

# VPC PEERING

VPC Peering: Create 2 VPC and configure VPC peering. Launch an instance in each VPC's private subnet and try to SSH from each other.

## STEP 1: Create two VPC

- Create VPC with a CIDR 10.0.0.0/16
- Create VOC with a CIDR 10.2.0.0/16

<input type="checkbox"/>	VPCprivate1	vpc-0f1c7454690e0f244	Available	10.0.0.0/16	doct-012b1af4d66ba51...	rtb-0226b8fe16583fe66	acl-0d22ff67181e77400	Default	No
<input type="checkbox"/>	VPCprivate2	vpc-09e96341e5c4765e8	Available	10.2.0.0/16	doct-012b1af4d66ba51...	rtb-07538b609c1a06cf9	acl-013d853aa8a5b5144	Default	No

## STEP 2 : Create a Subnet

- Create two Subnet For VPC-1
  - PublicA
  - PrivateA
- Create two Subnet for VPC-2
  - PublicB
  - PrivateB

<input type="checkbox"/>	privateA	subnet-035799910b912e300	Available	vpc-0f1c7454690e0f244   VPCp...	10.0.1.0/24	—
<input type="checkbox"/>	privateB	subnet-0b571fa15113d32ad	Available	vpc-09e96341e5c4765e8   VPC...	10.2.10.0/24	—
<input type="checkbox"/>	publicA	subnet-06f91447bc57d066a	Available	vpc-0f1c7454690e0f244   VPCp...	10.0.0.0/24	—
<input type="checkbox"/>	publicB	subnet-0449c2d6c6489c914	Available	vpc-09e96341e5c4765e8   VPC...	10.2.0.0/24	—

Internet gateways (4) info						Actions	Create internet gateway
<input type="checkbox"/>	Name	Internet gateway ID	State	VPC ID	Owner		
<input type="checkbox"/>	HOME-IGW	igw-09cfa111887b583c	Attached	vpc-06dc483317ca45eb7   manual vpc	894640392156		
<input type="checkbox"/>	...	igw-0a8a5c788decd40e8	Attached	vpc-06ee33b93b08bd3c   default	894640392156		
<input type="checkbox"/>	demovpcigw-1	igw-049b067bd34ab1265	Attached	vpc-0f1c7454690e0f244   VPCprivate1	894640392156		
<input type="checkbox"/>	demovpcigw-2	igw-001aa297d25d4b873	Attached	vpc-09e96341e5c4765e8   VPCprivate2	894640392156		

## STEP 3: Configure all VPC setting

- Create two internet gateway and attach to both VPC to get Internet connection
- Create two Nat Gateway in public subnet and attach to PrivateA and PrivateB subnet
- Create a 4 route Table two for VPC1 and two for VPC2
  - ❖ Now in PublicA attach Internet Gateway with IP Anywhere
  - ❖ Now in PublicB attach Internet Gateway with IP Anywhere
  - ❖ Now in PrivateA attach Nat Gateway with IP Anywhere
  - ❖ Now in PrivateB attach Nat Gateway with IP Anywhere

## **STEP 4 : Create Ec2 Instance**

- Create 2 Bastion host for VPC 1 and VPC 2 With Public Subnet
- Create 2 Private Instance for VPC 1 and VPC 2 With Public Subnet
- PRIVATE INSTANTCE A
  - ❖ Attach Ami of Linux
  - ❖ Attach a key pair
  - ❖ Create a New SG
  - ❖ Inbound : SSH with sg-of-Bastion A
  - ❖ Hence create
- PRIVATE INSTANTCE B
  - ❖ Attach Ami of Linux
  - ❖ Attach a key pair
  - ❖ Create a New SG
  - ❖ Inbound : SSH with sg-of-Bastion B
  - ❖ Hence create

## **STEP 5: Create a VPC Perring**

- Go to VPC
- In the left side search Peering connection
- There Create a VPC peering connection
- In Source we will put as VPC 1
- In receiver We will put as VPC2
- And select in Region
- (If we are using another account choose Another Account
- If we are using cross-region choose cross account)

**Peering connection settings**

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

Select a local VPC to peer with  
VPC ID (Requester)  
vpc-0f1c7454690e0f244 (VPCprivate1)

