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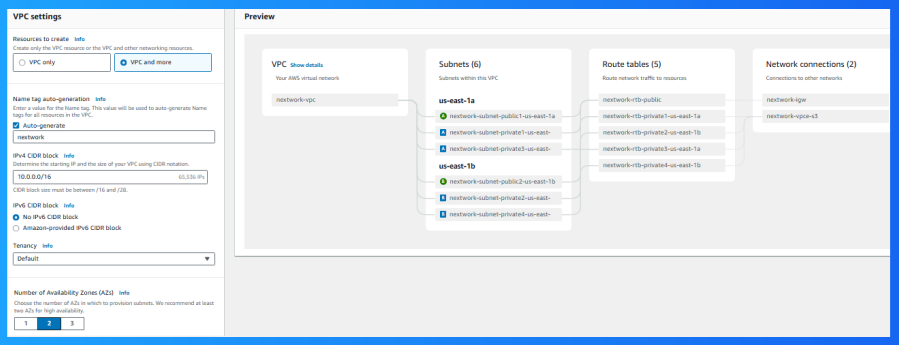
Launching VPC Resources

Gloria



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Introducing Today's Project!

What is Amazon VPC?

Amazon VPC (Virtual Private Cloud) is a secure, isolated network in AWS where you can launch resources like EC2 instances. It’s useful because it gives control over networking, such as IP ranges, subnets and security.

How I used Amazon VPC in this project

I used Amazon VPC in today's project to set up instances within a secure network environment. I configured public and private subnets, attached an internet gateway, create route tables, and applied security groups and network ACLs to control traffic.

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

One thing I didn't expect in this project is how important it is to connect services seamlessly. Coming across tools like VPC and more made the process easier and faster, highlighting how interconnected AWS services simplify complex tasks

This project took me...

This project took me 20 minutes to complete. I set up instances within a secure VPC environment, configured subnets, route tables, and security settings efficiently, thanks to prior experience and beginner-friendly AWS tools.

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Setting Up Direct VM Access

Directly accessing a virtual machine means connecting to your EC2 instance using secure methods like SSH, allowing you to interact with it, manage files, run commands, and configure software directly from your local device.

SSH is a key method for directly accessing a VM

SSH traffic means Secure Shell traffic, a protocol used to securely connect to and manage remote servers or devices, typically using port 22 for secure command-line access and file transfers.

To enable direct access, I set up key pairs

Key pairs are authentication credentials in AWS that consist of a public key stored on AWS and a private key downloaded to your local system. They allow secure access to EC2 instances by verifying identity during SSH connections.

A private key's file format means the structure used to save the key, often as .pem(Privacy Enhanced Mail) or .ppk (PuTTY Private Key) for secure access. My private key's file format was .pem, commonly used for SSH connections.

