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Launching VPC Resources

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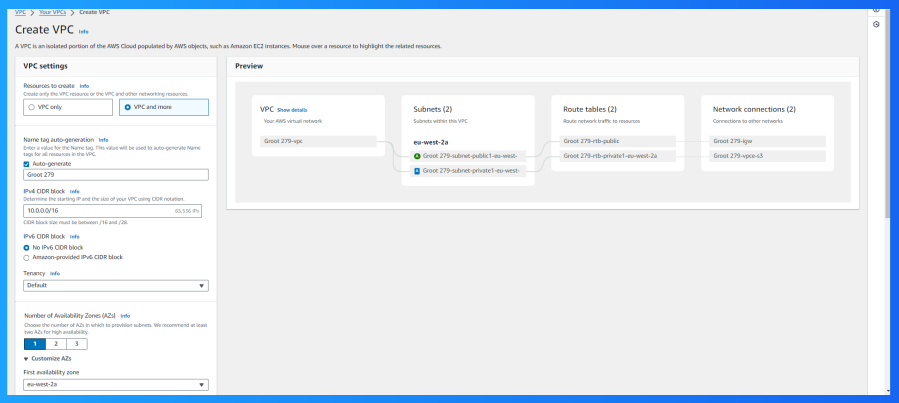

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Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a service that allows you to create an isolated virtual network within the AWS cloud. It's like having your own private data center in the cloud: You have full control over your network environment, allowing you to implement Controls

How I used Amazon VPC in this project

Created a VPC to house all resources for the server, providing a secure and segregated network environment.

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

Resource Map to be so visual and interacive! such a convenient and speedy way to setup an entire vpc architecture

This project took me...

1 hour

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Setting Up Direct VM Access

Directly accessing a virtual machine means establishing a connection to the machine's operating system, typically through a secure shell (SSH) connection, allowing you to interact with it as if you were physically present at the console.

SSH is a key method for directly accessing a VM

SSH traffic means encrypted communication between two devices using the Secure Shell protocol. This protocol ensures secure remote login, file transfers, and other network services by encrypting data and authenticating users.

To enable direct access, I set up key pairs

Key pairs are a set of cryptographic keys, consisting of a public key and a private key, used for secure authentication and encryption. They are commonly used for SSH and access to servers, allowing secure remote login without requiring passwords

A private key's file format means the specific structure and encoding used to store the key in a file. My private key's file format was PEM (Privacy Enhanced Mail), a widely used format for storing cryptographic keys in ASCII text with Base64.

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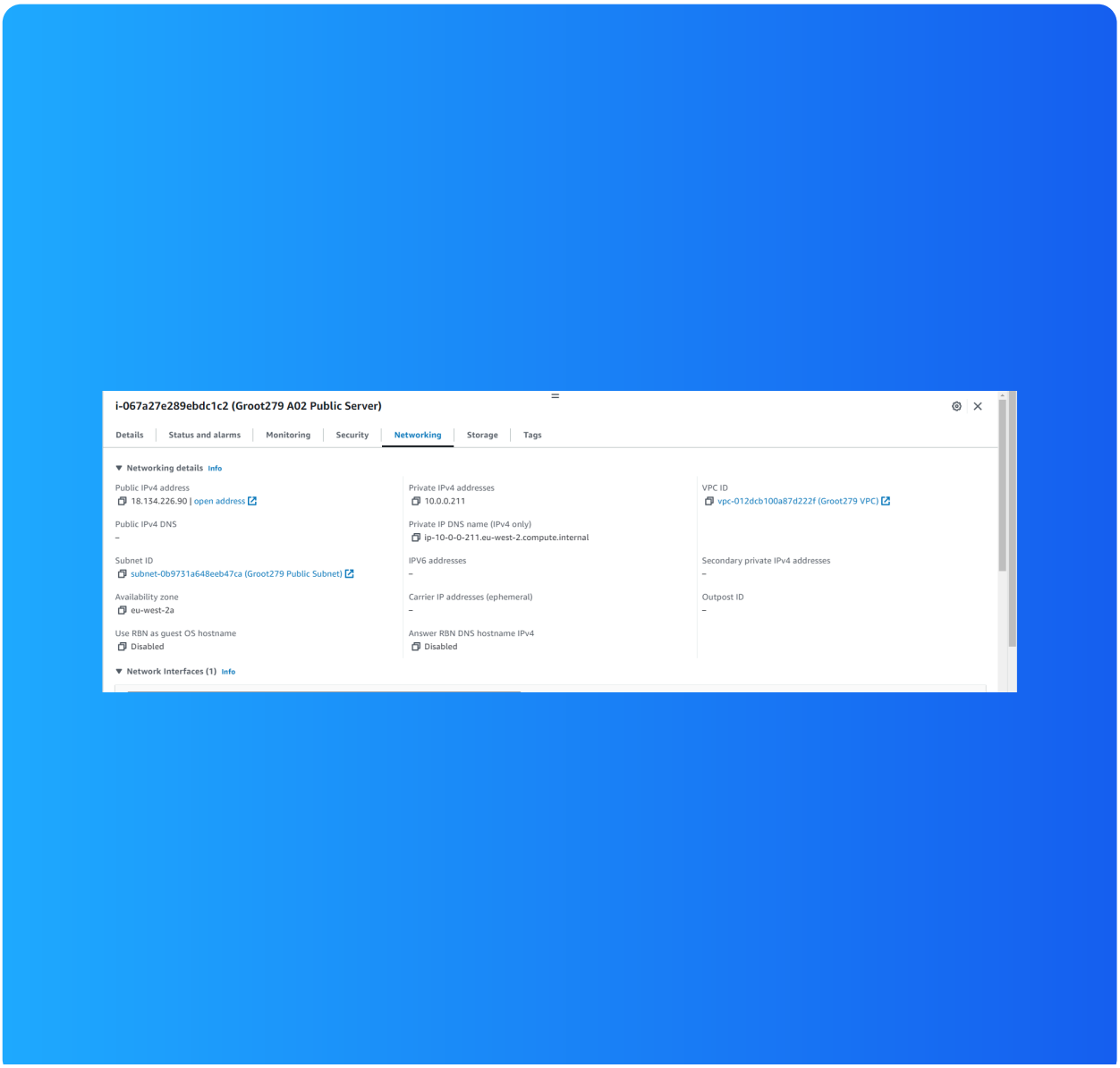
Launching a public server

