



Build a Virtual Private Cloud



Emmanuel Enalpe III

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



Emmanuel Enalpe III

NextWork Student

NextWork.org

Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a service to create isolated, secure networks within AWS. It enables you to control network settings, like IP ranges, subnets, routing, and security, ensuring secure and customized connectivity for your resources

How I used Amazon VPC in this project

I used Amazon VPC to create an isolated network environment, created my subnet with enabled auto-assign public IPv4 addresses, and attached an internet gateway to connect to the VPC.

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

One thing that I didn't expect in this project is how easy it is to setup a VPC that can be publicly accessed on the internet.

This project took me...

This project took me about less than an hour to complete.



Virtual Private Clouds (VPCs)

VPCs are isolated networks in the AWS cloud where you can launch resources like EC2 instances. They provide control over networking, IP address ranges, subnets, route tables, and security settings.

There was already a default VPC in my account ever since my AWS account was created. This is because AWS automatically creates a default VPC for each region to simplify launching resources with basic networking configurations.

To set up my VPC, I had to define an IPv4 CIDR block, which is a range of IP addresses in Classless Inter-Domain Routing format (e.g., 192.168.0.0/16) used to allocate private IPs for networked resources.

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
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



Subnets

Subnets are segments of a VPC's IP address range for isolating resources. There are already subnets in my account, one for every Availability Zone, allowing resources in different zones to communicate within the VPC.

Once I created my subnet, I enabled auto-assign public IPv4 addresses. This setting ensures instances launched in the subnet automatically get public IPs, so they can communicate with the internet without manual configuration.

The difference between public and private subnets is the route to the internet. For a subnet to be considered public, it must have a route in its route table pointing to an internet gateway.

You have successfully changed subnet settings:
Enable auto-assign public IPv4 address

Subnets (1/1) [Info](#)

Last updated less than a minute ago Actions [Create subnet](#)

Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR	IPv6 CIDR
Public 1	subnet-0bb7ec5ced681620c	Available	vpc-070ea398b85ec3980 NextWork VPC	Off	10.0.0.0/24	-

subnet-0bb7ec5ced681620c / Public 1

Details Flow logs Route table Network ACL CIDR reservations Sharing Tags

Details

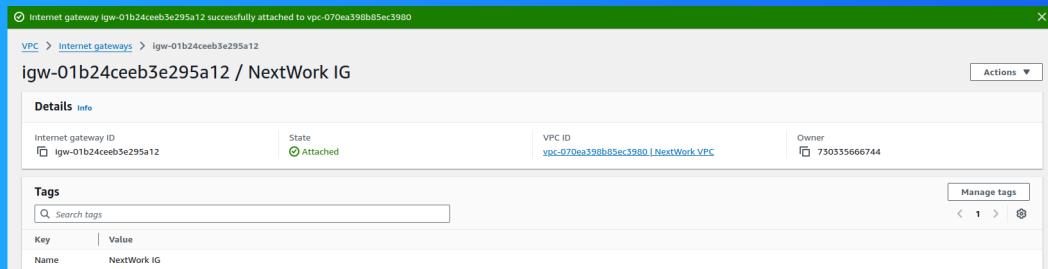
Subnet ID	Subnet ARN	State	Block Public Access
subnet-0bb7ec5ced681620c	arn:aws:ec2:ap-southeast-1:730355666744:subnet/subnet-0bb7ec5ced681620c	Available	Off
IPv4 CIDR	IPv6 CIDR	IPv6 CIDR association ID	
10.0.0.0/24	-	-	
Availability Zone	Available IPv4 addresses	Network border group	VPC
ap-southeast-1a	251	ap-southeast-1	vpc-070ea398b85ec3980 NextWork VPC
Route table	Availability Zone ID	Default subnet	Auto-assign public IPv4 address
-	ap-southeast-1a	No	Yes
Auto-assign IPv6 address	Network ACL	Customer-owned IPv4 pool	Outpost ID
No	-	-	-
IPv4 CIDR reservations	Auto-assign customer-owned IPv4 address	IPv6-only	Hostname type
-	No	No	IP name
Resource name DNS A record	IPv6 CIDR reservations	DNS64	Owner



Internet gateways

Internet gateways are AWS resources that enable communication between VPCs and the internet, allowing instances with public IPs to send and receive data from the internet.

Attaching an internet gateway to a VPC means enabling internet access for resources. If I missed this step, instances can't communicate outside the VPC, blocking public internet access despite proper security group and route table settings.





NextWork.org

Everyone should be in a job they love.

Check out nextwork.org for
more projects

