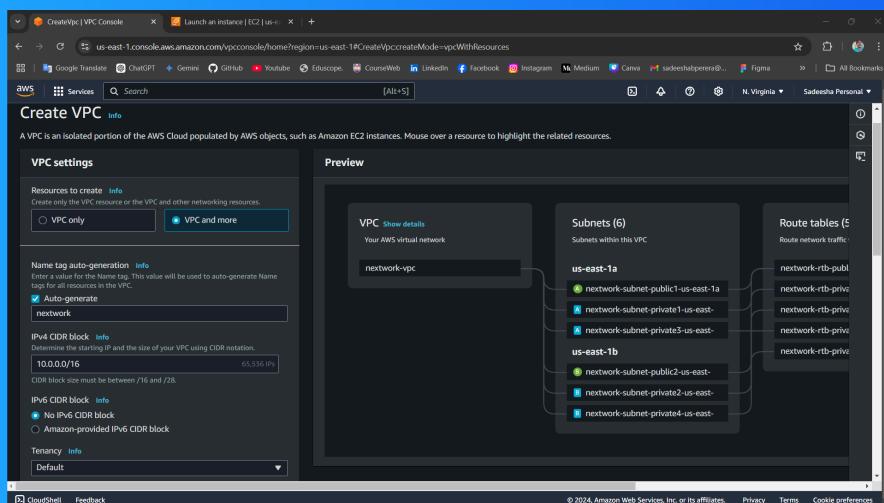




# Launching VPC Resources



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# Introducing Today's Project!

## What is Amazon VPC?

Amazon VPC is a service that allows you to launch AWS resources into a logically isolated virtual network. It offers enhanced security, scalability, flexibility, and cost-effectiveness, enabling you to build and deploy complex applications.

## How I used Amazon VPC in this project

I used Amazon VPC in today's project to set up your very own VPC with private and public resources.

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

How easy is it to implement and visualize the VPS mechanism using AWS

## This project took me...

50 minutes



# Setting Up Direct VM Access

Directly accessing an EC2 instance means connecting to it directly over the internet using a tool like SSH or RDP. This typically requires the instance to have a public IP address and a security group allowing the necessary inbound traffic.

## SSH is a key method for directly accessing a VM

SSH stands for Secure Shell. It's a cryptographic network protocol used for secure remote login and other secure network services over an unsecured network. SSH provides a secure way to access and manage remote computers, such as servers and routers.

## To enable direct access, I set up key pairs

A key pair are set of cryptographic keys used for secure remote access to EC2 instances. The public key is added to the instance, while the private key is kept securely by the user.

Private keys are commonly stored in PEM (Privacy-Enhanced Mail) format. This format is widely supported and easily readable. The private key is typically stored in a file with a .pem extension.

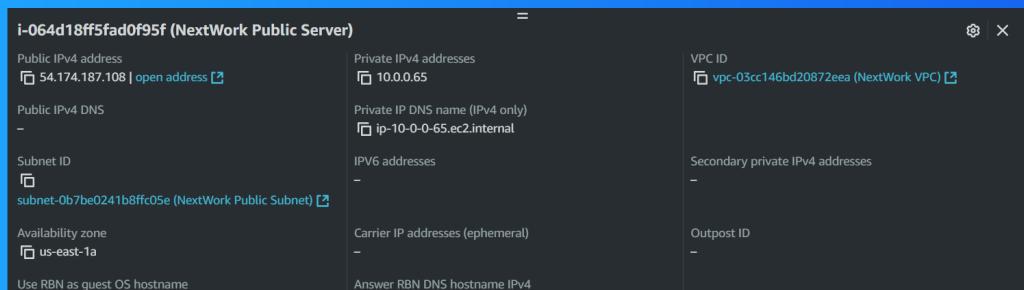


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# Launching a public server

To edit EC2 instance networking settings, access the AWS Management Console, select the instance, and modify security groups.





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# Launching a private server

Private and public servers often use different security groups to enhance security, control traffic flow, and meet compliance requirements. By isolating servers, implementing specific security rules, reducing the attack surface etc.

