

Launching VPC Resources

Erik Gonzalez

Create VPC [Info](#)

A VPC is an isolated portion of the AWS Cloud populated by AWS objects, such as Amazon EC2 instances. Mouse over a resource to highlight the related resources.

VPC settings [Info](#)

Resources to create [Info](#)

Create only the VPC resource or the VPC and other networking resources.

☐ VPC only ☒ VPC and more

Name tag auto-generation [Info](#)

Enter a value for the Name tag. This value will be used to auto-generate Name tags for all resources in the VPC.

☒ Auto-generate

IPv4 CIDR block [Info](#)

Determine the starting IP and the size of your VPC using CIDR notation.

65,536 IP

CIDR block size must be between /16 and /28.

IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

Tenancy [Info](#)

► **Encryption settings - optional**

Number of Availability Zones (AZs) [Info](#)

Choose the number of AZs in which to provision subnets. We recommend at least two AZs for high availability.

☒ 1 ☐ 2 ☐ 3

► **Customize AZs**

Number of public subnets [Info](#)

Preview

VPC [Show details](#)

Your AWS virtual network

Nimbus-vpc

Subnets (2)

Subnets within this VPC

us-east-1a

Nimbus-subnet-public1-us-east-1a

Nimbus-subnet-private1-us-east-1a

Route tables (2)

Route network traffic to resources

Nimbus-rtb-public

Nimbus-rtb-private1-us-east-1a

Introducing Today's Project!

How I used Amazon VPC in this project

I used Amazon VPC to create public and private subnets and other resources that I will continue to use in this VPC project.

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

One thing I didn't expect in this project was that you only have options for no AZ or 1 AZ.

This project took me...

This project took me a little over an hour to complete.

Setting Up Direct VMAccess

Directly accessing a virtual machine means logging into the EC2 instance instead of just managing it on a higher level with the AWS management console. This includes operations like installing software and changing my EC2 instances configurations.

SSH is a key method for directly accessing a VM

SSH traffic means Secure Shell and it is both a protocol and a traffic type. It is a protocol that matches key pairs, and enables direct VM access, and once a connection is set up, it is a traffic type that encrypts communication data being transferred.

To enable direct access, I set up key pairs

Key pairs are tools that help developers and engineers authenticate themselves when trying to get direct access to virtual machines e.g. an EC2 instance. Key pairs work by having two private keys - a private key for the VM and a matching private key for the resource/user!

A private key's file format means the file type that my key is stored in. My private key's file format was .pem which is a widely accepted file format that most servers can read/use.

Launching a public server

I had to change my EC2 instance's networking settings by changing the VPC and the subnet my EC2 instance was going to launch in. I updated both to my VPC and my public subnet respectively. I also used my existing public security.

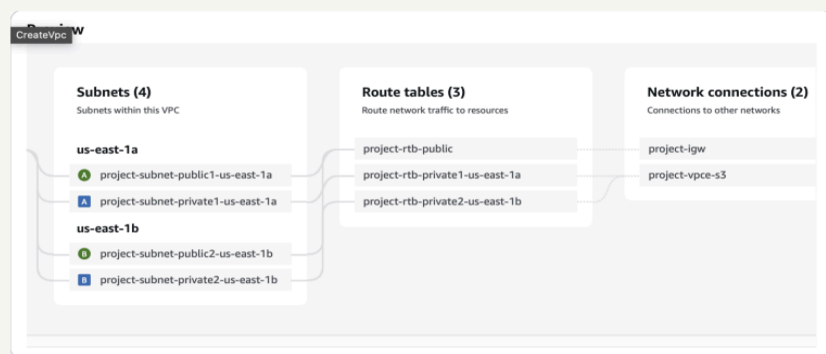
Instances: b0eb1684b3bbb0 (Nimbus Public Server)		
VPC ID vpc-0629ca7556832552b (nimbus-vpc)	Subnet ID subnet-04ddb6e6ee85a52 (nimbus-Public-subnet)	Availability zone us-east-1a
Availability zone ID use1-az1	Outpost ID -	
▼ IP addresses Info		
Public IPv4 address 34.201.24.75 open address	Private IPv4 addresses 10.0.0.35	IPv6 addresses -
Secondary private IPv4 addresses -	Carrier IP addresses (ephemeral) -	
▼ Hostname and DNS Info		
Public DNS -	Private IP DNS name (IPv4 only) ip-10-0-0-35.ec2.internal	IPv4-only IP based name: A record only -
Dualstack - IP based name: A and AAAA record	IPv6-only - IP based name: AAAA record only	Public hostname type

Speeding up VPC creation

I used an alternative way to set up an Amazon VPC! This time, I chose the 'VPC and More' option which gave me a VPC resource map to use when creating the VPC and all of its components e.g. security groups, route tables, internet gateways.

A VPC resource map is a visual diagram that maps out all my VPC components and the relationship/communications between them. A resource map is interactive, it will highlight the connections relevant to a resource that I highlight or hover over.

My new VPC has a CIDR block of 10.0.0.0/16 It is possible for my new VPC to have the same IPv4 CIDR block as my existing VPC because VPCs are already isolated from each other. Still, this is not best practice if we need VPC peering.



Speeding up VPC creation

Tips for using the VPC resource map

When determining the number of public subnets in my VPC, I only had two options: either none, or one in each availability zone. This was because it is best practice to have at least one subnet/AZ

The set up page also offered to create NAT gateways, which are connector gateways that will let resources in my private subnet get access to the internet (e.g. for security updates) while still blocking incoming traffic from the internet.

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