

NETWORKING IN AWS GROUP ACTIVITY

Group 4

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Introduction

In this assignment, we familiarized ourselves with AWS Networking concepts and tools. We focused on creating a Virtual Private Cloud (VPC), public and private subnets, internet gateway, a route table, a security group and then two EC2 instances. These actions are important in managing networking within AWS environment. The tasks below follow a step-by-step procedure to achieve the results stated above.

Task 1

- A VPC (Group4VPC) was successfully created in the AWS account.

The screenshot displays the AWS Management Console interface for a newly created VPC. The top navigation bar shows the AWS logo, a search bar, and the current region (United States (N. Virginia)). The left sidebar contains the 'VPC dashboard' and a list of networking resources under 'Virtual private cloud'. The main content area shows the 'vpc-0de152e23ca36461c / Group4VPC' details. A green banner at the top of the console indicates the successful creation of the VPC. The 'Details' tab is selected, showing a grid of configuration items. The 'Resource map' tab is also visible at the bottom.

vpc-0de152e23ca36461c / Group4VPC			
VPC ID vpc-0de152e23ca36461c	State Available	Block Public Access Off	DNS hostnames Disabled
DNS resolution Enabled	Tenancy default	DHCP option set dopt-0a60aecdc048ae7a6	Main route table rtb-0c8eb1a091b1eaf06
Main network ACL acl-045d245c3f65524eb	Default VPC No	IPv4 CIDR 10.0.0.0/16	IPv6 pool -
IPv6 CIDR (Network border group) -	Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 504151741400

TASK 2

- Two subnets with different availability zones were created.
- The first subnet was named Group4Public_subnet with availability zone us-east-1a and the second subnet was named Group4Private_subnet with availability zone us-east-1b.

The screenshot shows the AWS VPC console for the us-east-1 region. A green notification banner at the top states: "You have successfully created 2 subnets: subnet-08ca3d1556b8379de, subnet-046ea4dd5e5a0bf29". The left sidebar shows the "VPC dashboard" with a "Subnets" link highlighted. The main content area displays a table of subnets:

Name	Subnet ID	State	VPC	Block Public IP
Group4Public_subnet	subnet-08ca3d1556b8379de	Available	vpc-0de152e23ca36461c Group4_vpc	Off
Group4Private_subnet	subnet-046ea4dd5e5a0bf29	Available	vpc-0de152e23ca36461c Group4_vpc	Off

Below the table, there is a "Select a subnet" section with a search bar and a list of subnets.

- An internet gateway named Group4_gateway was created.

The screenshot shows the AWS VPC console for the us-east-1 region, displaying the details of the internet gateway "Group4_gateway". A green notification banner at the top states: "The following internet gateway was created: igw-0eee67186646a94b3 - Group4_gateway. You can now attach to a VPC to enable the VPC to communicate with the internet." The left sidebar shows the "VPC dashboard" with a "Internet gateways" link highlighted. The main content area displays the details of the internet gateway:

igw-0eee67186646a94b3 / Group4_gateway

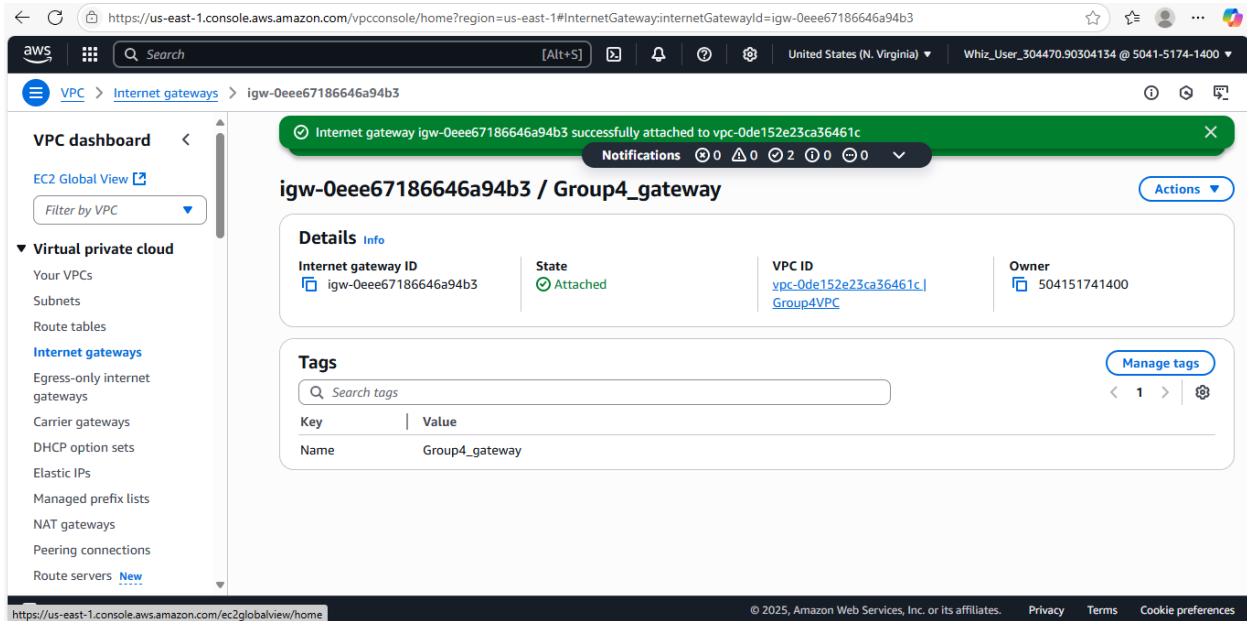
Details

Internet gateway ID	State	VPC ID	Owner
igw-0eee67186646a94b3	Detached	-	504151741400

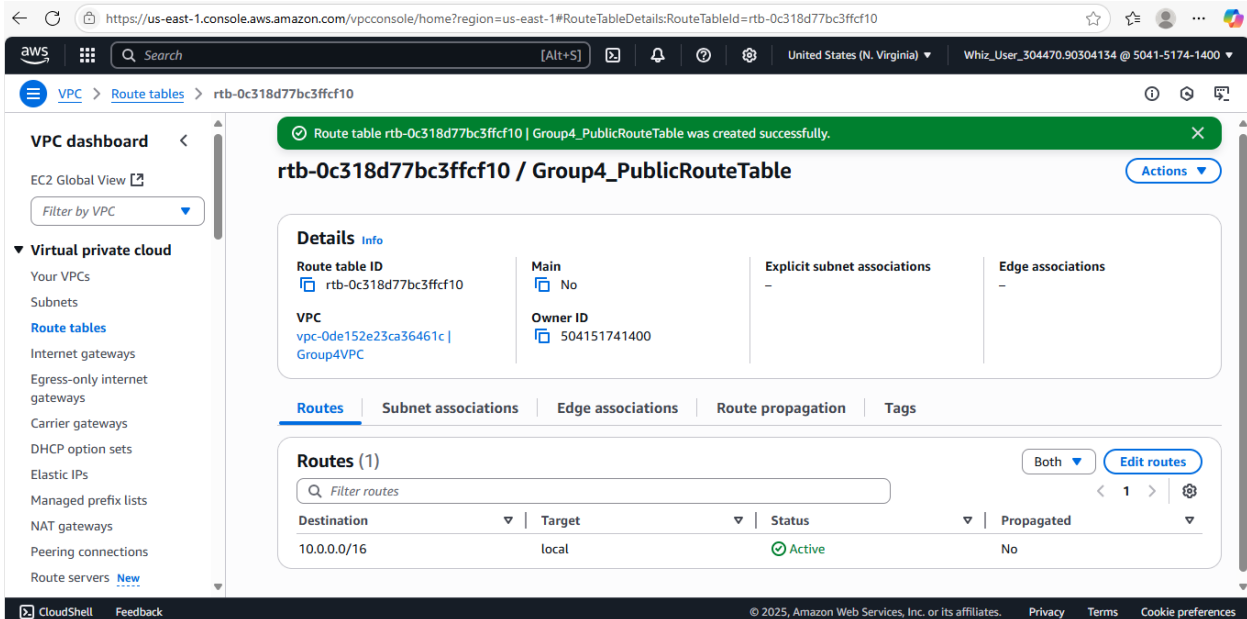
Tags

Key	Value
Name	Group4_gateway

- The internet gateway (Group4_gateway) created was attached to the VPC (Group4VPC).



- A public route table (Group4_PublicRouteTable) was created for the VPC to assist routing.



- The route table was then edited to add a route for 0.0.0.0/0 with the target set to the internet gateway we created earlier.