I had to change my EC2 instance's networking settings by accessing the EC2 Management Console, selecting the desired instance, and navigating to the Network & Security tab. From there, I could modify security groups, network interfaces.



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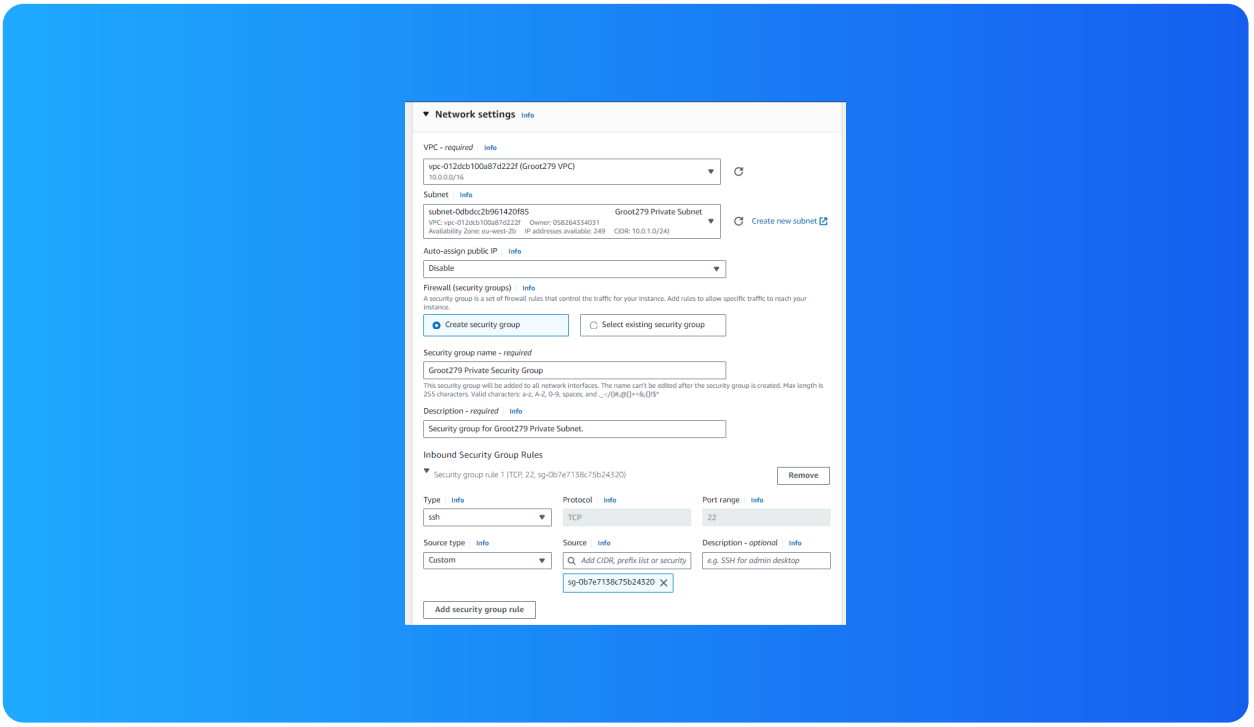
Launching a private server

My private server has its own dedicated security group because it requires a more restrictive set of inbound and outbound rules compared to the public server. This enhanced security is crucial to protect sensitive data and resources

My private server's security group's source is a specific IP address range, which means only traffic originating from those designated IP addresses is permitted to access the server.



