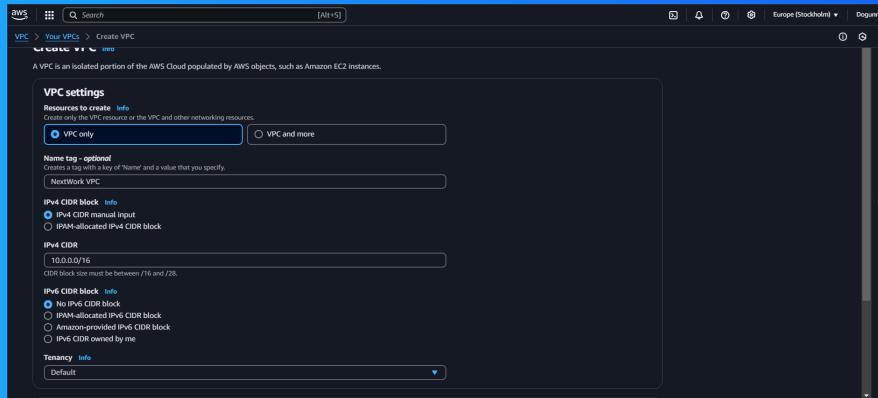




Build a Virtual Private Cloud

 Honesty Dogunro





Introducing Today's Project!

What is Amazon VPC?

Amazon VPC (Virtual Private Cloud) enables you to create a secure, isolated network in AWS, offering customizable configurations and security controls while integrating seamlessly with other AWS services.

How I used Amazon VPC in this project

In today's project, I used Amazon VPC to create a secure network for our application, defining subnets for different components, setting up security groups for access control, and integrating with AWS services like EC2 and RDS for seamless communication.

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

nothing really.. all good

This project took me...

About 4 hours.. Needed to understand those networking concepts and took breaks also.

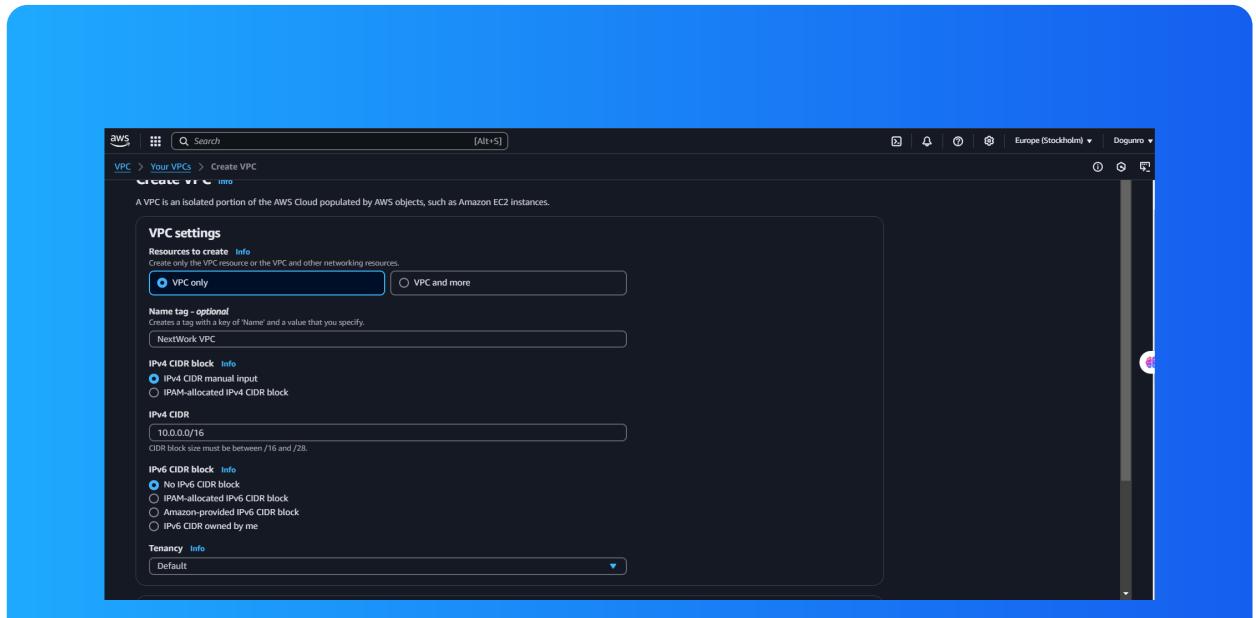


Virtual Private Clouds (VPCs)

VPCs, or Virtual Private Clouds, are isolated sections of a cloud provider's network, allowing users to create and manage their own virtual networks. They offer control over network configuration, security, and resource allocation, enhancing privacy.

There was already a default VPC in my account ever since my AWS account was created. This is because AWS provides a standardized networking setup to simplify resource deployment, ensuring users can easily launch instances without custom configuration.

To set up my VPC, I had to define an IPv4 CIDR block, which is a method for allocating IP addresses using a notation like '192.168.1.0/24'. It indicates a range of IP addresses and simplifies routing and addressing within networks.





Subnets

Subnets are segments of a larger network, created to improve performance and security. There are already subnets existing in my account, one for every geographical region, allowing for better traffic management and resource allocation.

Once I created my subnet, I enabled auto-assign public IPv4 addresses. This setting ensures that instances receive public IP addresses automatically, allowing them to communicate with the internet without further configuration, easing deployment.

The difference between public and private subnets depends on internet access. For a subnet to be considered public, it must have a route to an internet gateway, allowing direct communication with the internet.

A screenshot of the AWS Subnets list interface. At the top, a green success message states: "You have successfully changed subnet settings: Enable auto-assign public IPv4 address". The main table shows four subnets:

Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR	IPv6 CIDR
-	subnet-0077f1bd2c3b2aee	Available	vpc-0b2879326ca84af93	Off	172.31.16.0/20	-
-	subnet-0f9b98720a51294a2	Available	vpc-0b2879326ca84af93	Off	172.31.0.0/20	-
-	subnet-02054154e2057e2e0	Available	vpc-0b2879326ca84af93	Off	172.31.32.0/20	-
<input checked="" type="checkbox"/> Public 1	subnet-03ff92c8ea88d6fb	Available	vpc-08007aaa5498eaa61 Next...	Off	10.0.0.0/24	-



Internet gateways

Internet gateways are points that connect a private network to the internet, enabling communication between internal devices and external networks while managing traffic and security.

Attaching an internet gateway to a VPC means enabling internet access for resources within it. If I missed this step, instances won't be reachable from or able to communicate with the internet.





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