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTableDetails:RouteTableId=rtb-0c318d77bc3ffc10

aws Search [Alt+S] United States (N. Virginia) Whiz_User_304470.90304134 @ 5041-5174-1400

VPC > Route tables > rtb-0c318d77bc3ffc10

VPC dashboard < EC2 Global View Filter by VPC

▼ Virtual private cloud

- Your VPCs
- Subnets
- Route tables**
- Internet gateways
- Egress-only internet gateways
- Carrier gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists
- NAT gateways
- Peering connections
- Route servers **New**

Updated routes for rtb-0c318d77bc3ffc10 / Group4_PublicRouteTable successfully

Details

rtb-0c318d77bc3ffc10 / Group4_PublicRouteTable

Actions

Details Info

Route table ID rtb-0c318d77bc3ffc10	Main No	Explicit subnet associations -	Edge associations -
VPC vpc-0de152e23ca36461c Group4VPC	Owner ID 504151741400		

Routes Subnet associations Edge associations Route propagation Tags

Routes (2) Both Edit routes

Filter routes

Destination	Target	Status	Propagated
0.0.0.0/0	igw-0eee67186646a94b3	Active	No
10.0.0.0/16	local	Active	No

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#... © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

- The route table created was then associated with the two subnets.

https://us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTableDetails:RouteTableId=rtb-0c318d77bc3ffc10

aws Search [Alt+S] United States (N. Virginia) Whiz_User_304470.90304134 @ 5041-5174-1400

VPC > Route tables > rtb-0c318d77bc3ffc10

VPC dashboard < EC2 Global View Filter by VPC

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- Peering connections
- Route servers **New**

You have successfully updated subnet associations for rtb-0c318d77bc3ffc10 / Group4_PublicRouteTable.

rtb-0c318d77bc3ffc10 / Group4_PublicRouteTable

Actions

Details Info

Route table ID rtb-0c318d77bc3ffc10	Main No	Explicit subnet associations 2 subnets	Edge associations -
VPC vpc-0de152e23ca36461c Group4VPC	Owner ID 504151741400		

Routes Subnet associations Edge associations Route propagation Tags

Routes (2) Both Edit routes

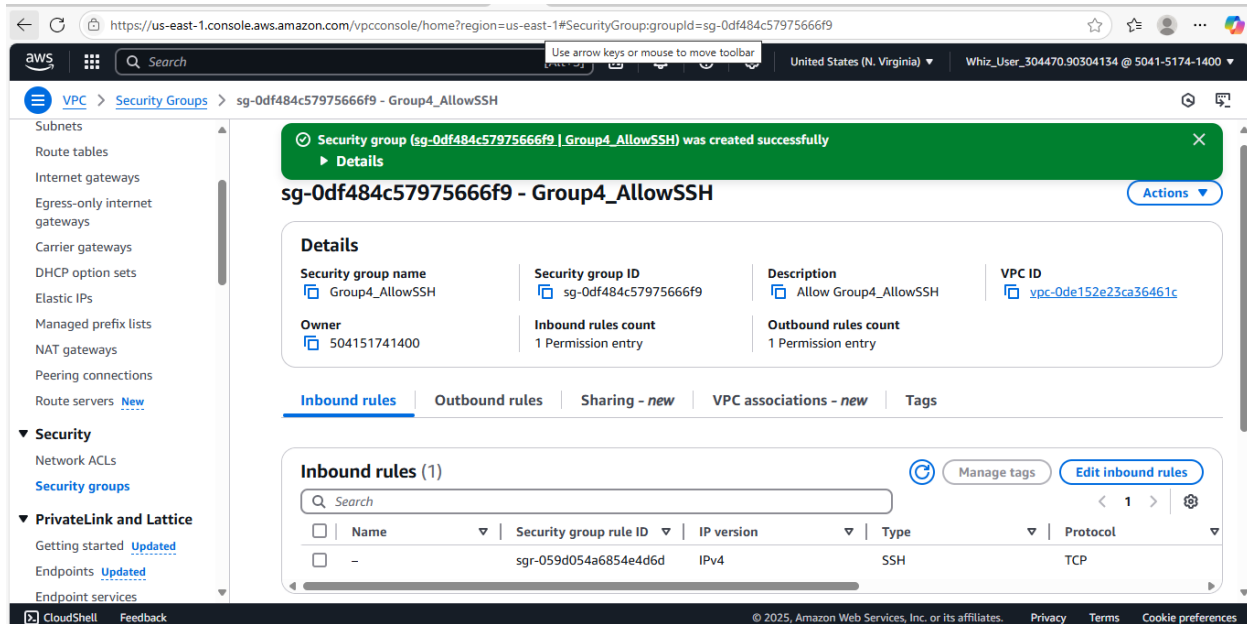
Filter routes

Destination	Target	Status	Propagated
0.0.0.0/0	igw-0eee67186646a94b3	Active	No
10.0.0.0/16	local	Active	No

