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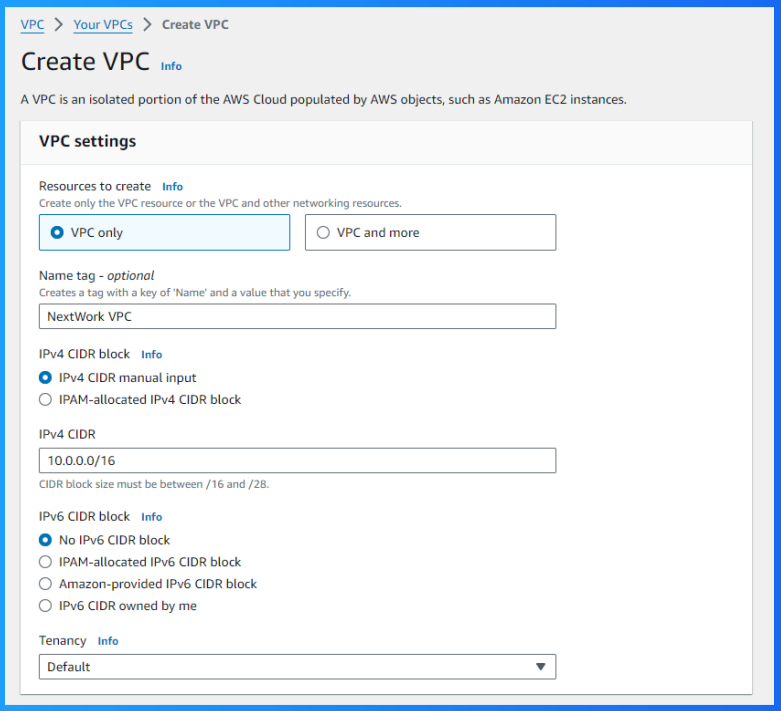
Build a Virtual Private Cloud

Sai Prasanth Reddy



Sai Prasanth Reddy
NextWork Student

Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a service that allows you to create isolated cloud networks within AWS. It's useful because it gives you control over your network settings, such as IP ranges, subnets, and security, enabling secure, scalable, and custom cloud env.

How I used Amazon VPC in this project

I used Amazon VPC in today's project to create an isolated network environment, defined IP ranges, set up subnets, attached an internet gateway, and configured route tables to manage traffic flow, ensuring secure and organized resource deployment.

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

One thing I didn't expect in this project was how much manual configuration was required to ensure internet access, especially with setting up the internet gateway for the public subnet.

This project took me...

This project took me about 30 minutes, mainly due to the detailed configuration of VPC, subnets, internet gateways to ensure everything was set up correctly for secure and functional network access.

