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VPC Traffic Flow and Security

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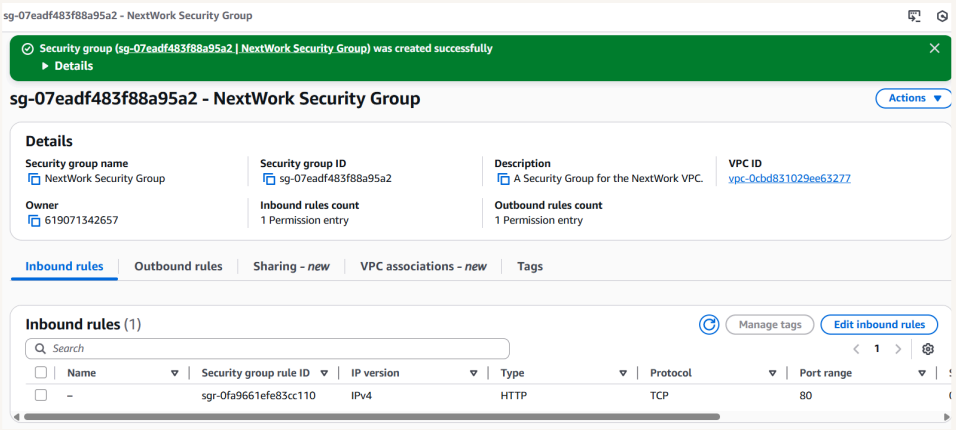


Introducing Today's Project!

What is Amazon VPC?

Amazon VPC is an isolated section of AWS and it is useful because it is private i.e. resources deployed in a VPC are not public and private.

How I used Amazon VPC in this project

In today's project, I used Amazon VPC to create a public subnet, internet gateway, route tables, security group, network ACL.

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

One thing I didn't expect in this project was there was default of everything like the default VPC, default subnet, default internet gateway, network ACL.

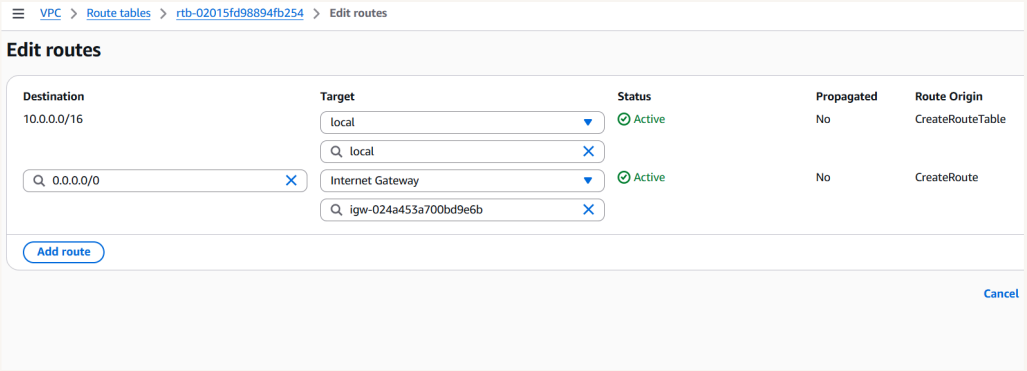
This project took me...

This project took me 2 and half hours including demo and understanging the concept.

Route tables

Route tables are like the GPS that directs traffic within my VPC to the correct destination.

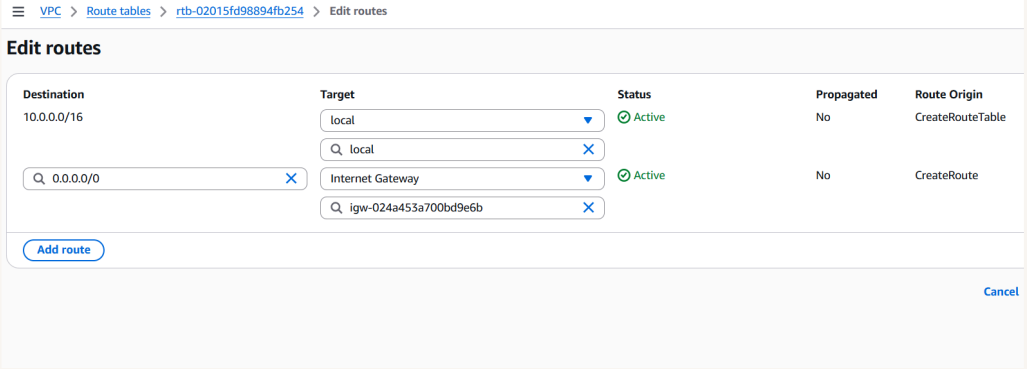
Routes tables are needed to make a subnet public because subnet needs to have route to an internet gateway in order to be considered public. A route table is the only way to establish this connection.



Route destination and target

Routes are defined by their destination and target, which mean the 'destination' is the range of IP addresses that traffic in my VPC is trying to reach. The 'target' is the road or the path that the traffic will use to get to their destination.

The route in my route table that directed internet-bound traffic to my internet gateway had a destination of 0.0.0.0/0 and a target of my-NextWork IG.



