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VPC Peering

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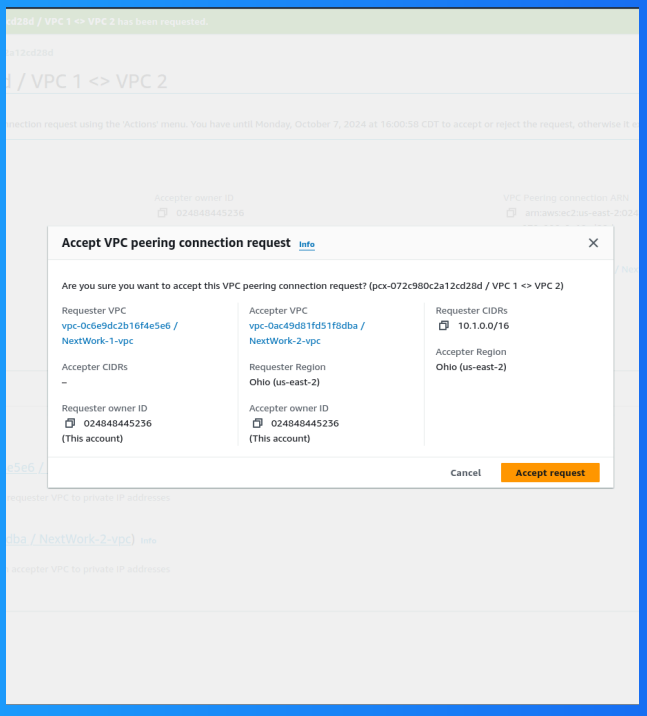

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Introducing Today's Project!

What is Amazon VPC?

A VPC is a virtual network dedicated to your AWS account. It is logically isolated from other virtual networks in the AWS Cloud. You can specify an IP address range for the VPC, add subnets, add gateways, and associate security groups

How I used Amazon VPC in this project

I used the VPC by creating two of them, and then running two EC2 instances. After which, I created a peering connection so they could communicate with each other.

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

Having to manually adjust all inbound traffic so the VPCs could communicate with each other.

This project took me...

this project took my about 45 minutes.

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In the first part of my project...

Step 1 - Set up my VPC

After creating the first VPC, utilize the VPC resource map to set up the second VPC.

Step 2 - Create a Peering Connection

I will be creating a peering connection between the VPCs created so they can communicate with each other.

Step 3 - Update Route Tables

I will be updating the route table so both VPCs can communicate

Step 4 - Launch EC2 Instances

I will launch an EC2 instance per VPC to test the peering connection

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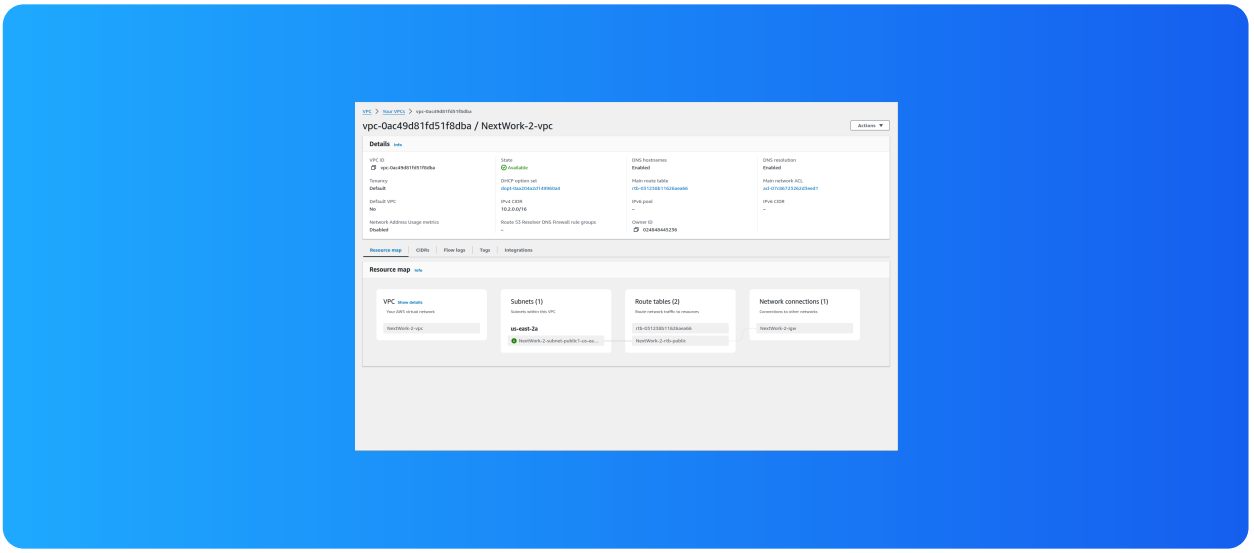
Multi-VPC Architecture

