



Build a Virtual Private Cloud



Sai Prasanth Reddy

VPC > Your VPCs > Create VPC

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

IPv4 CIDR
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
Default



Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a service that allows you to create isolated cloud networks within AWS. It's useful because it gives you control over your network settings, such as IP ranges, subnets, and security, enabling secure, scalable, and custom cloud env.

How I used Amazon VPC in this project

I used Amazon VPC in today's project to create an isolated network environment, defined IP ranges, set up subnets, attached an internet gateway, and configured route tables to manage traffic flow, ensuring secure and organized resource deployment.

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

One thing I didn't expect in this project was how much manual configuration was required to ensure internet access, especially with setting up the internet gateway for the public subnet.

This project took me...

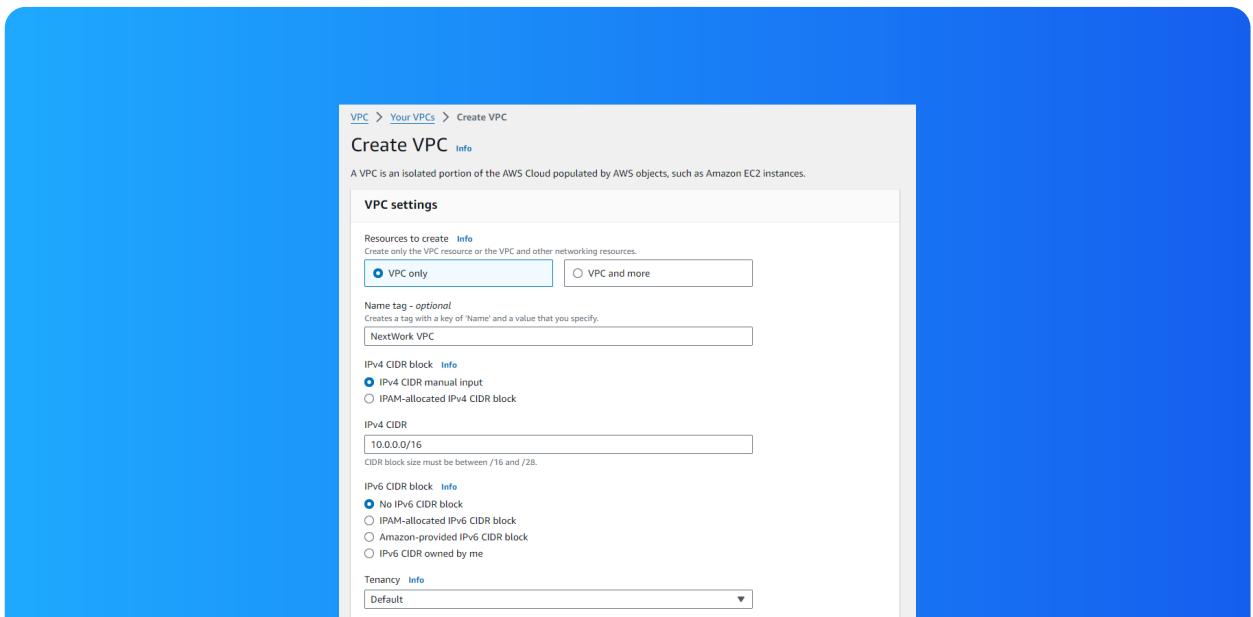
This project took me about 30 minutes, mainly due to the detailed configuration of VPC, subnets, internet gateways to ensure everything was set up correctly for secure and functional network access.

Virtual Private Clouds (VPCs)

VPCs are Virtual Private Clouds that provide isolated network environments within a cloud infrastructure(AWS). They allow you to define your own IP ranges, subnets, route tables and gateways, giving you full control over network traffic and security.

There was already a default VPC in my account ever since my AWS account was created. This is because AWS provides it for easy instance launching, so users can quickly deploy resources without creating custom networking configurations.

To set up my VPC, I had to define an IPv4 CIDR, which means specifying an IP address range in the format of "x.x.x.x/yy," where x is the IP and yy is the subnet mask, determining the network size and available IP addresses.





Subnets

Subnets are subdivisions of a VPC's IP address range that allow you to organize and isolate resources. Each subnet can be designated as public or private, controlling access to the internet and improving network organization and security.

There are already subnets existing in my account, one for every Availability Zone in the default VPC. AWS provides these by default to ensure users can easily deploy resources across different zones without custom network configuration.

I named my subnet Public 1, but that doesn't automatically make my subnet a public subnet. For a subnet to be considered public, it has to have an internet gateway attached and route traffic to that gateway through its route table.

The screenshot shows the AWS Subnets page with the following details:

Subnets (1/1) Info

Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR	IPv6 CIDR association ID
Public 1	subnet-0ffdd15ee2ae45558	Available	vpc-0e480902dca98076f	10.0.0.0/24	-	-

subnet-0ffdd15ee2ae45558 / Public 1

Details

Subnet ID	subnet-0ffdd15ee2ae45558	State	IPv4 CIDR
Available IPv4 addresses	251	Available	10.0.0.0/24
Availability Zone ID	use1-az4	IPv6 CIDR	Availability Zone
Network ACL	us-east-1	VPC	us-east-1a
		Network border group	Route table
		vpc-0e480902dca98076f	rtb-0259b1195a44720c5
			Auto-assign public IPv4 address
			Auto-assign IPv6 address



Internet gateways

Internet gateways are components that allow communication between resources in a VPC and the internet. They act as a bridge, enabling instances in public subnets to send and receive traffic to and from the internet.

Attaching an internet gateway to a VPC means instances in public subnets can communicate with the internet, allowing inbound and outbound traffic, provided the route tables and security groups permit it. This enables external access to those resources.

The screenshot shows the AWS VPC Internet Gateways console. The top navigation bar includes 'VPC', 'Internet gateways', and the specific item 'igw-01b9feaf3f6da4e57 / NextWork IG'. The main content area is titled 'igw-01b9feaf3f6da4e57 / NextWork IG'. Below this, there are two tabs: 'Details' (selected) and 'Info'. The 'Details' tab displays the following information:

Internet gateway ID	State	VPC ID	Owner
igw-01b9feaf3f6da4e57	Attached	vpc-0e480902dca98076f NextWork VPC	381491882143

Below the table, there is a 'Tags' section with a search bar labeled 'Search tags' and a table showing one tag: 'Name' with the value 'NextWork IG'. There are also 'Actions' and 'Manage tags' buttons.



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