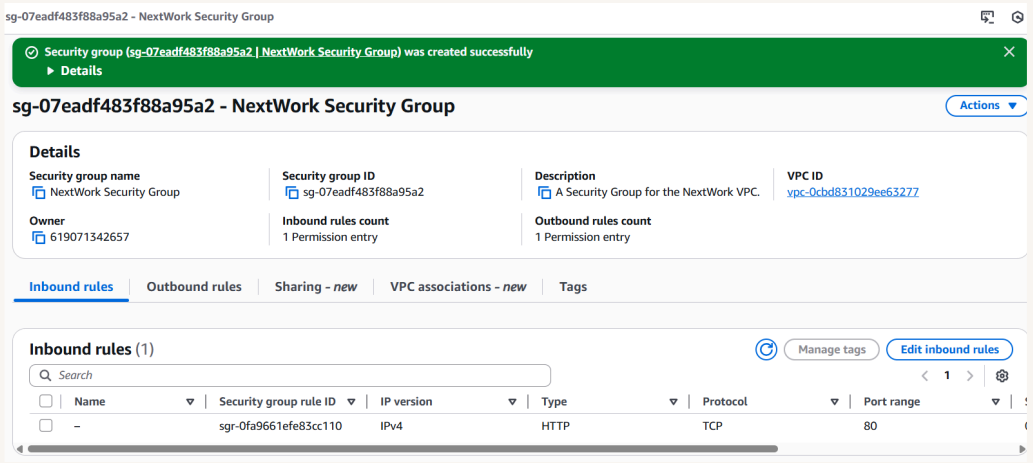
Security groups

Security groups are like the security guards that monitor both inbound and outbound traffic at the resource level i.e every single resource in a subnet in a VPC has a security group.

Inbound vs Outbound rules

Inbound rules are the rules that monitor/restrict inbound traffic like what is coming inside the resource e.g. users visiting a web app I am hosting. I configured an inbound rule that allows all HTTP request.

Outbound rules are the rules that monitor/restrict outbound traffic like what is going outside e.g. my webapp requesting data from a public source. By default, my security group's outbound rule allows all type of traffic.


sg-07eadf483f88a95a2 - NextWork Security Group
Security group (sg-07eadf483f88a95a2 | NextWork Security Group) was created successfully
Details
sg-07eadf483f88a95a2 - NextWork Security Group
Actions
Details
Security group name
NextWork Security Group
Security group ID
sg-07eadf483f88a95a2
Description
A Security Group for the NextWork VPC.
VPC ID
vpc-0cbd831029ee63277
Owner
619071342657
Inbound rules count
1 Permission entry
Outbound rules count
1 Permission entry
Inbound rules
Outbound rules
Sharing - new
VPC associations - new
Tags
Inbound rules (1)
Manage tags
Edit inbound rules
Search
1
Name
Security group rule ID
IP version
Type
Protocol
Port range
–
sgr-0fa9661efe83cc110
IPv4
HTTP
TCP
80

Network ACLs

Network ACLs are like cops that secure my network at subnet level.

Security groups vs. network ACLs

The difference between a security group and a network ACL is that security group secures network at resource level(every single resource in my VPC is associated with a security group) and network ACL secures network at subnet level.

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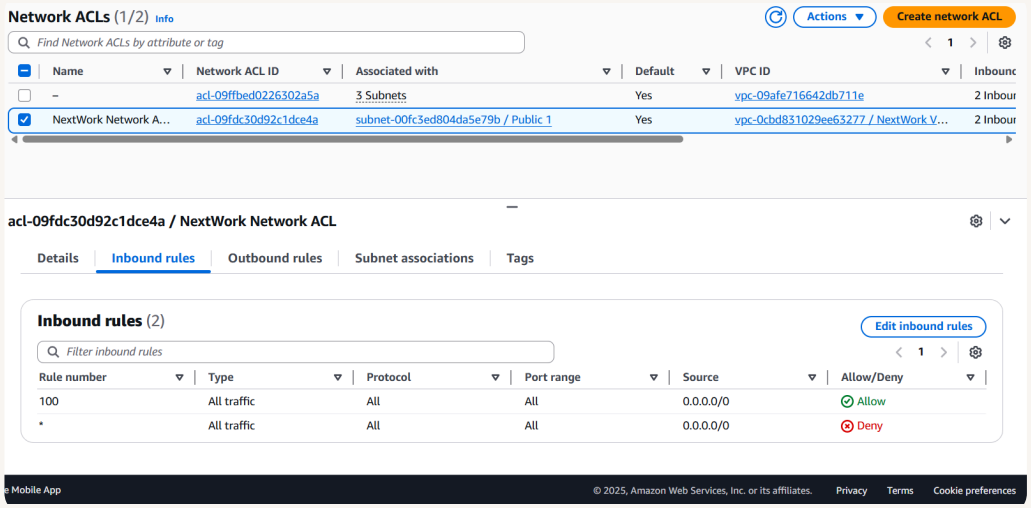
Default vs Custom Network ACLs

Similar to security groups, network ACLs use inbound and outbound rules

By default, a network ACL's inbound and outbound rules will allow all incoming and outgoing traffic.

In contrast, a custom ACL’s inbound and outbound rules are automatically set to deny all incoming and outgoing traffic.



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