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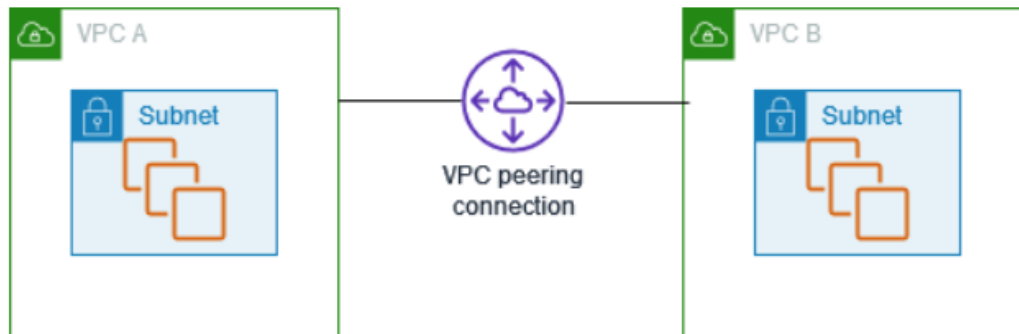
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What is VPC peering?

A virtual private cloud (VPC) is a virtual network dedicated to your AWS account. It is logically isolated from other virtual networks in the AWS Cloud. You can launch AWS resources, such as Amazon EC2 instances, into your VPC.

A VPC peering connection is a networking connection between two VPCs that enables you to route traffic between them using private IPv4 addresses or IPv6 addresses. Instances in either VPC can communicate with each other as if they are within the same network. You can create a VPC peering connection between your own VPCs, or with a VPC in another AWS account. The VPCs can be in different Regions (also known as an inter-Region VPC peering connection).



vpc peering connections b/w two different regions:

Create a vpc one region:

1.Create a VPC(myvpc1) in the california region with the following connections attached to the subnet, internet gateway, route tables.

The screenshot displays the AWS VPC console for a VPC named 'myvpc1'. The 'Details' tab is active, showing various configuration parameters. The 'Resource map' tab below provides a visual overview of the VPC's components and their connections.

Details			
VPC ID vpc-0c8372d08de959fc5	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-08e556b3d1119c01f	Main route table rtb-0e49eea36e09efd71	Main network ACL acl-0a8bbd311f01ef628
Default VPC No	IPv4 CIDR 158.0.0.0/16	IPv6 pool -	IPv6 CIDR -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 905418143553	

Resource map

- VPC (1)**: myvpc1
- Subnets (1)**: us-west-1a, mysubnet
- Route tables (2)**: rtb-0e49eea36e09efd71, myroute
- Network connections (1)**: myigw

2.Create an EC2 instance(mywebserver1) in the same region by attaching the AMI, Key Pair and network setting.

The screenshot shows the 'Instance summary' for an EC2 instance named 'mywebserver1'. The instance is in a 'Running' state. The console provides a comprehensive overview of the instance's configuration, including its ID, IP addresses, hostname, and associated VPC and subnet.

Instance summary for i-0c155d4e8cdc9bfea (mywebserver1)		
Instance ID i-0c155d4e8cdc9bfea (mywebserver1)	Public IPv4 address 54.215.64.163	Private IPv4 addresses 158.0.157.88
IPv6 address -	Instance state Running	Public IPv4 DNS -
Hostname type IP name: ip-158-0-157-88.us-west-1.compute.internal	Private IP DNS name (IPv4 only) ip-158-0-157-88.us-west-1.compute.internal	Elastic IP addresses -
Answer private resource DNS name -	Instance type t2.micro	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more
Auto-assigned IP address 54.215.64.163 [Public IP]	VPC ID vpc-0c8372d08de959fc5 (myvpc1)	Auto Scaling Group name -
IAM Role -	Subnet ID subnet-095b39fde5e7f3468 (mysubnet)	
IMDSv2 Required		

Navigation tabs: Details, Status and alarms, Monitoring, Security, Networking, Storage, Tags