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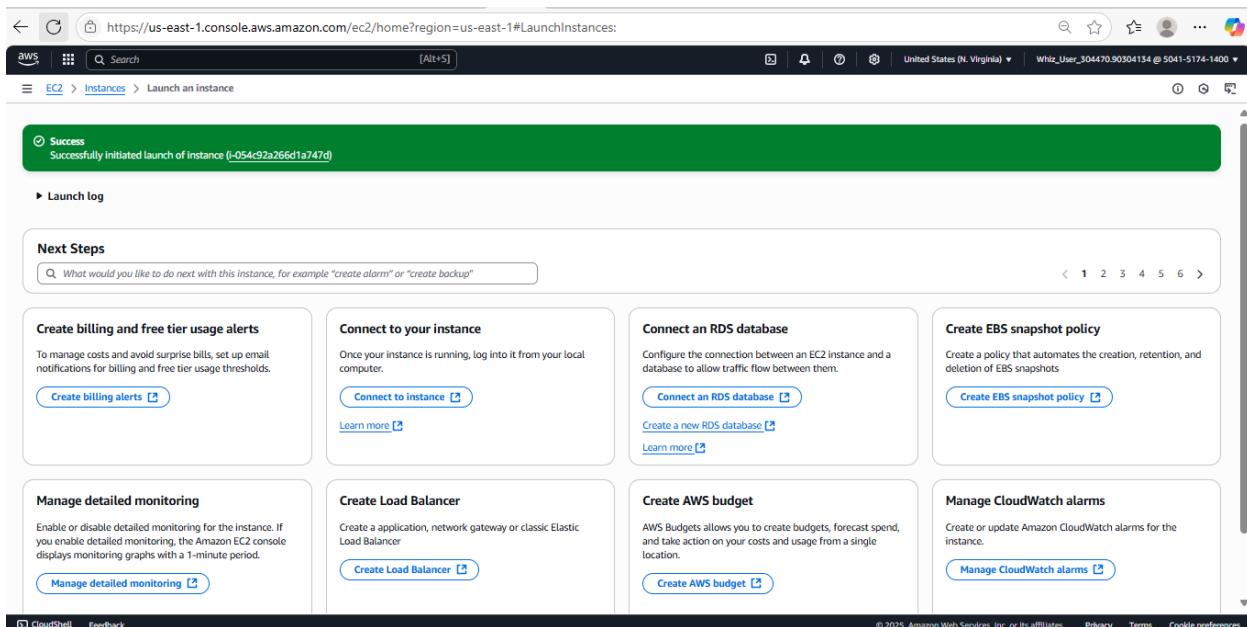
TASK 2