I started my project by launching 1 public subnet per VPC and no private subnets.

The CIDR blocks for VPCs 1 and 2 are different. They have to be unique because the second octet of each VPC 1 is 10.1.0.0 and VPC 2 is 10.2.0.0

I also launched 2 EC2 instances

I didn't set up key pairs for these EC2 instances as AWS manages a key pair already.



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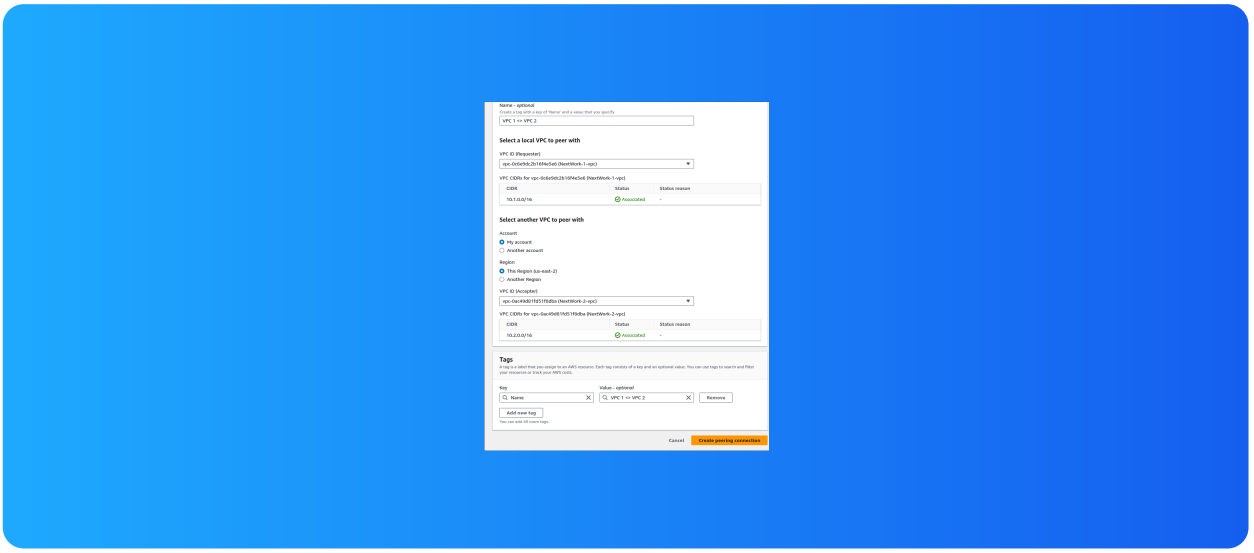
VPC Peering

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.

VPC peering allows you to deploy cloud resources in a virtual network that you have defined. Instances in either VPC can communicate with each other as if they were within the same network.

The difference between a Requester and an Accepter in a peering connection is the requester initiates the connection, and the accepter must confirm the request.