VPC CIDRs for vpc-0f1c7454690e0f244 (VPCprivate1)

CIDR	Status	Status reason
10.0.0.0/16	Associated	-

Select another VPC to peer with

Account  
☒ My account  
☐ Another account

Region  
☒ This Region (us-east-1)  
☐ Another Region

VPC ID (Accepter)  
vpc-09e96341e5c4765e8 (VPCprivate2)

VPC CIDRs for vpc-09e96341e5c4765e8 (VPCprivate2)

CIDR	Status	Status reason
10.2.0.0/16	Associated	-

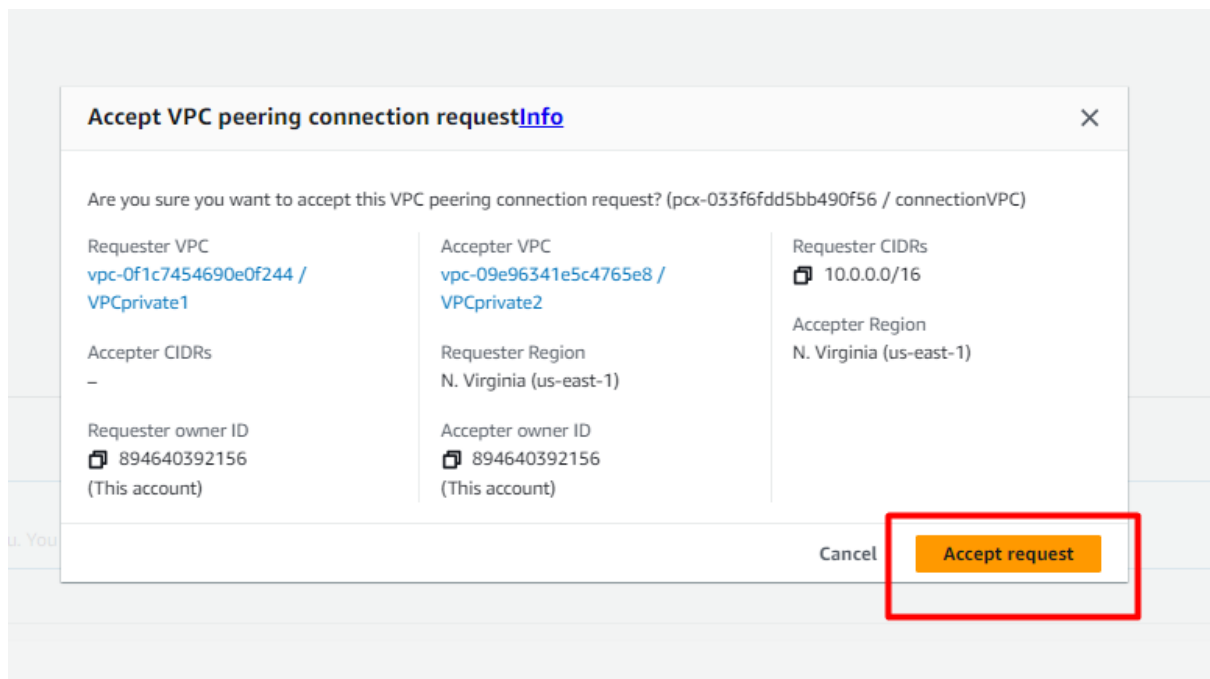
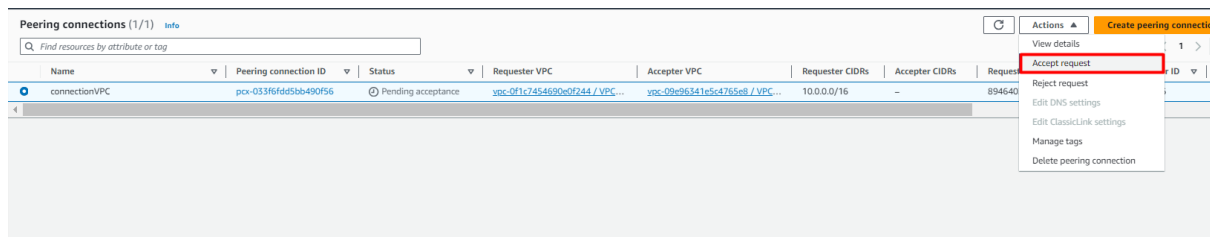
**Tags**  
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key Value - optional  
Name connectionVPC Remove

Add new tag  
You can add 49 more tags.

