

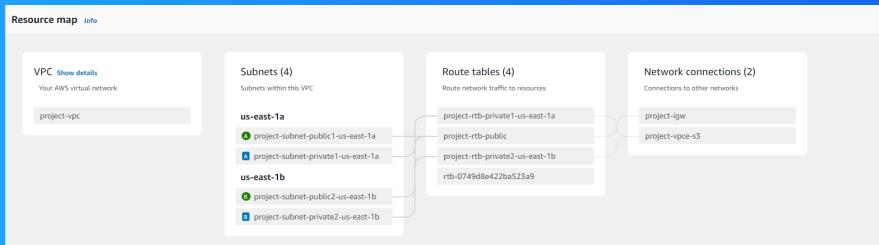


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Launching VPC Resources



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Introducing Today's Project!

What is Amazon VPC?

Amazon Virtual Private Cloud (Amazon VPC) gives you full control over your virtual networking environment, including resource placement, connectivity, and security

How I used Amazon VPC in this project

I did use VPC to create 2 subnets public and private.

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

I didn't expect use a VPC resource map

This project took me...

45 min



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Setting Up Direct VM Access

A direct connection to the EC2 instance allows the user to issue commands at the instance level, update software, download software, verify operation, and more.

SSH is a key method for directly accessing a VM

SSH is extremely common and is the standard way for developers to securely log in from their computer to another remote computer (e.g., an EC2 instance).

To enable direct access, I set up key pairs

The key pair type determines the algorithm used for generating the key pair's cryptographic keys. We use RSA (Rivest-Shamir-Adleman), which is one of the most common cryptographic algorithms used due to its strength and security. RSA is widely supported.

The .pem format, which stands for Privacy Enhanced Mail, started off as a way to secure emails but has since become the go-to format for managing cryptographic keys because it is supported by many different types of servers e.g. EC2 instances!



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Launching a public server

When you launch an instance, you can select a subnet from the VPC. The instance is configured with a primary network interface.

The screenshot shows the AWS Lambda function configuration page for the function **i-0fc1d7f5a89a32e56 (NextWork Public Server)**. The Networking tab is selected. The Networking details section displays the following information:

Setting	Value
Public IPv4 address	44.200.41.227 open address
Public IPv4 DNS	-
Subnet ID	subnet-0852b6dbdfbc75267 (NextWork Public Subnet)
Availability zone	us-east-1f
Use RBN as guest OS hostname	Disabled
Private IPv4 addresses	10.0.1.195
Private IP DNS name (IPv4 only)	ip-10-0-1-195.ec2.internal
IPV6 addresses	-
Carrier IP addresses (ephemeral)	-
Answer RBN DNS hostname IPv4	Disabled
VPC ID	vpc-01525de74dbc29a2a (NexWork VPC)
Secondary private IPv4 addresses	-
Outpost ID	-



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Launching a private server

Choosing the NextWork Public Security Group as the source means only resources that are part of the NextWork Public Security Group can communicate with your instance. This restricts access to a much smaller group of trusted resources, rather than all

Start your response with 'My private server's security group's source is Public Security Group which means this restricts access to a much smaller group of trusted resources

The screenshot shows the AWS CloudFormation console with a blue header bar. Below the header, the title "i-09f11c729fcb0b373 (NextWork Private Server)" is displayed. Under the "Security groups" section, a single security group "sg-0a7c20df660557667 (NextWork Private Security Group)" is listed. In the "Inbound rules" section, there is one rule listed:

Security group rule ID	Port range	Protocol	Source	Security groups
sgr-08486eec07826e86c	22	TCP	sg-056fa98da8de246a2	NextWork Private



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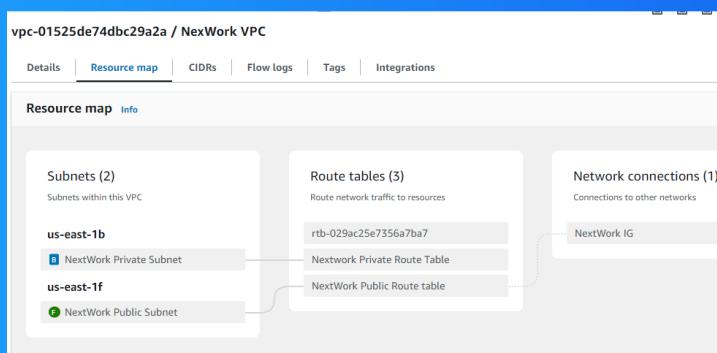
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Speeding up VPC creation

I used an alternative way to set up an Amazon VPC! This time.

Resource map shows interconnections between resources within a VPC and the flow of traffic between subnets, NAT gateways, internet gateway and gateway endpoints

A VPC must have an associated IPv4 CIDR block. You can optionally associate additional IPv4 CIDR blocks and one or more IPv6 CIDR block





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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

A NAT gateway is a Network Address Translation (NAT) service. You can use a NAT gateway so that instances in a private subnet can connect to services outside your VPC but external services cannot initiate a connection with those instances.





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