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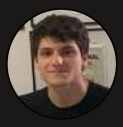
Build a Virtual Private Cloud (VPC)



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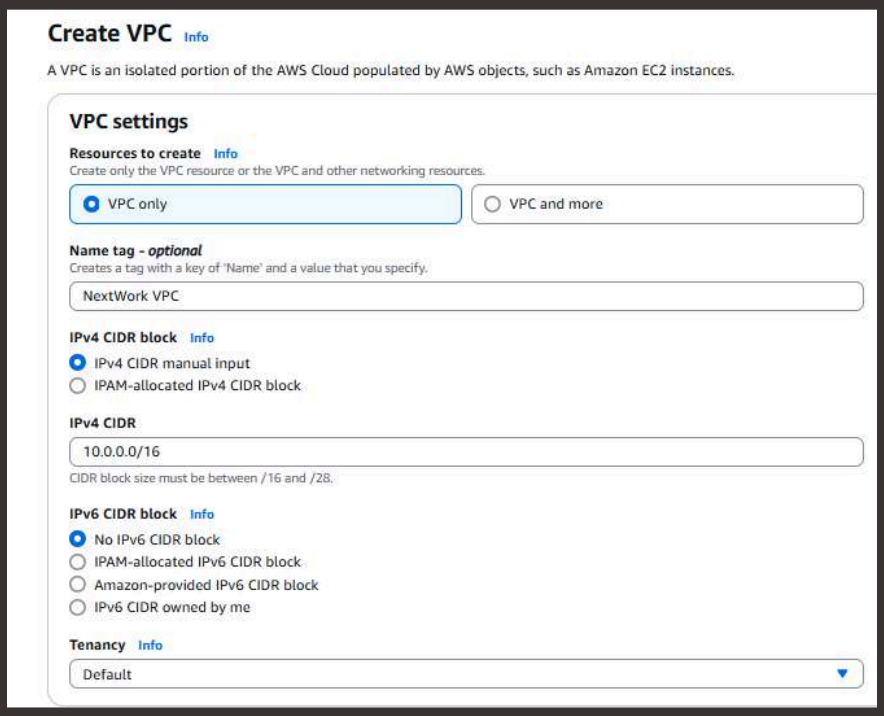

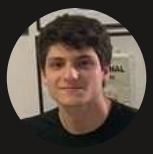

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Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a service that lets us launch AWS resources in a logically isolated virtual network that we define. It is useful because it gives us full control over our virtual networking environment.

How I used Amazon VPC in this project

I used Amazon VPC in today's project to create a virtual private cloud, a public subnet, and an internet gateway. I created my own city (VPC), my own neighborhood (subnet), and my bridge (internet gateway), so my resources could access the internet.

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

One thing I did not expect in this project, was to have one default VPC, three default subnets and one internet gateway set up. AWS already had that set up so one can connect services together and launch resources from Day 1 of using AWS.

This project took me...

This project took me about an hour.

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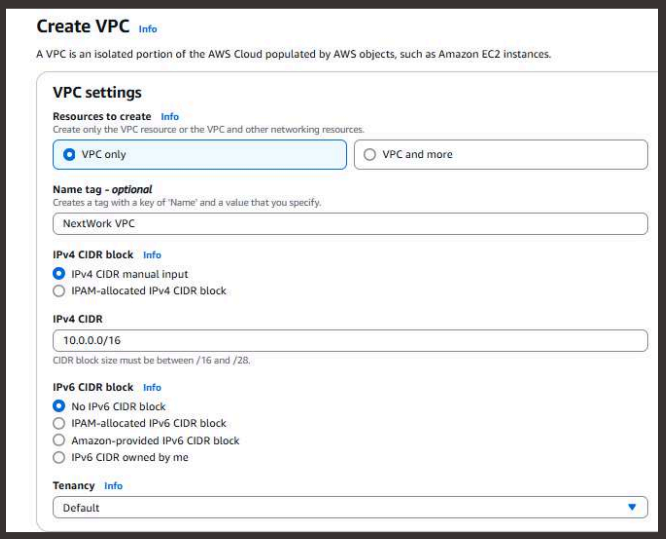
Virtual Private Clouds (VPCs)

VPCs are like cities in a country. They help organize the resources and get control over them. This way we can define how they communicate and integrate with each other without the public internet, ensuring privacy.

