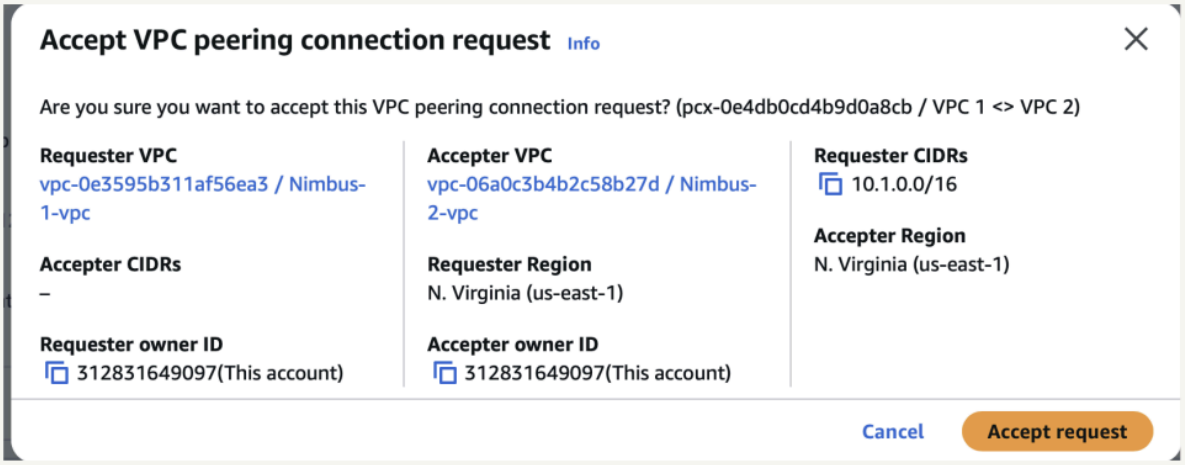
VPC Peering

Erik Gonzalez



Introducing Today's Project!

How I used Amazon VPC in this project

In today's project, I used Amazon VPC to set up a multi-VPC architecture, did a peer test between two VPCs using ping command, and updated security groups to allow traffic.

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

One thing I didn't expect in this project was the amount of errors I had to remediate.

This project took me...

This project took me about 1 hour and a half.

In the first part of my project...

Step 1 - Set up my VPC

In this step, I will use the launch wizard to create two VPCs in just minutes.

Step 2 - Create a Peering Connection

In this step, I will set up a VPC peering connection which is a VPC component designed to directly connect to VPCs together.

Step 3 - Update Route Tables

In this step, I will set up a way for traffic coming from VPC 1 to get to VPC 2 and vice versa.

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.

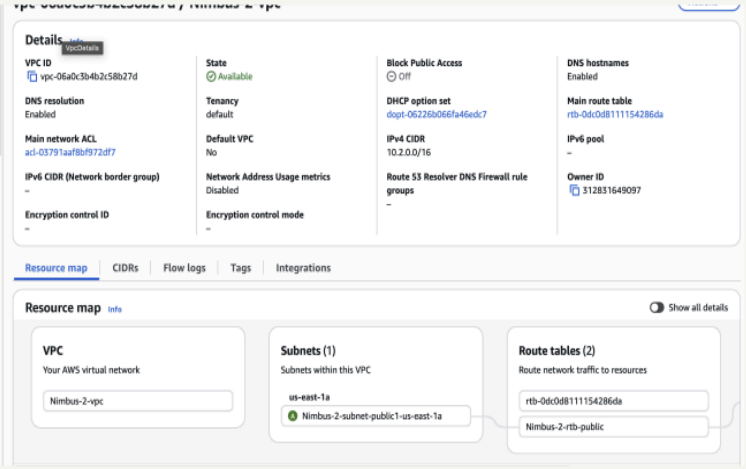
Multi-VPC Architecture

I started my project by launching two VPCs - they have CIDR blocks and each have one public subnet.

The CIDR blocks for VPCs 1 and 2 are 10.1.0.0./16 and 10.2.0.0/16 respectively. They have to be unique because once you set up a VPC peering connection, route tables need unique addresses for correct routing across VPCs.

I also launched 2 EC2 instances

I didn't set up key pairs for these EC2 instances because I am using EC2 Instance Connect to directly connect with our EC2 instance and later in this project, which handles key pair creation and management.