## STEP 6 : Accept the VPC peering

- Go to action and accept the Peering Option



## STEP 7 : Editing the Route Table

- When we peer the both VPC we need to edit Route table also the share the connection
- Edit the both Route Table Public A and Public B
  - ❖ Public A :In that attach VPC peering target with The CIDR of the VPC 1
  - ❖ Public B :In that attach VPC peering target with The CIDR of the VPC 2
- Edit the both Route Table Private and Private B
  - ❖ Private A :In that attach VPC peering target with The CIDR of the VPC 1
  - ❖ Private B :In that attach VPC peering target with The CIDR of the VPC 2

YFC > Route tables > rtb-01104966a285228bc

rtb-01104966a285228bc / PUBLIC-A

Actions

Details

Route table ID  
rtb-01104966a285228bc

VPC  
vpc-071c7454690c9244 [ VPCprivate1 ]

Main  
No

Owner ID  
894640392156

Explicit subnet associations  
subnet-0691447bc37086a / publicA

Edge associations  
-

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (3)

Filter routes

Both

Edit routes

< 1 > ⌕

Destination	Target	Status	Propagated
0.0.0.0/0	igw-049b057bd45a61265	Active	No
10.0.0.0/16	local	Active	No
10.2.0.0/16	vpc-0139f6cd3bc490f56	Active	No

EC2 > Security Groups > sg-0adcdc191206630d - SG-PUBLIC-BASTION-B

sg-0adcdc191206630d - SG-PUBLIC-BASTION-B

Details

Security group name  
SG-PUBLIC-BASTION-B

Owner  
894640392156

Security group ID  
sg-0adcdc191206630d

Inbound rules count  
3 Permission entries

Description  
PUBLIC-BASTION-B

Outbound rules count  
1 Permission entry

Inbound rules

Outbound rules

Tags

Inbound rules (3)

Search

	Name	Security group rule...	IP version	Type	Protocol	Port range	Source
<input type="checkbox"/>	-	sgr-02b8847f7e904e21a	IPv4	SSH	TCP	22	0.0.0.0/0
<input type="checkbox"/>	-	sgr-032b4f9fb27208ae1	IPv4	HTTP	TCP	80	0.0.0.0/0
<input type="checkbox"/>	-	sgr-0b38b3a03e9d20...	IPv4	All ICMP - IPv4	ICMP	All	0.0.0.0/0

EC2 > Security Groups > sg-02bea48fd11ce71d7 - PRIVATE-INSTANCE-A

sg-02bea48fd11ce71d7 - PRIVATE-INSTANCE-A

Details

Security group name  
PRIVATE-INSTANCE-A

Owner  
894640392156

Security group ID  
sg-02bea48fd11ce71d7

Inbound rules count  
2 Permission entries

Description  
PRIVATE-INSTANCE-A

Outbound rules count  
1 Permission entry

VPC ID

Inbound rules

Outbound rules

Tags

Inbound rules (2)

Search

	Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
<input type="checkbox"/>	-	sgr-059b7383817230...	-	SSH	TCP	22	sg-0f194fe5cb15500a...	-
<input type="checkbox"/>	-	sgr-081882e02554cc170	IPv4	All ICMP - IPv4	ICMP	All	0.0.0.0/0	-

EC2 > Security Groups > sg-0f5f9316fc55dbff0 - PRIVATE-INSTANCE-B

sg-0f5f9316fc55dbff0 - PRIVATE-INSTANCE-B

Details

Security group name  
PRIVATE-INSTANCE-B

Owner  
894640392156

Security group ID  
sg-0f5f9316fc55dbff0

Inbound rules count  
2 Permission entries

Description  
PRIVATE-INSTANCE-B

Outbound rules count  
1 Permission entry

Inbound rules

Outbound rules

Tags

Inbound rules (2)