There was already a default VPC in my account ever since my AWS account was created. This is because AWS automatically sets up a default VPC for you. Because of this, I could launch resources like EC2 instances and connect services together.

To set up my VPC, I had to define an IPv4 CIDR block, which is a way to assign a whole block of IP addresses, kind of like creating a zone/area in a city. CIDR means Classless Inter-Domain Routing.



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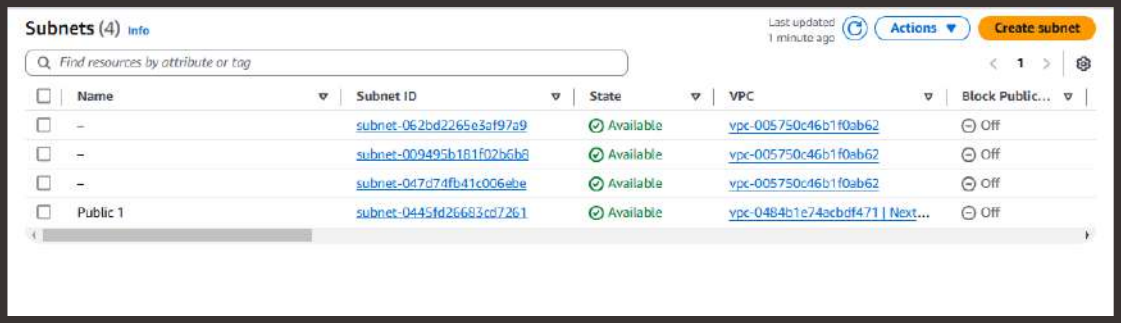
Subnets

Subnets are like different neighborhoods inside our VPC, which would be like our city. We use subnets to group resources with similar access rules and restrictions. There are already subnets existing in my account, one for every Availabilty Zone.

Once I created my subnet, I enabled auto-assign public IPv4 address. This setting makes sure that when any EC2 instance is launched in that subnet, it will instantly get a public IP address, so that I won't have to create one manually.

The difference between public and private subnets are that public subnets are connected to the internet, while private subnets aren't. For a subnet to be considered public, it has to be connected to an internet gateway.



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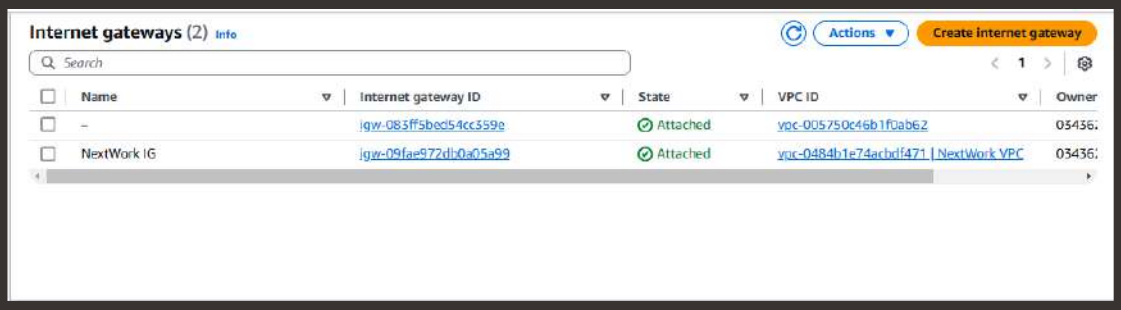
Internet gateways

Internet gateways are a bridge that links our private city (VPC) to the outside world (the internet), so our resources can communicate beyond our private space. This way they can access the internet and be accessible to external users.

Attaching an internet gateway to a VPC means that the resources in the VPC can now access the internet. If I missed this step, the resources in the VPC would not become public; they would remain private. Now we're connected to the internet!



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