



# Build a Virtual Private Cloud (VPC)

R

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**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

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  [Remove tag](#)

[Add tag](#)

You can add 49 more tags

[Cancel](#) [Preview code](#) [Create VPC](#)



# Introducing Today's Project!

## What is Amazon VPC?

Amazon VPC is a virtual cloud space, like your own city. It helps distinguish your resources from others in the Amazon cloud space. Else, you would be left lost trying to find your resources in a vast world of resources.

## How I used Amazon VPC in this project

I used Amazon VPC to create a subnet inside the VPC and connect the VPC to the internet via an internet gateway

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

The secret mission and the options to setup a VPC, subnet and internet gateway via CLI with AWS cloudshell.

## This project took me...

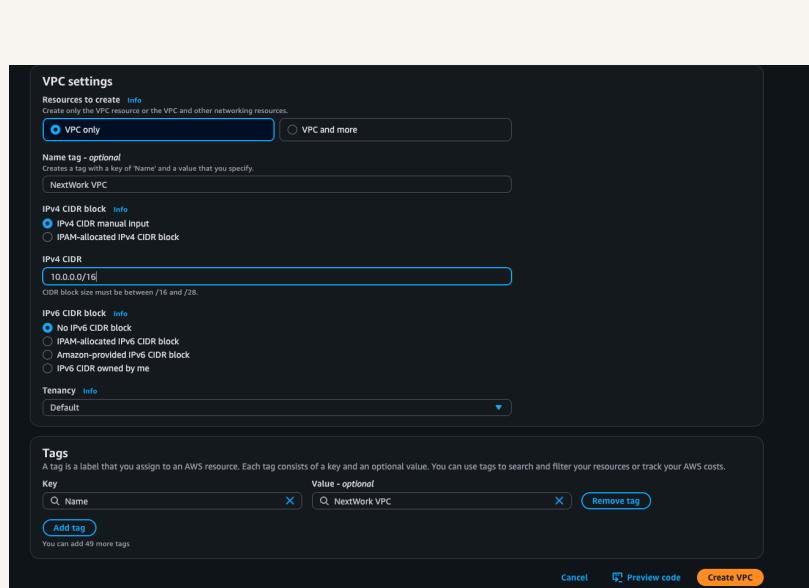
An hour

# Virtual Private Clouds (VPCs)

private sections in the cloud to distinguish one's resources from others

we need one to run ec2 instances and other services that require a VPC

10.0.0.0/16 which allows ip addresses from 10.0.0.0 to 10.0.255.255





## Subnets

Subnets are like neighborhoods in a city(VPC). There are already 3 subnets existing in my account for the default VPC, one for every availability zone (AZ).

Once I created my subnet, I enabled auto-assign public IPv4 addresses. This setting makes sure the subnet has access to the internet and is accessible from the internet so that any EC2 instance launched in this subnet will instantly get a public IP.

The difference between public and private subnets are access to the internet which is obtained via an internet gateway. For a subnet to be considered public, it has to be connected to the internet via an internet gateway.



The screenshot shows the AWS VPC dashboard with the Subnets section selected. A green success message at the top states: "You have successfully changed subnet settings: Enable auto-assign public IPv4 address". The main table lists one subnet:

Name	Subnet ID	State	VPC	Block Public Access	IPv4 CIDR
Public 1	subnet-0962c9a6cf58bafc	Available	vpc-002653e043f808db9	Off	10.0.0.0/24

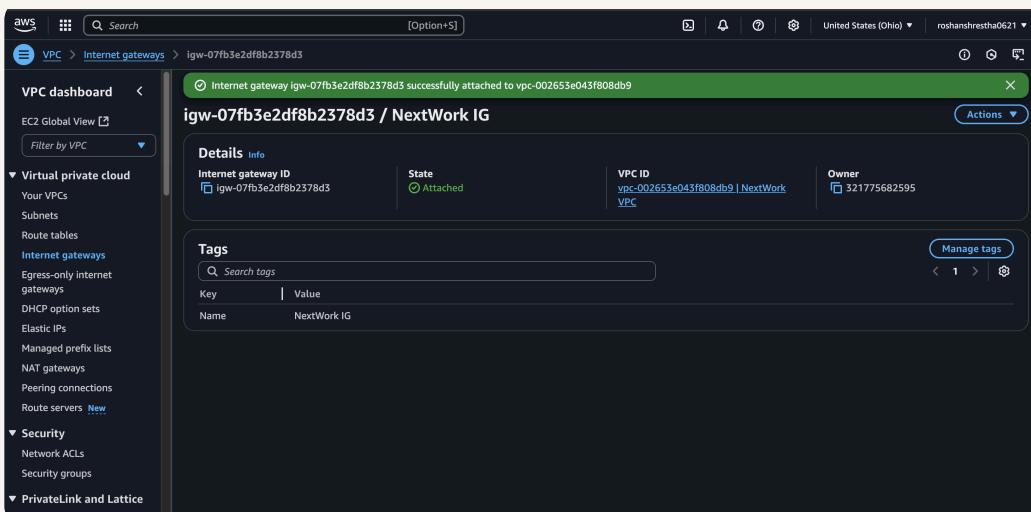
Below the table, a detailed view for the subnet is shown with the following information:

Details			
Subnet ID: subnet-0962c9a6cf58bafc	Subnet ARN: arn:aws:ec2:us-east-2:321775682595:subnet/subnet-0962c9a6cf58bafc	State: Available	Block Public Access: Off
IPv4 CIDR: 10.0.0.0/24	Available IPv4 addresses: 251	IPv6 CIDR: -	IPv6 CIDR association ID: -
Availability Zone: us-east-2a	Availability Zone ID: usr-0962c9a6cf58bafc	VPC: vpc-002653e043f808db9	Route table: NextWork

# Internet gateways

Internet gateways are bridges that connect a VPC to the public internet.

Attaching an internet gateway to a VPC means that VPC is not connected to the internet. If I missed this step, that VPC wouldn't be able to connect to the internet. Hence, any EC2 instances created in that VPC would not have access to the internet.





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