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Build a Virtual Private Cloud (VPC)



Sanjana Tripathy

Create VPC Info

A VPC is an isolated portion of the AWS Cloud populated by AWS objects, such as Amazon EC2 instances.

VPC settings

Resources to create Info
Create only the VPC resource or the VPC and other networking resources.

VPC only VPC and more

Name tag - optional
Creates a tag with a key of 'Name' and a value that you specify.
NextWork VPC

IPv4 CIDR Block Info
 IPv4 CIDR manual input IPAM-allocated IPv4 CIDR block
10.0.0.0/16

IPv6 CIDR block Info
 No IPv6 CIDR block IPAM-allocated IPv6 CIDR block Amazon-provided IPv6 CIDR block IPv6 CIDR owned by me

Tenancy Info
Default

Tags
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key **Value - optional**
 You can add 49 more tags

Introducing Today's Project!

What is Amazon VPC?

VPC is a private, isolated, and secure section of the AWS cloud where you can launch AWS resources in a logically defined network. It gives you full control over IP addressing, subnets, routing, and security, enabling scalable cloud infrastructure.

How I used Amazon VPC in this project

In today's project, I used Amazon VPC to create a secure virtual network. I set up a subnet within the VPC and attached an Internet Gateway to enable internet access for resources.

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

One thing I did not expect from this project was the depth of networking concepts involved. Initially, I found networking somewhat complex, but after completing the hands-on tasks, I now feel more confident and motivated to explore similar projects.

This project took me...

The project took approximately 2 hours to complete, including setup, configuration, and hands-on implementation.

A circular profile picture of a woman sitting on a blue couch in an office setting.

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Virtual Private Clouds (VPCs)

VPCs (Virtual Private Clouds) are isolated, secure, private, virtual networks within a cloud, allowing organizations to launch resources securely, define IP ranges manage traffic, subnets.

There was already a default VPC in my account ever since my AWS account was created. This is because AWS automatically provides a default VPC in each region to help users quickly launch and use AWS services without complex network setup.

To set up my VPC, I had to define an IPv4 CIDR block, which is a range of IP addresses that my network can use to identify and communicate with resources securely. It also helps control how large or small my network can be, based on the no after /.



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IPv4 CIDR block Info
 IPv4 CIDR manual input IPAM-allocated IPv4 CIDR block
 10.0.0.0/16 CIDR block size must be between /16 and /28.

IPv6 CIDR block Info
 No IPv6 CIDR block IPAM-allocated IPv6 CIDR block Amazon-provided IPv6 CIDR block IPv6 CIDR owned by me

Tenancy Info
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Subnets

Subnets are small networks segments within VPCs. They help organize and isolate resources efficiently. There are already subnets existing in my account, one for every availability zone. A region consists of many availability zones.

Once I created my subnet, I enabled the auto assign public IPv4 addresses. This setting makes sure all the resources created inside this subnet will have a public IP address so that, the resources have access to the internet.

The difference between public and private subnets are a public subnet's resources can interact with external network and private networks are not publicly accessible. For a subnet to be considered public, it has to be connected to an internet gateway.



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Subnets (1) [Info](#)

Last updated 2 minutes ago [Actions](#) [Create subnet](#)

Find subnets by attribute or tag X [Clear filters](#)

<input type="checkbox"/>	Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR	IPv6 CIDR	IPv6 CIDR association ID	Available
<input type="checkbox"/>	Public1	subnet-0f92e63526319ef73	Available	vpc-04ef6655c849a272 Next...	Off	10.0.0/24	-	-	251

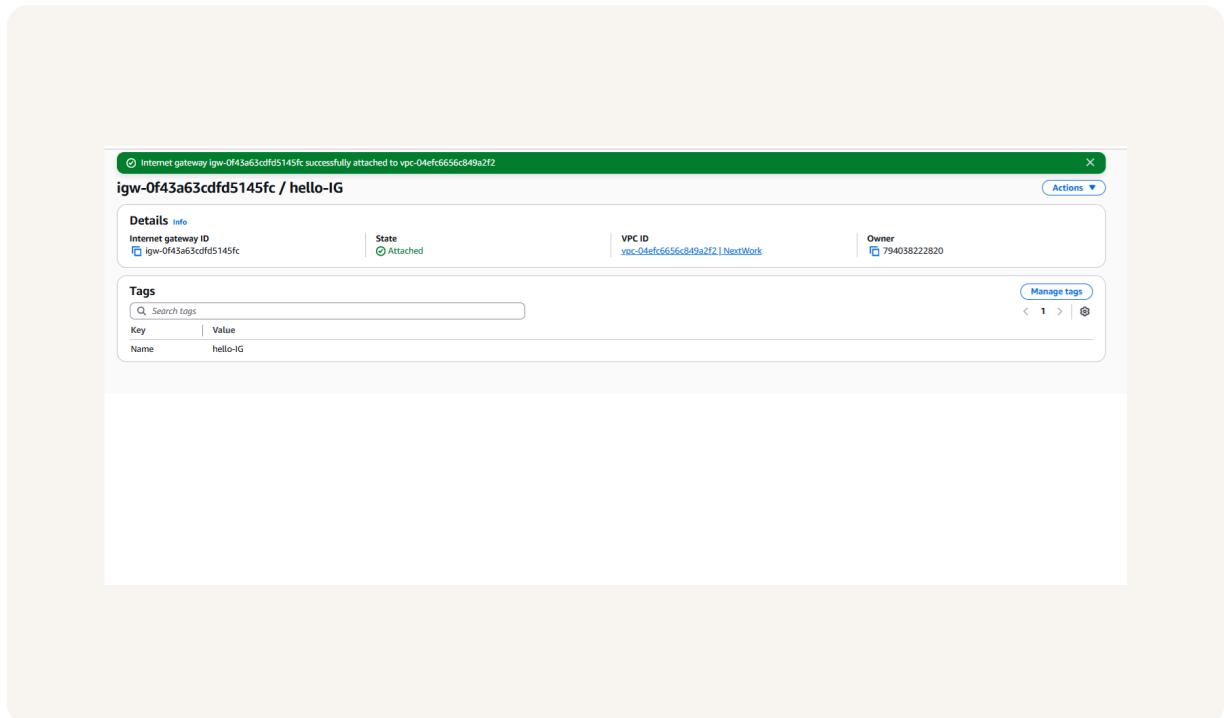
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Internet gateways

Internet gateways are bridge between VPCs/subnets and internets. Internets gateways allows VPCs /Subnets to access the internet and be available for external users. Applications are available in internet due to internet gateways.

Attaching an Internet Gateway to a VPC enables resources within the VPC to access the internet. Without this step, resources remain isolated and cannot send or receive data from the public internet, which may affect updates, connectivity, or external





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