



Creating a Private Subnet



Michael Emeruwa

The screenshot shows a browser window for the AWS VPC console at eu-north-1.console.aws.amazon.com/vpcconsole/home?region=eu-north-1#subnets;subnetId=subnet-098a4a594d06a5f56. A green success message at the top states: "You have successfully created 1 subnet: subnet-098a4a594d06a5f56". Below it, a table lists the subnet details:

Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR
NextWork Private Subnet	subnet-098a4a594d06a5f56	Available	vpc-095403655080677e9 New...	Off	10.0.1.0/24

At the bottom of the table, there is a link: "Select a subnet".



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Introducing Today's Project!

What is Amazon VPC?

Amazon VPC (Virtual private cloud) is a secure, isolated cloud network to launch AWS resources. It enables control over IP addresses, subnets and access, ensuring secure, scalable, and customized deployments.

How I used Amazon VPC in this project

In the VPC, I created a private subnet, setting up the route table and NACL.

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

Straight forward project.

This project took me...

26mins.



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Private vs Public Subnets

The difference between public and private subnets is that external traffic can interact with data/ resources within the public subnet because it's connected to the internet, but cannot interact with resources/data in private subnet.

Having private subnets are useful because you can store sensitive data in them.

My private and public subnets cannot have the same CIDR Block.

A screenshot of the AWS VPC console showing a successfully created subnet. The browser address bar shows 'eu-north-1.console.aws.amazon.com/vpcconsole/home?region=eu-north-1#subnetssubnetId=subnet-098a4a594d06a5f56'. The main content area displays a table titled 'Subnets (1) Info' with one row:

Name	Subnet ID	VPC	Block Public...	IPv4 CIDR
NextWork Private Subnet	subnet-098a4a594d06a5f56	vpc-095403655080677e9 Nex...	Off	10.0.1.0/24

A green success message at the top left says 'You have successfully created 1 subnet: subnet-098a4a594d06a5f56'. The status bar at the bottom indicates 'CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences'.



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A dedicated route table

By default, my private subnet is associated with the NextWork public route table.

I had to set up a new route table because the nextwork public route table will allow public access to my private subnet, hence why I created a NextWork Private route table for my private subnet.

My private subnet's dedicated route table only has one inbound and one outbound rule that allows only internal traffic.

The screenshot shows the AWS VPC Route Tables page. At the top, there is a search bar and a 'Create route table' button. Below the search bar, a table lists three route tables:

Name	Route table ID	Explicit subnet associations	Main	VPC	Owner
NextWork Private Route Table	rtb-01464cd33f010e67f	subnet-098a4a594d06a5...	No	vpc-095403655080677e9 New...	41t
NextWork Public Route Table	rtb-03c8fa190b11844a9	—	Yes	vpc-095403655080677e9 New...	41t
—	rtb-0a8667016e02b3c19	—	Yes	vpc-0f71b2227fb933024	41t

Below the table, a modal window is open for the 'NextWork Public Route Table'. The 'Details' tab is selected, showing the following information:

- Route table ID: rtb-03c8fa190b11844a9
- Main: Yes
- Explicit subnet associations: —
- Edge associations: —

At the bottom of the modal, there are links for CloudShell, Feedback, and a footer with copyright information: © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences.



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A new network ACL

By default, my private subnet is associated with my ACL for the VPC I created.

I set up a dedicated network ACL for my private subnet because the default ACL allows all traffic to my subnets.

My new nextwork ACL has two simple rules- deny all inbounds and deny all outbounds.

The screenshot shows the AWS VPC Network ACLs page. There are three entries listed:

Name	Network ACL ID	Associated with	Default	VPC ID	Inbound rules count
-	acl-0267795258b42f01c	-	Yes	vpc-095403655080677e9 / NextWork...	2 Inbound rules
Nextwork Private NAACL	acl-0ad0027c58c118dd6	subnet-098a4a594d06a5f56 / NextWork Privat...	No	vpc-095403655080677e9 / NextWork...	1 Inbound rule
Nextwork Public NAACL	acl-05dfc13fc48a788dd	3 Subnets	Yes	vpc-0f71b2227fb923024	2 Inbound rules

Below the table, the details for the selected "Nextwork Public NAACL" are shown:

Details

Network ACL ID acl-05dfc13fc48a788dd	Associated with 3 Subnets	Default Yes	VPC ID vpc-0f71b2227fb923024
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