My private server's security group's source is NextWork Public Security Group

Firewall (security groups) [Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Create security group  Select existing security group

Security group name - required

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and \_-/.#,@[]+=;&,\$^\*

Description - required [Info](#)

Inbound Security Group Rules

▼ Security group rule 1 (TCP, 22, sg-07e7890b915287bff)

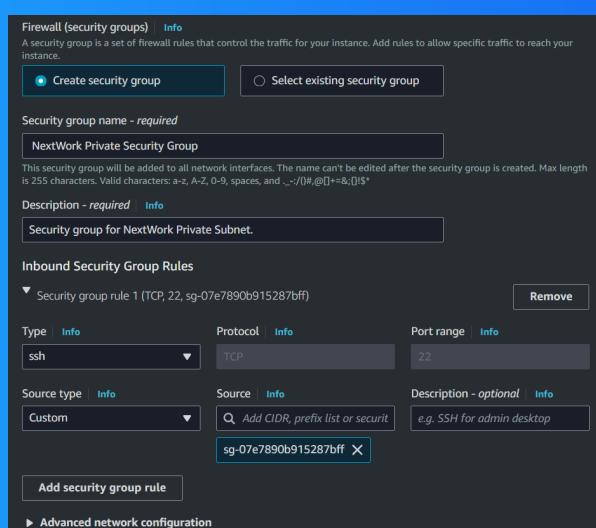
Type [Info](#): ssh Protocol [Info](#): TCP Port range [Info](#): 22

Remove

Source type [Info](#): Custom Source [Info](#):  Description - optional [Info](#): e.g. SSH for admin desktop

Add security group rule

► Advanced network configuration



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# Speeding up VPC creation

I used an alternative way to set up an Amazon VPC! This time, I used VPC and more options.

A VPC resource map is a visual representation of the resources within a VPC, including subnets, route tables, and more. It aids in network planning, troubleshooting, security analysis, and documentation.

Actually, we can have multiple VPCs with the same IPv4 CIDR block in the same AWS region and account. AWS VPCs are isolated from each other by default, so there won't be any IP conflicts unless you explicitly connect them using VPC peering.



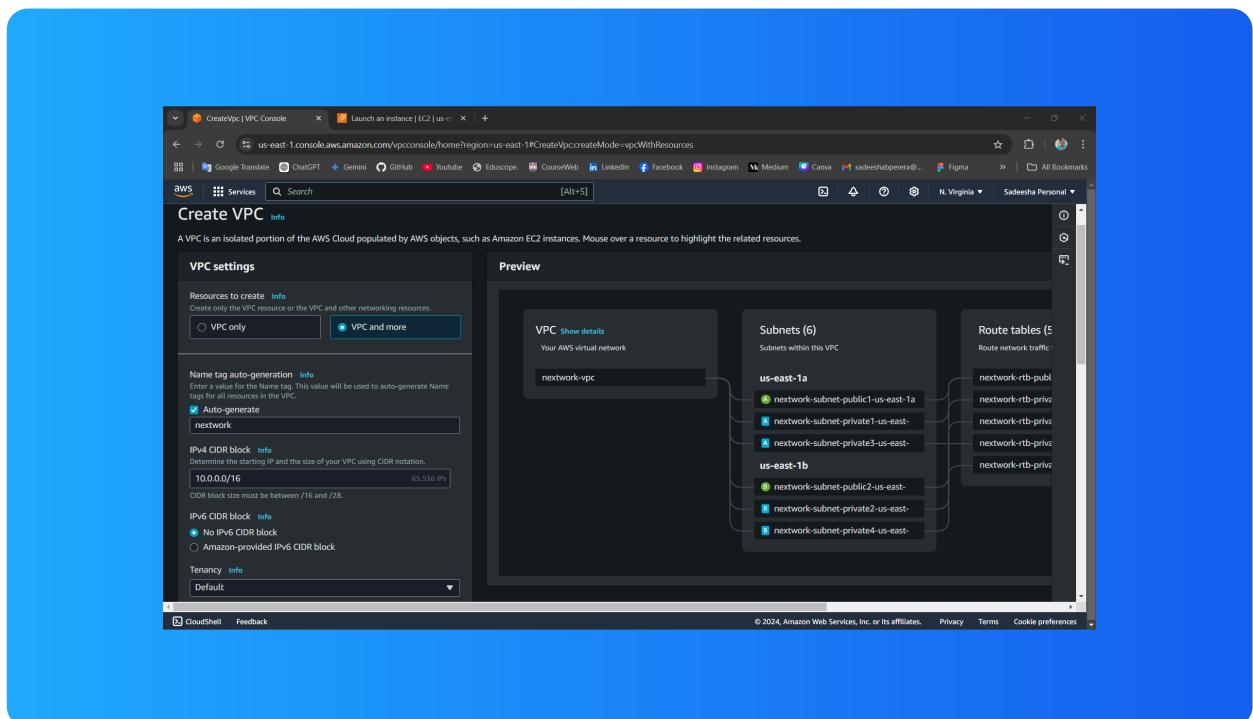


# Speeding up VPC creation

## Tips for using the VPC resource map

When determining the number of public subnets in my VPC, I only had two options. Zero or two. This was because it was implemented for the reliability and simplicity of the system by AWS.

NAT Gateways are network address translation devices that enable instances with private IP addresses to connect to the internet while keeping their IP addresses private. They enhance security, simplify network configuration, and offer cost-effective.





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