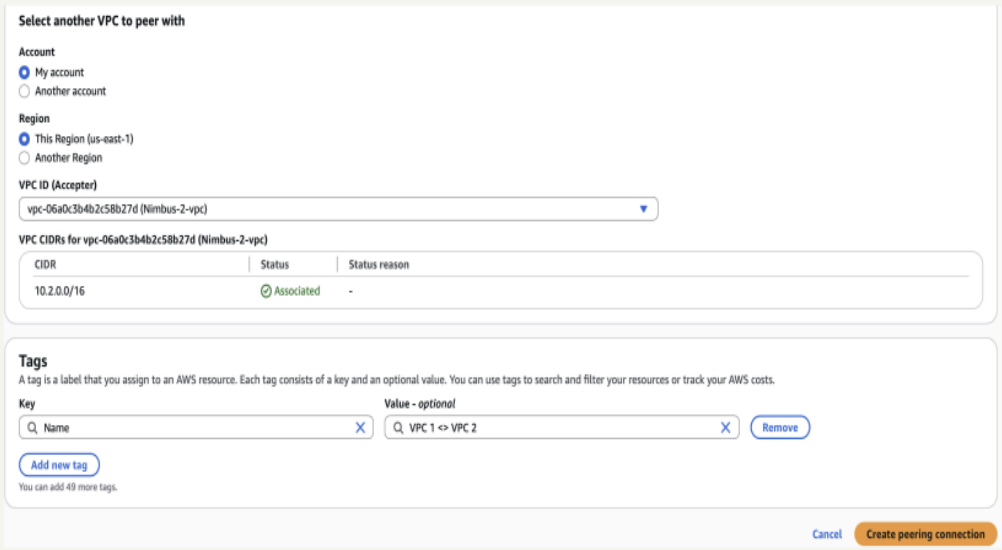


VPC Peering

A VPC peering connection is a direct connection between two VPCs. A peering connection lets VPCs and their resources route traffic between them using their private IP addresses. This means data can now be transferred between VPCs without going through the public internet.

VPCs would use peering connections to communicate between servers/connections.

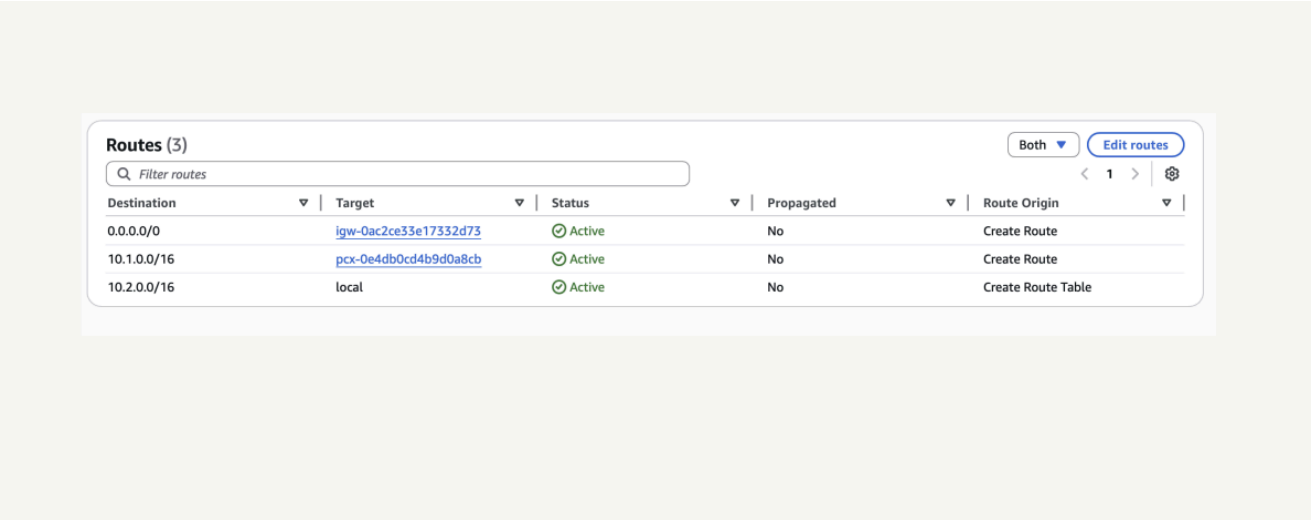
The difference between a Requester and an Accepter in a peering connection is that the Requester is the VPC that initiates a peering connection and an Accepter is the VPC that receives a peering connection request.


