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Launching VPC Resources



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Screenshot of the AWS Create VPC wizard showing the 'VPC Settings' and 'Preview' steps.

VPC Settings:

- Name tag auto-generation:** Auto-generate VPC only VPC and more
- Name tag:** nextwork
- IPv4 CIDR block:** 10.0.0.0/16 (65,536 IPs)
- IPv6 CIDR block:** No IPv6 CIDR block Amazon-provided IPv6 CIDR block
- Tenancy:** Default
- Number of Availability Zones (AZs):** Choose the number of AZs in which to provision subnets. We recommend at least two AZs for high availability. (1 | 2 | 3)

Preview:

Your AWS virtual network: nextwork-vpc

Subnets (6)	Route tables (5)
eu-west-1a <ul style="list-style-type: none">nextwork-subnet-public1-eu-west-1anextwork-subnet-private1-eu-west-1anextwork-subnet-private3-eu-west-1a	nextwork-rt-public
eu-west-1b <ul style="list-style-type: none">nextwork-subnet-public2-eu-west-1bnextwork-subnet-private2-eu-west-1bnextwork-subnet-private4-eu-west-1b	nextwork-rt-private1-eu-west-
	nextwork-rt-private2-eu-west-
	nextwork-rt-private3-eu-west-
	nextwork-rt-private4-eu-west-

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Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is Virtual Private Cloud and it is useful because it helps us create private network and connect our resources together.

How I used Amazon VPC in this project

I used Amazon VPC to connect ec2 instance

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

One thing I didn't expect in this project was the misunderstanding i got when creating a new key pair, didn't check out connecting the previous one i once created.

This project took me...

This project took me 1 hour

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Setting Up Direct VM Access

Directly accessing a virtual machine means having ability to do administrative work such as file management, application launch, etc.

SSH is a key method for directly accessing a VM

SSH traffic means secure connection to our ec2, which communicate via port 22.

To enable direct access, I set up key pairs

Key pairs are keys used in securely connecting to our EC2 instance directly,

A private key's file format means the extension used in saving your key which also determine the algorithm used. My private key's file format was ".pem"

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Launching a public server

I had to change my EC2 instance's networking settings by connecting my instance to my VPC and the ideal subnet of which i already connected in the last class.

I-0984/5993a8826d55 (NextWork Public Server)		
VPC ID vpc-0d950959f5c7e1d69 (NextWork VPC)	Subnet ID subnet-01977e47d1bdde853 (NextWork Public Subnet)	Availability zone eu-west-1a
Availability zone ID euw1-az2	Outpost ID -	
▶ IP addresses Info		
▼ Hostname and DNS Info		
Public DNS -	Private IP DNS name (IPv4 only) ip-10-0-0-133.eu-west-1.compute.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 -
Private hostname type	Use RBN as guest OS hostname	Answer RBN DNS hostname IPv4

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Launching a private server

My private server has its own dedicated security group because, it resources are not meant to be access via any computer rather through SSH .

My private server's security group's source is NextWork Security Group, which means only IP addresses belonging to it can communicate with it.

The screenshot shows a user interface for launching a new Amazon EC2 instance. On the left, there is a detailed configuration panel for a security group named "NextWork Private Security Group". It includes fields for "Security group name" (required), "Description" (optional), and an "Inbound Security Group Rules" section where a rule for port 22 (TCP) from a custom source (IP address sg-003927a6c939736ad) is being added. On the right, a summary panel provides an overview of the launch configuration, including the number of instances (1), software image (Amazon Linux 2023 AMI 2023.8.2...), virtual server type (t3.micro), firewall (NextWork security group), and storage (1 volume(s) - 8 GiB).

Firewall (security groups) | [Info](#)
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.
 Create security group Select existing security group

Security group name - required

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and _-/.@!%^&_=;`{|}`\$^

Description - required | [Info](#)

Inbound Security Group Rules

▼ Security group rule 1 (TCP, 22, sg-003927a6c939736ad) [Remove](#)

Type	Protocol	Port range
ssh	TCP	22

Source type | [Info](#)
 [Add CIDR, prefix list or security group](#) [Remove](#)

Description - optional | [Info](#)

[Add security group rule](#) [Advanced network configuration](#)

Summary

Number of instances | [Info](#)
1

Software Image (AMI)
Amazon Linux 2023 AMI 2023.8.2... [read more](#)
ami-09b024e88ed7bbe74

Virtual server type (instance type)
t3.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

[Cancel](#)

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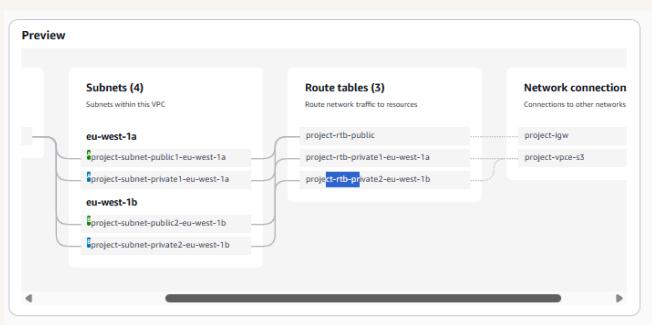
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Speeding up VPC creation

I used an alternative way to set up an Amazon VPC! This time, I use selected VPC and more, then configure the number of subnet and AZ, while on that i look out the resource map to see the reflection of what i was doing.

A VPC resource map is a diagram that shows relationship co existing within your VPC, Subnet, Route table and Internet gateway.

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 they are seperate from each other despite existing in same aws server.



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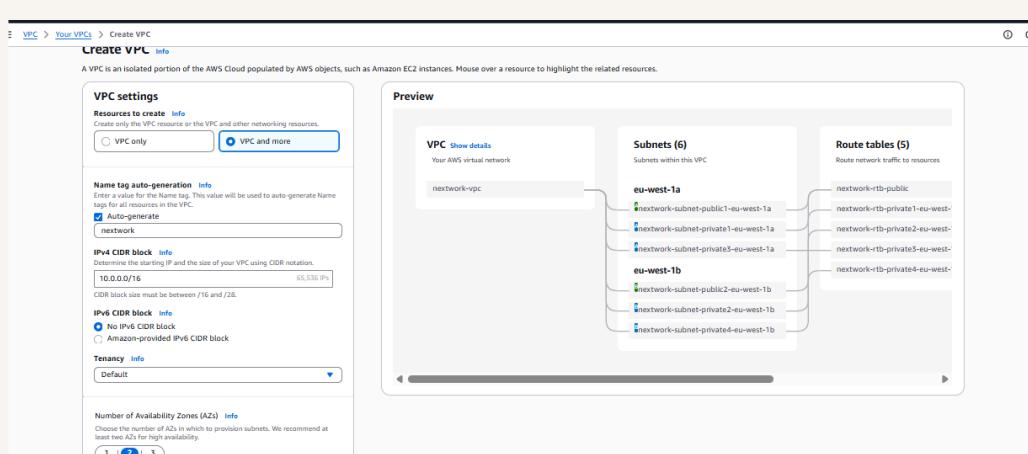
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Speeding up VPC creation

Tips for using the VPC resource map

When determining the number of public subnets in my VPC, I only had two options: 1. 0 2. 2 or 1 (if AZ is 1) This was because 1.) if you only want to create an internal network only 2. if you want to connect to the internet

The set up page also offered to create NAT gateways, which are option to connect to aws s3 within your VPC.





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