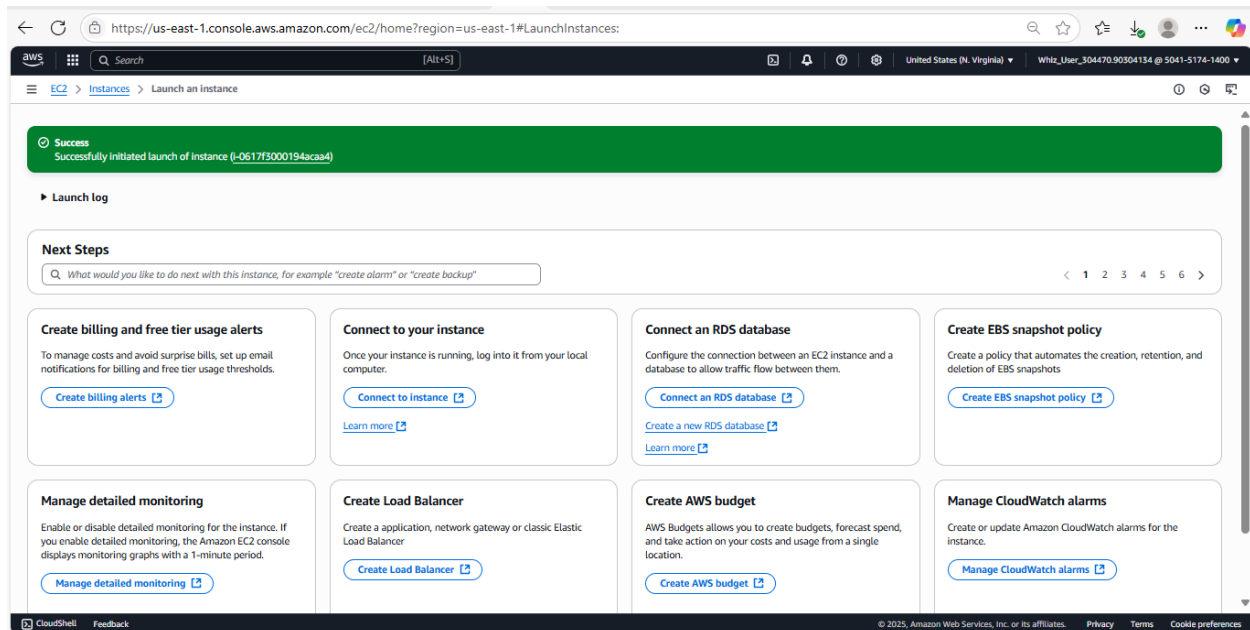
- Security group named Group4_AllowSSH was created.



TASK 3

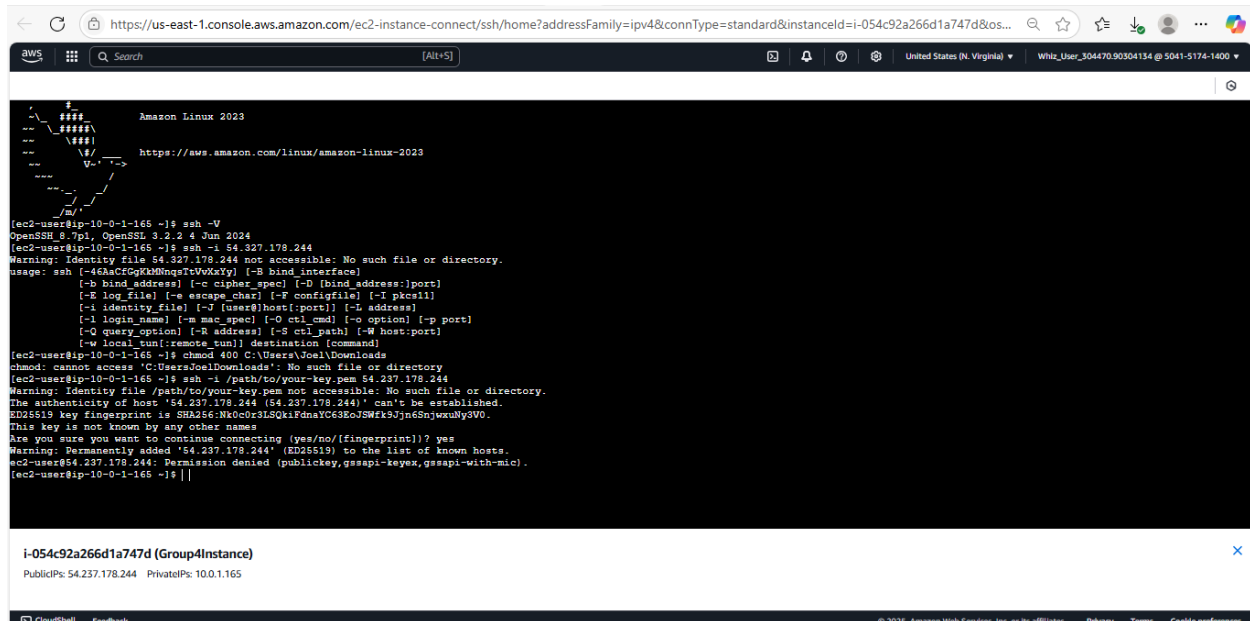
- Two EC2 instances were created for each subnet. The Security group created was attached to both instances.





TASK 4

- Once both instances were confirmed to be running, the public IP was used to SSH into it to test and validate connectivity.



Conclusion

This assignment provided hands on experience on Networking in the AWS environment and how to troubleshoot connectivity issues after encountering them. As a team of five, we respected each other's views and made sure to see the project to completion. Through this activity, we built on both our technical skills and soft skills.