3.Launch the instance(mywebserver1) and connect to the WEB.

```

Installed:
  generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch      gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64      libunwind-1.4.0-5.amzn2023.0.2.x86_64
  nginx-1:1.24.0-1.amzn2023.0.2.x86_64                  nginx-core-1:1.24.0-1.amzn2023.0.2.x86_64         nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch
  nginx-mimetypes-2.1.49-3.amzn2023.0.3.noarch

Complete!
[root@ip-158-0-157-88 ~]# cd /usr/share/nginx/html
[root@ip-158-0-157-88 html]# rm index.html
rm: remove regular file 'index.html'? yes
[root@ip-158-0-157-88 html]# vi index.html
[root@ip-158-0-157-88 html]# systemctl status nginx
o nginx.service - The nginx HTTP and reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; disabled; preset: disabled)
   Active: inactive (dead)
[root@ip-158-0-157-88 html]# curl 158.0.157.88:80
curl: (7) Failed to connect to 158.0.157.88 port 80 after 0 ms: Couldn't connect to server
[root@ip-158-0-157-88 html]# systemctl start nginx
[root@ip-158-0-157-88 html]# curl 158.0.157.88:80
hello all good morning
[root@ip-158-0-157-88 html]#

```

i-0c155d4e8cdc9bfea (mywebserver1)

Create a vpc another region:

1.Create a VPC(myvpc2) in the varginia region with the following connections attached to the subnet, internet gateway, route tables.

vpc-0c3b8446044d44523 / myvpc2

Details Info

VPC ID vpc-0c3b8446044d44523	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-062b67790d86e17a1	Main route table rtb-0fd69fd8fcabce8fd	Main network ACL acl-00521cba89ec981e3
Default VPC No	IPv4 CIDR 159.0.0.0/16	IPv6 pool -	IPv6 CIDR (Network border group) -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 905418143553	

Resource map CIDRs Flow logs Tags Integrations

Resource map Info

VPC [Show details](#)
Your AWS virtual network

myvpc2

Subnets (1)
Subnets within this VPC

us-east-1b

mysubnet2

Route tables (2)
Route network traffic to resources

rtb-0fd69fd8fcabce8fd

myroute2

Network connections (1)
Connections to other networks

my-igw2

2.Create an EC2 instance(mywebserver2) in the same region by attaching the AMI, Key Pair and network setting.

Instance summary for i-02dce073caec456b7 (mywebserve2) [Info](#)

Updated 9 minutes ago

Connect

Instance state ▾

Actions ▾

<p>Instance ID</p> <p> i-02dce073caec456b7 (mywebserve2)</p> <p>IPv6 address</p> <p>–</p> <p>Hostname type</p> <p>IP name: ip-159-0-102-114.ec2.internal</p> <p>Answer private resource DNS name</p> <p>–</p> <p>Auto-assigned IP address</p> <p> 3.80.87.195 [Public IP]</p> <p>IAM Role</p> <p>–</p> <p>IMDSv2</p> <p>Required</p>	<p>Public IPv4 address</p> <p> 3.80.87.195 open address </p> <p>Instance state</p> <p> Running</p> <p>Private IP DNS name (IPv4 only)</p> <p> ip-159-0-102-114.ec2.internal</p> <p>Instance type</p> <p>t2.micro</p> <p>VPC ID</p> <p> vpc-0c3b8446044d44523 (myvpc2) </p> <p>Subnet ID</p> <p> subnet-0a849f3bd6240f299 (mysubnet2) </p>	<p>Private IPv4 addresses</p> <p> 159.0.102.114</p> <p>Public IPv4 DNS</p> <p>–</p> <p>Elastic IP addresses</p> <p>–</p> <p>AWS Compute Optimizer finding</p> <p> Opt-in to AWS Compute Optimizer for recommendations.</p> <p>Learn more </p> <p>Auto Scaling Group name</p> <p>–</p>
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[illegible]

Create a VPC peering connection:

To create a VPC peering connection, first create a request to peer with another VPC. You can request a VPC peering connection with another VPC in your account, or with a VPC in a different AWS account. For an inter-Region VPC peering connection where the VPCs are in different Regions, the request must be made from the Region of the requester VPC.

