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VPC Peering

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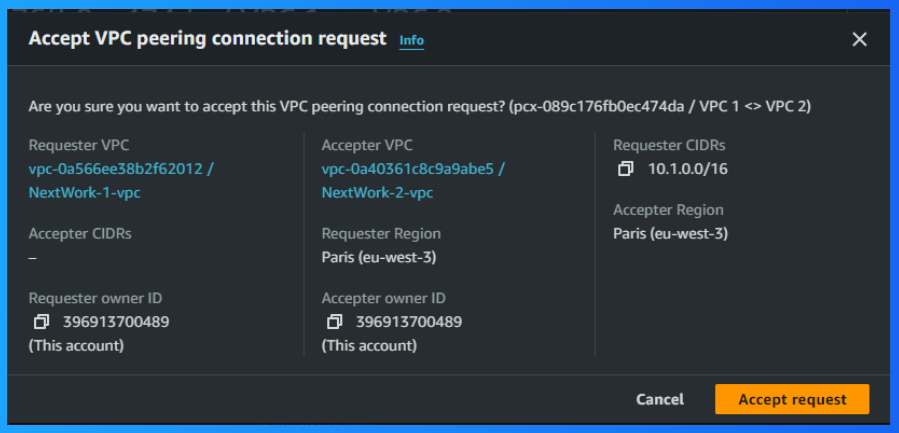

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Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a private isolated network in the cloud where you can securely run resources like servers and databases. It's useful because it gives full control over network settings, security and connectivity to the internet.

How I used Amazon VPC in this project

Today I used Amazon VPC to create a VPC peering connection.

One thing I didn't expect in this project was...

One thing I didnt expect was you can identify the subnet of a specific VPC if they are not named with the VPC ID.

This project took me...

I took around 1 and a half hour in this project.

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In the first part of my project...

Step 1 - Set up my VPC

In this step I will create two VPCs from scratch and use the visual VPC resource map to create your VPCs.

Step 2 - Create a Peering Connection

Now Im going set up a connection link between your VPCs.

Step 3 - Update Route Tables

Now I will set up a way for traffic coming from VPC 1 to get to VPC 2 and then set up a way for traffic coming from VPC 2 to get to VPC 1.

Step 4 - Launch EC2 Instances

In this step I will launch an EC2 instance in each VPC so we can use them to test your VPC peering connection later.

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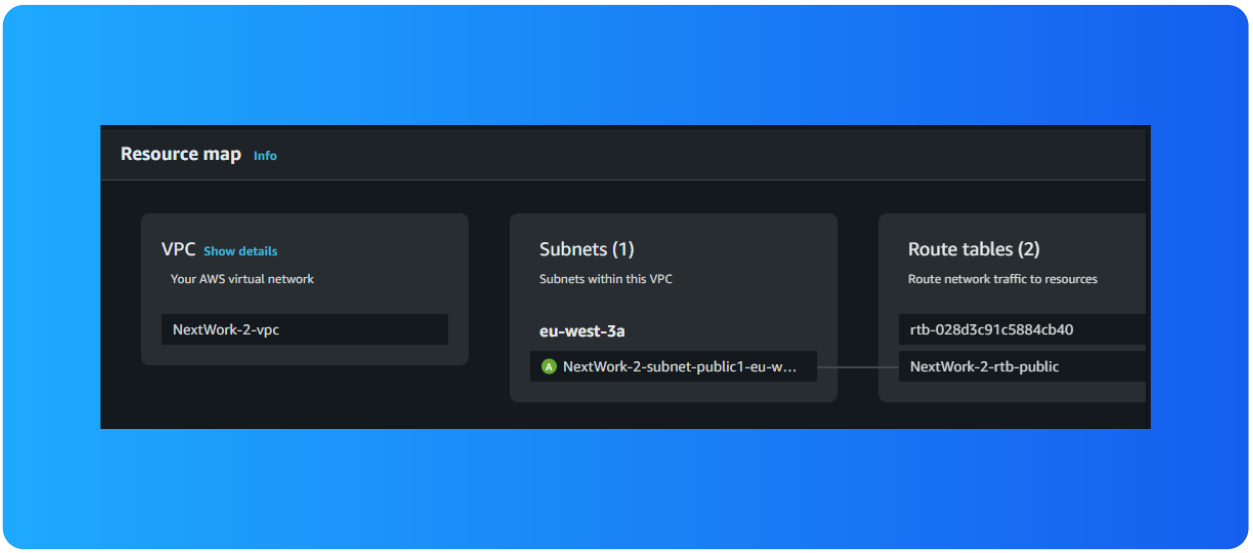
Multi-VPC Architecture

I started my project by launching 2 VPCs and created just 1 public subnet in each VPC and none private subnet.