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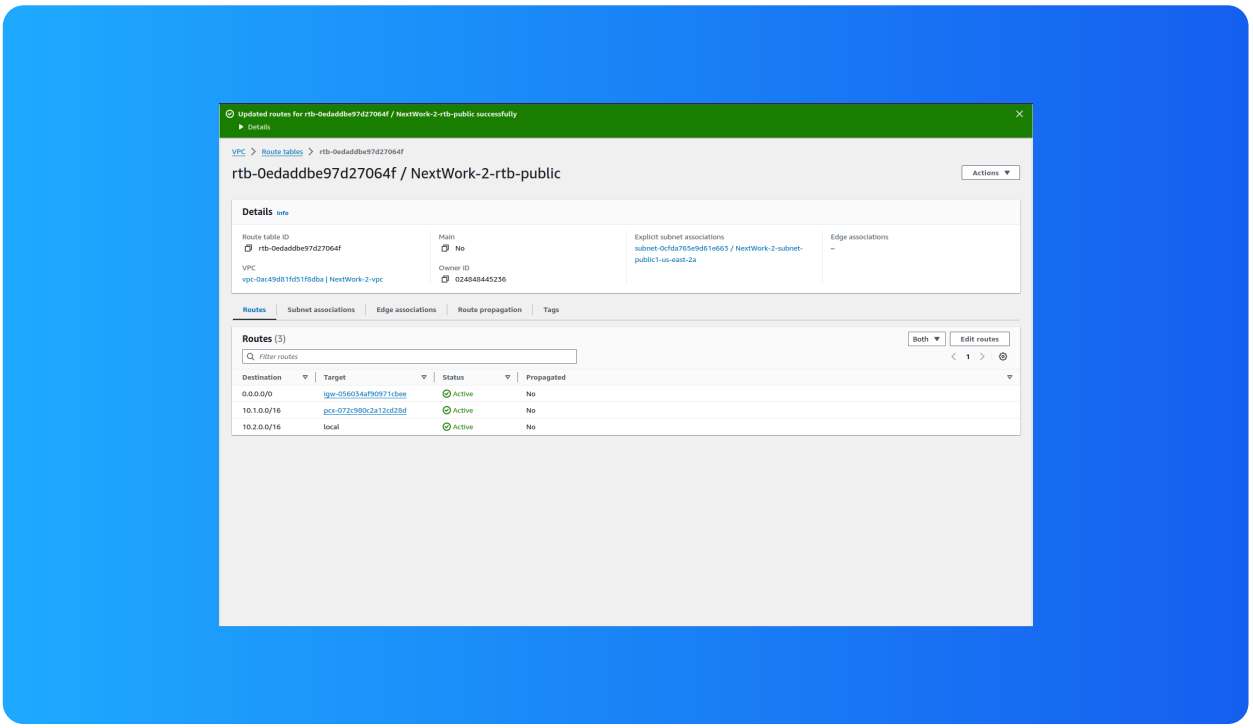
Updating route tables

After accepting a peering connection, my VPCs' route tables need to be updated because it will enable traffic between the peered VPC

My VPCs' new routes have a destination of each of VPC 1. The routes target was for EC2



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In the second part of my project...

Step 5 - Use EC2 Instance Connect

I will be connecting to one EC2 and testing the connection the the other VPC

Step 6 - Connect to EC2 Instance 1

After associating an elastic IP address/ IPv4 address, I will try to reconnect to my EC2 instance.