VPC > Peering connections > pcx-08244f3ad376237f3

pcx-08244f3ad376237f3 / mypeer-connection Actions ▼

Details [Info](#)

Requester owner ID 905418143553	Accepter owner ID 905418143553	VPC Peering connection ARN arn:aws:ec2:us-west-1:905418143553:vpc-peering-connection/pcx-08244f3ad376237f3
Peering connection ID pcx-08244f3ad376237f3	Requester VPC vpc-0c8372d08de959fc5 / myvpc1	Accepter VPC vpc-0c3b8446044d44523
Status Active	Requester CIDRs 158.0.0.0/16	Accepter CIDRs 159.0.0.0/16
Expiration time -	Requester Region N. California (us-west-1)	Accepter Region N. Virginia (us-east-1)

Update your route tables for a VPC peering connections in two different regions.

To add an IPv4 route for a VPC peering connection.

rtb-0a242e8d8361bf6bb / myroute Actions ▼

Details [Info](#)

Route table ID rtb-0a242e8d8361bf6bb	Main No	Explicit subnet associations subnet-095b39fde5e7f3468 / mysubnet	Edge associations -
VPC vpc-0c8372d08de959fc5 / myvpc1	Owner ID 905418143553		

[Routes](#) | [Subnet associations](#) | [Edge associations](#) | [Route propagation](#) | [Tags](#)

Routes (3) Both ▼ Edit routes

Filter routes

Destination	Target	Status	Propagated
0.0.0.0/0	igw-07d8ca4790564526f	Active	No
158.0.0.0/16	local	Active	No
159.0.0.0/16	pcx-08244f3ad376237f3	Active	No

VPC > Route tables > rtb-002dc2f118d52f862

rtb-002dc2f118d52f862 / myroute2 Actions ▾

Details [info](#)

Route table ID rtb-002dc2f118d52f862	Main No	Explicit subnet associations subnet-0a849f3bd6240f299 / mysubnet2	Edge associations –
VPC vpc-0c3b8446044d44523 myvpc2	Owner ID 905418143553		

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

Routes (3) Both ▾ Edit routes

Destination ▾	Target ▾	Status ▾	Propagated ▾
0.0.0.0/0	igw-021dc6ba89c97d905	Active	No
158.0.0.0/16	pcx-08244f3ad376237f3	Active	No
159.0.0.0/16	local	Active	No

Update your security groups

To update your security group rules using the console

EC2 > Security Groups > sg-04c99f6b97f0334e8 - launch-wizard-2 > Edit inbound rules

Edit inbound rules [info](#)

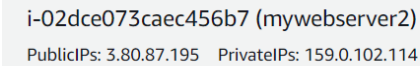
Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules [info](#)

Security group rule ID	Type info	Protocol info	Port range info	Source info	Description - optional info	
sgr-05e3f1fa5a05ef088	SSH ▾	TCP	22	Custom ▾ <input type="text" value="0.0.0.0/0"/> X	<input type="text"/>	Delete
sgr-096901f672951559d	HTTP ▾	TCP	80	Custom ▾ <input type="text" value="0.0.0.0/0"/> X	<input type="text"/>	Delete
sgr-01a068d40ad22c1c8	SSH ▾	TCP	22	Custom ▾ <input type="text" value="159.0.0.0/16"/> X	<input type="text"/>	Delete

Add rule

To ensure that queries from the peer VPC resolve to private IP addresses in your local VPC, choose the option to enable DNS resolution for queries from the peer VPC. This option is Requester DNS resolution or Acceptor DNS resolution, depending on whether the VPC is the requester or acceptor VPC.



PublicIPs: 3.80.87.195 PrivateIPs: 159.0.102.114