



Build a Virtual Private Cloud



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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.

Project 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



Introducing Today's Project!

What is Amazon VPC?

Amazon VPC (Virtual Private Cloud) exists within an AWS region and is used to build a private and secure connection for resources in the subnets. Through an internet gateway, these resources and users can access internet to communicate each other.

How I used Amazon VPC in this project

I used Amazon VPC in today's project to build a connection to the internet via an internet gateway. I also assigned a CIDR block to my VPC and created a subnet for my resources to access the internet, as well as for users to access those resources.

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

One thing I did not expect in this project was learning how the CIDR block works for both the VPC and subnets.

This project took me...

The entire project, including writing the report, took me an hour and a half to complete.



Virtual Private Clouds VPCs

A Virtual Private Cloud (VPC) is an isolated section of the AWS cloud that allows you to securely host and control resources, ensuring they remain private and protected.

There has been a default VPC in my account since my AWS account was created. This is because AWS sets up a default VPC to allow me to deploy resources like EC2 instances and RDS databases immediately without having to create a VPC from scratch.

To set up my VPC, I had to define an IPv4 CIDR, which is a range of IP addresses that my VPC can allocate to the resources deployed within it.

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Subnets

Subnets are subdivisions of my VPC's CIDR block (range of IP addresses) where AWS resources, such as EC2 instances and RDS databases, can be placed. Each subnet is defined by its own CIDR block, which is a subset of the VPC's CIDR block.

There are already subnets existing in my account, with one for each Availability Zone in the Sydney region (ap-southeast-2). Since this region has three Availability Zones, I have three subnets set up.

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 must be routed to an internet gateway.

Subnets (1/4) Info				Last updated 7 minutes ago	Actions	Create subnet
Find resources by attribute or tag						
	Name	Subnet ID	State	VPC		
<input type="checkbox"/>	-	subnet-0b7c45df62e38aafb	Available	vpc-00410634a389797ca		
<input type="checkbox"/>	-	subnet-03eeee2b1d72256ec	Available	vpc-00410634a389797ca		
<input type="checkbox"/>	-	subnet-068b11a7b41e8e653	Available	vpc-00410634a389797ca		
<input checked="" type="checkbox"/>	Public 1	subnet-0610ea49f92e1c98e	Available	vpc-0af5f429db2d4f629 Proje...		



Internet gateways

Internet gateways are components of my VPC that allow resources within the VPC's subnets to access the internet. They also enable external users to access the resources in my VPC's public subnets.

Attaching an internet gateway to a VPC allows resources in the VPC's subnets to access the internet. EC2 instances with public IPs can also become accessible to external users, making the applications hosted on those instances publicly available.

The screenshot displays the AWS Management Console interface for an Internet Gateway. The breadcrumb navigation shows 'VPC > Internet gateways > igw-0400c3c9706f1f2e6'. The main heading is 'igw-0400c3c9706f1f2e6 / Project VPC IG'. Below this, there is a 'Details' section with a table of attributes:

Details Info			
Internet gateway ID	State	VPC ID	Owner
igw-0400c3c9706f1f2e6	Attached	vpc-0af5f429db2d4f629 Project VPC	637423622277

Below the details section is a 'Tags' section with a search bar and a table of tags:

Key	Value
Name	Project VPC IG



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