Select another VPC to peer with
Account
My account
Another account
Region
This Region (us-east-1)
Another Region
VPC ID (Accepter)
vpc-06a0c3b4b2c58b27d (Nimbus-2-vpc)
VPC CIDRs for vpc-06a0c3b4b2c58b27d (Nimbus-2-vpc)
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
VPC 1 <> VPC 2
Remove
Add new tag
You can add 49 more tags.
Cancel
Create peering connection

Updating route tables

After accepting a peering connection, my VPCs' route tables need to be updated because the default route table doesn't have a route using the peer connection yet - this needs to be set up so that resources can be directed to the peering connection when trying to reach the other VPC.

My VPCs' new routes have a destination of the other VPC's CIDR block. The routes' target was the peering connection I set up.



In the second part of my project...

Step 5 - Use EC2 Instance Connect

In this step, I will Use EC2 Instance Connect to connect to your first EC2 instance.

Step 6 - Connect to EC2 Instance 1

In this step, I will Use EC2 Instance Connect to connect to Instance 1 (one more time)

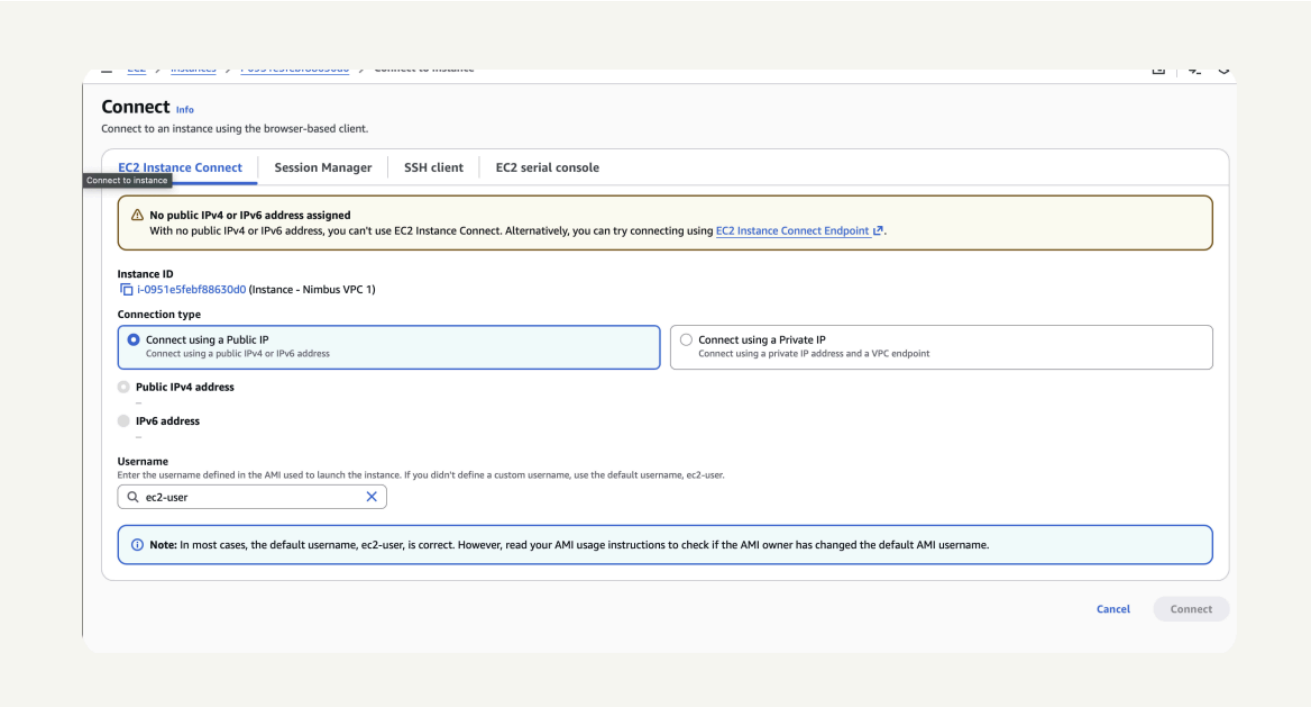
Step 7 - Test VPC Peering

In this step, I will get Instance 1 to send test messages to Instance 2.