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Speeding up VPC creation

I used an alternative way to set up an Amazon VPC! This time, I used the vpc and more option which gives me a VPC resource map to use when creating the vpc and all of its components i.e security groups, route tables and internet gateways

A VPC resource map is a visual representation of all the components within your Amazon Virtual Private Cloud (VPC), including subnets, route tables, internet gateways, NAT gateways, and other resources.

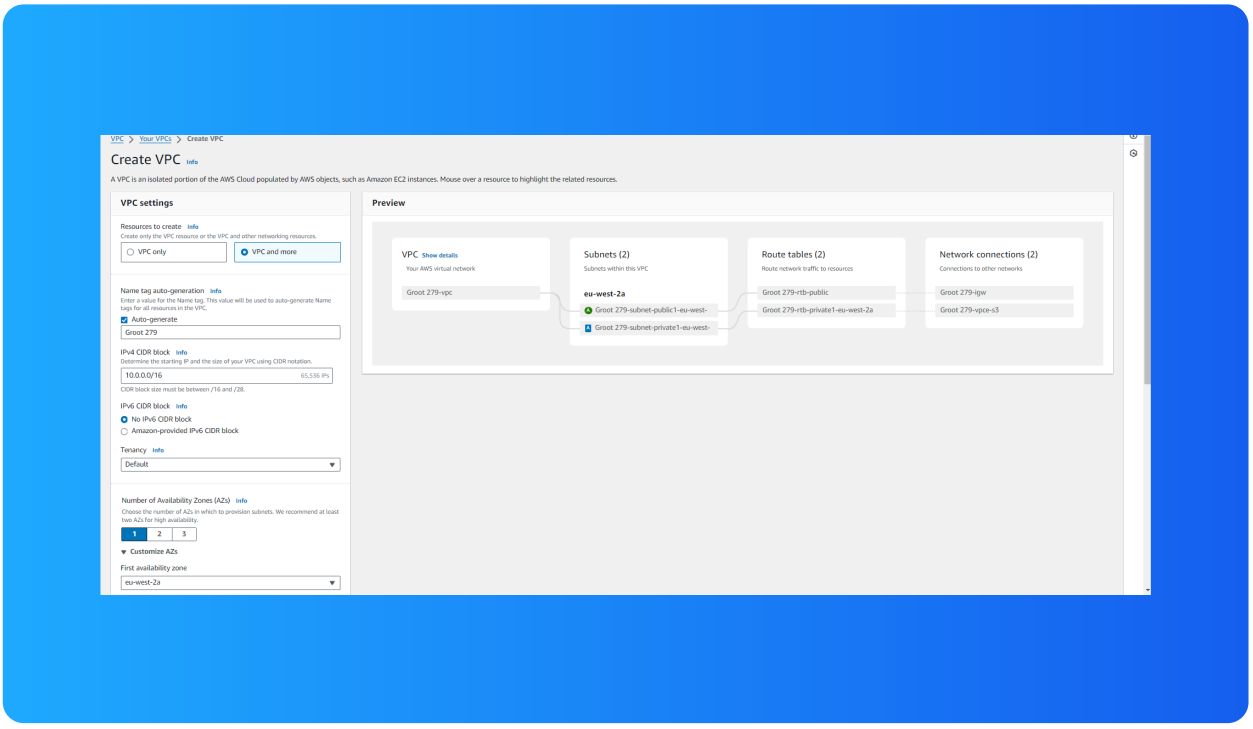
My new VPC has a CIDR block of 10.0.0.0/16. It is possible for my new VPC to have the same IPv4 CIDR block as my existing VPC because VPCs are isolated environments, even if they share the same IP address range.

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 multiple. This was because a single public subnet could accommodate all required internet-facing resources, while multiple subnets offer better organization.

The set up page also offered to create NAT gateways, which are essentially network address translators. They allow instances in your private subnets to connect to the internet, but prevent external services from initiating connections.



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