Search

	Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
<input type="checkbox"/>	-	sgr-03b24c53864f8f534	IPv4	All ICMP - IPv4	ICMP	All	0.0.0.0/0	-
<input type="checkbox"/>	-	sgr-0073e3c09760706...	-	SSH	TCP	22	sg-0adcdc191206630...	-

## STEP 8: Show Connection in Public server

- Edit Security Grp of Public bastion A and Public bastion B
- When we need to ping inside the instance we need to add ICMP port

VPC > Security Groups > sg-0f194fe5cb15500ae - PUBLIC-BASTION-A

### sg-0f194fe5cb15500ae - PUBLIC-BASTION-A

**Details**

Security group name PUBLIC-BASTION-A	Security group ID sg-0f194fe5cb15500ae	Description PUBLIC-BASTION-A
Owner 894640392156	Inbound rules count 3 Permission entries	Outbound rules count 1 Permission entry

**Inbound rules** | Outbound rules | Tags

**Inbound rules (3)**

Q Search

<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port range	Source
<input type="checkbox"/>	-	sgr-0ac83e4141e5923...	IPv4	HTTP	TCP	80	0.0.0.0/0
<input type="checkbox"/>	-	sgr-06373306fb98c8367	IPv4	All ICMP - IPv4	ICMP	All	0.0.0.0/0
<input type="checkbox"/>	-	sgr-069bdf991e69312c5	IPv4	SSH	TCP	22	0.0.0.0/0

VPC > Security Groups > sg-0adcad191206630d - SG-PUBLIC-BASTION-B

### sg-0adcad191206630d - SG-PUBLIC-BASTION-B

**Details**

Security group name SG-PUBLIC-BASTION-B	Security group ID sg-0adcad191206630d	Description PUBLIC-BASTION-B
Owner 894640392156	Inbound rules count 3 Permission entries	Outbound rules count 1 Permission entry

**Inbound rules** | Outbound rules | Tags

**Inbound rules (3)**

Q Search

<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port range	Source
<input type="checkbox"/>	-	sgr-02b8847f7e904e21a	IPv4	SSH	TCP	22	0.0.0.0/0
<input type="checkbox"/>	-	sgr-032b4f9fb27208ae1	IPv4	HTTP	TCP	80	0.0.0.0/0
<input type="checkbox"/>	-	sgr-0b38b3a03e9d20...	IPv4	All ICMP - IPv4	ICMP	All	0.0.0.0/0

## OUTPUT : BASTION PUBLIC INSTANCE

SOURCE --

```
[ec2-user@ip-10-0-0-103 ~]$ curl 10.0.0.103:80/
<html><body><h1>It works!</h1></body></html>
[ec2-user@ip-10-0-0-103 ~]$
[ec2-user@ip-10-0-0-103 ~]$ ping 10.2.0.110
PING 10.2.0.110 (10.2.0.110) 56(84) bytes of data.
64 bytes from 10.2.0.110: icmp_seq=1 ttl=127 time=0.732 ms
64 bytes from 10.2.0.110: icmp_seq=2 ttl=127 time=0.765 ms
64 bytes from 10.2.0.110: icmp_seq=3 ttl=127 time=0.811 ms
64 bytes from 10.2.0.110: icmp_seq=4 ttl=127 time=0.741 ms
64 bytes from 10.2.0.110: icmp_seq=5 ttl=127 time=0.852 ms
64 bytes from 10.2.0.110: icmp_seq=6 ttl=127 time=0.707 ms
64 bytes from 10.2.0.110: icmp_seq=7 ttl=127 time=0.756 ms
^C
--- 10.2.0.110 ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 6278ms
rtt min/avg/max/mdev = 0.707/0.766/0.852/0.045 ms
[ec2-user@ip-10-0-0-103 ~]$
```