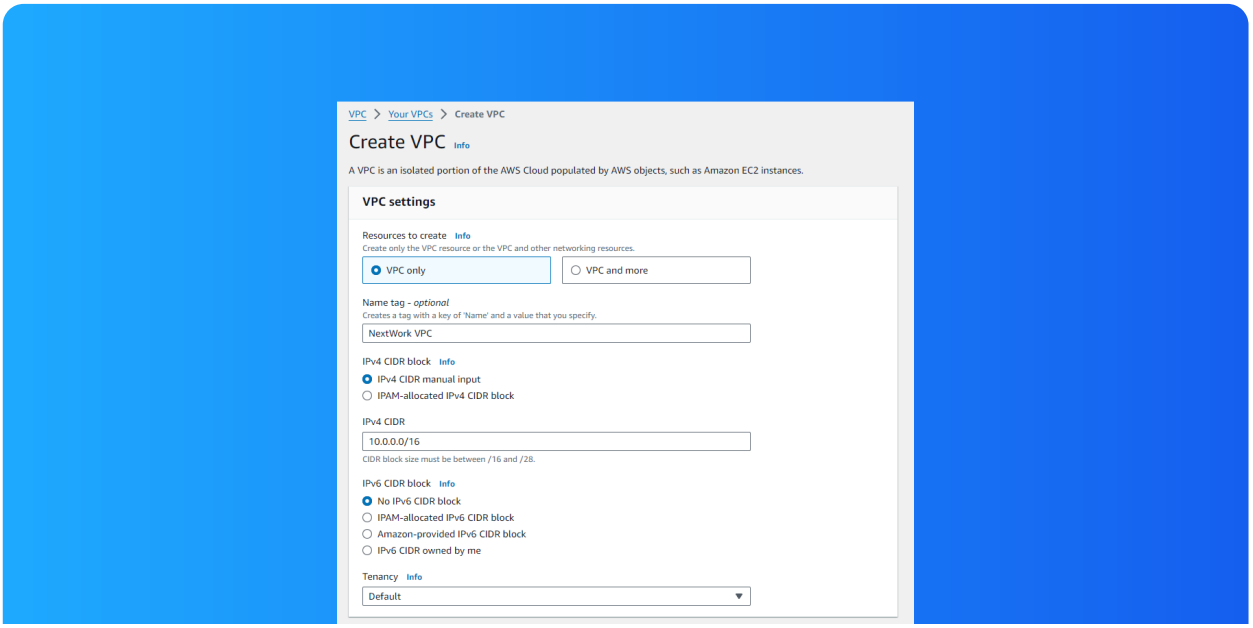
Sai Prasanth Reddy
NextWork Student

Virtual Private Clouds (VPCs)

VPCs are Virtual Private Clouds that provide isolated network environments within a cloud infrastructure(AWS). They allow you to define your own IP ranges, subnets, route tables and gateways, giving you full control over network traffic and security.

There was already a default VPC in my account ever since my AWS account was created. This is because AWS provides it for easy instance launching, so users can quickly deploy resources without creating custom networking configurations.

To set up my VPC, I had to define an IPv4 CIDR, which means specifying an IP address range in the format of "x.x.x.x/yy," where x is the IP and yy is the subnet mask, determining the network size and available IP addresses.



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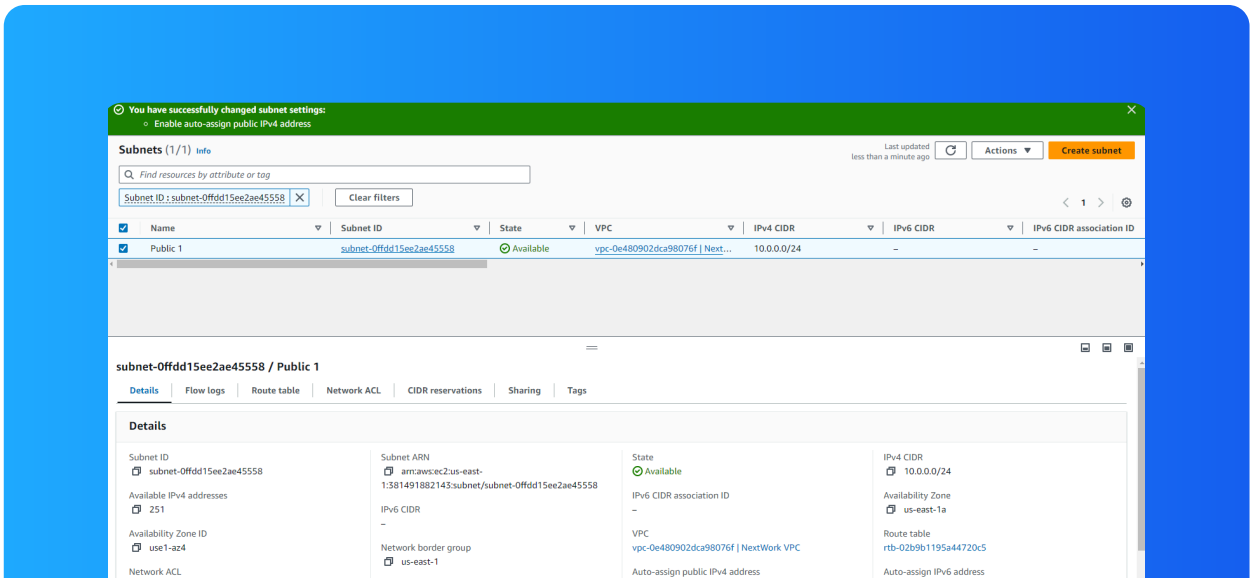
Subnets

Subnets are subdivisions of a VPC's IP address range that allow you to organize and isolate resources. Each subnet can be designated as public or private, controlling access to the internet and improving network organization and security.