Step 7 - Test VPC Peering

Try to communicate with the EC2 in VPC 1 with the EC2 in VPC 2

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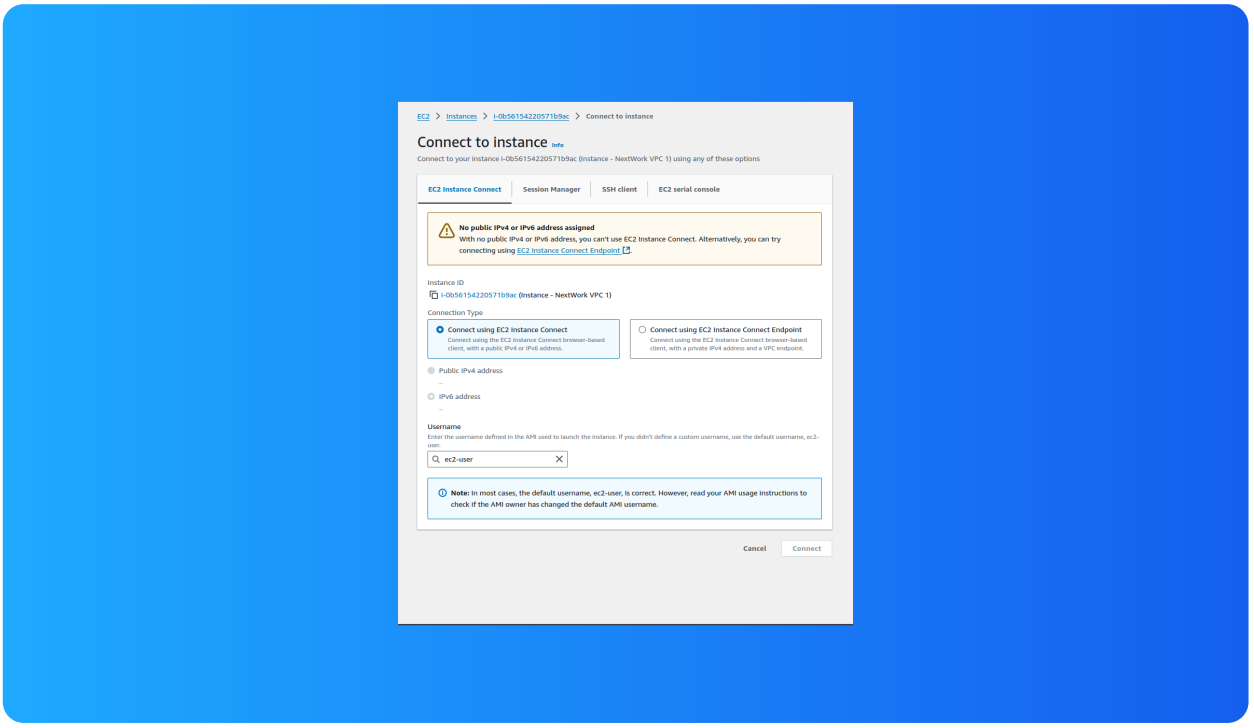
Troubleshooting Instance Connect

Next, I used EC2 Instance Connect to VPC 2 in order to communicate with it.

I was stopped from using EC2 Instance Connect as there was not a Public IPv4 address assigned to it.



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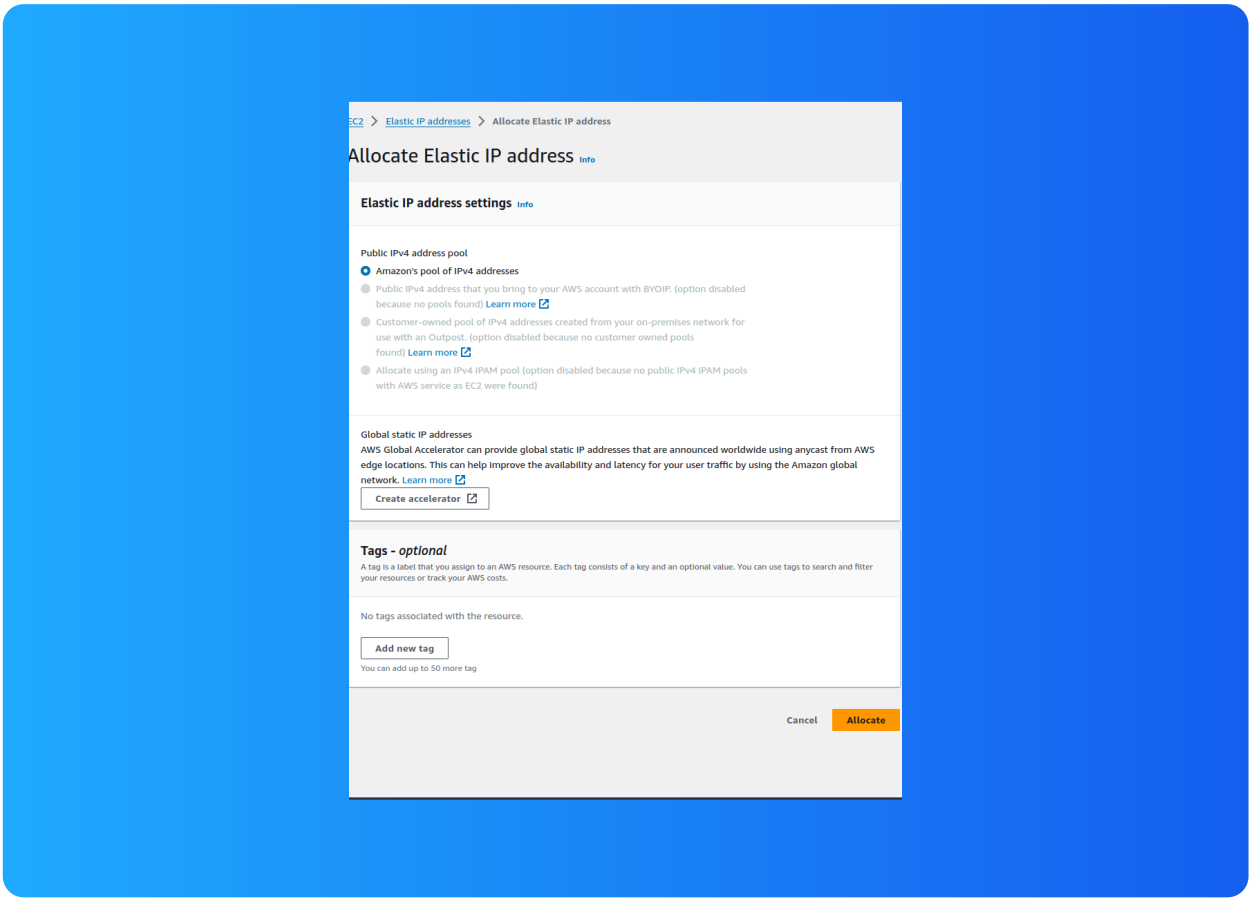
Elastic IP addresses

