ~]$ ping 10.0.0.143
PING 10.0.0.143 (10.0.0.143) 56(84) bytes of data:
64 bytes from 10.0.0.143: icmp_seq=1 ttl=126 time=1.82 ms
64 bytes from 10.0.0.143: icmp_seq=2 ttl=126 time=0.899 ms
64 bytes from 10.0.0.143: icmp_seq=3 ttl=126 time=0.824 ms
64 bytes from 10.0.0.143: icmp_seq=4 ttl=126 time=0.822 ms
64 bytes from 10.0.0.143: icmp_seq=5 ttl=126 time=0.902 ms
64 bytes from 10.0.0.143: icmp_seq=6 ttl=126 time=0.875 ms
64 bytes from 10.0.0.143: icmp_seq=7 ttl=126 time=0.889 ms
64 bytes from 10.0.0.143: icmp_seq=8 ttl=126 time=0.822 ms
64 bytes from 10.0.0.143: icmp_seq=9 ttl=126 time=0.981 ms
64 bytes from 10.0.0.143: icmp_seq=10 ttl=126 time=0.742 ms
^C
-- 10.0.0.143 ping statistics --
10 packets transmitted, 10 received, 0% packet loss, time 9132ms
```

5. Set up a VPC Endpoint.

- Go to VPC → Endpoints → Create Endpoint

- **Choose service:**
com.amazonaws.<region>.s3 (Gateway type)
- **Selected my VPC**
- **Selected ONLY private route table**
- **Policy → Full Access**
- **Created Endpoint**

rtb-0d378952e5b0ee9e / my_router_private

Details | **Routes** | Subnet associations | Edge associations | Route propagation | Tags

Routes (2)

Destination	Target	Status	Propagated	Route Origin
pt-63a5400a	vpc-0f327663950449662	Active	No	Create Route
172.168.0.0/16	local	Active	No	Create Route Table

Showing services available in service region: United States (N. Virginia) (us-east-1)

Services (1/2)

Service Name	Owner	Type
com.amazonaws.us-east-1.s3	amazon	Gateway
com.amazonaws.us-east-1.s3	amazon	Interface

Network settings

Select the VPC in which to create the endpoint.

VPC

Create the VPC endpoint in the VPC in the same AWS Region from which you will access a resource.

vpc-01b458a02da3c2938 (my_vpc)

Additional settings

Route tables (1/2) info

Name	Route Table ID	Main	Associated ID
public_subnet	rtb-0a3a09d03a680e37 (public_subnet)	Yes	subnet-0cbe50a189bb33c22 (sub_public-1)
my_router_private	rtb-0d378952e5b0ee9e (my_router_pri...	No	subnet-03b984f0ba32b20ea (sub_private-1)

When you use an endpoint, the source IP addresses from your instances in your affected subnets for accessing the AWS service in the same region will be private IP addresses, not public IP addresses. Existing connections from your affected subnets to the AWS service that use public IP addresses may be dropped. Ensure that you don't have critical tasks running when you create or modify an endpoint.

rtb-0d378952e5b0ee9e

Policy info

VPC endpoint policy controls access to the service.

Full access

Allow access by any user or service within the VPC using credentials from any Amazon Web Services accounts to any resources in this Amazon Web Services service. All policies — IAM user policies, VPC endpoint policies, and Amazon Web Services service-specific policies (e.g. Amazon S3 bucket policies, any S3 ACL policies) — must grant the necessary permissions for access to succeed.

Custom

Use the [policy creation tool](#) to generate a policy, then paste the generated policy below.

1