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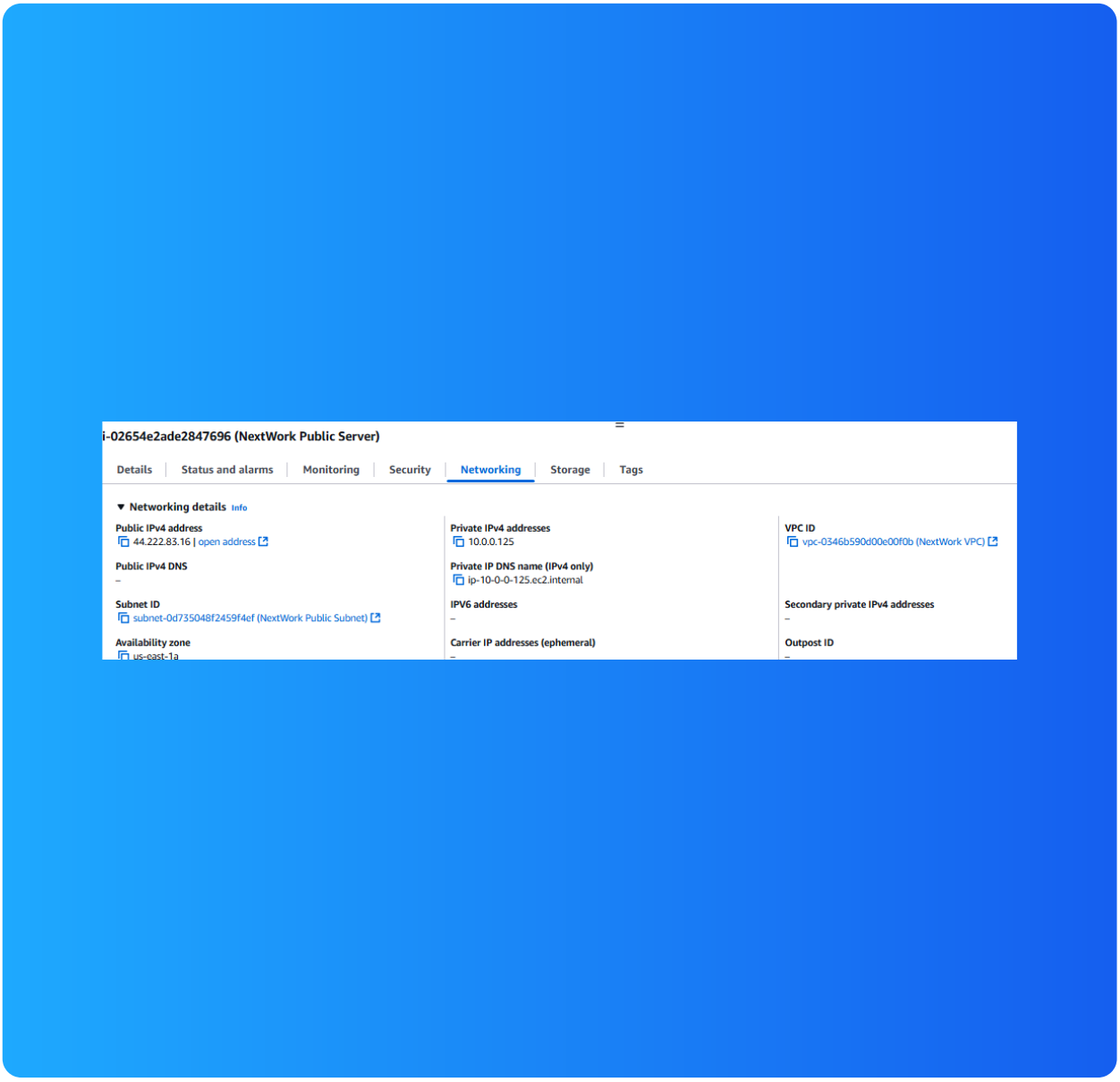
Launching a public server

I had to change my EC2 instance's networking settings by selecting the VPC I created, assigning it to a public subnet, and selecting the security group I created earlier to allow necessary traffic for seamless access and connectivity.



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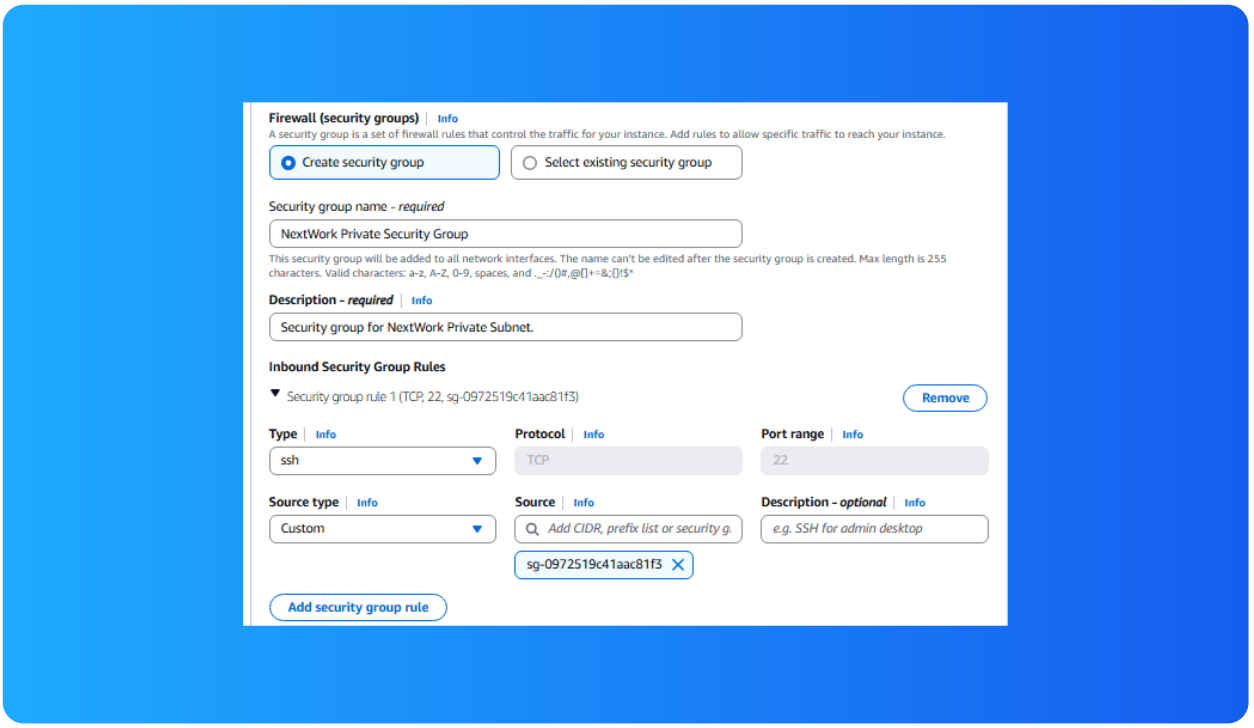
Launching a private server

My private server has its own dedicated security group because it requires stricter access controls to ensure isolation and enhanced security, allowing only internal traffic from trusted resources while blocking public internet access.