There are already subnets existing in my account, one for every Availability Zone in the default VPC. AWS provides these by default to ensure users can easily deploy resources across different zones without custom network configuration.

I named my subnet Public 1, but that doesn't automatically make my subnet a public subnet. For a subnet to be considered public, it has to have an internet gateway attached and route traffic to that gateway through its route table.



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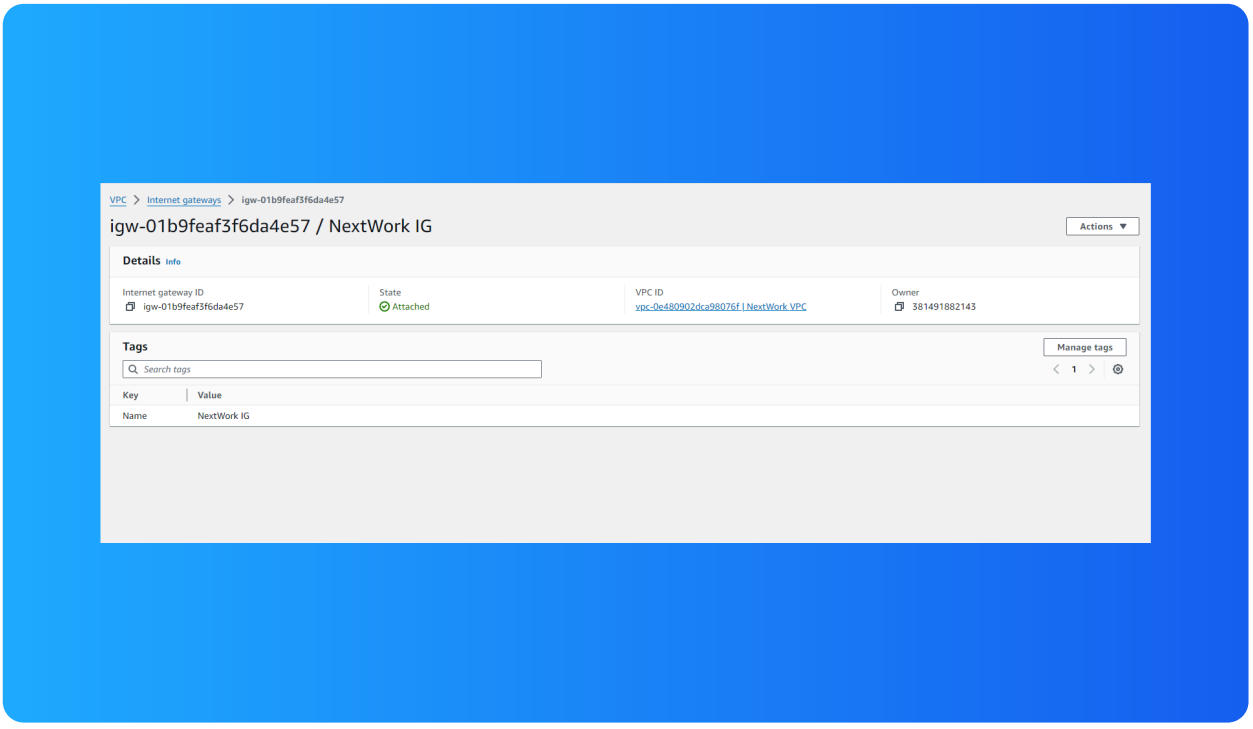
Internet gateways

Internet gateways are components that allow communication between resources in a VPC and the internet. They act as a bridge, enabling instances in public subnets to send and receive traffic to and from the internet.

Attaching an internet gateway to a VPC means instances in public subnets can communicate with the internet,allowing inbound and outbound traffic,provided the route tables and security groups permit it. This enables external access to those resources.



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