The CIDR blocks for VPCs 1 and 2 are 10.1.0.0/16for VPC1 and 10.2.0.0/16 for VPC2 as it's easier to remember their CIDR blocks if their ranges match their names. They have to be unique because so the IP addresses of their resources don't overlap.

I also launched 2 EC2 instances

'I didn't set up key pairs for these EC2 instances as AWS actually manages a key pair for us when I do an instance connect. I don't need to manage key pairs ourselves.



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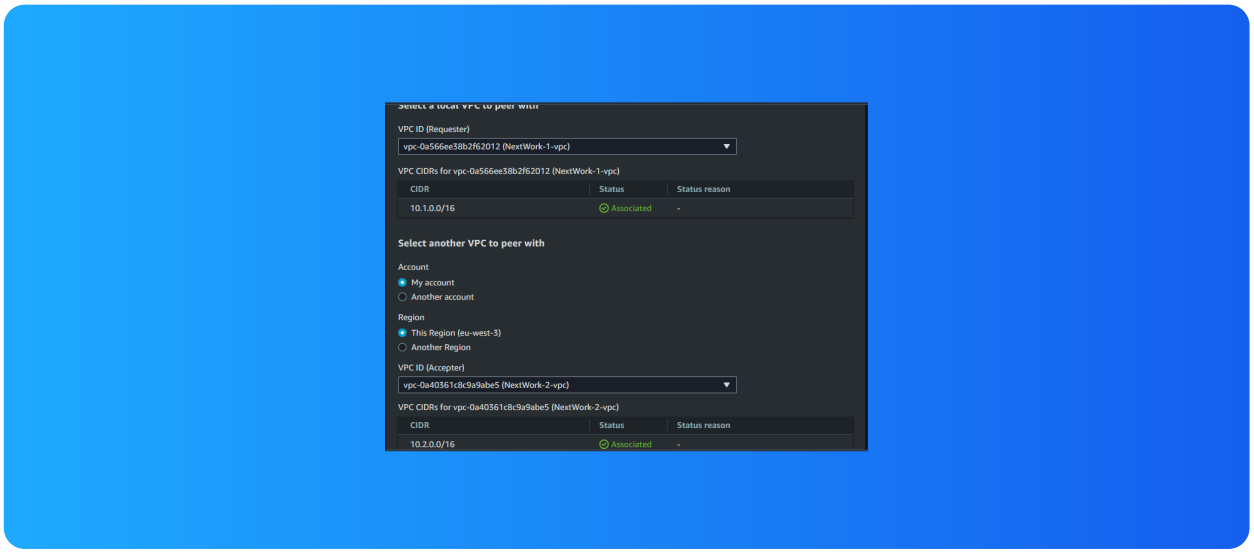
VPC Peering

A VPC peering connection is a direct connection between to VPCs.

VPCs would use peering connections to let VPCs and their resources route traffic between them using their private IP addresses.

