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# Launching VPC Resources

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The screenshot shows the AWS VPC creation interface. On the left, the 'VPC settings' section includes fields for 'Name tag auto-generation' (set to 'Auto-generate'), 'IPv4 CIDR block' (set to '10.0.0.16'), 'IPv6 CIDR block' (set to 'No IPv6 CIDR block'), and 'Tenancy' (set to 'Default'). On the right, the 'Preview' section shows a hierarchical tree of resources. At the top level is the 'VPC' node, which has 'Show details' and 'Subnets (6)' listed under it. The 'Subnets (6)' node branches into two regions: 'us-east-1a' and 'us-east-1b'. 'us-east-1a' contains four subnets: 'nextwork-subnet-public1-us-east-1a', 'nextwork-subnet-private1-us-east-1a', 'nextwork-subnet-private3-us-east-1a', and 'nextwork-subnet-private4-us-east-1a'. 'us-east-1b' contains two subnets: 'nextwork-subnet-public2-us-east-1b' and 'nextwork-subnet-private2-us-east-1b'. To the right of the subnets is a 'Route tables (5)' node, which is connected to the subnets via dashed lines.

# Introducing Today's Project!

## What is Amazon VPC?

Amazon VPC (Virtual Private Cloud) is a service that lets you create a private, isolated network within the Amazon Web Services (AWS) cloud.

## How I used Amazon VPC in this project

I used Amazon VPC to create EC2 instances for both private and public subnets

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

Was spot on

## This project took me...

This project took me about 1 hour

# Setting Up Direct VM Access

Directly accessing a virtual machine means logging into and managing the operating system or software of the machine as if you were using it in front of you, but over the internet

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

SSH traffic means secure shell and its a protocol we use to get secure access to our machine

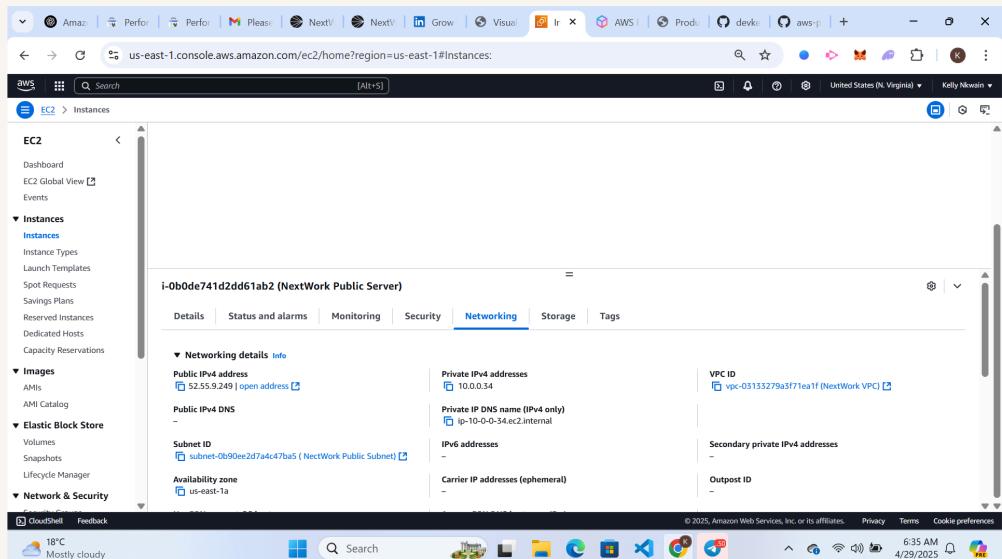
## To enable direct access, I set up key pairs

Key pairs are cryptographic keys that help you gain access to virtual machines like Ec2

A private key's file format means its suited for different operating systems and just like we have pdf,txt for saving different file types. My private key's file format was .pem

# Launching a public server

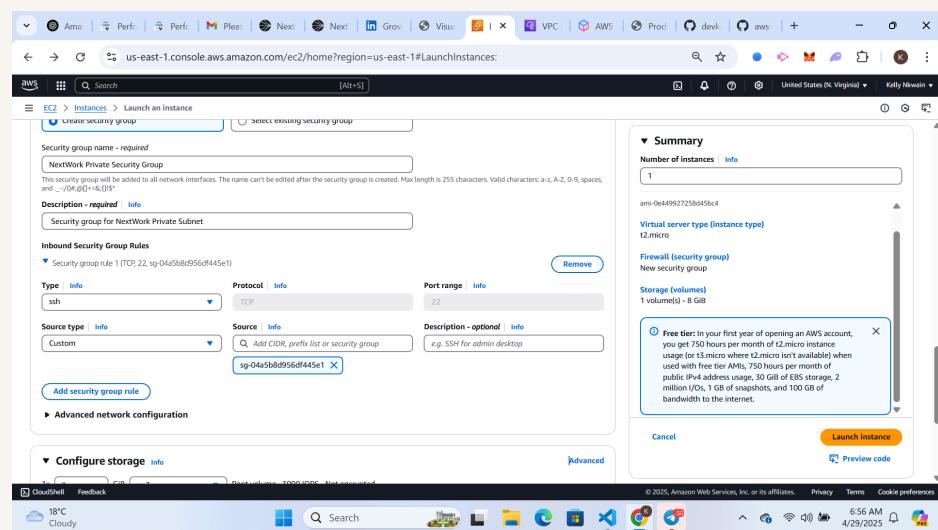
I had to change my EC2 instance's networking settings by selecting the security group I created



# Launching a private server

My private server has its own dedicated security group because its for our private instance that will store our databases and we want only trusted persons within our netork to access it

My private server's security group's source is the nextweok security group i crated when creating my instance which means only persons in that network can access our private resources