My private server's security group's source is the NextWork Public Security Group, which means only resources within this trusted security group can communicate with my private server, ensuring a secure and restricted access environment.



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Speeding up VPC creation

I used an alternative way to set up an Amazon VPC! This time, I created a custom VPC called "VPC and more", configured public and private subnets, set up route tables, attached an internet gateway. This made the process easier and faster.

A VPC resource map is a visual representation of the components in your Amazon VPC, such as subnets, route tables, gateways, and network ACLs. It helps in understanding the relationships and configurations of resources within the VPC.

My new VPC has a CIDR block of `10.0.0.0/16`. It is possible for my new VPC to have the same IPv4 CIDR block as my existing VPC because VPCs are isolated from each other by default, and their IP ranges do not overlap.

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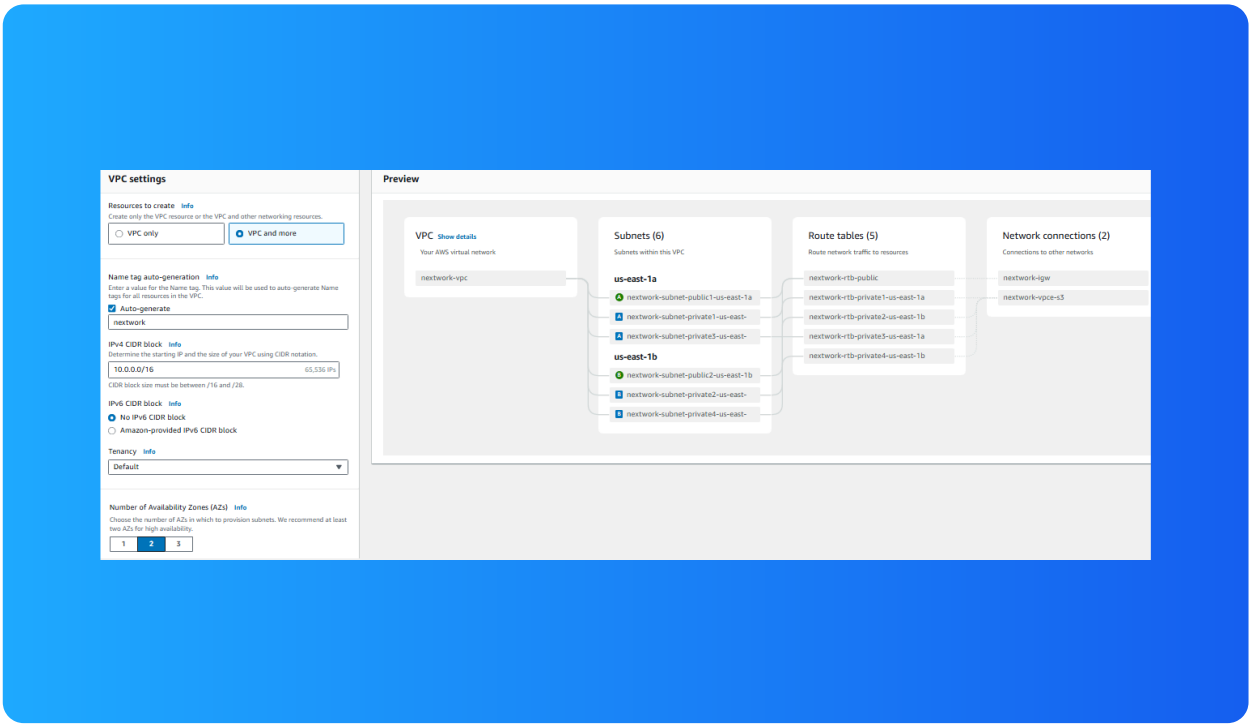
Speeding up VPC creation

Tips for using the VPC resource map

When determining the number of public subnets in my VPC, I only had two options: one or two. This was because my VPC was configured across two availability zones, and each public subnet must reside in a separate availability zone.

The setup page also offered to create NAT gateways, which are managed AWS services that allow instances in private subnets to access the internet or other AWS services while preventing inbound traffic from the internet. This services is a paid one.



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