Troubleshooting Instance Connect

Next, I used EC2 Instance Connect to directly connect with the instance - Nimbus VPC 1 just by using the AWS management console.

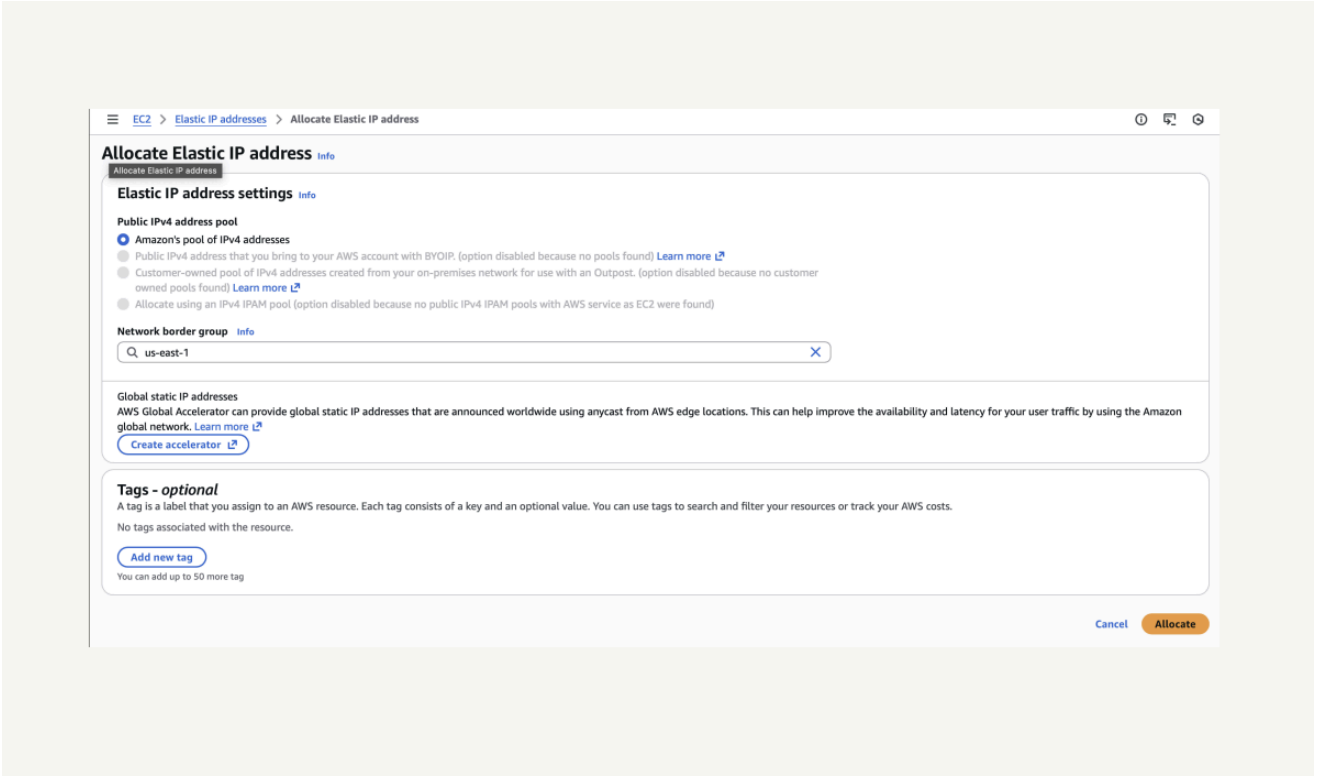
I was stopped from using EC2 Instance Connect as the instance did not have a public IPv4 address.



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 are yours to delegate to an EC2 instance.

Associating an Elastic IP address resolved the error because it gives our instance a Public IP address. Fulfilling all the requirements for instance connect to work.



Troubleshooting Ping Issues

To test VPC peering, I ran the command 'ping'

A successful ping test would validate my VPC peering connection because the ping test would otherwise display communication between two VPCs. The fact that I got a ping response shows clean and clear communication.

I had to update my second EC2 instance's security group because It was not letting in ICMP traffic - which is the traffic time of a ping message. I added a new rule that allows ICMP traffic to come in from any resource and VPC too.