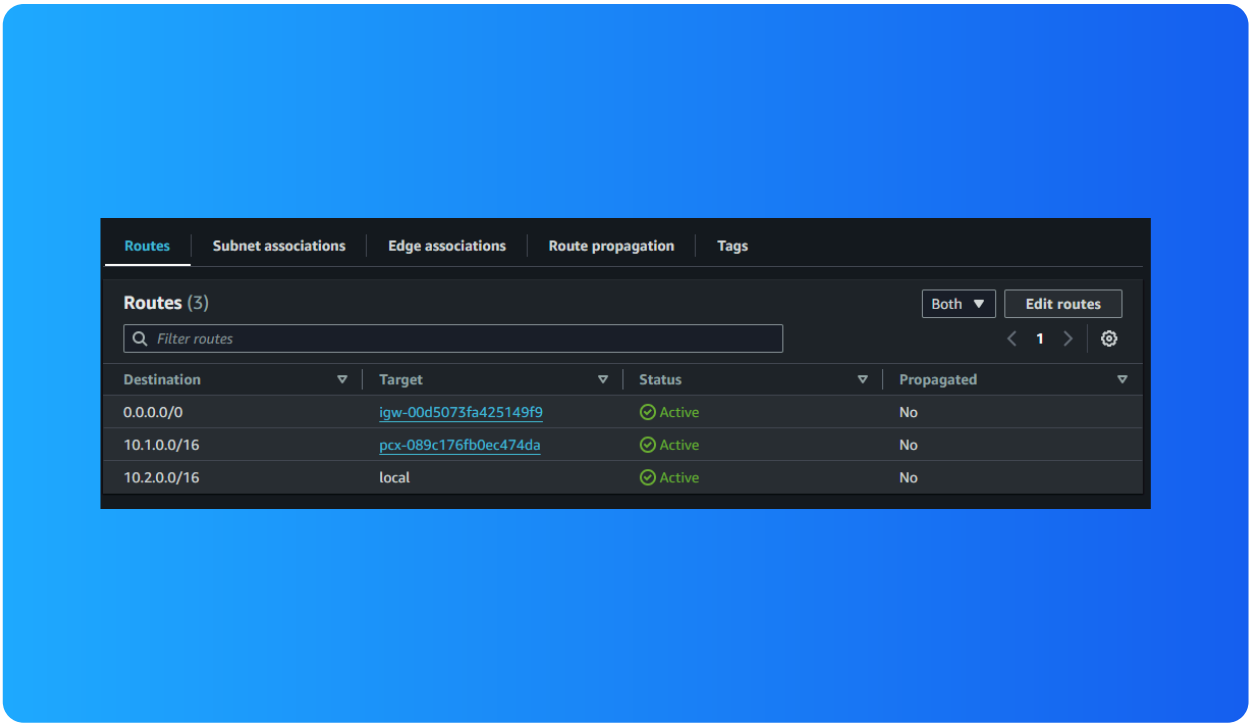
The difference between a Requester and an Accepter in a peering connection is the Requester is the VPC that initiates a peering connection and the Accepter is the VPC that receives a peering connection request.



Updating route tables

After accepting a peering connection, my VPCs' route tables need to be updated because traffic in VPC 1 won't know how to get to resources in VPC 2 without a route in your route table. You need to set up a route that directs traffic bound for VPC 2.

My VPCs' new routes have a destination of the CIDR of the opposite VPC. The routes' target was peering connection VPC 1 <> VPC 2.



In the second part of my project...

Step 5 - Use EC2 Instance Connect

Now I will use EC2 Instance Connect to connect to my first EC2 instance.

Step 6 - Connect to EC2 Instance 1

In this step I used EC2 Instance Connect to connect to Instance 1.

