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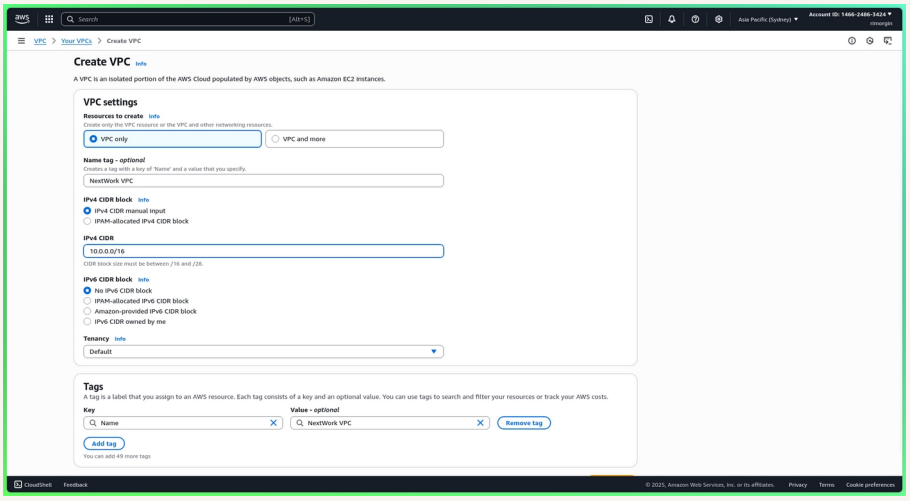
Build a Virtual Private Cloud (VPC)

Sean Calderon



Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is a useful for providing granularity and streamlined management of virtual networks in the cloud. It is useful in a way you create networks, segment the network with subnets and group resources according to what's the best fit for you.

How I used Amazon VPC in this project

For this project, I used Amazon VPC for creating my own virtual network in the AWS cloud, divided it in smaller segments called subnets, and attached internet gateway to a public subnet to make it accessible and reachable over the internet.

This project took me...

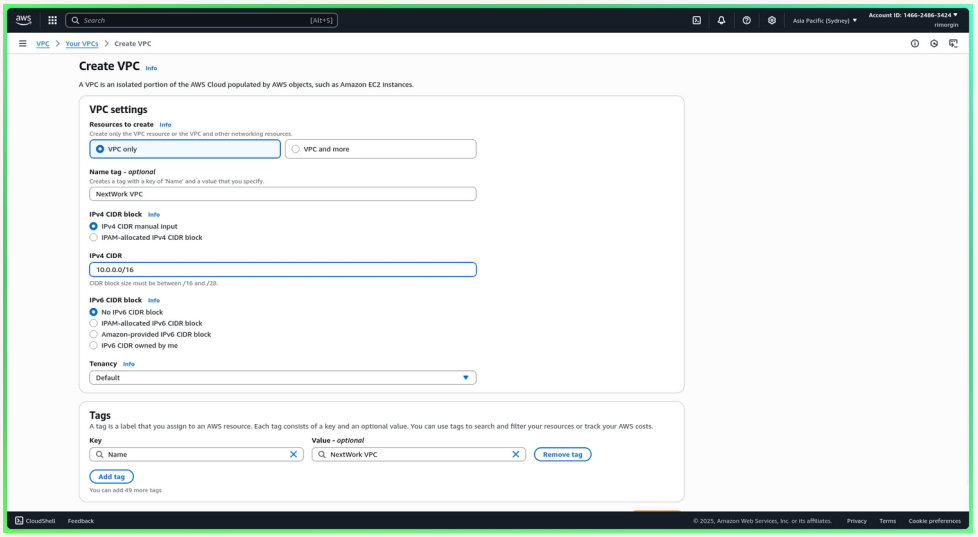
This project took me 15 minutes. There was no challenging part in this project because AWS has default VPCs up to subnets and internet gateways and has helped me understand it thoroughly the bits and parts of VPC.

Virtual Private Clouds (VPCs)

VPCs are division of networks or known as subnets. In networking concept, subnets divide networks in smaller parts. VPCs are the same concept but the difference it is in the cloud.

There was already a default VPC in my account ever since my AWS account was created. This is because creating resources requires no additional configuration on networking properties and is beneficial for on-demand resources.

To set up my VPC, I had to define an IPv4 CIDR block, which is my network in the vast virtual cloud of AWS. With the help of IPv4 CIDR block, resources can be assigned with IPv4 address and will be able to communicate to other resources or publicly.


