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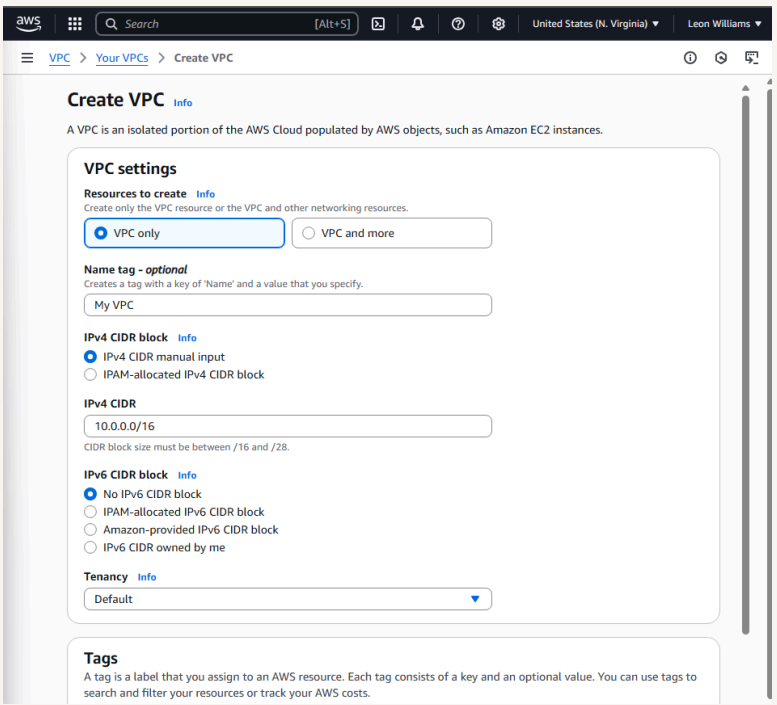
Build a Virtual Private Cloud (VPC)

Leon Williams



Leon Williams
NextWork Student

Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a virtual network in AWS where you control IP ranges, subnets, and security. It isolates your cloud resources, giving you control over traffic and boosting security while managing how your resources communicate safely and efficiently.

How I used Amazon VPC in this project

Today, I used Amazon VPC to create a secure, isolated network for our cloud resources. I managed IP addresses, set up subnets, and configured security rules to keep communication safe and protect our applications from external threats.

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

One thing I didn’t expect in this project was having to create my own CIDR block when setting up the VPC from scratch. It was a valuable learning experience that deepened my understanding of network design in the cloud.

Leon Williams
NextWork Student

This project took me...

I dedicated about 20 minutes to thoroughly review the material to strengthen my understanding. This helped me approach the project with more confidence and clarity.

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NextWork Student

Virtual Private Clouds (VPCs)

A VPC (Virtual Private Cloud) is a private, isolated network within AWS where you can control and organize your cloud resources. It gives you privacy, security, and control over how resources communicate.

AWS includes a default VPC so new users can launch services like EC2 right away without having a complex setup. It gave me a smooth start while I learned how to build and customize secure cloud networks.

To set up my VPC, I had to define an IPv4 CIDR block, which is 10.0.0.0/16. A CIDR block is a range of IP addresses. In this case, it gives me up to 65,536 private IP addresses to use within my network.

Leon Williams
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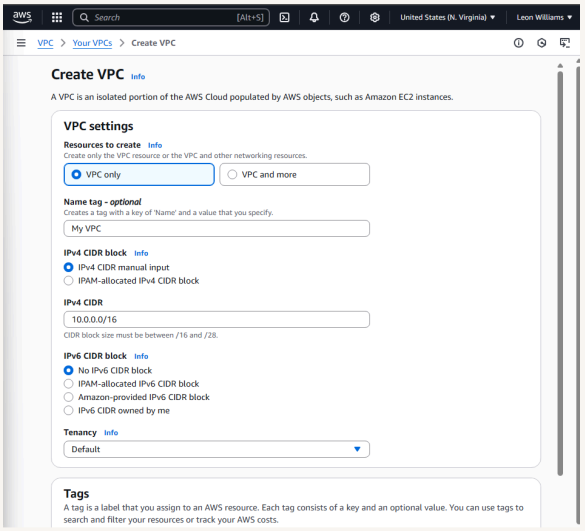

Subnets

Subnets are smaller networks within a VPC that group resources by access level. There are already subnets existing in my account, one for every Availability Zone, created automatically by the default VPC.

Once I created my subnet, I enabled auto-assign public IPv4 addresses. This setting makes sure any EC2 instance launched in the subnet gets a public IP automatically so that it can access the internet or be reached from it without manual setup.

The difference between public and private subnets are internet access. For a subnet to be considered public, it has to be connected to an internet gateway. Even though mine is labeled 'Public 1', it’s not public yet because it isn’t connected.

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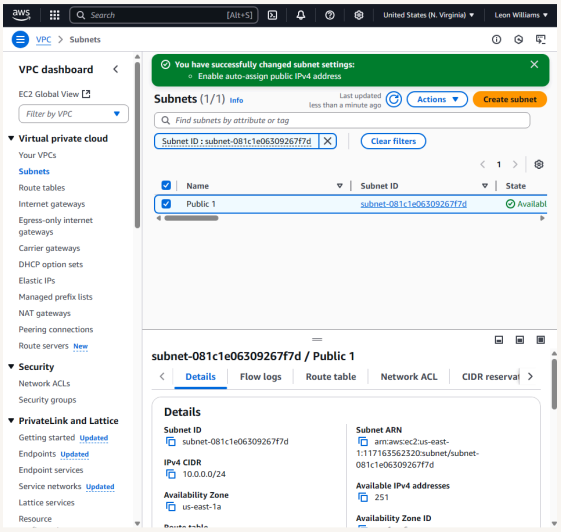

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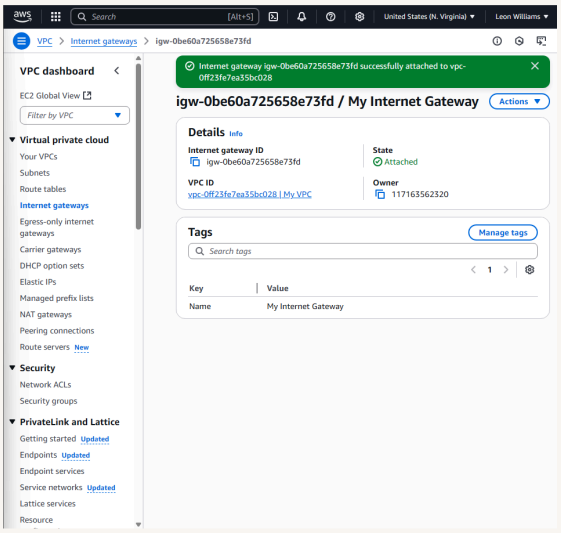
Internet gateways

Internet gateways connect your cloud network to the internet. They let instances access the web and allow users to reach your applications. Attaching one ensures your services remain available, secure, and ready for users worldwide.

Attaching an internet gateway to a VPC means resources in your VPC can access the internet. If I missed this step, my instances with public IPs wouldn't be reachable, and my applications wouldn't be available to users outside the network.



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