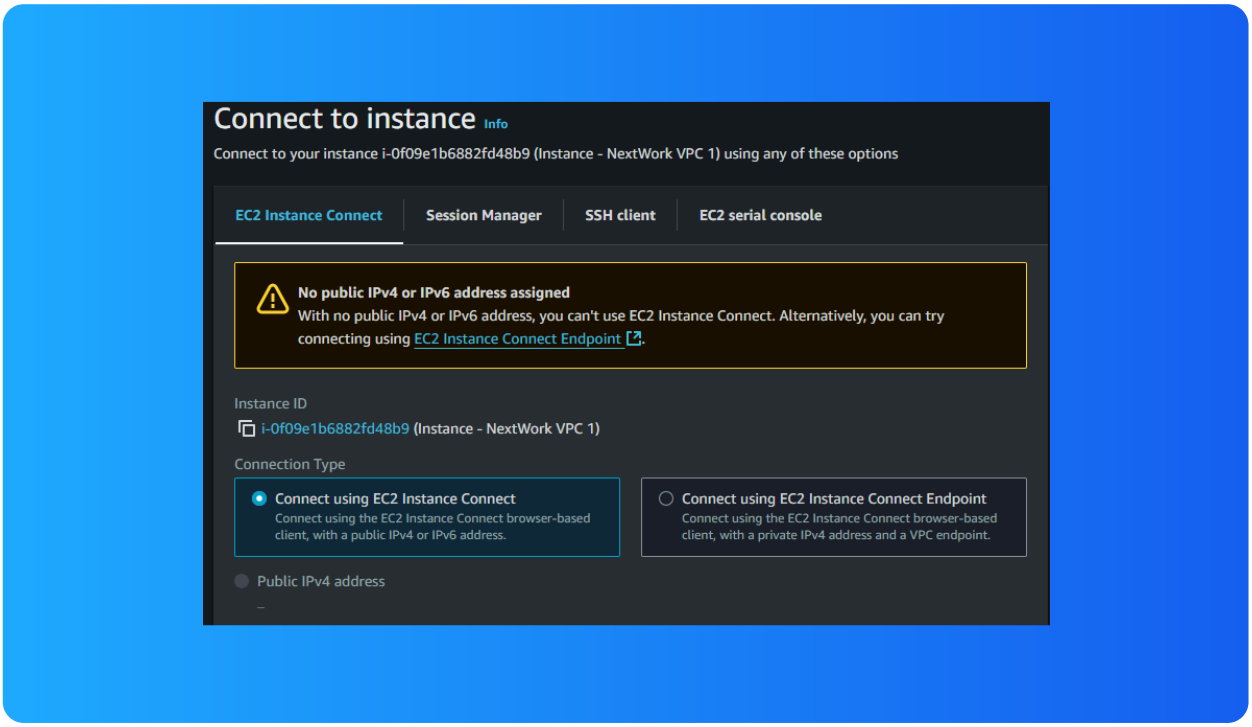
Step 7 - Test VPC Peering

Now Im going to get Instance 1 to send test messages to Instance 2.

Troubleshooting Instance Connect

Next, I used EC2 Instance Connect to connect to the other EC2.

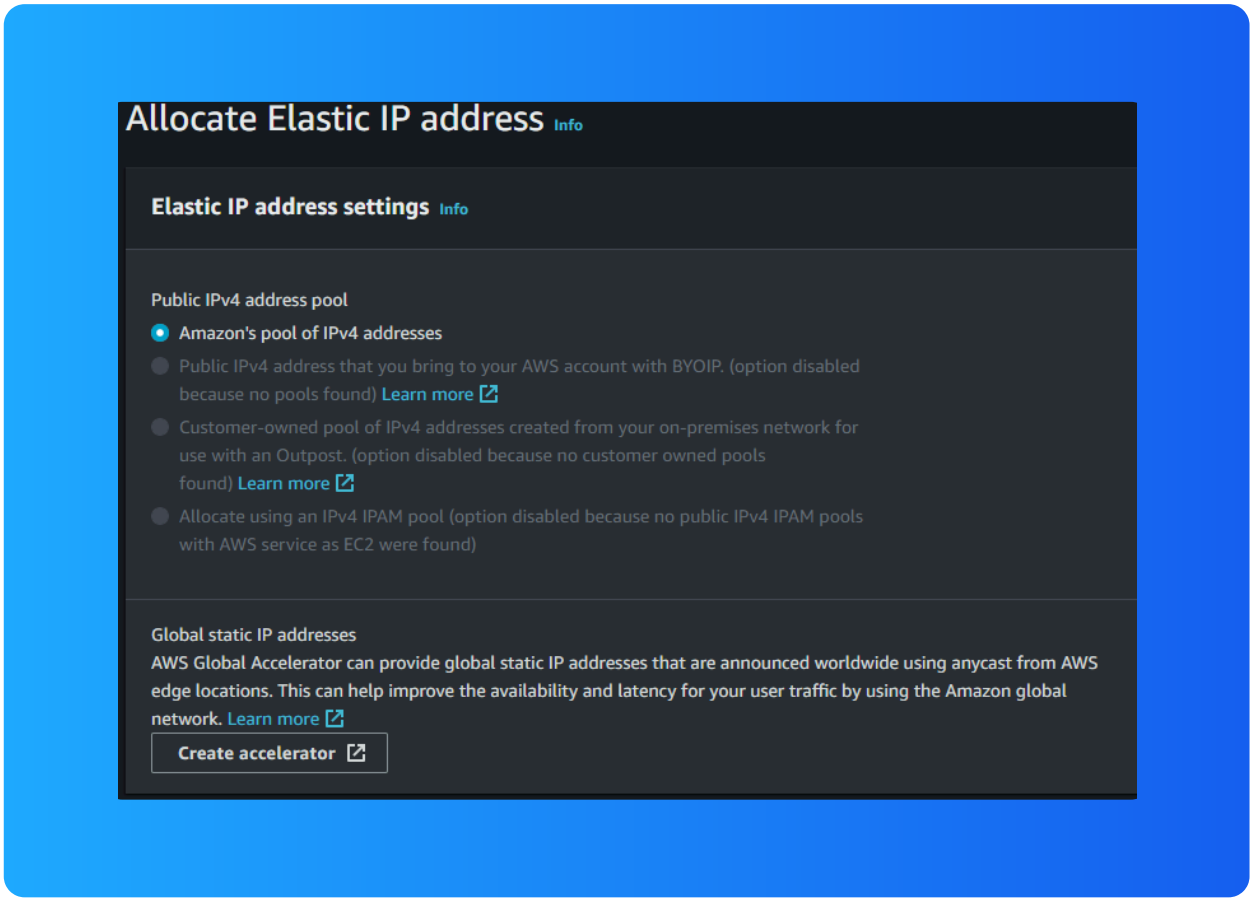
I was stopped from using EC2 Instance Connect as I didnt have an IP associated to the instance. All instances must have an IP address.