Search
[Alt+S]
Asia Pacific (Sydney)
Account ID: 1466-2486-3424
rimorgin
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
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
Name
NextWork VPC
Remove tag
Add tag
You can add 49 more tags
CloudShell
Feedback
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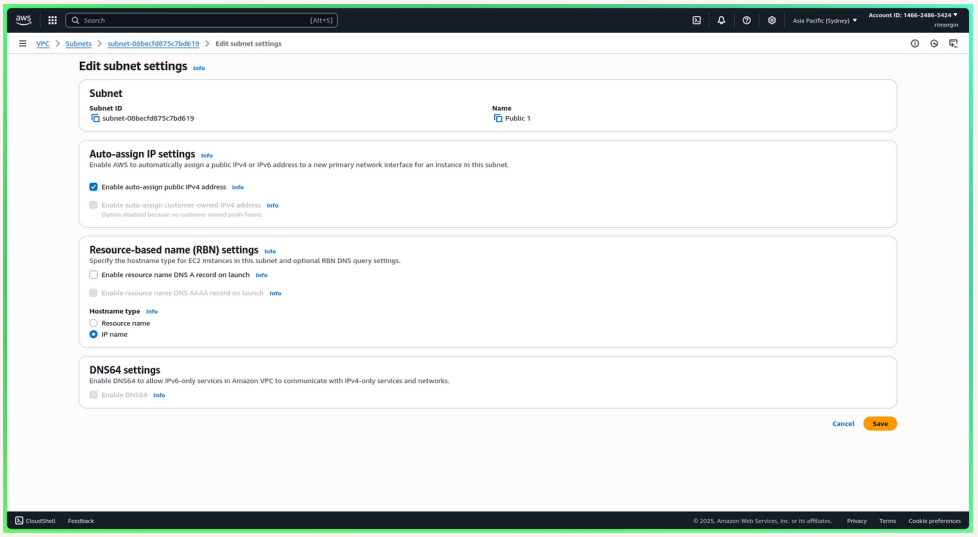
Subnets

Subnets are division of VPC to a smaller segments of IPv4 address block. There are already subnets existing in my account, one for every availability zone in the selected region.

Once I created my subnet, I ticked "enable auto-assign public IPv4 addresses". This setting makes sure EC2 instance to be launched will automatically have public ip address assigned so that it can reach the internet or can be access over the internet

The difference between public and private subnets is public subnet is publicly viewable/accessible by anyone, while private subnet does not. For a subnet to be considered public, it has to be connected to the internet gateway.


Search
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Asia Pacific (Sydney)
VPC > Subnets > subnet-08becfd875c7bd619 > Edit subnet settings
Edit subnet settings Info
Subnet
Subnet ID
subnet-08becfd875c7bd619
Name
Public 1
Auto-assign IP settings Info
Enable AWS to automatically assign a public IPv4 or IPv6 address to a new primary network interface for an instance in this subnet.
Enable auto-assign public IPv4 address Info
Enable auto-assign customer-owned IPv4 address Info
Option disabled because no customer owned pools found.
Resource-based name (RBN) settings Info
Specify the hostname type for EC2 instances in this subnet and optional RBN DNS query settings.
Enable resource name DNS A record on launch Info
Enable resource name DNS AAAA record on launch Info
Hostname type Info
Resource name
IP name
DNS64 settings
Enable DNS64 to allow IPv6-only services in Amazon VPC to communicate with IPv4-only services and networks.
Enable DNS64 Info
Cancel
Save
CloudShell
Feedback
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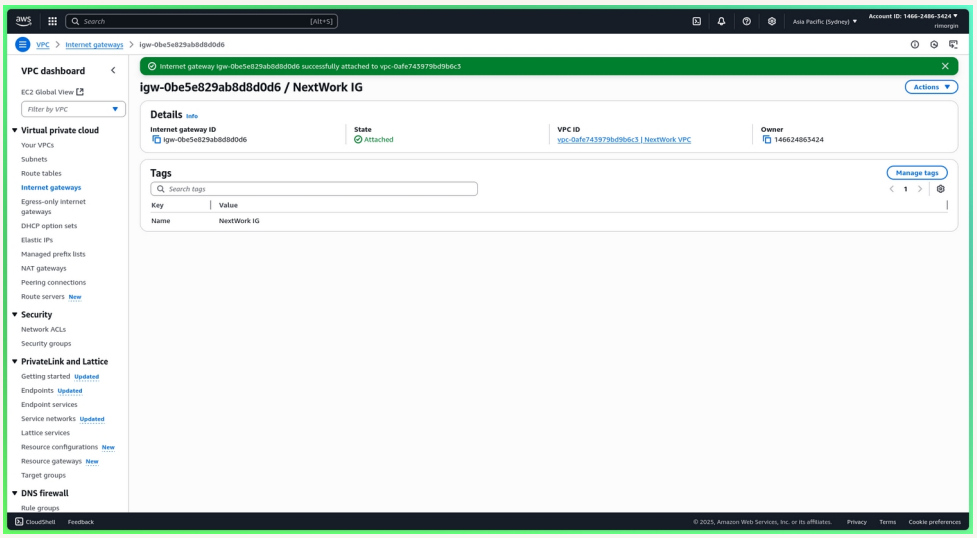
Internet gateways

Internet gateways are what makes VPCs readily accessible and available over the internet so that any resources or, to be exact, EC2 instances that acts as a public-facing servers for a website, vpn, or etc.

Attaching an internet gateway to a VPC means my resources can now be accessible or reachable over the internet. If I missed this step its impossible for my resources to have access to.



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