RECIVIER --

```
<html><body><h1>It works!</h1></body></html>
[ec2-user@ip-10-2-0-110 ~]$ ping 10.0.0.103
PING 10.0.0.103 (10.0.0.103) 56(84) bytes of data.
64 bytes from 10.0.0.103: icmp_seq=1 ttl=127 time=0.810 ms
64 bytes from 10.0.0.103: icmp_seq=2 ttl=127 time=0.710 ms
64 bytes from 10.0.0.103: icmp_seq=3 ttl=127 time=0.747 ms
64 bytes from 10.0.0.103: icmp_seq=4 ttl=127 time=0.784 ms
64 bytes from 10.0.0.103: icmp_seq=5 ttl=127 time=0.719 ms
64 bytes from 10.0.0.103: icmp_seq=6 ttl=127 time=0.744 ms
^C
--- 10.0.0.103 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5178ms
rtt min/avg/max/mdev = 0.710/0.752/0.810/0.034 ms
[ec2-user@ip-10-2-0-110 ~]$
```

## STEP 9: Show Connection in Private server

- Edit Security Grp of PRIVATE INSTANCE A and PRIVATE INSTANCE B
- When we need to ping inside the instance we need to add ICMP port

VPC > Security Groups > sg-0f5f9316fc55dbff0 - PRIVATE-INSTANCE-B

### sg-0f5f9316fc55dbff0 - PRIVATE-INSTANCE-B

**Details**

Security group name PRIVATE-INSTANCE-B	Security group ID sg-0f5f9316fc55dbff0	Description PRIVATE-INSTANCE-B
Owner 894640392156	Inbound rules count 2 Permission entries	Outbound rules count 1 Permission entry

**Inbound rules** | Outbound rules | Tags

**Inbound rules (2)**

Q Search

<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port range	Source	De
<input type="checkbox"/>	-	sgr-01f21b333dd1a24...	-	All ICMP - IPv4	ICMP	All	sg-0adcadc191206630...	-
<input type="checkbox"/>	-	sgr-0073e3c09760706...	-	SSH	TCP	22	sg-0adcadc191206630...	-

VPC > Security Groups > sg-02bea48fd11ce71d7 - PRIVATE-INSTANCE-A

### sg-02bea48fd11ce71d7 - PRIVATE-INSTANCE-A

**Details**

Security group name PRIVATE-INSTANCE-A	Security group ID sg-02bea48fd11ce71d7	Description PRIVATE-INSTANCE-A
Owner 894640392156	Inbound rules count 2 Permission entries	Outbound rules count 1 Permission entry

**Inbound rules** | Outbound rules | Tags

**Inbound rules (2)**

Q Search

<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port range	Source	De
<input type="checkbox"/>	-	sgr-0f56748eb8943dcd4	-	All ICMP - IPv4	ICMP	All	sg-02bea48fd11ce71d...	-
<input type="checkbox"/>	-	sgr-059b7383817230...	-	SSH	TCP	22	sg-0f194fe5cb15500a...	-

OUTPUT :

SOURCE -

```
[ec2-user@ip-10-0-1-166 ~]: ping 10.2.10.203
PING 10.2.10.203 (10.2.10.203) 56(84) bytes of data.
64 bytes from 10.2.10.203: icmp_seq=1 ttl=126 time=1.37 ms
64 bytes from 10.2.10.203: icmp_seq=2 ttl=126 time=0.875 ms
64 bytes from 10.2.10.203: icmp_seq=3 ttl=126 time=0.844 ms
^C
--- 10.2.10.203 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 0.844/1.029/1.369/0.240 ms
[ec2-user@ip-10-0-1-166 ~]$
```

RECEVIER -

```
[ec2-user@ip-10-2-10-203 ~]: ping 10.0.1.166
PING 10.0.1.166 (10.0.1.166) 56(84) bytes of data.
64 bytes from 10.0.1.166: icmp_seq=1 ttl=126 time=1.78 ms
64 bytes from 10.0.1.166: icmp_seq=2 ttl=126 time=1.09 ms
64 bytes from 10.0.1.166: icmp_seq=3 ttl=126 time=1.09 ms
64 bytes from 10.0.1.166: icmp_seq=4 ttl=126 time=1.10 ms
^C
--- 10.0.1.166 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 1.086/1.264/1.777/0.296 ms
[ec2-user@ip-10-2-10-203 ~]$
```

i-093c7972f70518133 (PUBLIC-BASTION-B)

PublicIPs: 54.205.79.101 PrivateIPs: 10.2.0.110