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 yours to delegate to an EC2 instance.

Associating an Elastic IP address resolved the error because it gave my VPC an IPv4 address



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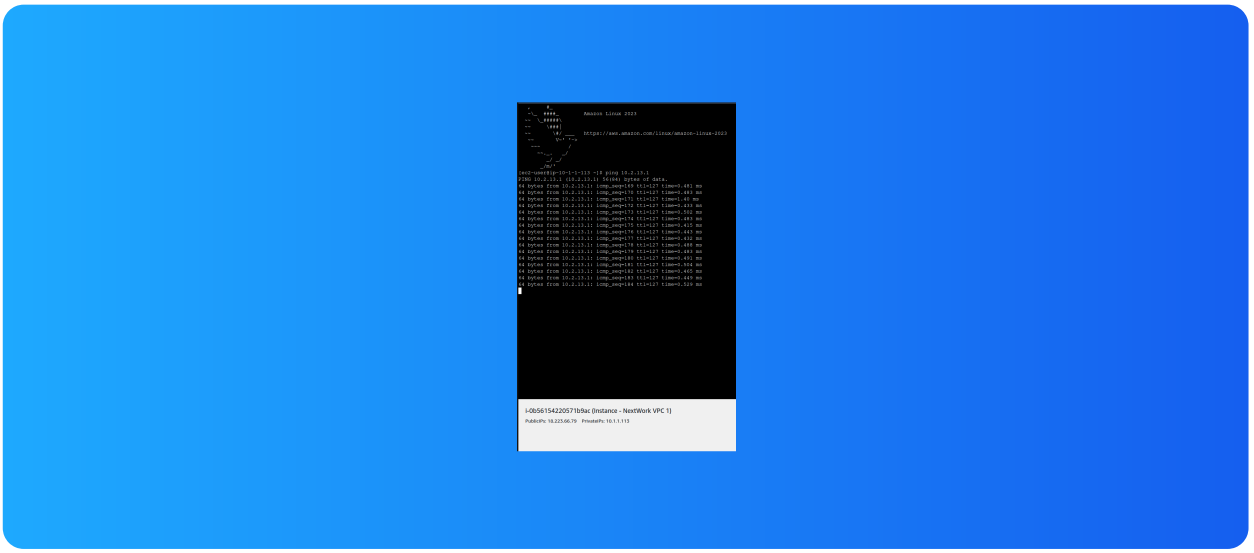
Troubleshooting ping issues

To Test VPC peering, I ran the command ping.

A successful ping test would validate my VPC peering connection because I would receive a response from EC2 after sending the ping command

I had to update my second EC2 instance's security group because when using the ping command, I did not get a response, I added a new rule that allowed inbound traffic from EC2 1



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