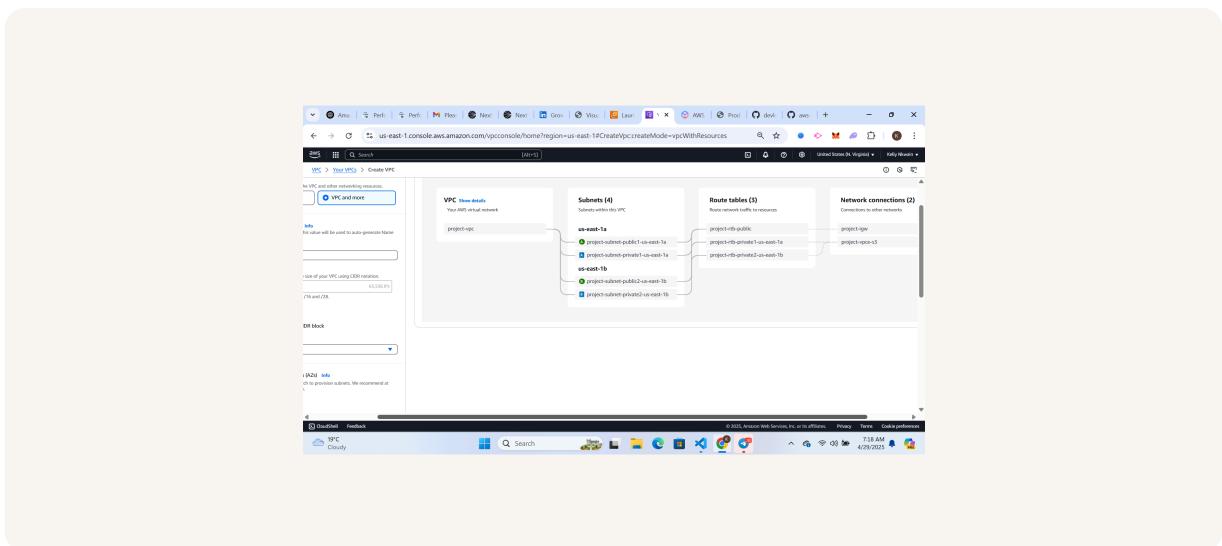


# Speeding up VPC creation

I used an alternative way to set up an Amazon VPC! This time, I use the VPC resource map to create

A VPC resource map is what lets you quickly understand the architectural layout of a VPC, like the number of subnets, which subnets are associated with which route table, and which route tables have routes to an internet gateway.

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 they are in two different environments

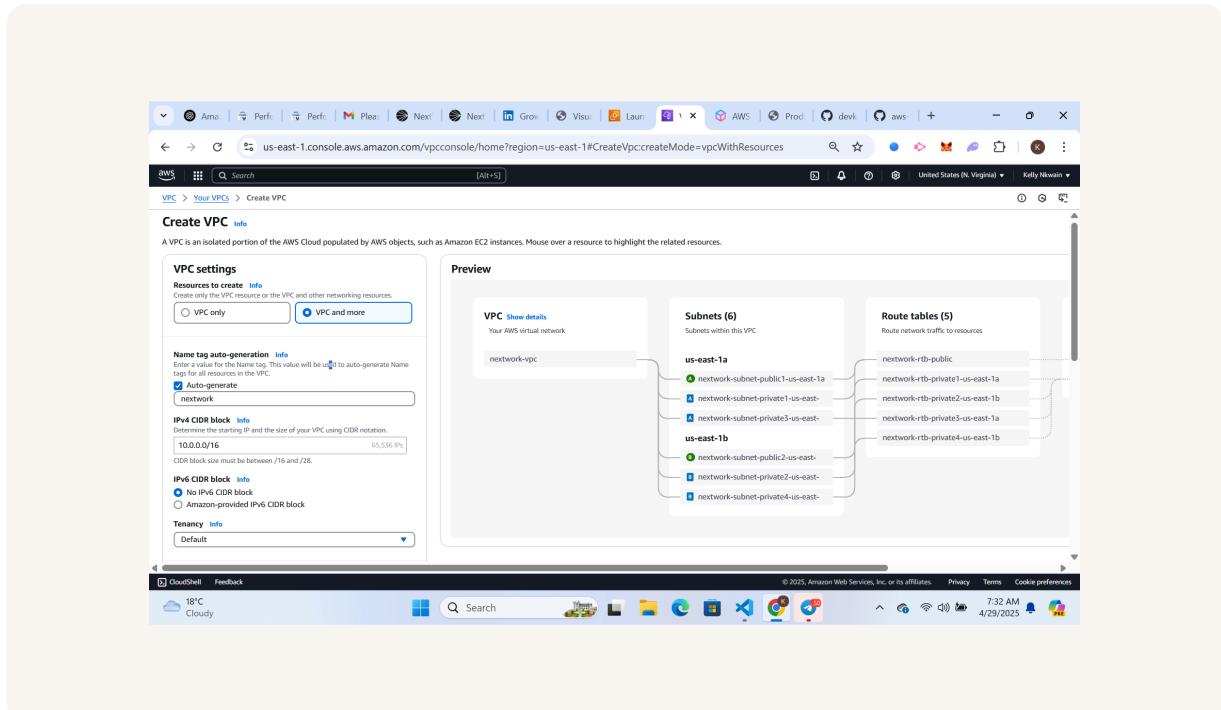


# Speeding up VPC creation

## Tips for using the VPC resource map

When determining the number of public subnets in my VPC, I only had two options

The set up page also offered to create NAT gateways, which are a link or a way to connect your private instances to gain access to the internet and update their servers





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