Elastic IP addresses

To resolve this error, I set up Elastic IP addresses. Elastic IP addresses are static IPv4 addresses that get allocated to your AWS account and is mine to delegate to an EC2 instance.

Associating an Elastic IP address resolved the error because now I can connect to the instance as it has an IP address.



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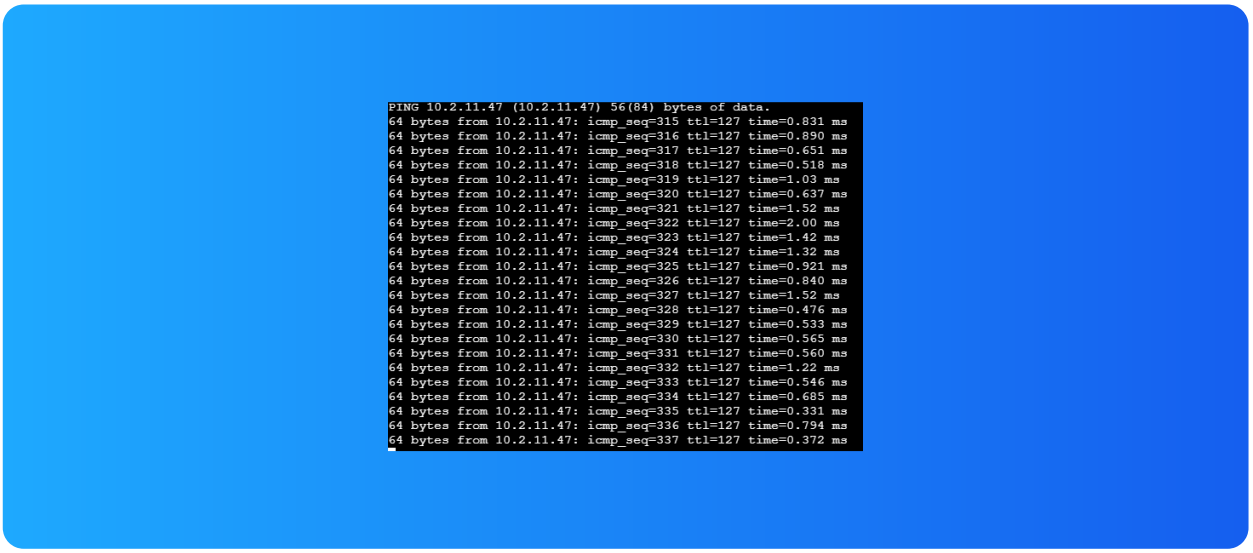
Troubleshooting ping issues

To test VPC peering, I ran the command PING to check if there is connection to the EC2 of VPC2.

A successful ping test would validate my VPC peering connection because it means it gets response.

I had to update my second EC2 instance's security group because I didnt have a rule to allow ICMP. I added a new rule that now allows ICMP so it sends traffic.



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